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| **To:** | New York State Department of Public Service (NYSDPS) |
| **From:** | Environmental Design & Research, Landscape Architecture, Engineering, and Environmental Services, D.P.C. |
| **Date:** | December 2022 |
| **Reference:** | Champlain Hudson Power Express Project<br>Appendix T – Environmentally Sensitive Species and Habitats<br>***REDACTED*** |
| **EDR Project No:** | 21075 |

On behalf of the Champlain Hudson Power Express LLC (the Certificate Holders), Environmental Design and Research, Landscape Architecture, Engineering, and Environmental Services, D.P.C. (EDR) has prepared this memorandum as a supplement to the Environmental Management and Control Plans (EM&CPs) for the Champlain Hudson Power Express (CHPE) Project (the Project). This memorandum summarizes existing public information on rare, threatened, or endangered (RTE) plant and wildlife species and significant natural communities in the vicinity of the overland segments of the Project Corridor. In addition, EDR conducted an analysis of the occurrence, and potential for occurrence, of RTE species within the Project Corridor. Information on the existing ecological resources in the vicinity of the Project Corridor was obtained from publicly available sources, agency correspondence, and field reconnaissance. This memorandum contains the following attachments:

- Attachment 1 – Figures (***REDACTED***)
- Attachment 2 – Agency Correspondence
- Attachment 3 – Summary of RTE Plant and Wildlife Species and Significant Natural Communities along the Project Corridor

In accordance with Section 16.0 of the BMP document, the Applicant-Proposed Avoidance and Minimization Measures (Appendix G to the Joint Proposal), and the Certificate Conditions, the Certificate Holders will implement avoidance, minimization, and mitigation measures specific to species expected to occur in the Project Corridor during construction and operation of the Project. These measures are outlined in Section 9.3 of the EM&CPs and locations of the environmentally sensitive areas are depicted in the EM&CP Plan and Profile Drawings.

## 1.0 Project Description

The Project involves construction of approximately 339 miles of high-voltage direct current (HVDC) underground and underwater transmission cable from Montreal, Quebec, to Queens, New

York. On March 30, 2010, an application was filed for a Certificate of Environmental Compatibility and Public Need with the New York State Public Service Commission (PSC) pursuant to Article VII of the New York Public Service Law (PSL) to construct and operate the Project. The Certificate of Environmental Compatibility and Public Need (the Certificate) was granted on April 18, 2013. The Certificate has been amended several times (March 20, 2020, August 13, 2020, September 21, 2020, January 26, 2021, May 14, 2021, February 17, 2022, March 16, 2022, and pending approval of the September 7, 2022 request) to reflect revisions in the alignment and other Certificate Conditions (CCs). In accordance with CC 6, the Certificate Holders have divided the overland and marine portions of the Project into segmented EM&CP filings to facilitate construction and sequencing (Table 1). The overland segments of the Project Corridor are depicted in Figure 1 (Attachment 1).

**Table 1. Overland and Marine Segments/ Packages**

| Construction Segment | EM&CP Design Package | Location Description | Segment Length (miles) |
|---|---|---|---|
| **OVERLAND SEGMENTS** | | | |
| 1, 2 | Package 1A/ Package 1B | Putnam to Dresden/ Dresden to Whitehall | 17.6 |
| 3 | Package 1C | Whitehall to Fort Ann | 5.9 |
| 3 | Package 2 | Fort Ann to Kingsbury | 14.5 |
| 8 | Package 5A | Rotterdam to Bethlehem | 16.9 |
| 9 | Package 5B | Selkirk Bypass | 5.3 |
| 4, 5 | Package 3 | Kingsbury to Milton | 26.5 |
| 10 | Package 6 | Ravena to Catskill | 20.9 |
| 13, 14, 15 | Package 8 | Bronx to Queens | 2.13 |
| 6 | Package 4A | Milton to Ballston | 10.2 |
| 7 | Package 4B | Ballston to Schenectady/Rotterdam | 9.6 |
| 11 | Package 7A | Catskill | 8.6 |
| 12 | Package 7B | Stony Point to Clarkstown | 7.6 |
| Laydown Yards EM&CP | 3, 5B, 6 | Fort Edward, Bethlehem, Coxsackie | N/A |
| **MARINE SEGMENTS** | | | |
| 16 | Package 9 | Transitional HDD (Stony Point) | N/A |
| 17 | Package 10 | 3 Transitional HDDs (Putnam, Catskill, Clarkstown) | N/A |
| 18 | Package 11 | Lake Champlain | ~96 |
| 19 | Package 12 | Hudson River (Pre-lay Mattressing) | 89.1 |
| 20 | Package 13 | Hudson River (Cable Installation) | 89.1 |
| 21 | Package 14 | Harlem River | ~6.3 |
| 22 | TBD | Converter Station, Astoria Complex, (Queens) | N/A |

| Construction Segment | EM&CP Design Package | Location Description | Segment Length (miles) |
|---|---|---|---|
| 23 | TBD | Astoria Rainey Cable HVAC System, (Queens) | ~3.5 |

## 2.0 Summary of Agency Correspondence

Under Article VII of the New York State Public Service Law, Exhibit 121 to the Joint Settlement Proposal provided an environmental analysis of Facility impacts to ecologically sensitive species and habitats upon which the Commission relied in issuing Certificate Holders their Certificate in April 2013. Thereafter, an Environmental Impact Statement (EIS) was prepared and finalized in August 2014 by the United States Department of Energy (DOE) in compliance with the Council on Environmental Quality regulations for implementing the National Environmental Policy Act (NEPA) of 1969, the DOE's NEPA regulations, and other applicable regulations. The EIS and associated biological assessment evaluated all potential environmental impacts resulting from the construction, operation, and maintenance of the Project on both terrestrial and aquatic species and habitats. In addition, Appendix G to the EIS included Applicant proposed impact avoidance and minimization measures. Consultation pursuant to Section 7 of the Endangered Species Act (ESA) was completed between the DOE and United States Fish and Wildlife Service (USFWS) in 2014 and again in March 2021, to address modifications to the Project.

Given the time that has elapsed since the Article VII proceeding and EIS, the Certificate Holders submitted requests to the New York Natural Heritage Program (NYNHP) for updated information regarding RTE species and significant natural communities that may occur in the vicinity of the Project Corridor. The NYNHP provided a separate response for each overland segment along the Project route (dated March 25, 2022, April 1, 2022, April 11, 2022, April 15, 2022, and April 22, 2022, see Attachment 2). The Certificate Holders also entered into a non-disclosure agreement with the New York State Department of Environmental Conservation (NYSDEC) to obtain confidential spatial data identifying the documented locations of RTE species (received April 20, 2022) (see Figures 2 through 14 in Attachment 1). In addition, the USFWS's Information Planning and Consultation (IPaC) system was consulted on March 21, 2022, May 20, 2022, and August 8, 2022, to obtain official species lists for each overland segment along the Project route (Attachment 2).

RTE plant and wildlife species and significant natural communities documented within or in the vicinity of the overland Project Corridor are summarized in Attachment 3 and described in Section 3.0.

## 3.0 Evaluation of Habitat Suitability for Documented RTE Species

This section provides information about the habitat requirements of state and federally listed threatened and endangered species and species of special concern identified in the vicinity of the overland segments of the Project Corridor. Unlisted wildlife species of conservation concern and state-listed rare plant species are also described. Significant natural communities identified during agency consultation are discussed in Section 3.4.

### 3.1 Federally Listed Species

*Indiana Bat*

The Indiana bat (*Myotis sodalis*) is state and federally listed as endangered. The USFWS IPaC Official Species List has documented the potential occurrence of Indiana bats in the vicinity of Segments 1, 2, 3, 4, 5, 8, 9, 10, and 11 of the Project Corridor. However, NYSDEC mapping indicates the potential presence of Indiana bat are limited to Segments 9 and 10 of the Project Corridor.

No wintering habitat for the Indiana bat is present in the vicinity of the Project. However, suitable summer habitat may occur in the form of potential roost trees and/or bridges throughout all segments. Based on previous consultations with the USFWS on March 25, 2021, the USFWS determined that the Project "will not adversely affect" Indiana bats given the implementation of time of year restrictions during bat active periods. In accordance with the Biological Opinion, tree clearing will only be conducted between October 31 and March 31 within all segments to avoid and minimize impacts to bats. In addition, where the cable is proposed to cross NYSDOT bridges, a Bridge Bat Survey will be conducted prior to the commencement of construction work during the bat's active period (i.e., April 1 through October 30) in accordance with Federal Highway Administration (FHWA) and NYSDOT environmental procedures[1]. Section 9.3 of the EM&CPs of applicable segments provide additional detail on the avoidance, minimization, and mitigation measures the Certificate Holders will implement to avoid impacts to Indiana bats.

According to the USFWS,[2] suitable summer habitat for Indiana bats includes a variety of forested/wooded habitats that exhibit characteristics for roosting, foraging, and traveling behaviors. Some non-forested areas such as emergent wetlands and agricultural fields adjacent to the wooded habitat may be used for traveling and foraging. Indiana bat roost trees tend to be live trees and/or snags ≥5 inches (12.7 centimeter) diameter at breast height (dbh) that exhibit

[1] NYSDOT. 2020. FHWA New York Division Environmental Procedures. Available online at: https://www.dot.ny.gov/divisions/engineering/environmental-analysis/manuals-and-guidance/epm/repository/4.4.9.3_AppG_FHWA_ESA_Section_7.pdf

[2] U.S. Fish and Wildlife Service (USFWS). March 2022. Range-Wide Indiana Bat Survey Guidelines. Available from: https://www.fws.gov/sites/default/files/documents/USFWS_Range-wide_IBat_%26_NLEB_Survey_Guidelines_2022.03.29.pdf. Accessed May 27, 2022.

the following characteristics: exfoliating bark, cracks, crevices, and/or hollows. Bridges (i.e., defined by NYSDOT as a structure greater than 20 feet in length) or structures may also provide suitable summer roosting habitat in the form of cracks in concrete, expansion joints, cave-like or crawlspace environments at least 4 feet above grade, or a bridge span of large rivers in wide floodplains[3]. During the winter months, Indiana bats hibernate in caves or abandoned mines. In New York, known hibernacula are located in eight New York counties.[4] However, during the summer, individuals of this species disperse to areas well beyond these hibernacula to breeding areas and other habitats to feed and raise their young. Radio telemetry studies have tracked bats to maternity colonies in 10 counties and bachelor colonies in seven counties.

*Northern Long-eared Bat*

On November 29, 2022 the U.S. Fish and Wildlife Service published a final rule to reclassify the northern long-eared bat (*Myotis septentrionalis*) as endangered under the Endangered Species Act. The northern long-eared bat is currently listed as threatened in New York State. A recent review of the USFWS IPaC on December 14, 2022 has documented northern long-eared bats as potentially occurring in the vicinity of the Project Corridor within all overland segments. The USFWS has not designated a critical habitat for the northern long-eared bat. However, summer habitat may occur within all segments in the form of potential roost trees and/or bridges. A review of NYNHP response letters and site-specific data provided by NYSDEC indicate that northern long-eared bats may be in the vicinity of the Project Corridor within Segments 1, 2, 3, 8, 9, 10, and 11. Section 9.3 of the EM&CP for the relevant segments provides additional detail on the avoidance, minimization, and mitigation measures the Certificate Holders will implement to avoid impacts to northern long-eared bats.

