NextEra Energy Transmission New York, Inc.

(NEETNY)

Empire State Line

Case 18-T-0499

Appendix M

Initial Invasive Species Control Plan

June 2020

EMPIRE STATE LINE
INVASIVE SPECIES CONTROL PLAN
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ACRONYMS & ABBREVIATIONS

BMP	best management practices
DPS	(New York State) Department of Public Service
ESL	Empire State Line
IISCP	Initial Invasive Species Control Plan
ISHC	Invasive Species of High Concern
ISSC	Invasive Species of Special Concern
kV	kilovolt
NEETNY	NextEra Energy Transmission New York, Inc.
NYCRR	New York Codes, Rules, and Regulations
NYSAGM	New York State Department of Agriculture and Markets
NYSDEC	New York State Department of Environmental Conservation
NYSEG	New York State Electric and Gas Corporation
Project	Empire State Line Project
ROW	right-of-way
SWPPP	Stormwater Pollution Prevention Plan

1.0 INTRODUCTION

NextEra Energy Transmission New York, Inc. (NEETNY) has prepared this Initial Invasive Species Control Plan (IISCP or Plan) to prevent the spread of invasive plant and insect species associated with the Empire State Line Project (Project). This Plan has been prepared in accordance with the Invasive Species Management Plan Specifications (Specifications) issued by the New York State Department of Environmental Conservation (NYSDEC) for the Project. The Specifications are provided in Attachment A.

1.1 Project Description

The Project includes an approximately 20-mile 345-kilovolt (kV) transmission line and associated switchyards in the town of Royalton in Niagara County, New York, and the towns of Alden, Newstead, Lancaster, and Elma in Erie County, New York. Specifically, the Project consists of: (a) a new 345 kV switchyard (Dysinger Switchyard) in the town of Royalton in Niagara County, (b) a new switchyard (East Stolle Switchyard) to be connected to the existing New York State Electric and Gas Corporation (NYSEG) Stolle Road Substation in the town of Elma in Erie County, and (c) an approximately 20-mile-long 345 kV transmission line (Proposed Line) that will connect the Dysinger and East Stolle Switchyards.

The Proposed Line will primarily be built within the existing NYSEG Utility Corridor. The NYSEG Utility Corridor is generally 500 feet wide, with some areas widening to approximately 800 feet. NYSEG's 230 kV Line 65 extends the length of the corridor. The 115 kV Line 926, 115 kV Line 928, and 34.5 kV Line 525 parallel Line 65 for varying distances. NYSEG maintains fee ownership of the majority of land within the corridor; exceptions include railroad, trail, and road crossings, as well as two private landowner holdings. NEETNY will purchase an approximately 130-foot-wide easement adjacent to the existing Line 65 230 kV line (e.g., Proposed right-of way [ROW]) to construct, own, operate, and maintain the Proposed Line.

The Dysinger Switchyard will be connected to the New York Power Authority 345 kV Niagara lines and NYSEG 345 kV Somerset lines via two sets of parallel transmission lines (Dysinger Tie-Ins), totaling approximately 0.5 miles. Likewise, the East Stolle Switchyard will be connected to the NYSEG Stolle Road Substation and NYSEG's 345 kV Stolle Road-to-Homer City transmission line via two sets of transmission lines (East Stolle Tie-Ins), totaling approximately 0.4 miles. The transmission line structure will consist of steel monopoles.

1.2 Plan Purpose

This IISCP provides information on invasive plant species known to occur in, and insect species potentially occurring in, the Project area; identifies measures to control the spread of such species

during construction; and identifies post-construction measures to monitor for and address the spread of invasive species.

1.3 Applicable Laws and Species List

An invasive species is defined under 6 New York Codes, Rules, and Regulations (NYCRR) Part 575 as a species that is nonnative to the ecosystem under consideration, and whose introduction causes or is likely to cause economic or environmental harm or harm to human health. Under this definition, the harm must significantly outweigh any benefits.

Invasive plants are opportunistic and often non-indigenous plant species that readily invade disturbed areas, sometimes producing monocultures and preventing native plant species from establishing communities. Many invasive plant species significantly degrade agricultural and natural resources, including soil and water, wildlife habitat, and recreational and wilderness values, often with great economic impact. The spread of invasive species is a significant issue in construction projects that involve land disturbance. Earth-moving activities contribute to the spread of invasive plant species, as does the use of contaminated construction fill, seed, or erosion-control products.

Invasive insects cause significant ecological and economic damage in the United States. They are capable of vast expansion and rapid reproduction and, once established, can be difficult to contain and/or manage. In forests, the ecological damage has included near-extirpation of several important tree species, shifts in forest composition and ecosystem function, and disruption of wildlife habitat. Additionally, invasive insects can damage agricultural crops and spread disease.

