Attachment A, Revision 1

Conceptual Landscape Mitigation Planting Plan

Conceptual Landscape Mitigation Planting Plan
Revision 1

North Seneca Solar Project

Towns of Junius and Waterloo, Seneca County, New York

Prepared for:

NORTH SENECA
SOLAR PROJECT

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1.0 Design Methodology & Plant Material Selection

The North Seneca Solar Project (the Facility) will include the installation of a variety of visual screening treatments at appropriate locations throughout the Facility. The following Conceptual Landscape Mitigation Plan, developed with the goal of minimizing and mitigating the Facility's visual effects on the surrounding landscape, consists of a plant list and planting modules appropriate for varied circumstances. The plan avoids the use of non-natural forms and features such as berms and privacy fences which, while common in some landscape settings, would contrast inappropriately with the largely agricultural landscape surrounding the Facility.

The area surrounding the North Seneca Solar Facility consists of a mosaic of landscape types within a gently rolling terrain, including open fields with active agriculture or early successional (i.e. old field) communities, mixed forest or hedgerows dominated by deciduous species, and formal or intentionally designed landscapes around residential properties. The conceptual planting modules developed for the Facility intentionally mimic the character of the existing roadside vegetation, hedgerows and forest stands in an effort to visually integrate the Facility into the surrounding landscape by reducing visual contrast between the existing and proposed elements.

Each planting module is designed to address a different set of conditions and visual mitigation needs. For example, in some locations viewer exposure is expected to be infrequent, or a dense vegetative buffer might itself create a negative impact by foreshortening views. In such cases, a less dense planting installation may provide a more beneficial softening effect than a more intensive planting would. In other locations, such as where an adjacent, non-participating residence may have a direct line of sight to the Facility, a taller or denser planting module type may be more suitable. While the planting modules are not designed to completely screen all views of the proposed Facility, the natural forms, textures, and colors of the planted vegetation will partially screen views and divert viewer attention from the human-made materials and inorganic forms of the Facility components. The proposed planting locations are illustrated in Section 3, Conceptual Planting Module Locations.

The plant list (see below) is divided into plant groups by type of plant (tree or shrub) and size. This list of acceptable plant species allows the conceptual planting module designs to have flexibility so that the final planting design can address plant material availability and accommodate varied site conditions while remaining true to the design intent. Plant species included were chosen based on site reconnaissance and review of county-level records of native plants as available through the New York Flora Atlas (Werier et al. 2023), and United States Department of Agriculture (USDA) PLANTS Database (USDA, NRCS 2023a), as well as the 2023 USDA Plant Hardiness Zone Maps, and Ecoregions of New York descriptions provided through the United States Environmental Protection Agency (US EPA) (Bryce et al. 2010). In addition, soil classification and properties data available through the USDA NRCS WebSoilSurvey application (USDA, NRCS 2023b) were used to ensure that species proposed are broadly appropriate for the site soils. The New York State Department of Environmental Conservation (NYSDEC) 2015 Prohibited and Regulated Plant List was consulted to ensure that no invasive species were proposed.