Northern long-eared bats are typically associated with mature interior forest, avoiding woodlands with significant edge habitat. However, the NYSDEC has determined that northern long-eared bats use a variety of forest types throughout New York State.[5] Bridges or structures may also provide suitable summer roosting habitat in the form of cracks in concrete, expansion joints, cave-like or crawlspace environments at least 4 feet above grade, or a bridge span of large rivers in wide floodplains.[3] Northern long-eared bats hibernate in caves and mines over the winter. During their active season, typically from April through October, northern long-eared bats roost in dead or live trees under loose bark, and in cavities or crevices.

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[3]NYSDOT. 2020. Appendix D: Bridge Assessment Guidance. FHWA/State DOT/FRA Preliminary Bat Assessment Guidelines for Bridges/Structures. Available online at: https://www.dot.ny.gov/portal/pls/portal/MEXIS_APP.BC_CONST_NOTICE_ADMIN.VIEWFILE?p_file_id=13709&p_is_digital=Y.

[4] New York Natural Heritage Program (NYNHP). 2022a. Online Conservation Guide for Indiana Bat. Available from: https://guides.nynhp.org/indiana-bat/. Accessed May 27, 2022.

[5] NYNHP. 2022b. Online Conservation Guide for Northern Long-eared Bat. Available from: https://guides.nynhp.org/northern-long-eared-bat/. Accessed May 27, 2022.

*Piping Plover*

As previously noted, the Project Corridor is routed from Montreal, Quebec to Queens, New York where it interconnects at the Astoria power complex. No sandy beaches are present in the vicinity of the Astoria power complex. Based on previous consultations with the USFWS on March 25, 2021, the USFWS determined that the Project will result in "No Effect" on the piping plover given that no suitable habitat occurs along the Project Corridor within Segments 13, 14, and 15.

The piping plover (*Charadrius melodus*) is state and federally listed as threatened. The USFWS IPaC Official Species list documented the piping plover as potentially occurring in the vicinity of the Project Corridor within Segments 13, 14, and 15. Piping plovers nest in sandy areas along the Atlantic Coast, Great Plains, and Great Lakes. In New York State, piping plovers breed primarily on Long Island, but successful nesting attempts were discovered on the eastern shore of Lake Ontario in 2015 and 2016. Plovers build their nests above the waterline in shallow scrapes in the sand, and they feed on worms, insect larvae, beetles, crustaceans, mollusks, and other small aquatic animals and eggs. Piping plovers are threatened by waterfront development, predation, and human disturbance.[6]

*Red Knot*

Based on previous consultations with the USFWS on March 25, 2021, the USFWS determined that the Project will result in "No Effect" on the red knot given no suitable habitat occurs along the Project Corridor within Segments 13, 14, and 15. The red knot (*Calidris canutus rufa*) is state and federally listed as threatened. The USFWS IPaC Official Species list documented the red knot as potentially occurring in the vicinity of the Project Corridor within Segments 13, 14, and 15.

According to the Cornell Lab of Ornithology guide,[7] the red knot exclusively occupies marine habitat that contains an abundance of invertebrate prey (i.e., sandy beaches, saltmarshes, lagoons, mudflats of estuaries and bays). In New York State, this species occurs along the salt meadows and mudflat of the south shore of Long Island, primarily in the Jamaica Bay Wildlife Refuge,[8] and is therefore not anticipated to occur in the vicinity of the Project.

*Roseate Tern*

[6] New York State Department of Environmental Conservation (NYSDEC). 2022a. Online Species Profile for Piping Plover. Available at: https://www.dec.ny.gov/animals/7086.html. Accessed June 23, 2022.
[7]Cornell Lab of Ornithology. All About Birds. 2022. Red Knot Life History. Available from: https://www.allaboutbirds.org/guide/Red_Knot/lifehistory. Accessed May 27, 2022.
[8] NYSDEC. 2014. Species Status Assessment – Red Knot. Available at: https://www.dec.ny.gov/docs/wildlife_pdf/sgcnredknot.pdf. Accessed June 1, 2022.

Based on previous consultations with the USFWS on March 25, 2021, the USFWS determined that the Project will result in "No Effect" on the roseate tern given no suitable habitat occurs along the Project Corridor within Segments 13, 14, and 15. The roseate tern (*Sterna dougallii dougallii*) is state and federally listed as endangered. The USFWS IPaC Official Species list documented the roseate tern as potentially occurring in the vicinity of the Project Corridor within Segments 13, 14, and 15. According to the NYSDEC website,[9] the roseate tern is a marine coastal species that tends to breed on salt marsh islands and barrier beaches with sparse vegetation. Typically, these areas are associated with shallow waters accessible for foraging. Within New York, this species is only known to breed at a handful of colonies along Long Island with the largest population occurring at Great Gull Island. Therefore, this species is not anticipated to occur in the vicinity of the Project Corridor.

*Atlantic Sturgeon*

The overland segments of the Project do not propose aquatic impacts within the Hudson River estuary; therefore, there will be no impact to this species.

The Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) is federally listed as endangered and state listed as protected. According to NYNHP correspondence, the Atlantic sturgeon occurs in the Hudson River at the southern terminus of Segment 11 and at both ends of the Project Corridor within Segment 12.

Within New York, the Atlantic sturgeon can be found in the Hudson River as far north as Albany during the spawning season. Spawning locations can be within the freshwater and brackish/saltwater regions; however, this species tends to prefer the deeper parts of the Hudson River. Most of the time, the mature Atlantic sturgeons stay out at sea while the juveniles spend the first few years in freshwater streams near the spawning locations.[10]

*Shortnose Sturgeon*

The overland segments of the Project do not propose aquatic impacts within the Hudson River estuary; therefore, there will be no impact to this species.

The shortnose sturgeon (*Acipenser brevirostrum*) is state and federally listed as endangered. According to NYNHP correspondence, the shortnose sturgeon occurs in the Hudson River at the southern terminus of Segment 11 and at both ends of the Project Corridor within Segment 12.

[9] NYSDEC. 2022b. Roseate Tern. Available from: https://www.dec.ny.gov/animals/7084.html. Accessed May 27, 2022.
[10]NYNHP. 2022c. *Online Conservation Guide for Atlantic Sturgeon*. Available from: https://guides.nynhp.org/atlantic-sturgeon/ (Accessed May 27, 2022).

In New York State, shortnose sturgeons inhabit the Hudson River estuary in areas of deep pools with soft substates and vegetated bottoms.[11] During spawning, shortnose sturgeons swim upriver from the summer locations. Spawning locations have been characterized as rubble substrate with some gravel and large rocks. In the Hudson River, observations of larvae have been recorded between Albany and Poughkeepsie. Adults tend to stay in the lower estuary or in the Atlantic Ocean.

*Karner Blue Butterfly*

Based on the NYNHP response, Karner blue butterflies have been documented along the current Project Corridor within Segment 4 and 5 between Geyser Road and Geyser Creek in the City of Saratoga Springs, as well as in the Saratoga Sand Plains State Wildlife Management Area (Wilton Wildlife Preserve) and its vicinity. Based on the known locations, wild lupine patches have been mapped within the Project Corridor prior to construction in order to avoid and minimize impacts to this species. The transmission lines would be installed outside these mapped lupine patches and adjacent nectar patches to avoid impacts or beneath the mapped patches via HDD as outlined in Section 4.2 of the EM&CP for Segments 4 and 5. Section 9.3 of the EM&CP provides additional detail on the avoidance, minimization, and mitigation measures the Certificate Holders will implement to avoid impacts to the Karner blue butterfly. Based on previous consultations with the USFWS on March 25, 2021, the USFWS determined that the Project will result in "may effect, not likely to adversely affect" on the Karner blue butterfly.

The Karner blue butterfly (*Plebejus melissa samuelis*) is state and federally listed as endangered. The USFWS Official Species list has identified the Karner blue butterfly as potentially occurring in the vicinity of Segments 4, 5, 7, and 8 of the Project Corridor. According to NYSDEC mapping and correspondence with the NYNHP, the Karner blue butterfly has been documented to occur along the Project Corridor within Segments 4 and 5.

The Karner blue butterfly are restricted to open well-drained sandy habitats that support populations of wild lupine (i.e., pine barrens, oak savannas and unnatural openings such as right-of-ways [ROWs], etc.).[12] The larvae of Karner blue butterflies use wild lupine as their sole food source. Wild lupine is a small herbaceous perennial that belongs to the bean family (*Fabaceae*).[13] It has distinctive multi-lobed leaves with flowers growing on terminal racemes. Flowers can range in color from blue to pink to white. Wild lupine is an early successional species that typically regenerates following environmental disturbances.

[11]NYNHP. 2022d. *Online Conservation Guide for Shortnose Sturgeon*. Available from: https://guides.nynhp.org/shortnose-sturgeon/ (Accessed June 28, 2022).
[12] NYNHP. 2019. Karner Blue *Plebejus melissa samuelis*. Available at: Karner Blue Guide - New York Natural Heritage Program (nynhp.org) (Accessed May 2022).
[13] United States Department of Agriculture. 2021. *Sundial Plant Guide*. Available at: SUNDIAL (usda.gov) (Accessed May 2022).

*Monarch Butterfly*

The monarch butterfly is a federal candidate species and not yet listed or proposed for listing. The USFWS IPaC Official Species List identified the monarch butterfly (*Danaus plexippus*) as potentially occurring along the entire Project route. The USFWS has not identified critical habitats for this species. Because the monarch butterfly is a candidate species and not yet listed or proposed for listing, consultation with the USFWS under Section 7 of the ESA is not required.

According to the USFWS,[14] in the spring and summer, the monarch butterfly's habitat is open fields and meadows with milkweed (*Asclepias spp.*). During the breeding season, monarch butterflies lay their eggs on their obligate milkweed host plant (primarily *Asclepias* spp.), and larvae emerge after two to five days. Larvae develop through five larval instars (intervals between molts) over nine to 18 days, feeding on milkweed and sequestering toxic cardenolides as a defense against predators. The larva then pupates into a chrysalis before emerging 6 to 14 days later as an adult butterfly. There are multiple generations of monarch butterflies produced during the breeding season, with most adult butterflies living approximately two to five weeks; overwintering adults enter reproductive diapause (suspended reproduction) and live six to nine months.

*Seabeach Amaranth*

The seabeach amaranth (*Amaranthus pumilus*) is a globally imperiled plant that is both state- and federally listed as threatened. The USFWS IPaC Official Species list documented the seabeach amaranth as potentially occurring in the vicinity of the Project Corridor within Segments 13, 14, and 15. According to the NYNHP online conservation guide,[15] the seabeach amaranth grows within undisturbed areas along barrier island beaches and on open over wash areas behind the foredune. This habitat is not present within or adjacent to the Project Corridor. In addition, based on the USFWS range map, occurrence of this plant species is restricted to the south shore of Long Island. Since habitat for seabeach amaranth is not present within the current Project Corridor, no impacts to this species are anticipated.

### 3.2 State Listed Wildlife Species

*Indiana Bat*

See the habitat description provided in Section 3.1.