Under 6 NYCRR 575, invasive species are designated as either prohibited or regulated. Prohibited Invasive Species cannot be knowingly possessed with the intent to sell, import, purchase, transport or introduce. In addition, no person shall sell, import, purchase, transport, introduce or propagate prohibited invasive species. Regulated Invasive Species, on the other hand, are species that cannot be knowingly introduced into a free-living state or introduced by a means that one should have known would lead to such an introduction, although such species shall be legal to possess, sell, buy, propagate, and transport. A species is considered in a free-living state if it is introduced to public lands or lands connected to public lands, natural areas, and public waters or waters connected to public waters. Table 1-1 lists Prohibited (6 NYCRR 575.3) and Regulated Invasive Plant Species (6 NYCRR 575.4) in New York. Table 1-2 lists the Prohibited Insect Species in New York; there are no regulated insect species in the state.

Table 1-1 Prohibited and Regulated Invasive Plant Species in New York

Common Name	Scientific Name
Prohibited Species	
Sycamore Maple	*Acer pseudoplatanus*
Japanese Chaff Flower	*Achyranthes japonica*
Garlic Mustard	*Alliaria petiolata*
Porcelain Berry	*Ampelopsis brevipedunculata*
Wild Chervil	*Anthriscus sylvestris*
Japanese Angelica Tree	*Aralia elata*
Mugwort	*Artemisia vulgaris*
Small Carpet Grass	*Arthraxon hispidus*
Japanese Barberry	*Berberis thunbergii*
Slender False Brome	*Brachypodium sylvaticum*
Fanwort	*Cabomba caroliniana*
Narrowleaf Bittercress	*Cardamine impatiens*
Oriental Bittersweet	*Celastrus orbiculatus*
Spotted Knapweed	*Centaurea stoebe* (*C. biebersteinii, C. diffusa, C. maculosa misapplied, C. xpsammogena*)
Canada Thistle	*Cirsium arvense* (*C. setosum, C. incanum, Serratula arvensis*)
Black Swallow-wort	*Cynanchum louiseae* (*C. nigrum, Vincetoxicum nigrum*)
Pale Swallow-wort	*Cynanchum rossicum* (*C. medium, Vincetoxicum medium, V. rossicum*)
Chinese Yam	*Dioscorea polystachya* (*D. batatas*)
Cut-leaf Teasel	*Dipsacus laciniatus*
Brazilian Waterweed	*Egeria densa*
Autumn Olive	*Elaeagnus umbellata*
Cypress Spurge	*Euphorbia cyparissias*
Leafy Spurge	*Euphorbia esula*
Lesser Celandine	*Ficaria verna* (*Ranunculus ficaria*)
Smooth Buckthorn	*Frangula alnus* (*Rhamnus frangula*)
Reed Manna Grass	*Glyceria maxima*
Giant Hogweed	*Heracleum mantegazzianum*
Japanese Hops	*Humulus japonicus*
Hydrilla, Water Thyme	*Hydrilla verticillata*
European Frogbit	*Hydrocharis morus ranae*
Cogon Grass	*Imperata cylindrica* (*I. arundinacea, Lagurus cylindricus*)
Yellow Iris	*Iris pseudacorus*
Broad-leaved Pepper-grass	*Lepidium latifolium*
Chinese Lespedeza	*Lespedeza cuneata*
Border Privet	*Ligustrum obtusifolium*
Japanese Honeysuckle	*Lonicera japonica*
Amur Honeysuckle	*Lonicera maackii*

Table 1-1 Prohibited and Regulated Invasive Plant Species in New York

Common Name	Scientific Name
Morrow's Honeysuckle	*Lonicera morrowii*
Tartarian Honeysuckle	*Lonicera tatarica*
Fly Honeysuckle	*Lonicera x bella*
Uruguayan Primrose Willow	*Ludwigia hexapetala* (*L. grandiflora*)
Floating Primrose Willow	*Ludwigia peploides*
Garden Loosestrife	*Lysimachia vulgaris*
Purple Loosestrife	*Lythrum salicaria*
Japanese Stilt Grass	*Microstegium vimineum*
Marsh Dewflower	*Murdannia keisak*
Parrot-feather	*Myriophyllum aquaticum*
Broadleaf Water-milfoil	*Myriophyllum heterophyllum*
Broadleaf Water-milfoil Hybrid	*Myriophyllum heterophyllum x M. laxum*
Eurasian Water-milfoil	*Myriophyllum spicatum*
Yellow Floating Heart	*Nymphoides peltata*
Wavyleaf Basketgrass	*Oplismenus hirtellus*
Mile-a-Minute Weed	*Persicaria perfoliata* (*Polygonum perfoliatum*)
Amur Cork Tree	*Phellodendron amurense*
Common Reed Grass	*Phragmites australis*
Golden Bamboo	*Phyllostachys aurea*
Yellow Groove Bamboo	*Phyllostachys aureosulcata*
Curly Pondweed	*Potamogeton crispus*
Kudzu	*Pueraria montana*
Japanese Knotweed	*Reynoutria japonica* (*Fallopia japonica, Polygonum cuspidatum*)
Giant Knotweed	*Reynoutria sachalinensis* (*Fallopia sachalinensis, Polygonum sachalinensis*)
Bohemian Knotweed	*Reynoutria x bohemica* (*Fallopia x bohemica, Polygonum x bohemica*)
Common Buckthorn	*Rhamnus cathartica*
Multiflora Rose	*Rosa multiflora*
Wineberry	*Rubus phoenicolasius*
Gray Florist's Willow	*Salix atrocinerea*
Cup-plant	*Silphium perfoliatum*
Water Chestnut	*Trapa natans*
Beach Vitex	*Vitex rotundifolia*
Regulated Species	
Norway Maple	*Acer platanoides*
Japanese Virgin's Bower	*Clematis terniflora*
Burning Bush	*Euonymus alatus*
Winter Creeper	*Euonymus fortunei*