Plant List

Final selection will be based on availability at the time of installation

Botanical Name	Common Name	Install Size	Module(s)
Deciduous Tree			
Acer rubrum	Red Maple	1.5 in. cal.	1, 2, 3
Acer saccharum	Sugar Maple	1 in. cal.	1, 2, 3
Liriodendron tulipifera	Tulip Poplar	1.5 in. cal.	1, 2, 3
Populus tremuloides	Quaking Aspen	6 ft. ht.	1, 2, 3
Quercus alba	White Oak	1.5 in. cal.	1, 2, 3
Quercus macrocarpa	Bur Oak	1.5 in. cal.	1, 2, 3
Quercus rubra	Red Oak	1.5 in. cal.	1, 2, 3
Sassafras albidum	Sassafras	6 ft. ht.	1, 2, 3
Tilia americana	American Linden	1.5 in. cal.	1, 2, 3
Small Flowering Tree			
Amelanchier canadensis	Serviceberry	6 ft. ht.	3
Amelanchier x grandiflora	Apple Serviceberry	5 ft. ht.	3
Crataegus crus-galli	Cockspur Hawthorn	1.5 in. cal.	3
Hamamelis virginiana	Common Witch Hazel	5 ft. ht.	3
Malus coronaria	Sweet Crabapple	6 ft. ht.	3
Large Evergreen			
Abies concolor	White Fir	5 ft. ht.	1, 2, 3
Picea glauca	White Spruce	5 ft. ht.	1, 2, 3
Pinus rigida	Pitch Pine	6 ft. ht.	1, 2, 3
Pinus strobus	White Pine	6 ft. ht.	1, 2, 3
Small / Medium Evergreen			
Abies balsamea phanerolepis	Canaan Fir	5 ft. ht.	3
Juniperus virginiana	Eastern Red Cedar	4 ft. ht.	3
Picea glauca `Densata`	Black Hills Spruce	5 ft. ht.	3
Large Shrub			
Amelanchier alnifolia	Serviceberry	4 ft. ht.	1, 2, 3
Cornus racemosa	Gray Dogwood	3 ft. ht.	1, 2, 3
Rhus glabra	Smooth Sumac	4 ft. ht.	1, 2, 3
Rhus typhina	Staghorn Sumac	3 ft. ht.	1, 2, 3
Salix discolor	Pussy Willow	3 ft. ht.	1, 2, 3
Viburnum lentago	Nannyberry	3 ft. ht.	1, 2, 3
Medium Shrub			
Aronia arbutifolia	Red Chokeberry	3 ft. ht.	3
Aronia melanocarpa	Black Chokeberry	3 ft. ht.	3
Cornus sericea	Red Twig Dogwood	3 ft. ht.	3
Corylus americana	American Hazelnut	3 ft. ht.	3
Morella pensylvanica	Northern Bayberry	3 ft. ht.	3
Salix humilis	Prairie Willow	3 ft. ht.	3

Seed Mix Plant List

Final selection will be based on availability at the time of installation

The following seed mixes, or similar mixes that contain perennial native or naturalized grass species and vigorous native or naturalized forb species may be used in planting modules where there is no existing appropriate herbaceous vegetation at the time of planting.

Ernst Conservation Seeds, Northeast Solar Pollinator Buffer Mix (ERNMX-610)

	Botanical Name	Common Name
37.00 %	*Schizachyrium scoparium* 'Camper'	Camper Little Bluestem
36.30 %	*Bouteloua curtipendula* 'Butte'	Butte Sideoats Grama
4.00 %	*Chamaecrista fasciculata*, PA Ecotype	Partridge Pea, PA Ecotype
4.00 %	*Coreopsis lanceolata*	Lanceleaf Coreopsis
4.00 %	*Echinacea purpurea*	Purple Coneflower
3.30 %	*Rudbeckia hirta*	Blackeyed Susan
2.30 %	*Heliopsis helianthoides*, PA Ecotype	Oxeye Sunflower, PA Ecotype
1.60 %	*Penstemon digitalis*	Tall White Beardtongue
1.50 %	*Asclepias tuberosa*	Butterfly Milkweed
0.80 %	*Liatris spicata*	Marsh Blazing Star
0.70 %	*Monarda fistulosa*, Fort Indiantown Gap-PA Ecotype	Wild Bergamot, Fort Indiantown Gap-PA Ecotype
0.70 %	*Senna hebecarpa*, VA & WV Ecotype	Wild Senna, VA & WV Ecotype
0.60 %	*Zizia aurea*, PA Ecotype	Golden Alexanders, PA Ecotype
0.50 %	*Asclepias incarnata,* PA Ecotype	Swamp Milkweed, PA Ecotype
0.50 %	*Geum laciniatum*, PA Ecotype	Rough Avens, PA Ecotype
0.50 %	*Pycnanthemum tenuifolium*	Narrowleaf Mountainmint
0.40 %	*Aster laevis*, NY Ecotype	Smooth Blue Aster, NY Ecotype
0.40 %	*Aster novae-angliae*, PA Ecotype	New England Aster, PA Ecotype
0.30 %	*Baptisia australis*, Southern WV Ecotype	Blue False Indigo, Southern WV Ecotype
0.30 %	*Tradescantia subaspera*, VA Ecotype	Zigzag Spiderwort, VA Ecotype
0.20 %	*Solidago nemoralis,* PA Ecotype	Gray Goldenrod, PA Ecotype
0.10 %	*Aster prenanthoides*, PA Ecotype	Zigzag Aster, PA Ecotype

Seeding Rate: 15 lbs/acre with 30 lbs/acre of a cover crop.