[14] U.S. Fish and Wildlife Service. September 2020. Monarch (*Danaus plexippus*) Species Status Assessment Report. V2.1 96 pp + appendices. Available from: https://ecos.fws.gov/ServCat/DownloadFile/191345 (Accessed April 20, 2022).
[15] NYNHP. 2022e. Online Conservation Guide for Seabeach Amaranth. Available from: https://guides.nynhp.org/seabeach-amaranth/ (Accessed May 27, 2022).

*Northern Long-eared Bat*

See the habitat description provided in Section 3.1.

*Bald Eagle*

The bald eagle (*Haliaeetus leucocephalus*) is state listed as threatened and is protected under the federal Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The NYNHP and NYSDEC mapping have documented bald eagle breeding and nesting in the vicinity of the Project Corridor within Segments 1, 2, 3, 6, 7, 8, 9, 10, 11, and 12. Section 9.3 of the relevant EM&CPs provide additional detail on the avoidance, minimization, and mitigation measures the Certificate Holders will implement to avoid impacts to bald eagles.

Bald eagles breed near water from Alaska throughout Canada and in scattered areas throughout the northern contiguous United States. In New York, bald eagles breed throughout the state, usually in areas with large bodies of water that support high populations of fish and waterfowl, their primary food sources. Large, heavy nests are built in tall pine, spruce, fir, cottonwood, oak, poplar, or beech trees.[16] Bald eagles can be residents or long-distance migrants, depending on age, breeding location, and food availability. Northern adults begin fall migration when lakes and rivers freeze, usually migrating coastward or to other open waters. They return to breeding grounds when weather and food permit, usually January through March.[17] Non-breeding adults and wintering birds often use communal roost sites that may be farther away from food sources, possibly due to the need for a warmer or more sheltered area. In New York, wintering areas are concentrated in four main areas: the Upper Delaware River, the Saint Lawrence River, the Lower Hudson River, and the Sacandaga River.[14] With the exception of the Lower Hudson River (which is influenced by salt water and the action of tides), these areas have large persistent open water throughout the winter due to releases from man-made dams.

*Timber Rattlesnake*

The timber rattlesnake (*Crotalus horridus*) is state listed as threatened. NYSDEC mapping and NYNHP correspondence has identified the potential for timber rattlesnake to occur within 0.5 mile of the Project Corridor near the Towns of Putnam and Fort Ann within Segments 1 and 3. Section 9.3 of the EM&CP for Segments 1 and 3 provides additional detail on the avoidance, minimization, and mitigation measures the Certificate Holders will implement to avoid impacts to timber rattlesnake.

[16] NYNHP. 2022f. *Online Conservation Guide for Bald Eagle*. Available at: https://guides.nynhp.org/bald-eagle (Accessed June 2022).
[17] Cornell Lab of Ornithology. All About Birds. 2022. Available from: https://www.allaboutbirds.org/ (Accessed May 27, 2022).

The NYNHP timber rattlesnake guide[18] indicates that this species generally inhabits deciduous forests with mountainous terrain. Occasionally, this species has been seen using residential and wetland area near a den. Dens are located in talus and rocky areas with southerly exposure. Timber rattlesnakes use open areas with exposed rock for basking, birthing, and shedding. Foraging areas are located within forested habitat near a den. According to the NYSDEC timber rattlesnake fact sheet, these snakes have an active season that runs from late April to mid-October. Gravid females generally migrate 1.3 to 2.5 miles from their den each summer to habitat that includes open, rocky ledges. The males migrate up to 5 miles during the active season.

*Eastern Sand Darter*

The eastern sand darter (*Ammocrypta pellucida*) is state listed as threatened. NYSDEC mapping and NYNHP correspondence has identified the potential for eastern sand darter to occur in the vicinity of the Project Corridor within Segment 3. Based on the Package 2 (Segment 3) NYNHP response letter, the Project Corridor comes within 160 yards of two documented locations in the Lake Champlain Canal in the Town of Kingsbury.

The construction of Segment 3 would have no effect on state-listed aquatic species. The transmission lines would be installed over water bodies by bridge attachment, or beneath the water bodies via HDD or dry ditch crossing methods as outlined in Section 4.2 of the EM&CP for Segment 3. Crossings by bridge attachment and HDD would avoid impacts on aquatic habitats and species. Therefore, the current Project design is not anticipated to result in impacts to the eastern sand darter.

As stated in the NYNHP guide, the eastern sand darter inhabits lakeshores and shallow streams with sandy substrates.[19] Within New York, eastern sand darters are found in the St. Lawrence River, Raquette River, drainages of Lake Champlain, and shallow waters of Lake Erie. According to the NYNHP, the major threats to the eastern sand darter are the loss of habitat resulting from stream pollution, stream stabilization, increased siltation, and stream fragmentation from dam construction.[17] The NYNHP recommended conservation strategies and management practices include prevention of toxic pollutants and debris from stormwater runoff and prevention of siltation resulting from altered hydrologic flows created by impoundment.[17]

*Atlantic Sturgeon*

See the habitat description provided in Section 3.1.

[18] NYNHP. 2022g. *Online Conservation Guide for Timber Rattlesnake*. Available at: https://guides.nynhp.org/timber-rattlesnake/ (Accessed June 2022).
[19] NYNHP. 2022h. *Online Conservation for Eastern Sand Darter*. Available at: https://guides.nynhp.org/eastern-sand-darter/ (Accessed June 2022).

*Shortnose Sturgeon*

See the habitat description provided in Section 3.1.

*Short-eared Owl*

The short-eared owl (*Asio flammeus*) is state listed as endangered and is also protected under the federal Migratory Bird Treaty Act. According to NYSDEC mapping and NYNHP correspondence, short-eared owl wintering has been documented in the vicinity of the Project Corridor within Segments 3 and 10. Based on the Package 2 (Segment 3) and Package 6 (Segment 10) NYNHP response letters, the current Project Corridor is within 0.33 mile of a documented wintering location.

The current Project Corridor is expected to have negligible or no effect on short-eared owl because critical habitats such as grassland habitats greater than 25 acres will be avoided to the extent practicable. Even within grassland habitats greater than 25 acres, current Project Corridors have been placed along the edge of the open field and/or within previously disturbed/developed areas to minimize impacts to this species. If the Project Corridor extends outside of the existing railroad ROW or beyond the edge of the open fields within the NYSDEC occupied buffers, avoidance and minimization measures for the unanticipated discovery of this species will be outlined in Section 9.3.

Short-eared owls range over much of North America at various times of year, but breeding is restricted to Canada and northern portions of the United States. In New York State, the breeding range is generally limited to the St. Lawrence and Lake Champlain valleys, the Great Lakes plains, and marshes along the south shore of Long Island.[18] However, the number of short-eared owl observations increases during the winter as northern populations migrate south, possibly in search of food. Significant numbers of wintering owls use the Finger Lakes and the Lake Ontario plains, scattered locations in the Hudson Valley, and the south shore of Long Island. Both breeding and wintering short-eared owls typically use open grasslands greater than 25 acres (including hayfields, fallow farmlands, and pastures) and fresh and saltwater marshes. They tend to prefer habitats with some water, which may be due to the habitat preference of voles, their primary prey,[20] but typically select dry spots on the ground to build their nests, often on small knolls, ridges, or hummocks with enough grasses and other low vegetation to conceal the incubating female. When food is plentiful, winter areas can become breeding areas.[15]

*Northern Harrier*

[20] NYNHP. 2022i. *Online Conservation Guide for Short-eared Owl.* Available at: https://guides.nynhp.org/short-eared-owl (Accessed June 2022).

Northern harrier (*Circus hudsonius*) is state listed as threatened and is protected under the Federal Migratory Bird Treaty Act. According to NYSDEC mapping and NYNHP correspondence, northern harrier breeding has been documented in the vicinity of the Project Corridor within Segment 3 and wintering has been documented in the vicinity of Segments 3 and 10. Based on the Package 2 (Segment 3) and Package 6 (Segment 10) NYNHP response letters, the current Project Corridor is within 160 yards of a documented breeding location located along Dike Road, northeast of Dunham Basin in the Town of Kingsbury. Documented wintering locations are found within 0.33 mile of the current alignment at the Fort Edwards Grasslands (Segment 3) and the Coxsackie Flats (Segment 10). These two locations are designated as state significant Raptor Winter Concentration Areas.

The current Project Corridor is expected to have negligible or no effect on northern harriers because critical habitats such as grassland habitats greater than 25 acres will be avoided to the extent applicable. Even within grassland habitats greater than 25 acres, current Project Corridors have been placed along the edge of the open field and/or within previously disturbed/developed areas to minimize impacts to this species. Impacts to freshwater wetlands have also been avoided or minimized to the extent practicable. If the Project Corridor extends outside of the existing railroad ROW or beyond the edge of the open fields within the NYSDEC occupied buffers, avoidance and minimization measures for the unanticipated discovery of this species will be outlined in Section 9.3.

Northern harriers have a large but discontinuous breeding range in North America, including much of Canada, Alaska, and the northern contiguous United States. In New York State, northern harriers are confirmed breeders in the western Great Lakes plain, open habitats of the Adirondacks, western Finger Lakes, Long Island, and the Hudson, Saint Lawrence, and Lake Champlain valleys. Their winter range in New York is similar, depending on prey abundance and snow cover. Northern harriers use a wide range of open grasslands, hayfields, shrubland, and salt and freshwater marshes. Nests are placed on the ground, usually in dense cover of grassland or marshes.[21] In winter, northern harriers roost in groups on the ground, sometimes with short-eared owls.[15]

*Peregrine Falcon*

Peregrine falcon (*Falco peregrinus*) is state listed as endangered and is also protected under the federal Migratory Bird Treaty Act. According to the Package 8 (Segments 13, 14, and 15) NYNHP response letter, the peregrine falcon has been documented as occurring within 0.5 mile of the

[21] NYNHP. 2022j. On*line Conservation Guide for Northern Harrier*. Available from: https://guides.nynhp.org/northern-harrier (Accessed June 2022).

Project Corridor. However, upon further review of the NYSDEC mapping records, the current alignment does not intersect with this occurrence.

As stated above, the NYSDEC mapping records for peregrine falcons do not intersect the terrestrial portion of the Project and no suitable breeding habitat is present within the Project Corridor. Upon completion of the final Project design, if the alignment poses potential impacts to this species, avoidance/minimization measures will be described in Section 9.3 of the EM&CP for Segments 13, 14, and 15.

The peregrine falcon is a nearly cosmopolitan bird that breeds on every continent except Antarctica. They often nest on ledges or holes on the faces of rocky cliffs, and in more urban areas, on manmade structures such as bridges and tall buildings. Wintering birds frequent buildings, towers, and steeples in urban areas, and open areas with plentiful prey in more natural settings. In New York State, the current breeding range includes the Adirondacks, on bridges and cliffs in the Hudson Valley, and on buildings and bridges in the New York City area, as well as scattered urban sites such as Rochester, Buffalo, Binghamton, and Albany.[22]

*King Rail*

King rail (*Rallus elegans*) is state listed as threatened and is also protected under the federal Migratory Bird Treaty Act. According to NYSDEC mapping and NYNHP correspondence, king rail breeding has been documented to occur in the vicinity of the Project Corridor within Segment 10. Based on the Package 6 (Segment 10) NYNHP response letter, the current Project Corridor is within 0.33 mile of a documented breeding location.