Table 1-1 Prohibited and Regulated Invasive Plant Species in New York

Common Name	Scientific Name
Chinese Silver Grass	*Miscanthus sinensis*
Black Locust	*Robinia pseudoacacia*

Table 1-2 Prohibited Insect Species in New York

Common Name	Scientific Name
Hemlock Woolly Adelgid	*Adelges tsugae*
Emerald Ash Borer	*Agrilus planipennis*
Asian Longhorn Beetle	*Anoplophora glabripennis*
Africanized Honey Bee	*Apis mellifera scutellata x A. mellifera ligustica / A. mellifera iberiensis*
Beech Scale	*Cryptococcus fagisuga*
Asian and European Gypsy Moth	*Lymantria dispar*
Japanese Pine Sawyer	*Monochamus alternatus*
Walnut Twig Beetle	*Pityophthorus juglandis*
Sirex Woodwasp	*Sirex noctilio*

2.0 INVASIVE SPECIES BASELINE SURVEYS

2.1 Plants

NEETNY initially completed invasive plant species baseline surveys for the majority of the Project area in October and November 2019. This data was supplemented with an additional survey of the entire Project area in May 2020. This was to both meet the Specifications, which state that baseline surveys should be conducted within one year of the start of construction, as well as to document various species which would not have been as visible during the fall survey (e.g., garlic mustard (*Alliaria petiolate*) and lesser celandine (*Ficaria verna*). Biologists with the ability to identify all plant species on the prohibited and regulated invasive species lists conducted the surveys. The survey area included an approximately 300-foot-wide corridor along the length of the proposed transmission line route, encompassing the Proposed ROW and a buffer between 50 and 100 feet wide. Additional survey areas included access roads located outside of the Proposed ROW.

The surveys were conducted by meandering back and forth through the survey area. Mapping of invasive species populations was conducted using an Esri Collector application on an iPad. The application allows surveyors to collect points, lines, and polygons using the iPad Global Positioning System in real time, or to hand plot populations over an aerial base map. Once a point, line, or polygon was mapped, a dropdown list of all Prohibited and Regulated invasive species was used to associate a various species with each feature.

Each species present were assigned to one of 10 cover groupings, based on the Daubenmire cover class method. The cover classes included <1%, 1 to 5%, 6 to 15%, 16 to 25%, 26 to 39%, 40 to 60%, 61 to 74%, 75 to 84%, 85 to 95%, and >95%. Additional notes were taken relative to how the species were distributed throughout the mapped area. Photographs were taken of the populations, and the photo location and direction were also documented in the Esri Collector application.

In general, the mapping was most often accomplished with polygons because of the volume of invasive species present. Points and line features were used sparingly. The typical polygon size was variable, depending on the various species cover, vegetation break points, and distribution/heterogeneity of the invasive species present. When single invasive species monocultures were reasonably isolated, they were mapped individually with the highest applicable percent cover. However, when individual invasive species were more evenly distributed throughout a given feature/mapping unit, the overall feature was mapped and the invasive species was assigned a lower percent cover for the larger unit. For example, a 5-acre reverting field with 50 multiflora rose bushes that each covered approximately 50 square feet was mapped as a 5-acre polygon with a 5 to 15% cover classification, not 50 individual 50 square feet polygons with >95% cover classifications.