Ernst Conservation Seeds, Fuzz n' Buzz Mix - Premium (ERNMX-147)

	Botanical Name	Common Name
21.40 %	*Lolium perenne* 'Mercedes', Tetraploid	Mercedes Perennial Ryegrass, Tetraploid
17.00 %	*Dactylis glomerata* 'Potomac'	Potomac Orchardgrass
15.00 %	*Poa pratensis* 'Ginger'	Ginger Kentucky Bluegrass (pasture type)
12.00 %	*Bromus biebersteinii* 'Fleet'	Fleet Meadow Brome
5.40 %	*Trifolium hybridum*	Alsike Clover
5.00 %	*Agropyron trachycaulum*	Slender Wheatgrass
5.00 %	*Festuca elatior x Lolium perenne* 'Duo'	Duo Festulolium
4.90 %	*Trifolium incarnatum,* Variety Not Stated	Crimson Clover, Variety Not Stated
4.50 %	*Trifolium pratense,* Medium, Variety Not Stated	Red Clover, Medium, Variety Not Stated
2.50 %	*Bouteloua curtipendula* 'Butte'	Butte Sideoats Grama
2.00 %	*Lotus corniculatus* 'Leo'	Leo Bird's Foot Trefoil
1.00 %	*Coreopsis lanceolata*	Lanceleaf Coreopsis
1.00 %	*Linum perenne*	Perennial Blue Flax
0.80 %	*Chamaecrista fasciculata*, PA Ecotype	Partridge Pea, PA Ecotype
0.70 %	*Solidago nemoralis*, PA Ecotype	Gray Goldenrod, PA Ecotype
0.50 %	*Aster oblongifolius*, PA Ecotype	Aromatic Aster, PA Ecotype
0.50 %	*Chrysanthemum leucanthemum*	Oxeye Daisy
0.40 %	*Zizia aurea*, PA Ecotype	Golden Alexanders, PA Ecotype
0.30 %	*Aster prenanthoides*, PA Ecotype	Zigzag Aster, PA Ecotype
0.10 %	*Asclepias syriaca*, PA Ecotype	Common Milkweed, PA Ecotype

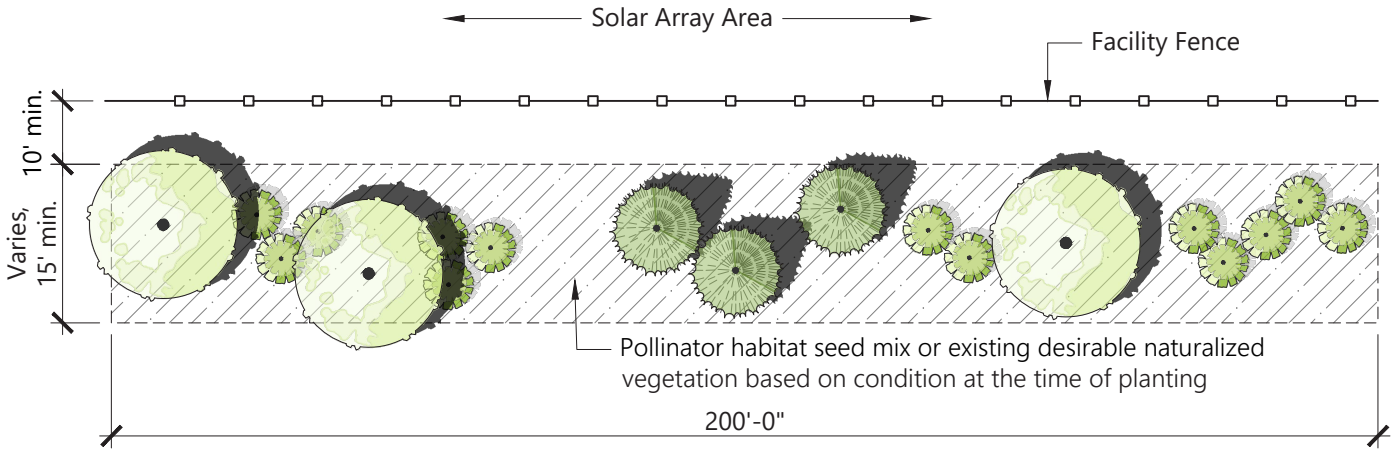
Seeding Rate: 42 lbs per acre with a cover crop of annual ryegrass at 12 lbs/acre.

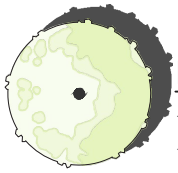
2.0 Planting Modules

Module 1: Intermittent Screening

Planting Module 1 uses a combination of deciduous shrubs and trees, and evergreen trees. It is intended to provide benefits such as nesting and cover habitat for birds in addition to visual relief from the inorganic forms of the Facility. Plants will be spaced in naturalistic clusters in keeping with naturally occurring local vegetation. While such spacing may not completely screen views from a residence or other stationary location, it can provide a softening effect that reduces visual contrast as percieved by viewers in a moving vehicle or at a significant distance. Shrub species will be chosen for their ability to spread and gradually increase in the area they cover, leading to increased screening over time. A 10-foot minimum maintenance strip will be provided to accommodate routine fence inspections and maintenance.