The current Project Corridor within the NYSDEC occupied buffer is expected to have negligible to no effect on king rails because critical habitats such as large wetlands with open water and abundant emergent vegetation are not located in the Segment 10 Project Corridor. Construction of the Project will implement BMPs to avoid and minimize potential indirect effects on such habitats (see Section 9.1 of the EM&CP for Segment 10).

King rails range from the eastern United States through Mexico and Costa Rica.[23] In New York, breeding populations of king rail are largely restricted to the southwestern and southeastern portions of the state, where breeding pairs can be found in shallow (0-25 cm) emergent marshes with dense, reed-like vegetation interspersed with pools of open water, including freshwater tidal marshes along the lower Hudson River and brackish tidal marshes on Long Island. They prefer

[22]NYNHP. 2022k. *Online Conservation Guide for Peregrine Falcon*. Available from: https://guides.nynhp.org/peregrine-falcon/ (Accessed May 27, 2022).
[23] NYNHP. 2022l. *Online Conservation Guide for King Rail.* Available from: https://guides.nynhp.org/king-rail/ (Accessed June 2022).

cattails (*Typha* spp.) or bulrush (*Scirpus* spp.) with bur-reed (*Sparganium* spp.), sedges (*Cyperaceae*), or common reed (*Phragmites australis*).[21]

*Least Bittern*

Least bittern (*Ixobrychus exilis*) is state listed as threatened and is also protected under the federal Migratory Bird Treaty Act. According to NYSDEC mapping and NYNHP correspondence, least bittern breeding has been documented to occur in the vicinity of the Project Corridor within Segment 8. Based on the Package 5 (Segments 8 and 9) NYNHP response letter, the Project Corridor is within 0.5 mile of a documented breeding location.

The current Project Corridor within the NYSDEC occupied buffer is expected to have negligible to no effect on least bittern because critical habitats such as large wetlands with open water and abundant emergent vegetation are not located within the Segment 8 Project Corridor, and the Project will implement BMPs to avoid and minimize potential indirect effects on such habitats (see Section 9.1 of the EM&CP for Segment 8).

Least bitterns range from southeast Canada, through the United States and Mexico, and into Costa Rica.[15] In New York, breeding populations of least bittern are largely restricted to the Lake Ontario and St. Lawrence River plains, where breeding pairs can be found in shallow or deep emergent marshes with dense, reed-like vegetation interspersed with pools of open water, including freshwater tidal marshes along the lower Hudson River and brackish tidal marshes on Long Island. They prefer cattails or bulrush with bur-reed, sedges, or common reed.[24] Least bitterns forage by stalking along the open-water side of emergent vegetation, grasping clumps of plants with their toes and curved claws. They build nests on elevated platforms with overhead canopy, using materials such as emergent aquatic vegetation and sticks.[15] Loss of marshland habitat has decreased this species' overall range. Large marshes (greater than 12 acres) are very important to the species, although smaller areas of marsh within large wetland complexes may also be utilized. Pollution of marshland habitat and an influx of certain invasive species (e.g., purple loosestrife [*Lythrum salicaria*]) has also led to habitat loss. Least bittern eat small fish, salamanders, tadpoles, frogs, leeches, slugs, crayfish, dragonflies, and occasionally shrews and mice.[22]

*Karner Blue Butterfly*

See the habitat description provided in Section 3.1.

*Frosted Elfin*

[24] NYNHP. 2022m. *Online Conservation Guide for Least Bittern*. Available from: https://guides.nynhp.org/least-bittern/ (Accessed June 2022).

The frosted elfin (*Callophrys irus*) is a state-listed threatened butterfly. According to NYSDEC mapping and correspondence with NYNHP, frosted elfin has been documented along the Project Corridor within Segments 4 and 5.

Based on the Package 3 (Segments 4 and 5) NYNHP response letter, frosted elfins have been documented directly along the current Project Corridor between Geyser Road and Geyser Creek in the City of Saratoga Springs, as well as in the Saratoga Sand Plains State Wildlife Management Area (Wilton Wildlife Preserve) and its vicinity. Based on the known locations, wild lupine patches have been mapped within the Project Corridor prior to construction in order to avoid and minimize impacts to this species. The transmission lines would be installed outside these mapped lupine patches and adjacent nectar patches to avoid impacts. Alternatively, the lines would be installed beneath the mapped patches via HDD as outlined in Section 4.2 of the EM&CP for Segments 4 and 5. Section 9.3 of the EM&CP provides additional detail on the avoidance, minimization, and mitigation measures the Certificate Holders will implement to avoid impacts to frosted elfin.

The frosted elfin has become globally rare and is extirpated in some states. It is restricted to open well-drained sandy habitats that support populations of indigo (*Baptisia spp.*) or wild lupine (i.e., pine barrens, oak savannas and unnatural openings such as ROWs, etc.).[25] The larvae of frosted elfins use wild lupine and indigo as the primary food source. Two races of frosted elfin occur within New York State—one that feeds primarily on wild lupine and the other race feeds mostly on indigo. There is no evidence that known populations feed on both host plants when they are present. In addition, these races are not known to overlap habitat. Therefore, the race feeding on wild lupine is documented within the Project Corridor.

*Persius Duskywing*

The persius duskywing (*Erynnis persius persius*) is a state-listed endangered butterfly. According to NYSDEC mapping and correspondence with NYNHP, the persius duskywing has been documented within and in the vicinity of portions of the Project Corridor in Segments 4 and 5.

Based on the Package 3 (Segments 4 and 5) NYNHP response letter, persius duskywings have been documented along the current Project Corridor in the Saratoga Sand Plains State Wildlife Management Area (Wilton Wildlife Preserve) and its vicinity. Based on these known locations, wild lupine patches have been mapped out prior to construction in order to avoid and minimize impacts to this species. To avoid impacts, the transmission lines would be installed outside these mapped lupine patches and adjacent nectar patches, or beneath the mapped patches via HDD as

[25] NYNHP. 2019. *Online Conservation Guide for Frosted Elfin*. Available at: https://guides.nynhp.org/frosted-elfin/ (Accessed May 2022).

outlined in Section 4.2 of the EM&CP for Segments 4 and 5. Section 9.3 of the EM&CP provides additional detail on the avoidance, minimization, and mitigation measures the Certificate Holders will implement to avoid impacts to persius duskywings.

The persius duskywing is a subspecies of *Erynnis persius* which occupies a spotty range in eastern North America. The perisus duskywing is restricted to open well-drained sandy habitats that support populations of indigo (*Baptisia spp.*) or wild lupine (i.e., pine barrens, oak savannas and unnatural openings such as ROWs, etc.).[26] The larvae of persius duskywings use wild lupine and indigo as the primary food source.

*Eastern Spadefoot*

The eastern spadefoot toad (*Scaphiopus holbrookii*) is state listed as a species of special concern. According to NYSDEC mapping, the eastern spadefoot has been documented to occur in the vicinity of portions of the Project Corridor within Segments 4 and 5. Based on the Package 3 (Segment 4 and 5) NYNHP response letter, the current Project Corridor comes within 0.5 mile of a 2019 documented vernal pool located within the Saratoga Sand Plains State Wildlife Management Area or in its vicinity.

The documented breeding pools are not located in the Project Corridor or immediately adjacent to proposed work activities and based on this species' limited home range, construction and operation of the Project is expected to have negligible to no effect on this species. As previously stated, the eastern spadefoot is listed within New York State as a species of special concern, not threatened or endangered. Therefore, consultation with the NYSDEC is not required for this species.

The eastern spadefoot is a medium-sized toad found primarily on Long Island, with isolated populations in Dutchess, Albany, and Saratoga counties. The NYNHP guide[27] for the eastern spadefoot indicates that this species inhabits areas of dry sandy soils or loose soils. These characteristics are generally associated with pine barrens and associated habitats in Saratoga and Albany counties and in pitch pine-scrub oak dunes on Long Island. Eastern spadefoot toads are known to observe relatively small home ranges (10 to 1087 square meters) and have been documented to up to 450 m from their breeding ponds although most travel closer to 130 m.[28]

[26] NYSDEC. 2014. *Species Status Assessment: Persius Duskywing*. Available at: https://www.dec.ny.gov/docs/wildlife_pdf/sgcnpersius.pdf (Accessed June 2022).
[27]NYNHP. 2022n. *Online Conservation Guide for Eastern Spadefoot*. Available from: https://guides.nynhp.org/eastern-spadefoot/ (Accessed May 27, 2022).
[28]NYSDEC. 2013. Species Status Assessment – Eastern spadefoot toad (*Scaphiopus holbrookii*). Available from: https://www.dec.ny.gov/docs/wildlife_pdf/sgcnespadefoot.pdf (Accessed September 2022)

### 3.3 Unlisted Wildlife Species of Conservation Concern

The following species are unlisted in New York State and were documented by NYNHP as potentially occurring in the vicinity of the Project. Unlisted species do not require additional consultation with the NYSDEC under 6 NYCRR Part 182. As such, these species are not included in the Attachment 3 summary tables.

*Bridle Shiner*

The bridle shiner (*Notropis bifrenatus*) is an unlisted species in New York State. According to NYSDEC mapping and NYNHP correspondence, the bridle shiner has been documented adjacent to the Project Corridor within Segment 3 in an unnamed body of water.

Major threats to the bridle shiner habitat include alterations due to turbidity, flow alterations, draining of ponds and exotic species introduction. The construction of the overland segments of the Project would have no effect on state-listed aquatic species. To avoid impacts to aquatic resource, the transmission lines would be installed over water bodies by bridge attachment, or beneath the water bodies via HDD or dry ditch crossing methods as outlined in Section 4.2 of the EM&CP for Segment 3. Therefore, construction of Segment 3 is not anticipated to impact this species.

The NYSDEC indicates that this species occurs near the shores of lakes and streams with submerged aquatic vegetation.[29] This species is native to 16 of the 18 watersheds in New York State; however, recent data have shown a population decline in western and central New York.

*Umber Shadowdragon*

The umber shadowdragon (*Neurocordulia obsolete*) is an unlisted species of dragonfly in New York State. According to the Package 2 (Segment 3) NYNHP response letter, the umber shadowdragon has been documented along the Project Corridor within Segment 3 in the Champlain Canal.

The construction of the overland segments of the Project would have no effect on aquatic species. To avoid impacts to aquatic resources, the transmission lines would be installed over water bodies by bridge attachment, or beneath the water bodies via HDD or dry ditch crossing methods as outlined in Section 4.2 of the EM&CP for Segment 3. Therefore, the current Project design is not anticipated to result in impacts to the umber shadowdragon.

[29] NYSDEC. 2022. *Online Species Profile of Bridle Shiner*. Available from: https://www.dec.ny.gov/animals/85683.html (Accessed June 30, 2022).

The umber shadowdragon belongs to a family of dragonflies known as the emeralds (Corduliidae). The Massachusetts Natural Heritage and Endangered Species Program guide[30] indicates that the aquatic, larval nymph stage inhabits the underside of rocks, sticks and other debris and feeds on aquatic insects, small fish and tadpoles.