In most instances, multiple invasive species were typically present throughout each feature/mapping unit in a heterogeneous distribution. In these instances, each additional species was also documented and assigned to an appropriate cover group within each polygon. In rare instances when other listed species met the minimum mapping unit of 10 square feet, but were a trivial portion of an overall mapping unit, an additional point was collected within that larger polygon to show the specific location of that species. For example, if there was only one small patch of mugwort in a field, it was mapped as a separate point as opposed to being added as a <1% cover classification within the larger polygon. Typically, the mapped areas were defined by on the ground features such as individual fields, portions of the existing ROW, field edges, hedge rows, forest edges, or the internal understory of forested areas. Mapping units were also separated when there were clear changes in the overall percent cover of a specific species rather than a more homogeneous distribution.

Table 2-1 presents the invasive plant species documented during the field surveys; all species identified are on the New York State Prohibited Species List.

2.1.1 Giant Hogweed Population

An approximately 50 square-foot area of giant hogweed (*Heracleum mantegazzianum*) is present within the survey area, approximately 15 feet beyond the limits of disturbance of a proposed access road. Due to the nature of this species and the harm it can cause humans, the species location was immediately reported to NYSDEC's giant hogweed control program. NYSDEC responded confirming it as giant hogweed, and indicated that this location was a known population that they believed to have been previously eradicated. They indicated it mostly likely reappeared from the seedbank. NYSDEC also noted that due to COVID-19 and associated budgetary restrictions, it is unlikely they will be able to treat this population in 2020, which means it will likely still be present at the start of construction. If the population is not eradicated before construction begins, the population will be flagged and signage will be posted around it that clearly identifies the population to ensure it is avoided. The population will also be marked on the construction Plan and Profile drawings. This will be to both protect workers from potential exposure to the plant and prevent the spread of the species.

Table 2-1 Invasive Plant Species Documented in Project Area

Common Name	Scientific Name
Garlic Mustard	*Alliaria petiolate*
Japanese Angelica Tree	*Aralia elata*
Mugwort	*Artemisia vulgaris*
Spotted Knapweed	*Centaurea stoebe* (*C. biebersteinii, C. diffusa, C. maculosa misapplied, C. xpsammogena*)

Table 2-1 Invasive Plant Species Documented in Project Area

Common Name	Scientific Name
Canada Thistle	*Cirsium arvense* (*C. setosum, C. incanum, Serratula arvensis*)
Black Swallow-wort	*Cynanchum louiseae*
Cut-leaf Teasel	*Dipsacus laciniatus*
Autumn Olive	*Elaeagnus umbellate*
Cypress Spurge	*Euphorbia cyparissias*
Leafy Spurge	*Euphorbia esula*
Lesser Celandine	*Ficaria verna (Ranunculus ficaria)*
Smooth Buckthorn	*Frangula alnus* (*Rhamnus frangula*)
Giant Hogweed	*Heracleum mantegazzianum,*
Yellow Iris	*Iris pseudacorus*
Border Privet	*Ligustrum obtusifolium*
Japanese Honeysuckle	*Lonicera japonica*
Morrow's Honeysuckle	*Lonicera morrowii*
Tartarian Honeysuckle	*Lonicera tatarica*
Purple Loosestrife	*Lythrum salicaria*
Japanese Stilt Grass	*Microstegium vimineum*
Common Reed Grass	*Phragmites australis*
Japanese Knotweed	*Reynoutria japonica (Fallopia japonica, Polygonum cuspidatum)*
Common Buckthorn	*Rhamnus cathartica*
Multiflora Rose	*Rosa multiflora*

2.2 Insects

Field surveys for invasive insects were not conducted. However, the mapping application on the New York iMapInvasives website indicates that the hemlock woolly adelgid (*Adelges tsugae*), emerald ash borer (*Agrilus planipennis*), and gypsy moth (*Lymantria dispar*) have been documented in the area (New York Natural Heritage Program 2019). Beech scale (*Cryptococcus fagisuga*) and Japanese Pine Sawyer (*Monochamus alternatus*) are not listed in the iMapInvasives mapping application. However, beech scale is known to range throughout the state of New York (Morin et al. 2007), while Japanese Pine Sawyer is not known to be present in the United States but may pose a serious threat to urban and forest ecosystems if introduced (Sentinel Plant Network 2019).

3.0 PROJECT-SPECIFIC LIST of PROHIBITED INVASICE SPECIES

The results of the baseline invasive species surveys were transmitted to NYSDEC on June 4, 2020. A Project-specific list of Prohibited Invasive Species pursuant to 6 NYCRR Part 575 divided into two sub-lists was subsequently generated by NYSDEC and provided to NEETNY or June 18, 2020 (see Table 3-1; Thiel 2020). The sub-lists include Invasive Species of Special Concern (ISSC) and Invasive Species of High Concern (ISHC). ISSC include Prohibited Invasive Species known to be present in the Project area and for which NYSDEC has deemed control is necessary such that there is no expansion post-construction. This list is based on the results of NEETNY's invasive species baseline surveys and an analysis of regional threat. ISHC include Prohibited Invasive Species not found in the Project area during baseline surveys, but if found post-construction monitoring must be eradicated. These species include Prohibited Invasive Species with the highest management concern.