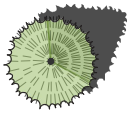
Module 1 is proposed in locations where there are no adjacent residences with direct and unobstructed views into the Facility, where there is greater than 1,000 ft of distance between a residence and the Facility fence line, and/or where road traffic is anticipated to be relatively light. Module 1 is proposed in four locations, amounting to approximately 3,049 linear feet of the Facility perimeter.





Deciduous Tree (3)

Acer rubrum / Red Maple
Acer saccharum / Sugar Maple
Liriodendron tulipifera / Tulip Poplar
Populus tremuloides / Quaking Aspen
Quercus alba / White Oak
Quercus macrocarpa / Bur Oak
Quercus rubra / Red Oak
Sassafras albidum / Sassafras



Large Evergreen (3)

Abies concolor / White Fir
Picea glauca / White Spruce
Pinus rigida / Pitch Pine
Pinus strobus / White Pine

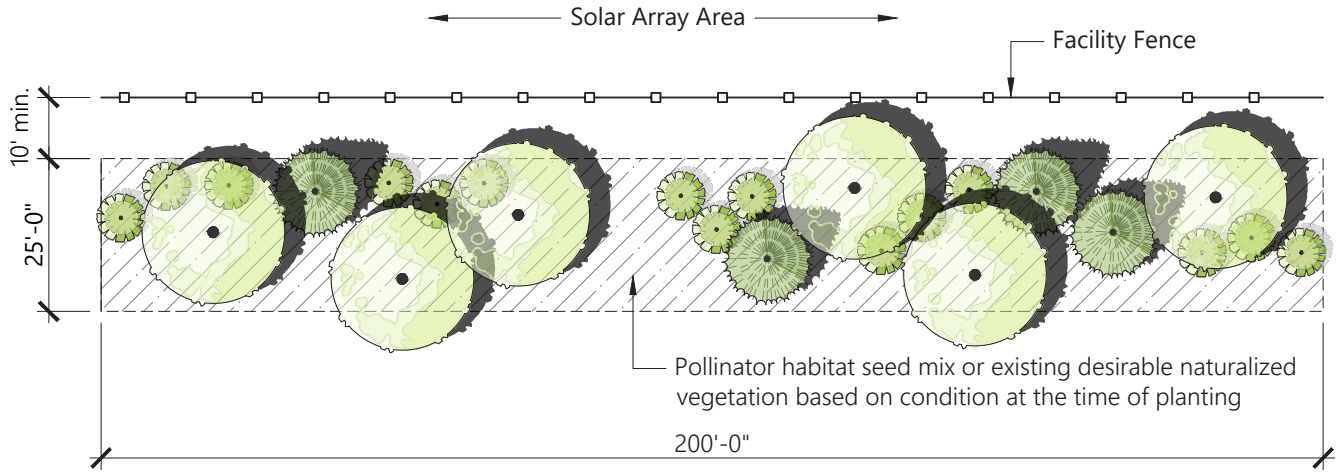
Large Shrub (13)

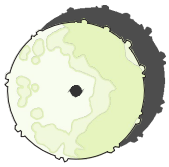
Amelanchier alnifolia / Serviceberry
Cornus racemosa / Gray Dogwood
Rhus glabra / Smooth Sumac
Rhus typhina / Staghorn Sumac
Salix discolor / Pussy Willow
Viburnum lentago / Nannyberry

1. Suitability of existing vegetation in lieu of seed mix shall be as determined by project environmental monitor.
2. Species identified in planting module graphics are representative of the design intent, subject to availability and site conditions at the time of planting. If species identified in the plant lists shown are not available at the time of installation, substitute with native or desirable naturalized plant species that meet the design intent of the species to be substituted, in coordination with the project environmental monitor and construction manager.