*Lyre-tipped Spreadwing*

The lyre-tipped spreadwing (*Lestes unguiculatus*) is an unlisted species of dragonfly in New York State. According to the Package 3 (Segment 4 and 5) NYNHP response letter, this segment of the comes within 0.5 mile of a 2008 documented vernal pool complex within the Wilton Wildlife Preserve where this species has been observed. The documented vernal complex is not located in the Project Corridor or immediately adjacent to proposed work activities; therefore, construction and operation of the Project is expected to have negligible to no effect on this species.

According to the NYNHP guide[31] for this species, this species can be found inhabiting small ponds or marshy wetlands. Often, these areas tend to dry up in mid-summer. In New York, the lyre-tipped spreadwing has been documented in 30 counties. It was observed in Saratoga, Chenango, St. Lawrence, and Jefferson counties in a recent odonate atlas survey.[31] According to the NYNHP, the Wilton Wildlife Preserve is one of the best places to observe this species.

*Spatterdock Darner*

The spatterdock darner (*Rhionaechna mutata*) is another dragonfly species that is unlisted in New York State. According to the Package 3 (Segments 4 and 5) NYNHP response letter, the Project Corridor within Segments 4 and 5 comes within 0.5 mile of four vernal pools with documented occurrences of this species within the Saratoga Sand Plains State Wildlife Management Area or in its vicinity. The documented vernal complex is not located in the Project Corridor or immediately adjacent to proposed work activities; therefore, construction and operation of the Project is expected to have negligible to no effect on this species.

[30] Massachusetts Natural Heritage & Endangered Species Program. 2022a. *Online Conservation Guide for Umber Shadowdragon*. Available from: https://www.mass.gov/doc/umber-shadowdragon/download (Accessed May 27,2022).
[31]NYNHP. 2022o. *Online Conservation Guide for Lyre-tipped Spreadwing*. Available from: https://guides.nynhp.org/lyre-tipped-spreadwing/ (Accessed May 27, 2022).

According to the spatterdock darner NYNHP guide,[32] this species mainly inhabits vegetated ponds, open marshes, and bogs. These locations tend to not have a population of fish and typically contain an abundance of vegetation including water lilies and spatterdock.

### 3.4 State Listed Rare Plant Species

*Hill's Pondweed*

Hill's pondweed (*Potamogeton hillii*) is state listed as threatened. According to NYNHP correspondence, this pondweed is documented along portions of the Project Corridor in Segment 1. The NYNHP online conservation guide[33] for Hill's pondweed indicates that this aquatic plant can be found in alkaline waters, including lakes, ditches, impoundments, ponds, marshes, and streams.

Based on the Package 1 (Segments 1 and 2) NYNHP response letter, Hill's pondweed has been documented within a beaver pond and small streamlets along the current Project Corridor within Segment 1 adjacent to Route 22 and B Lane near the border between the Towns of Dresden and Putnam. A targeted rare plant survey conducted in July 2022 by CHA confirmed the presence of Hill's pondweed approximately 15 feet upstream of the culvert (see Section 9.3 of the Segments 1 and 2 EM&CP).

To avoid aquatic impacts, the transmission lines would be installed over water bodies by bridge attachment, or beneath the water bodies via HDD or dry ditch crossing methods as outlined in Section 4 of the EM&CPs for Segment 1. The current Project design of Segment 1 does not include aquatic impacts within the known location of Hill's pondweed; therefore, there will be no impact to this species. However, if the existing culvert needs replacing during construction, avoidance and minimization measures will be discussed with NYSDPS and NYSDEC and implemented to protect this species. Based on the observed location of the Hill's pondweed plants approximately 15 feet away from the existing culvert, it is anticipated that the limits of work could be pulled back enough to replace the culvert without impacting these threatened plants.

*Lake Water Cress*

Lake water cress (*Rorippa aquatica*) is state listed as threatened. According to the Package 1 (Segments 1 and 2) NYNHP response letter, lake water cress has been documented within ¼ mile of the current Project Corridor within Segment 2 near the Town of Dresden. The NYNHP online

[32]NYNHP. 2022p. *Online Conservation Guide for Spatterdock Darner*. Available from: https://guides.nynhp.org/spatterdock-darner/ (Accessed May 27, 2022).
[33]NYNHP. 2022q. *Online Conservation Guide for Hill's Pondweed*. Available from: https://guides.nynhp.org/hill's-pondweed/ (Accessed May 27, 2022).

conservation guide[34] for lake water cress indicates that this species can be found in still, shallow waters along lakeshores, marly ponds, and quiet oxbow areas along rivers.

The work within Segment 2 does not include any disturbance to aquatic habitats; therefore, there will be no impact to lake water cress.

*Goldenseal*

Goldenseal (*Hydrastis canadensis*) is state listed as threatened. NYNHP correspondence indicates that goldenseal is documented in the vicinity of portions of the Project Corridor in Segments 4 and 5. According to the NYNHP online conservation guide,[35] goldenseal colonies are found at the bottom or mid-slopes of rich, often mature woodlands, and are frequently associated with diverse assemblages of spring wildflowers. Underlying bedrock is usually limestone, with soils rich in organic matter, and streams and/or springs nearby.

Based on the NYNHP response, goldenseal has been documented in a beech-maple mesic forest on a fairly steep, rocky, terraced slope within 0.2 mile of the current Project Corridor within Segments 4 and 5. The current Project Corridor for Segments 4 and 5 is located within or immediately adjacent to previously disturbed railroad corridors. Therefore, based on goldenseal's habitat requirements for very rich, densely shaded forests, the current alignment is not anticipated to impact goldenseal.

*Side Oats Grama*

Side oats grama (*Bouteloua curtipendula* var. *curtipendula*) is state listed as endangered. NYNHP correspondence indicates that this plant is documented along portions of the Project Corridor in Segments 6 and 7 and adjacent to a portion of the Project Corridor in Segments 8 and 9.

Within Segments 6 and 7, NYNHP documented side oats grama on the current Project Corridor within the Wyatts Riverside Bluffs in the Town of Glenville. Within Segments 8 and 9, side oats grama has been documented within 0.5 mile of the current alignment in an old sand pit. Based on the separating distance between the documented location and existing conditions within the current Project Corridor of Segments 8 and 9, no impact is anticipated. Due to the known record of this species directly within the within Segments 6 and 7, access through or impact within the documented location of this species will be avoided via HDD to cross the Mohawk River as described in Section 9.3 of the EM&CP for Segments 6 and 7.

[34]NYNHP. 2022r. Online Conservation Guide for Lake Water Cress. Available from: https://guides.nynhp.org/lake-cress/ (Accessed May 27, 2022).
[35]NYNHP. 2022s. Online Conservation Guide for Goldenseal. Available from: https://guides.nynhp.org/goldenseal/ (Accessed May 27, 2022).

According to the NYNHP online conservation guide,[36] side oats grama is strongly associated with dry limestone-derived soils, as well as with disturbance, both natural and artificial. It occurs in open habitats, including riverside bluffs, shale cliffs and barrens, cedar glades, limestone pavements, abandoned sandpits, pastures, railroads, and powerlines.

*Stiff Flat-topped Goldenrod*

Stiff flat-topped goldenrod (*Solidago rigida* var. *rigida*) is state listed as threatened. NYNHP correspondence indicates that this plant is documented in the vicinity of portions of the Project Corridor within Segment 10. According to the NYNHP online conservation guide,[37] this goldenrod occurs in a variety of dry open habitats, including grasslands, dry shaley slopes, on limestone bedrock, in small openings in shrub thickets, post-agricultural successional habitats on alkaline or clay soils, rocky summits, woodland edges, roadsides, and railroad ROWs.

Based on the Package 6 (Segment 10) NYNHP response letter, stiff flat-topped goldenrod is documented within a large old field approximately 0.2 to 0.5 mile west of the current alignment near the Town of West Athens. Based on the separating distance from the documented location and the siting of the Segment 10 Project Corridor entirely within or immediately adjacent to the previously disturbed railroad corridor, the Project is not anticipated to impact stiff flat-topped goldenrod.

*Basil Mountain Mint*

Basil mountain mint (*Pycnanthemum clinopodioides*) is state listed as endangered. This globally imperiled species has the smallest range of any northeastern *Pycnanthemum*, and there are only three known populations in New York State. NYNHP correspondence indicates that this plant is documented in the vicinity of the Project Corridor for Segment 12. According to the NYNHP guide[38], this plant occurs on south or west-facing slopes with dry, rocky soil. Suitable habitat includes open oak-hickory forests, woodlands, or savannas, with lots of exposed high pH bedrock.

Based on the Package 7 (Segment 12) NYNHP response letter, basil mountain mint has been documented within rocky summit grassland and Appalachian oak-hickory forest habitats in High Tor State Park, adjacent to the current alignment of Segment 12. The work within Package 7B is proposed to stay within the existing road ROW and outside of the state park; therefore, there will be no impact to the species.

[36]NYNHP. 2022t. Online Conservation Guide for Side Oats Grama. Available from: https://guides.nynhp.org/side-oats-grama/ (Accessed May 27, 2022).
[37]NYNHP. 2022u. *Online Conservation Guide for Stiff Flat-topped Goldenrod*. Available from: https://guides.nynhp.org/stiff-flat-topped-goldenrod/ (Accessed May 27, 2022).
[38]NYNHP. 2022v. *Online Conservation Guide for Basil Mountain Mint*. Available from: https://guides.nynhp.org/basil-mountain-mint/ (Accessed May 27, 2022).

*Torrey's Mountain Mint*

Torrey's mountain mint (*Pycnanthemum torreyi*) is also globally imperiled, and state listed as endangered with only three small populations in New York. NYNHP correspondence indicates that this plant is also documented in the vicinity of the Project Corridor within Segment 12. According to the NYNHP guide,[39] New York populations of Torrey's mountain mint have been found in dry, open habitats, including red cedar barrens, rocky summits, trails, and roadsides.

Based on the Package 7 (Segment 12) NYNHP response letter, Torrey's mountain mint has been documented within rocky summit grassland and Appalachian oak-hickory forest habitats in High Tor State Park adjacent to the current Project Corridor. The work within Segment 12 is proposed to stay within the existing road ROW and outside of the state park; therefore, there will be no impact to the species.

## 4.0 Migratory Birds

Bird species native to the United States or its territories are protected under the Migratory Bird Treaty Act of 1918 (MBTA). The USFWS Official Species Lists identified numerous MBTA protected bird species potentially occurring in the vicinity of all overland segments of the Project (see Attachment 2). However, based on the siting of the Project within previously disturbed railroad corridors or public road ROWs, the temporary nature of ground disturbance associated with the underground conduits, and the planned tree clearing between November 1 and March 31 (i.e., outside of the breeding and nesting season for most bird species that occur in New York), construction and operation of the Project is not anticipated to adversely impact MBTA protected birds. Additionally, an Environmental Monitor will be present on site during the preconstruction and construction phases of the Project. In the event of an unanticipated discovery of MBTA protected bird species or their nests or eggs within the Project Corridor, the Environmental Monitor will follow the process of an unanticipated discovery detailed in Section 9.3.3 of the EM&CPs, including consultation with federal and state agencies as needed.