Table 3-1 Invasive Species of Special Concern and Invasive Species of High Concern for the Project

Common Name	Scientific Name
Invasive Species of Special Concern (ISSC)	
Japanese Angelica Tree	*Aralia elata*
Cypress Spurge	*Euphorbia cyparissias*
Leafy Spurge	*Euphorbia esula*
Lesser Celandine	*Ficaria verna*
Giant Hogweed	*Heracleum mantegazzianum,*
Yellow Iris	*Iris pseudacorus*
Purple Loosestrife	*Lythrum salicaria*
Japanese Knotweed	*Reynoutria japonica (Fallopia japonica, Polygonum cuspidatum)*
Common Buckthorn	*Rhamnus cathartica*
Multiflora Rose	*Rosa multiflora*
Invasive Species of High Concern (ISHC)	
Sycamore Maple	*Acer pseudoplatanus*
Japanese Chaff Flower	*Achyranthes japonica*
Wild Chervil	*Anthriscus sylvestris*
Small Carpet Grass	*Arthraxon hispidus*
Slender False Brome	*Brachypodium sylvaticum*
Narrowleaf Bittercress	*Cardamine impatiens L.*
Chinese Yam, Cinnamon Vine	*Dioscorea polystachya/oppositfolia*
Reed Manna Grass	*Glyceria maxima*
Japanese Hops	*Humulus japonicus*
Cogon Grass	*Imperata cylindrica*
Broad-leaved Pepper-grass	*Lepidium latifolium*
Chinese Lespedeza	*Lespedeza cuneata*

Table 3-1 Invasive Species of Special Concern and Invasive Species of High Concern for the Project

Common Name	Scientific Name
Garden Loosestrife	*Lysimachia vulgaris*
Marsh Dewflower	*Murdannia keisak*
Wavyleaf Basketgrass	*Oplismenus hirtellus*
Amur Corktree	*Phellodendron amurense*
Golden Bamboo	*Phyllostachys aurea*
Yellow Groove Bamboo	*Phyllostachys aureosulcata*
Mile-a-minute Weed	*Persicaria perfoliata*
Kudzu	*Pueraria montana*
Gray Florist's Willow	*Salix atrocinerea*
Cup-plant	*Silphium perfoliatum*
Beach Vitex	*Vitex rotundifolia*

4.0 INVASIVE SPECIES CONTROL MEASURES DURING CONSTRUCTION

NEETNY will implement the following best management practices (BMPs) to prevent the spread of ISSC and/or the introduction ISHC during construction and restoration of the Project limits of disturbance. The BMPs were developed based on *Best Management Practice for Preventing the Transportation of Invasive Plant Species* (Environmental Energy Alliance of New York 2012) and NYSDEC Specifications provided in Attachment A.

4.1 Training

- Contractors and subcontractors will be trained on various relevant cleaning methods to be used on the Project as part of the preconstruction environmental training. The training will address the importance of preventing the spread of invasive plants into areas not already infested and controlling the proliferation of species already present. Additionally, contractors will be trained on the hazards of giant hogweed and all working in the documented infestation area will be provided a copy of the NYDEC's giant hogweed brochure (NYSDEC 2020).
- The Environmental Monitor will be able to recognize all invasive plant species identified in the Project area during field surveys, all ISHC that must be prevented from establishing within the Project area, and be aware of the areas of existing significant infestation identified within the Project area.
- Contractor foremen will be trained to recognize the expected invasive plant species within the Project area.
- Locations and anticipated control measures of significant infestations of invasive plants will be communicated to contractors during preconstruction environmental training.

4.2 Invasive Plant Species Spread Prevention Methods

4.2.1 Equipment

- Equipment including, but not limited to, vehicles, trailers, machinery, matting, tools, and other materials, will arrive at the Project area clean without visible soil clumps or plant material.
- Transporting equipment will be cleaned before accepting a new load.
- Vehicle tracking pads will be used, where feasible, to remove soil from equipment. Tracking pads will be cleaned in a specified area before they are moved to another location.
- When feasible, equipment will be cleaned using a brush, broom, shovel or other similar hand tools without water or high-pressure air.

- Equipment will not be cleaned in or near waterways, as this may promote the spread of invasive plant species downstream.
- Where possible, staging areas will be established in locations that are free of invasive plant species.
- When equipment matting is required, it will arrive on-site visibly clean, be installed prior to any activities, and will be appropriately cleaned before leaving the area.