Module 2: Intermittent Screening / Medium Density

Planting Module 2 uses a selection of large shrubs, deciduous trees, and evergreen trees, in greater density than in Module 1. It is designed to help integrate the Facility into the surrounding landscape by mimicking the spacing and pattern of existing roadside and hedgerow vegetation as perceived by viewers who will experience the landscape from a moving vehicle or at a significant distance. A 10-foot minimum maintenance strip will be provided to accommodate routine fence inspections and maintenance. Module 2 is primarily proposed in locations where views of the Facility are indirect, distant, limited to nearby roadways, or partially obscured by existing vegetation that will remain. The increase in density and scale of plant material relative to Module 1 is intended to provide a greater visual buffer for locations with relatively higher anticipated traffic or at closer viewing distance to the Facility. Module 2 is proposed in 19 locations, amounting to approximately 8,408 linear feet of the Facility perimeter.



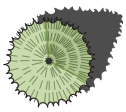


Deciduous Tree (6)

Acer rubrum / Red Maple
Acer saccharum / Sugar Maple
Liriodendron tulipifera / Tulip Poplar
Populus tremuloides / Quaking Aspen
Quercus alba / White Oak
Quercus macrocarpa / Bur Oak
Quercus rubra / Red Oak
Sassafras albidum / Sassafras
Tilia americana / American Linden

Large Shrub (15)

Amelanchier alnifolia / Serviceberry
Cornus racemosa / Gray Dogwood
Rhus glabra / Smooth Sumac
Rhus typhina / Staghorn Sumac
Salix discolor / Pussy Willow
Viburnum lentago / Nannyberry



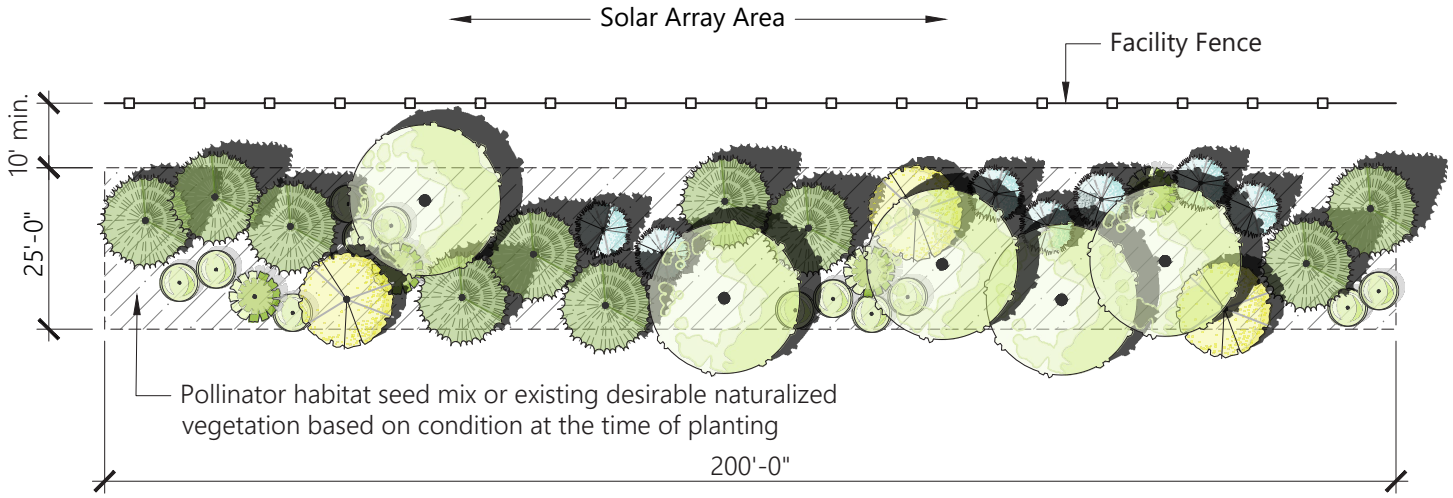
Large Evergreen (4)

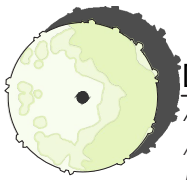
Abies concolor / White Fir
Picea glauca / White Spruce
Pinus rigida / Pitch Pine
Pinus strobus / White Pine

1. Suitability of existing vegetation in lieu of seed mix shall be as determined by project environmental monitor.
2. Species identified in planting module graphics are representative of the design intent, subject to availability and site conditions at the time of planting. If species identified in the plant lists shown are not available at the time of installation, substitute with native or desirable naturalized plant species that meet the design intent of the species to be substituted, in coordination with the project environmental monitor and construction manager.