## 5.0 Significant Natural Communities

*Red Cedar Rocky Summit*

The NYNHP online conservation guide[40] describes this community as:

[39]NYNHP. 2022w. *Online Conservation Guide for Torrey's Mountain Mint*. Available from: https://guides.nynhp.org/torreys-mountain-mint/ (Accessed May 27, 2022).
[40]NYNHP. 2022x. *Online Conservation Guide for Red Cedar Rocky Summit*. Available from: https://guides.nynhp.org/red-cedar-rocky-summit/ (Accessed May 27, 2022).

> *A community that occurs on warm, dry, rocky ridgetops and summits where the bedrock is calcareous (such as limestone or dolomite, but also marble, amphibolite, and calcsilicate rock), and the soils are calcareous. The vegetation may be sparse or patchy, with numerous lichen-covered rock outcrops. This community is often surrounded by Appalachian oak-hickory forest. Eastern red cedar (Juniperus virginiana) is a characteristic tree. In many examples, dead or dying red cedars may be evident, which is often associated with the severe heat stress characteristic of this community (Edinger et al. 2014).*[41]

The red cedar rocky summit community has a state conservation status rank of S3, indicating that it is vulnerable within New York. Based on the Package 1 (Segments 1 and 2) NYNHP response letter, a red cedar rocky summit community has been documented within 100 yards of the current alignment on either side of Route 22 in the northern portion of the Town of Dresden. Based on the publicly available data from NYSDEC, three areas are mapped 250 to 960 feet off Route 22. Proposed work along the current alignment within Segments 1 and 2 will be completed along the existing roadside and will not impact the nearby red cedar summit communities.

*Deep Emergent Marsh*

According to the NYNHP online conservation guide[42] for deep emergent marsh, the general description of this community is as follows:

> *A marsh community that occurs on mineral soils or fine-grained organic soils; the substrate is flooded by waters that are not subject to violent wave action. Water depths can range from 15 cm to 2 m (6 inches to 6.6 feet); water levels may fluctuate seasonally, but the substrate is rarely dry, and there is usually standing water in the fall. Deep emergent marshes are quite variable. They may be co-dominated by a mixture of species or have a single dominant species.*

The deep emergent marsh community has a state conservation status rank of S3, indicating that it is vulnerable within New York. The NYNHP identified a deep emergent marsh community within the Project Corridor in Segment 1. The NYNHP described this occurrence as "an enormous marsh complex that occupies 50 percent of the upper portion of Lake Champlain." As previously discussed, the transmission lines would be installed over water bodies by bridge attachment, or beneath the water bodies via HDD or dry ditch crossing methods. Although crossings by bridge

[41] Edinger, G.J., D.J. Evans, S. Gebauer, T.G. Howard, DM. Hunt, and A.M. Olivero (editors). 2014. Ecological Communities of New York State. Second Edition: A Revised and Expanded Edition of Carol Reschke's Ecological Communities of New York State (1990). New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.

[42] NYNHP. 2022y. *Online Conservation Guide for Deep Emergent Marsh*. Available from: https://guides.nynhp.org/deep-emergent-marsh/ (Accessed May 27, 2022).

attachment or HDD would avoid physical disturbance to aquatic habitats and species, HDD could result in frac-out (i.e., leaks of HDD drilling fluid into the surrounding sediment and water column) that could impact aquatic species and habitats. However, an Inadvertent Release and Recovery Plan has been prepared and will be implemented to minimize the risk of impacts associated with frac-outs (Appendix J to the EM&CPs) and described in Section 4.2 of the relevant EM&CPs. Any releases of drilling fluid would be remediated during construction. Therefore, no impacts to deep emergent marsh communities are anticipated.

*Silver Maple-Ash Swamp*

The NYNHP online conservation guide[43] for silver maple-ash swamp describes this community as follows:

> *Silver maple-ash swamps are hardwood basin swamps that occur in poorly drained depressions or on poorly drained soils along the borders of large lakes or, less frequently, rivers. The sites are characterized by uniformly wet conditions, with minimal seasonal fluctuation in water levels. The tree canopy is dominated by silver maple (Acer saccharinum) and green ash (Fraxinus pennsylvanica), but typically includes a variety of other hardwood species such as American elm (Ulmus americana), red maple (Acer rubrum), swamp white oak (Quercus bicolor), and ironwood (Carpinus caroliniana). This community has a well-developed understory of tall shrubs, short shrubs, and herbaceous species. Silver maple-ash swamps often occur over calcareous bedrock, and the plant species composition may reflect this influence with the presence of calciphiles such as northern white cedar (Thuja occidentalis) and alder-leaf buckthorn (Rhamnus alnifolia).*

The silver maple-ash swamp community has a state conservation status rank of S3, indicating that it is vulnerable within New York. The NYNHP identified a silver maple-ash swamp community within a narrow strip within Segment 1 along the west shore of Lake Champlain near Chubbs Dock in the Town of Dresden. Based on the NYSDEC publicly available data, this significant natural community is mapped within approximately 0.4 mile of the current alignment. The work in this area will be completed along the road and will not impact this silver maple-ash swamp community.

*Pitch Pine- Scrub Oak Barren*

[43]NYNHP. 2022z. *Online Conservation Guide for Silver Maple-Ash Swamp*. Available from: https://guides.nynhp.org/silver-maple-ash-swamp/ (Accessed May 27, 2022).

According to the NYNHP online conservation guide[44], pitch pine-scrub oak barrens are described as follows:

> *A pine barrens community with a shrub layer dominated by scrub oaks underlain by heath species. The shrub layer forms a thicket that covers 60 to 80% of the community. Embedded within the shrub thickets are small patches of savanna, dominated by various forbs and prairie grasses (i.e., successional northern sandplain grasslands). The community occurs on well-drained sandy soils that have developed on sand dunes, glacial till, and outwash. This community is adapted to and maintained by periodic fires with a frequency ranging from 6 to 15 years.*

This is a globally rare natural community with a state conservation status rank of S1, indicating that it critically imperiled in New York. The NYNHP and NYSDEC publicly accessible data identified one area of pitch pine-scrub oak barren community within 0.5 mile southeast of the current Project Corridor within Segments 4 and 5. This community is relatively small but in good condition. Due to the distance of the current alignment from this community and construction occurring only in the existing railroad ROW, no impacts to the identified pitch pine-scrub oak barren community are anticipated.

*Pitch Pine-Oak-Heath Rocky Summit*

According to the NYNHP online conservation guide[45], the pitch pine-oak-heath rocky summit community:

> *… occurs on warm, dry, rocky ridgetops and summits where the bedrock is non-calcareous (such as quartzite, sandstone, or schist), and the soils are more or less acidic. The vegetation may be sparse or patchy, with numerous rocky outcrops. This community is broadly defined and includes examples that may lack pines and instead are dominated by scrub oak or heath shrubs; this variation is apparently related to fire regime. Pitch pine-oak-heath rocky summit communities are often surrounded by chestnut oak forest... Characteristic species include pitch pine (Pinus rigida), chestnut oak (Quercus montana), red oak (Q. rubra), and scarlet oak (Q. coccinea)... Characteristic shrubs include scrub oak (Q. ilicifolia), common juniper (Juniperus communis), blueberry (Vaccinium angustifolium, V. pallidum), sweet-fern (Comptonia peregrina), and black huckleberry (Gaylussacia baccata)... Historically, fires of moderate intensity naturally occurred on pitch pine-oak-heath rocky summits every 5 to 25 years, which maintained the character of this community. Without fire, other woody species*

[44]NYNHP. 2022aa. *Online Conservation Guide for Pitch Pine-Scrub Oak Barren*. Available from: https://guides.nynhp.org/pitch-pine-scrub-oak-barren/ (Accessed May 27, 2022).
[45]NYNHP. 2022bb. *Online Conservation Guide for Pitch Pine-Oak-Heath Rocky Summit*. Available from: https://guides.nynhp.org/pitch-pine-oak-heath-rocky-summit/ (Accessed May 27, 2022).

> *become more abundant. Depending on the fire regime, this community may be expressed as a mix of pitch pine, oaks, and heath species such as blueberry and huckleberry; a "scrub oak bald" with little pitch pine or heath species; or a "heath bald" with little pitch pine or oak.*

The pitch pine-oak-heath rocky summit community has a state conservation status rank of S3S4, indicating that it is vulnerable in some parts of New York but secure in others. The NYNHP identified one area of pitch pine-oak-heath rocky summit in proximity to Segment 3 approximately 0.5-mile northeast of the Village of Fort Ann. It is a moderate-sized undisturbed community surrounded by natural forest located in a moderately fragmented landscape that overlooks the Project Corridor from a hilltop east of the Champlain Canal. Based on the NYSDEC publicly available data, this significant natural community is mapped within approximately 0.2 mile of the current alignment. Work in this area will be completed along the railroad ROW west of the Champlain Canal and will not impact this pitch pine-oak-heath rocky summit community.

*Pine Barens Vernal Ponds*

According to the NYNHP online conservation guide[46] for pine barens vernal pool, the general description of this community is as follows:

> *Pine barrens vernal ponds are open, seasonally fluctuating groundwater-fed wetlands within a pine barrens community. They often have a shallow layer of peat over sandy substrate. Some examples of this community have well-developed physiognomic zones, with floating aquatic and submerged species in the deeper sections, emergent species in the shallower water, and woody species along the perimeter. Characteristic herb species include pondweeds (Potamogeton spp.), many sedges (Carex spp., Dulichium arundinaceum, Scirpus cyperinus), marsh St. John's-wort (Triadenum virginicum), and marsh fern (Thelypteris palustris). Shrubs may include highbush blueberry (Vaccinium corymbosum), winterberry (Ilex verticillata), buttonbush (Cephalanthus occidentalis), and black chokeberry (Photinia melanocarpa).*

The pine barrens vernal pool community has a state conservation status rank of S2, indicating that it is imperiled within New York. The NYNHP identified multiple areas of pine barrens vernal pool community within 0.5 mile of the current Project Corridor within Segments 4 and 5. These pine barrens vernal pools are part of a complex located within the Saratoga Sand Plains State Wildlife Management Area and adjacent private lands. Based on the NYSDEC publicly available data,

[46]NYNHP. 2022cc. *Online Conservation Guide for Pine Barens Vernal Pool*. Available from: https://guides.nynhp.org/pine-barens-vernal-pool/ (Accessed May 27, 2022).

multiple areas are mapped within approximately 0.3 mile of the current alignment. Proposed work along the current alignment within Segments 4 and 5 will be completed along the existing railroad ROW and will not impact these pine barrens vernal pools.