4.2.2 Inspection and Cleaning

- Clothing, footwear, and gear will be cleaned of visible signs of plant material prior to exiting work areas.
- All personnel working in the Project area will carry appropriate cleaning equipment (e.g., wire brush, small screwdriver, and boot brush) to help remove soil, seeds, and plant material.
- Locations for cleaning will include (i) areas where work activities are taking place; (ii) invasive plant species are already established; or (iii) an area immediately adjacent to the work site that is itself currently infested with invasive plant species.
- No cleaning of clothing, footwear, or gear will occur in or adjacent to waterways, as this may promote the spread of invasive plant species downstream.
- Cleaning will include brushing or self "pat down" of clothing, footwear, and other personal gear within the infested work area.

4.2.3 Disposal of Impacted Material

- NEETNY will stockpile vegetation, soils, and trench spoil material in areas with existing invasive plant infestations in a location adjacent to the removal site and will return the materials to their original location following construction to prevent their spread.
- Sediment- and erosion-control measures will be installed, as required, to prevent spoil from migrating during construction. These measures will also help contain invasive plant propagules.
- No soil, seeds, or plant materials will be disposed of in storm drains.
- Any plant materials that are incidentally removed from the Project area after completion of the steps outlined in Sections 4.2.1 and 4.2.2 will be properly disposed of in a manner that prevents the spread of viable plant parts and propagules.

4.2.4 Other Prevention Measures

- Reasonable steps to avoid transportation of invasive plant species, including small, isolated populations, will be taken.
- As an alternative to cleaning, ancillary equipment, such as spare tires and winches, will be covered, when feasible, when entering areas containing invasive plant species.
- Vehicular access into areas containing populations of invasive plant species will be reduced or minimized to the maximum extent practicable. When practicable, vehicles will be parked outside of the impacted area and crews will enter on foot.

4.2.5 Site Restoration

- Soil disturbances will be minimized to the level necessary for construction of the Project by reducing work areas and activities that may result in soil disturbances.
- Bare soils will be revegetated as soon as feasible to minimize the potential establishment of invasive plant species. When seeding, local native species will be used. Seed will be broadcasted over all bare soil areas and covered with a mulch layer (e.g., straw). Appropriate seed mixes will be chosen based on site conditions.
- On steep slopes (i.e., slopes exceeding 20%), soil erosion control matting (e.g., jute mesh or straw blankets) will be installed over the seeded area. The matting will be secured with biodegradable tacks.
- Disturbed soils will be stabilized using appropriate erosion and sediment control procedures as soon as possible. Invasive-free materials such as straw or wood chips will be used.
- The Contractor will ensure and certify in writing that all straw bales used for sediment and erosion controls, mulch distribution, and restoration seed mixes have been certified by the supplier as weed-free.

5.0 POST-CONSTRUCTION AND ADAPTAVE MANAGEMENT STRATERGY PLAN

NEETNY will conduct post-construction surveys for invasive plant species to document whether construction of the Project resulted in the spread of ISSC that were already present in the Project area and/or to determine if construction resulted in the introduction of new ISHC. Surveys will be conducted in two phases. The first phase will be timed to coincide with the final Stormwater Pollution Prevention Plan (SWPPP) inspections. The second phase of post-construction surveys will be conducted after the second full growing season following final SWPPP signoff. Both phases of post-construction surveys will utilize the same methodology as the baseline surveys (see Section 2.1).

NEETNY will adaptively manage invasive species in the Project area by analyzing the results of the post-construction monitoring surveys and comparing those data against the invasive species baseline surveys. The following changes between baseline surveys and post-construction monitoring will require actions to eradicate or control ISSC or ISHC:

- Any new population of an ISHC, regardless of the area covered, must be eradicated.
- Any new population of an ISSC must be controlled or eradicated.
- ISSC within a given mapping unit that increases to a higher percent cover class must be controlled (cover classes include <1%, 1 to 5%, 6 to 15%, 16 to 25%, 26 to 39%, 40 to 60%, 61 to 74%, 75 to 84%, 85 to 95%, and >95%).
- Significant expansion in aerial coverage of area densely populated with ISSC must be controlled.

In regard to any new and distinct occurrence of ISSC or ISHC, down to the minimum threshold of 10 square feet, as noted in the Specifications, baseline field data will be robust enough to determine if any ISSC was absent from a specific mapping unit pre-construction so they can be eradicated. Changes in aerial coverage of existing ISSC populations will also be assessed by comparing the change in percent cover of each species relative to each mapping unit originally defined within the pre-construction data. Pre-construction baseline survey data will assign each invasive species population to one of the three area categories outlined in the Specifications, including an area of up to 0.5 acre, 0.5 acre up to 1.0 acre, and more than 1.0 acres of ISSC that move up a category will need corrective action. Additionally, any increase of an ISSC percent cover within a mapping unit that results in an increase to a higher of the 10 cover classes defined above would also correlate to a change that could require a remedial action. Using the area of each mapping unit, based on the change in percent cover, each mapping unit of ISSC cover post-construction will be reported and categorized as belonging to either the 0.5 acre, up to 1.0 acre, and more than 1.0 acre groups.

Upon completion of the post-construction surveys, NEETNY will prepare a report for submittal to NYSDEC, New York State Department of Agriculture and Markets [NYSAGM], and New York State Department of Public Service (DPS). The report will discuss whether the goals of the IISCP have been achieved and whether any additional post-construction remedial action or additional monitoring may be warranted based on whether an expansion of identified ISSC or ISHC as a result of construction are present, as defined above.

If the post-construction monitoring report shows the aerial extent of ISSC or ISHC has expanded as defined above as a result of construction of the Project, then DPS, NYSDAM, and NYSDEC will review the final report and DPS, in consultation with NYSDEC and NYSDAM, will determine whether the goals of the post-construction monitoring have been achieved or, if applicable, whether revised adaptive management strategies must be implemented.

Provided the DPS determines a Final Adaptive Management Strategy Plan must be implemented, NEETNY will consult with the DPS, NYSAGM, and NYSDEC to determine what remedial action is necessary. The measures developed will depend on the species phenology and the anticipated outcome (i.e., control or eradication). Measures implemented may include hand pulling/cutting, mechanical removal, and herbicide use.

6.0 INVASIVE INSECT CONTROL MEASURES

NEETNY will implement the following BMPs to prevent the introduction and spread of invasive insect species during construction and restoration.

- Contractors and subcontractors will be trained to identify insects that are listed as prohibited or regulated invasive species in accordance with 6 NYCRR Part 575.
- If prohibited or regulated invasive insects are discovered in the Project area, NEETNY will report the discovery to the NYSDEC Regional Supervisor of Natural Resources (Region 9 Director Abby Snyder [716] 851-7200).
- NEETNY will comply with the provisions of 6 NYCRR Part 192, "Forest Insect and Disease Control," and Environmental Conservation Law § 9-1303 and any quarantine orders issued thereunder.

7.0 REFERENCES

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Thiel, J.O. 2020. Personal communication. E-mail dated June 18, 2020, from Josh O. Thiel, Invasive Species Coordination Section Chief, New York State Department of Environmental Conservation, Division of Lands & Forests to Stephen J. Czapka, Certified Wildlife Biologist, Ecology and Environment, Inc. Re: NEETNY Empire State Line – IS Baseline Results.

ATTACHMENT A SPECIFICATIONS

APPENDIX G

Invasive Species Management Plan (ISMP) Specifications

An "Invasive Species" (IS) is a species that is non-native to the ecosystem and whose introduction causes or is likely to cause economic or environmental harm or harm to human health. 6 NYCRR Part 575, *Prohibited and Regulated Invasive Species*, was adopted in July 2014, to help control invasive species by reducing new infestations and the spread of existing populations.

Purpose and Goals of the Plan

An ISMP shall at a minimum, identify invasive species known or found on the project site, describe the methods which will be used to minimize the spread and expansion of invasive species found on site, and describe the methods which will be used to prevent introduction of new invasive species. The ISCP shall include baseline surveys, construction best management practices, post-construction monitoring and an adaptive management strategy plan.

Baseline Invasive Species (IS) Survey

1. During the development of the EM&CP, a pre-construction baseline survey shall be conducted during the growing season, but no more than 12 months prior to the commencement of construction. Should construction not start within 12 months, an updated survey may be required. This survey shall serve as a baseline for the preparation of the draft ISMP.

2. The entire Limits of Disturbance (LOD) including permanent and temporary off-ROW access roads shall be surveyed for IS plants as identified in 6 NYCRR Part 575.

3. The survey shall include documented qualitative observations for IS spread potential from adjacent properties and land use (for example, IS infested adjoining property or private off-site access roads that cross the ROW).

4. The preferred survey protocol is to collect data that is in a format which can be uploaded into the statewide database *iMapInvasives*[1].

    a. An existing mobile application is available to facilitate data collection.

    b. Alternately, a custom ArcGIS collector application can be developed by NYSDEC or an alternative protocol may be proposed for acceptance by NYSDEC.

    c. The data collection protocol shall allow for:
        - Point data collected in the field on GPS-enabled devices.
        - Confidentiality controls to restrict information distribution. This coding hides the data from public view and is only visible to key state agency staff and PRISM[2] coordinators focused on IS work with funding from the state. Those with access to this data have signed a non-disclosure agreement.

[1] iMapInvasives is New York State's on-line, all-taxa invasive species GIS based data management system used to assist in the protection of the state's natural resources from the threat of invasive species. It is managed by the New York State Natural Heritage Program (NYNHP) in partnership with the New York State Department of Environmental Conservation.