*Vernal Pool*

According to the NYNHP online conservation guide[47] for vernal pool, the general description of this community is as follows:

> *Vernal pools are intermittently to ephemerally ponded, small, shallow depressions usually located within an upland forest. They are typically flooded in spring or after a heavy rainfall, but are usually dry during summer. Many vernal pools are filled again in autumn. The substrate is dense leaf litter over hydric soils. Vernal pools typically occupy a confined basin (i.e., a standing waterbody without a flowing outlet), but may have an intermittent stream flowing out of it during high water. Since vernal pools cannot support fish populations, there is no threat of fish predation on amphibian eggs or invertebrate larvae. Characteristic animals of vernal pools include species of amphibians, reptiles, crustaceans, mollusks, annelids, and insects. Vernal pool amphibians include spotted salamander (Ambystoma maculatum), blue-spotted salamander (A. laterale), Jefferson's salamander (A. jeffersonianum), marbled salamander (A. opacum), and wood frog (Rana sylvatica). Fairy shrimp are obligate vernal pool crustaceans, with Eubranchipus spp. being the most common.*

The vernal pool community has a state conservation status rank of S3, indicating that it is vulnerable within New York. The NYNHP identified five areas of vernal pool community within 0.5 mile of the current Project Corridor within Segments 4 and 5. These vernal pools are part of a complex located within the Saratoga Sand Plains State Wildlife Management Area. Based on the NYSDEC publicly available data, these documented locations are mapped approximately 0.25 mile from the current alignment. Proposed work along the current alignment within Segments 4 and 5 will be completed along the existing railroad ROW and is not anticipated to impact these vernal pool communities.

*Red Maple Hardwood Swamp*

The NYNHP online conservation guide[48] describes red maple hardwood swamp as follows:

[47]NYNHP. 2022dd. *Online Conservation Guide for Vernal Pool*. Available from: https://guides.nynhp.org/vernal-pool/ (Accessed May 27, 2022).
[48]NYNHP. 2022ee. *Online Conservation Guide for Red Maple Hardwood Swamp*. Available from: https://guides.nynhp.org/red-maple-hardwood-swamp/ (Accessed May 27, 2022).

> *A hardwood swamp that occurs in poorly drained depressions, usually on inorganic soils with peat, if present, that is less than 20 cm deep. This is a broadly defined community with many variants. In any one stand red maple is either the only canopy dominant, or it is codominant with one or more hardwoods such as ash, elm, and birch. Blackgum (Nyssa sylvatica), sweetgum (Liquidambar styraciflua), and swamp white oak (Quercus bicolor) if present, are only minor associates. The shrub layer is usually well-developed and may be quite dense. The herbaceous layer may be diverse and is often dominated by ferns.*

The red maple hardwood swamp community has a state conservation status rank of S3S4, indicating that it is vulnerable in some parts of New York, but apparently secure in others. Based on the Package 3 (Segments 4 and 5) NYNHP response letter, a red-maple-hardwood swamp community is located adjacent to the existing railroad from Edie Road south for 0.25 mile. This is a moderately sized red maple-hardwood swamp in very good condition. Since small portions of this significant natural community extend into the railroad ROW, the Certificate Holders will clearly flag the boundaries of this community type in the field prior to the start of construction activities. Access through or impact on the red maple-hardwood swamp community will be minimized to the extent practicable.

*Hemlock-Hardwood Swamp*

According to the NYNHP hemlock-hardwood swamp online conservation guide,[49] this community is described as follows:

> *Hemlock-hardwood swamps are closed-canopy, mixed species swamps, dominated by hemlock (Tsuga canadensis), with abundant red maple (Acer rubrum), yellow birch (Betula alleghaniensis), and blackgum (Nyssa sylvatica). They occur on mineral soils and deep muck in depressions that receive groundwater discharge. The shrub layer is typically sparse, and features any of several shrub species, including highbush blueberry (Vaccinium corymbosum), great rhododendron (Rhododendron maximum), and winterberry (Ilex verticillata). The ground layer may be sparse, and often includes cinnamon fern (Osmundastrum cinnamomeum) and sensitive fern (Onoclea sensibilis).*

The hemlock-hardwood swamp community has a state conservation status rank of S3, indicating that it is vulnerable within New York. Publicly accessible NYNHP and NYSDEC publicly accessible data identified one area of hemlock-hardwood swamp (Miller Swamp) 0.5 mile southeast of the

[49]NYNHP. 2022ff. *Online Conservation Guide for Hemlock-Hardwood Swamp*. Available from: https://guides.nynhp.org/hemlock-hardwood-swamp/ (Accessed May 27, 2022).

current Project Corridor in Segments 4 and 5. Due to the distance of the current alignment from this community and construction occurring within the existing railroad ROW, no impacts to this hemlock-hardwood swamp community are anticipated.

*Successional Northern Sandplain Grassland*

The NYNHP online conservation guide[50] for successional northern sandplain grassland describes this community as follows:

> *A meadow community that occurs on open sandplains that have been cleared and plowed (for farming or development), and then abandoned. This community is usually dominated by a low, dry turf of sedges and grasses less than 30 cm (12 inches) tall and includes patches of open sand and patches of soil covered with mosses and lichens. These grasslands are dominated grasses and sedges, such as little bluestem (Schizachyrium scoparium), hairgrass (Avenella flexuosa), Pennsylvania sedge (Carex pensylvanica), common poverty grass (Danthonia spicata), panicgrasses (Dichanthelium acuminatum ssp. columbianum, D. linearifolium, D. depauperatum), and other sedges (Carex rugosperma, C. lucorum). Characteristic herbs with low percent cover include bracken fern (Pteridium aquilinum var. latiusculum), stiff leaf aster (Ionactis linariifolius), butterflyweed (Asclepias tuberosa), round-head bushclover (Lespedeza capitata), whorled loosestrife (Lysimachia quadrifolia), and pale bluets (Houstonia longifolia).*

The successional northern sandplain grassland community has a state conservation status rank of S3, indicating that it is vulnerable within New York. Based on the Package 3 (Segments 4 and 5) NYNHP response letter and NYSDEC publicly accessible data, three locations of high quality successional northern sandplain grassland communities are located adjacent to the existing railroad within the Saratoga Sand Plains State Wildlife Management Area north and south of Scout Road. According to the NYNHP, these areas are small grasslands of mostly artificial origin (resulting from restoration efforts) are currently under active management. Project work in this area is proposed to stay within the existing railroad ROW and outside of the state wildlife management area. Therefore, no impacts to the successional northern sandplain grassland communities located within Saratoga Sand Plains State Wildlife Management Area are anticipated. However, since small portions of the significant natural community may extend into the railroad ROW, the Certificate Holders will clearly flag the boundaries of this community type within the limits of work prior to the start of construction activities (see Section 9.3 of the EM&CP for Segments 4 and 5 for details on avoidance and minimization). Access through or impact to the

[50]NYNHP. 2022gg. *Online Conservation Guide for Successional Northern Sandplain Grassland*. Available from: https://guides.nynhp.org/successional-northern-sandplain-grassland/ (Accessed May 27, 2022).

small portion of successional northern sandplain grassland community mapped within the railway ROW will be minimized to the extent practicable.

*Appalachian Oak-Pine Forest*

The NYNHP online conservation guide[51] for Appalachian oak-pine forest describes this community as follows:

> *Appalachian oak-pine forests occur on sandy or rocky soils, on slopes, ravines, or in pine barrens. The canopy is dominated by any of several oak species (Quercus alba, Q. coccinea, Q. rubra, and Q. velutina), with white pine (Pinus strobus) making up at least 25% of the total cover. On rocky slopes, the canopy abundance of pitch pine (Pinus rigida) could be greater than that of white pine at some sites. The shrub layer is dominated by ericaceous shrubs such as lowbush blueberry (Vaccinium angustifolium, V. pallidum) and huckleberry (Gaylussacia baccata). The herbaceous layer is usually sparse and low in species diversity.*

The Appalachian oak-pine community has a state conservation status rank of S4, indicating that it is uncommon within New York, but apparently secure. Based on the Package 3 (Segments 4 and 5) NYNHP response letter and NYSDEC publicly accessible data, multiple large high-quality patches of Appalachian oak-pine forest communities are located adjacent to the existing railroad within the Saratoga Sand Plains State Wildlife Management Area north and south of Scout Road, and on private land north of West Lane. Project work in this area is proposed to stay within the existing railroad ROW and outside of the state wildlife management area; therefore, there will be no impact to the majority of the Appalachian oak-pine communities. However, because small portions of this significant natural community extend into the railroad ROW, the Certificate Holders will clearly flag the boundaries of this community type within the limits of work prior to the start of construction activities (see Section 9.3 of the EM&CP for Segments 4 and 5 for details on avoidance and minimization). Access through or impact to Appalachian oak-pine forest communities will be avoided or minimized to the extent practicable.

*Oak-Tulip Tree Forest*

According to the NYNHP online conservation guide,[52] oak-tulip tree forest is described as follows:

[51]NYNHP. 2022hh. *Online Conservation Guide for Appalachian Oak-Pine Forest*. Available from: https://guides.nynhp.org/appalachian-oak-pine-forest/ (Accessed May 27, 2022).
[52]NYNHP. 2022ii. *Online Conservation Guide for Oak-Tulip Tree Forest*. Available from: https://guides.nynhp.org/oak-tulip-tree-forest/ (Accessed May 27, 2022).

> *Oak tulip-tree forest is a mesophytic hardwood forest community that occurs on moist, well-drained sites in southeastern New York. The dominant trees include a mixture of oaks (Quercus spp.), tulip tree (Liriodendron tulipifera), American beech (Fagus grandifolia), black birch (Betula lenta), and red maple (Acer rubrum). The subcanopy often includes flowering dogwood (Cornus florida), and common understory associates include witch hazel (Hamamelis virginiana), sassafras (Sassafras albidum), and lowbush blueberries (Vaccinium angustifolium, V. pallidum). The herb layer is moderate to sparse and may include New York fern (Thelypteris novaboracenis), white wood aster (Eurybia divaricata), and Solomon's plume (Maianthemum racemosum).*

The oak-tulip tree community has a state conservation status rank of S1S2, indicating that it is critically imperiled to imperiled within New York. According to the Package 7 (Segment 12) NYNHP response letter, an oak-tulip tree forest community is located adjacent to the current Project Corridor south from the intersection of NYS Route 9W and 303 in the Town of Clarkstown and is crossed by the Project when the alignment turns sharply from the road as it heads to the Hudson River. However, a review of publicly available mapping of Significant Natural Communities indicated the latest alignment has been sited outside of the mapped oak-tulip tree community. Based on the current alignment, Segment 12 ends just west of the forest and the marine segment will be installed through HDD to avoid impacts to this community. Therefore, no impacts are to this oak-tulip forest community are anticipated due to the construction of Segment 12.

*Rocky Summit Grassland*

According to the NYNHP rocky summit grassland online conservation guide,[53] this community is described as follows:

> *Rocky summit grasslands occur on rocky outcrops and summits with thin soils, and are dominated by grass species such as little bluestem (Schizachyrium scoparium), tufted hairgrass (Deschampsia flexuosa), poverty-grass (Danthonia spicata, D. compressa), and Indian grass (Sorghastrum nutans). Also common are Pennsylvania sedge (Carex pensylvanica), ebony spleenwort (Asplenium platyneuron), and fragrant goldenrod (Solidago odora)... Woody species, such as red oak (Quercus rubra) and lowbush blueberry (Vaccinium pallidum, V. angustifolium), are sparse, and may be present near the community margins...*

[53]NYNHP. 2022jj. *Online Conservation Guide for Rocky Summit Grassland*. Available from: https://guides.nynhp.org/rocky-summit-grassland/ (Accessed May 27, 2022).

The rocky summit grassland community has a state conservation status rank of S2, indicating that it is imperiled within New York. Based on the Package 7 (Segment 12) NYNHP response letter, a rocky summit grassland community occurs at High Tor State Park on the ridge overlooking the current Project Corridor. Work within Segment 12 is proposed to stay within the existing road ROW and outside of the state park, therefore, there will be no impact to this rocky summit grassland community.