[2] (PRISM) Partnerships for Regional Invasive Species Management. PRISMs coordinate invasive species management functions and the NYSDEC has contracted with eight PRISMs across the State.

Construction Best Management Practices (BMPs)

Construction BMPs shall be implemented for all IS in all LOD (not just jurisdictional areas) and, at a minimum, shall include:

1. Contractor/subcontractor/employee training on cleaning and other IS management procedures;

2. Inspection of construction materials and equipment;

3. Minimizing ground disturbance in IS infested areas;

4. Proper clearing and disposal practices (*such as, cut and leave in infested area or dispose off-site in landfill-incinerator or approved disposal site*);

5. Equipment Cleaning; and

6. Restoration.

IS Propagation

IS Propagation shall be prevented by, among other stated techniques, the following:

1. Preparing ROW travel routes to prevent IS spread through contact with equipment/vehicles by any practical combination of matting, IS burial, clean fill cover or IS eradication; and/or

2. Providing cleaning stations for equipment/vehicles whenever leaving IS infested areas along ROW; and/or

3. Other mutually agreeable practices.

Post-Construction Monitoring

1. Post-construction surveys shall be conducted in all LOD, both within the ROW and off-ROW areas and access roads;

2. A post-construction survey of IS shall be conducted in all temporary off-ROW access road areas during the final Stormwater Pollution Prevention Plan (SWPPP) inspections;

3. A post-construction survey of IS shall be conducted in all ROW LOD areas, including permanent access roads, after the second full growing season from final SWPPP signoff;

4. All post-construction surveys shall use the same IS Survey Protocols used during the baseline pre-construction IS survey;

5. Upon completion of the post-construction surveys, a final report shall be prepared and submitted to the NYSDEC, DAM and DPS. The final report shall discuss whether the goals of the ISMP have been achieved and whether any additional post-construction monitoring may be warranted based on whether an expansion of identified Invasive Species of Special Concern (ISSC) or Invasive Species of High Concern (ISHC) as a result of construction are present, as defined in the Adaptive Management Strategy Plan (AMSP) discussed below. If the post-construction monitoring report shows the aerial extent of ISSC or ISHC has expanded as defined in the AMSP as a result of construction of the Project, the final report shall include a Final AMSP for achieving the goals of the ISMP. DPS, DAM and DEC will review the final report and DPS, in consultation with the other agencies, will determine whether the

goals of the post construction monitoring have been achieved or, if applicable, whether the Final Adaptive Management Strategy must be implemented.

Adaptive Management Strategy Plan

The initial ISMP will include an Adaptive Management Strategy Plan (AMSP) prepared in consultation with and accepted by DEC, DPS and DAM and, at a minimum must include the following elements:

1. A project specific list of Prohibited Invasive Species pursuant to 6 NYCRR Part 575 divided into two sub-lists for which management and control will be required (these lists to be generated by DEC in consultation with DPS and DAM):

    a. ISSC, being composed of Prohibited IS[3] known to be present in the project area and for which DEC has deemed control is necessary such that there is no expansion as defined below. This list will be generated following results of pre-construction surveys and an analysis of regional threat, (for example, PRISM Tier rankings).

    b. Inclusion of a project specific list of ISHC[4], being those IS not present in the project area, but which if newly identified in post-construction monitoring, eradication is required. This list will include *Prohibited* IS with the highest management concern (for example, Giant Hogweed).

2. Management of "expansion":
    a. ISSC that have expanded under the following terms must be controlled.
    b. ISHC that have been newly identified must be eradicated.
    c. In comparing progressive monitoring data of ISSC, expansion may be defined in terms of categorical jump in *iMapInvasives* size categories as follows:
        - New and distinct occurrence
        - Up to 10 sq. ft.
        - Up to 0.5 acre
        - Up to 1.0 acre
        - More than 1.0 acre

3. In consultation with DEC, DPS and DAM, a discussion of possible adaptive management strategies and control measures (such as, eradication) and where and when they may be required if the post-construction survey identifies an expansion of ISSC or ISHC in LOD areas caused by construction. This should include consideration of IS phenology, control methodology (mechanical techniques, pesticide use, etc.) and control objectives.

4. Discussion of conditions that may necessitate additional post-construction monitoring and the extent and duration of such extended monitoring considering ongoing long-range vegetative management plan practices.

Upon completion of the post-construction monitoring surveys, if the post-construction monitoring report shows the aerial extent of ISSC or ISHC has expanded as defined in the AMSP as a result of construction of the Project, then DPS, DAM and DEC will review the final report and DPS, in consultation with DEC and DAM, will determine whether the goals of the post-construction monitoring have been achieved or, if applicable, whether a Final AMSP must be implemented.

[3] See 6 NYCRR Part 575.3

[4] To be defined by DEC in consultation with the Certificate Holder, DPS and DAM.