## 6.0 Conclusions

Recent agency consultation was conducted to determine wildlife and plant species as well as significant natural communities that have the potential to be present within the Project limits. This review suggests that the current Project Corridor is likely to be dominated by common species typically found in disturbed environments adjacent to transportation ROWs, and agricultural and forest habitats. The results of the agency consultation and habitat suitability analysis are summarized in Attachment 3.

### 6.1 State and Federally Listed Species

Of all species and communities identified during agency consultation, particular concern was given to state or federally listed threatened and endangered species and the potential habitat available for these species within the Project's limits of construction. A total of 19 wildlife species and 8 plant species listed in New York State as threatened, endangered, or species of special concern and species of greatest conservation need have been documented in the vicinity of the current Project Corridor. An evaluation of habitat suitability for these state-listed species resulted in the determination that potential habitat may exist within the current Project Corridor for seven species including the northern long-eared bat, Indiana bat, bald eagle, timber rattlesnake, Karner blue butterfly, frosted elfin, and persius duskywing.

The Certificate Holders have implemented species-specific avoidance, minimization, and mitigation measures for these species where they occur along the Project route, as described in detail in Section 9.3 of the relevant EM&CPs. In addition, known locations of rare, threatened, or endangered plant species or significant natural communities will be identified on the EM&CP maps and construction drawings. Access through or impact to any documented rare plant locations will be avoided or minimized to the extent practicable. Per the Environmental Conservation Law §9-1503, it is a violation to collect or destroy listed plants without the permission of the landowner. Therefore, if impacts to rare, threatened, or endangered plants become unavoidable during Project design, the Certificate Holders will coordinate with the landowners for approval of any proposed clearing or disturbance.

# Attachment 1

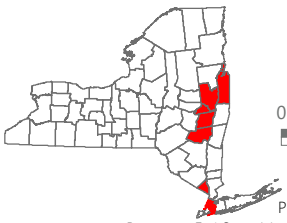
Figures

# Figure 1. Project Location


## CHPE EM&CP

Washington, Saratoga, Schenectady, Albany, Greene, Rockland, Bronx, New York and Queens Counties, New York

Project Alignment



0 5 10 20

Miles

Prepared June 22, 2022

Basemap: Esri StreetMap North America, 2008

EDR

## Figure 2. DEC Threatened and Endangered Species - Segment 1 (Package 1A)


**CHPE EM&CP**

Washington County, New York

**REDACTED**

Project Components
- Segment 1
- Project Alignment

0 1,000 2,000 4,000
Feet

Prepared November 3, 2022
Basemap: Esri "World Imagery" map service

EDR

## Figure 3. DEC Threatened and Endangered Species - Segment 2 (Package 1B)


**CHPE EM&CP**

Washington County, New York

**REDACTED**

Project Components
- Segment 2
- Project Alignment

0 0.25 0.5 1
Miles

Prepared November 3, 2022
Basemap: Esri "World Imagery" map service

EDR

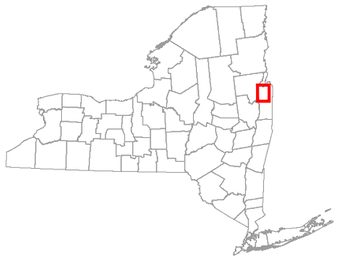
## Figure 4. DEC Threatened and Endangered Species - Segment 3 (Package 1C and 2)

**CHPE EM&CP**

Washington County, New York

**REDACTED**

Project Components
- Segment 3
- Project Alignment



0 0.5 1 2
Miles

Prepared November 3, 2022
Basemap: Esri "World Imagery" map service

EDR

## Figure 5. DEC Threatened and Endangered Species - Segment 4 (Package 3)


**CHPE EM&CP**

Saratoga and Washington Counties, New York

**REDACTED**

Project Components
- Segment 4
- Project Alignment

0 0.5 1 2
Miles

Prepared November 3, 2022
Basemap: Esri "World Imagery" map service

EDR

## Figure 6. DEC Threatened and Endangered Species - Segment 5 (Package 3)


**CHPE EM&CP**

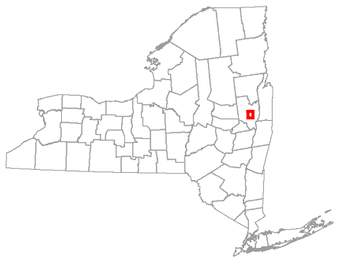
Saratoga and Washington Counties, New York

**REDACTED**

Project Components

Segment 5

Project Alignment



0 0.25 0.5 1

Miles

Prepared November 3, 2022

Basemap: Esri "World Imagery" map service

EDR

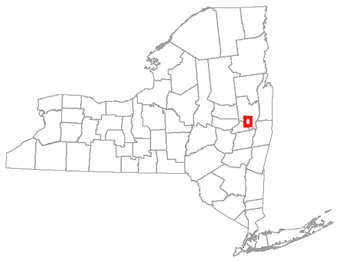
## Figure 7. DEC Endangered Species - Segment 6 (Package 4A)


**CHPE EM&CP**

Saratoga and Schenectady County, New York

**REDACTED**

Project Components
- Segment 6
- Project Alignment



0 0.25 0.5 1
Miles

Prepared November 3, 2022
Basemap: Esri "World Imagery" map service

EDR

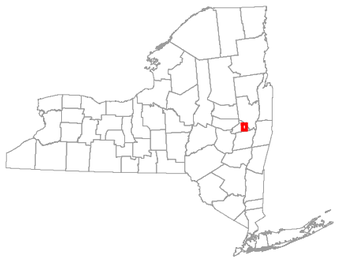
## Figure 8. DEC Threatened and Endangered Species - Segment 7 (Package 4B)


**CHPE EM&CP**

Schenectady County, New York

**REDACTED**

Project Components
- Segment 7
- Project Alignment



0 0.25 0.5 1
Miles

Prepared November 3, 2022
Basemap: Esri "World Imagery" map service

EDR

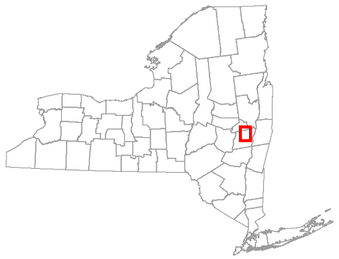
## Figure 9. DEC Threatened and Endangered Species - Segment 8 (Package 5A)


**CHPE EM&CP**

Schenectady and Albany Counties, New York

**REDACTED**

Project Components
- Segment 8
- Project Alignment

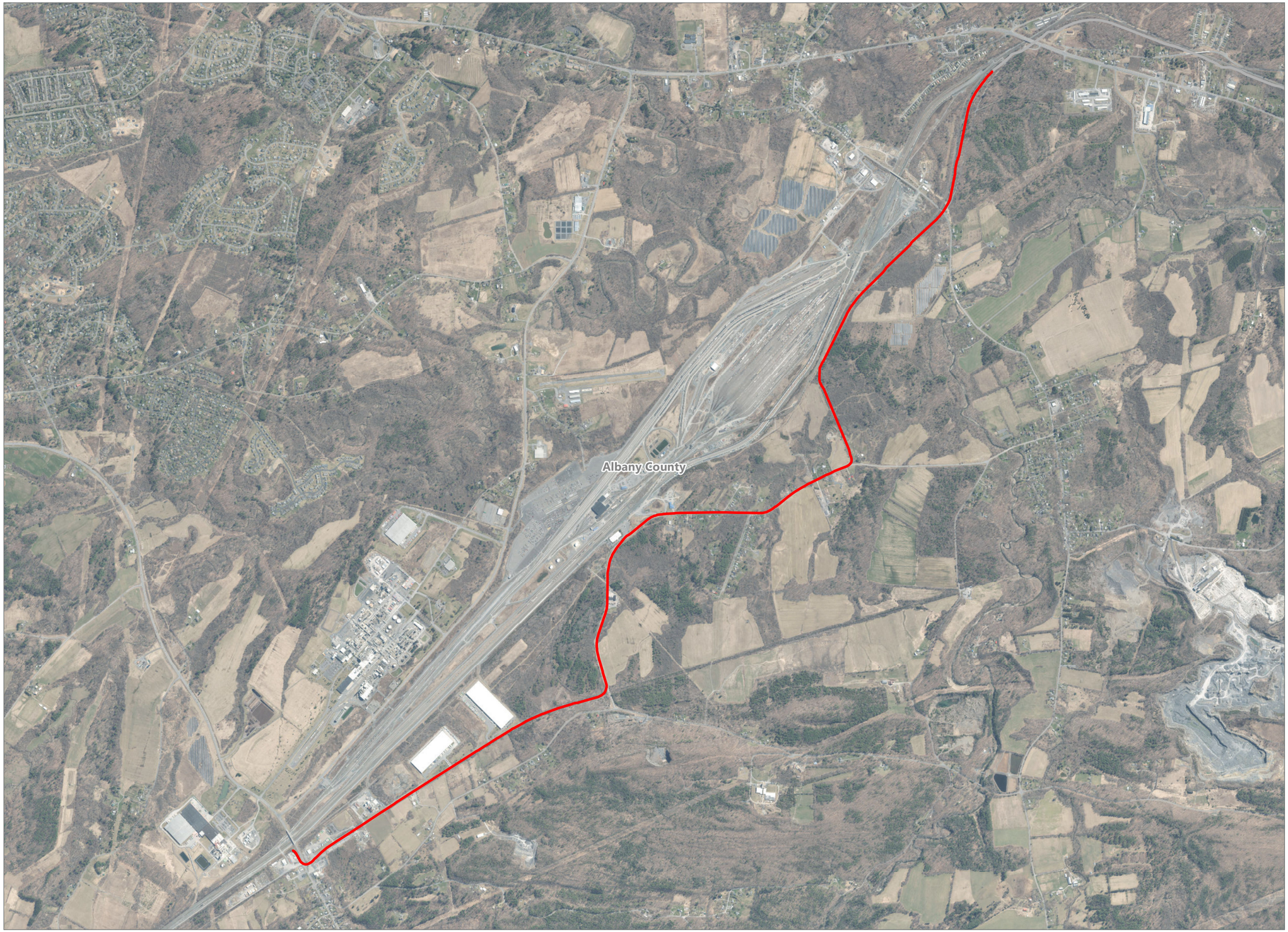


0 0.5 1 2
Miles

Prepared November 4, 2022
Basemap: Esri "World Imagery" map service

EDR

## Figure 10. DEC Threatened and Endangered Species - Segment 9 (Package 5B)

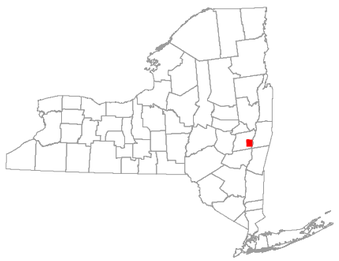



**CHPE EM&CP**

Albany County, New York

**REDACTED**

Project Components
- Segment 9
- Project Alignment



0 1,000 2,000 4,000
Feet

Prepared November 4, 2022
Basemap: Esri "World Imagery" map service

EDR