Module 3: Comprehensive Screening

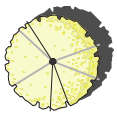
Module 3 consists of a relatively dense planting that will result in more complete screening of views toward the Facility from adjacent visually sensitive resources. Plant species include deciduous and evergreen trees, and varied sizes of shrubs. Emphasis is placed on large tree species that will provide denser year-round screening than in Modules 1 and 2. Module 3 provides this screening effect while still blending into the existing landscape as much as possible. The plant arrangements are intended to be naturalistic, and species chosen are in keeping with the local existing vegetation. A 10-foot minimum maintenance strip will be provided to accommodate routine fence inspections and maintenance. Module 3 is proposed in locations where adjacent non-participating residences may have a direct and unobstructed view into the Facility. Module 3 is proposed in ten locations, amounting to approximately 5,920 linear feet of the Facility perimeter.





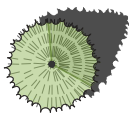
Deciduous Tree (5)

Acer rubrum / Red Maple
Acer saccharum / Sugar Maple
Liriodendron tulipifera / Tulip Poplar
Populus tremuloides / Quaking Aspen
Quercus alba / White Oak
Quercus macrocarpa / Bur Oak
Quercus rubra / Red Oak
Sassafras albidum / Sassafras
Tilia americana / American Linden



Small Flowering Tree (3)

Amelanchier canadensis / Serviceberry
Amelanchier x grandiflora / Apple Serviceberry
Crataegus crus-galli / Cockspur Hawthorn
Hamamelis virginiana / Common Witch Hazel
Malus coronaria / Sweet Crabapple



Large Evergreen (10)

Abies concolor / White Fir
Picea glauca / White Spruce
Pinus rigida / Pitch Pine
Pinus strobus / White Pine

Small / Medium Evergreen (7)

Abies balsamea phanerolepis / Canaan Fir
Juniperus virginiana / Eastern Red Cedar
Picea glauca 'Densata' / Black Hills Spruce

Large Shrub (4)

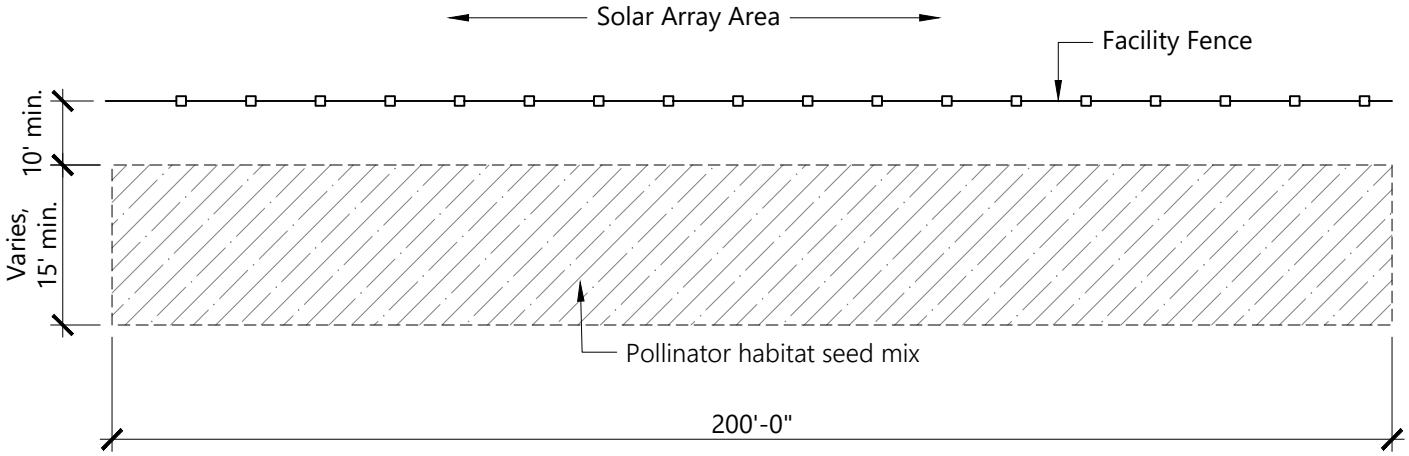
Amelanchier alnifolia / Serviceberry
Cornus racemosa / Gray Dogwood
Rhus glabra / Smooth Sumac
Rhus typhina / Staghorn Sumac
Salix discolor / Pussy Willow
Viburnum lentago / Nannyberry

Medium Shrub (12)

Aronia arbutifolia / Red Chokeberry
Aronia melanocarpa / Black Chokeberry
Cornus sericea / Red Twig Dogwood
Corylus americana / American Hazelnut
Morella pensylvanica / Northern Bayberry
Salix humilis / Prairie Willow

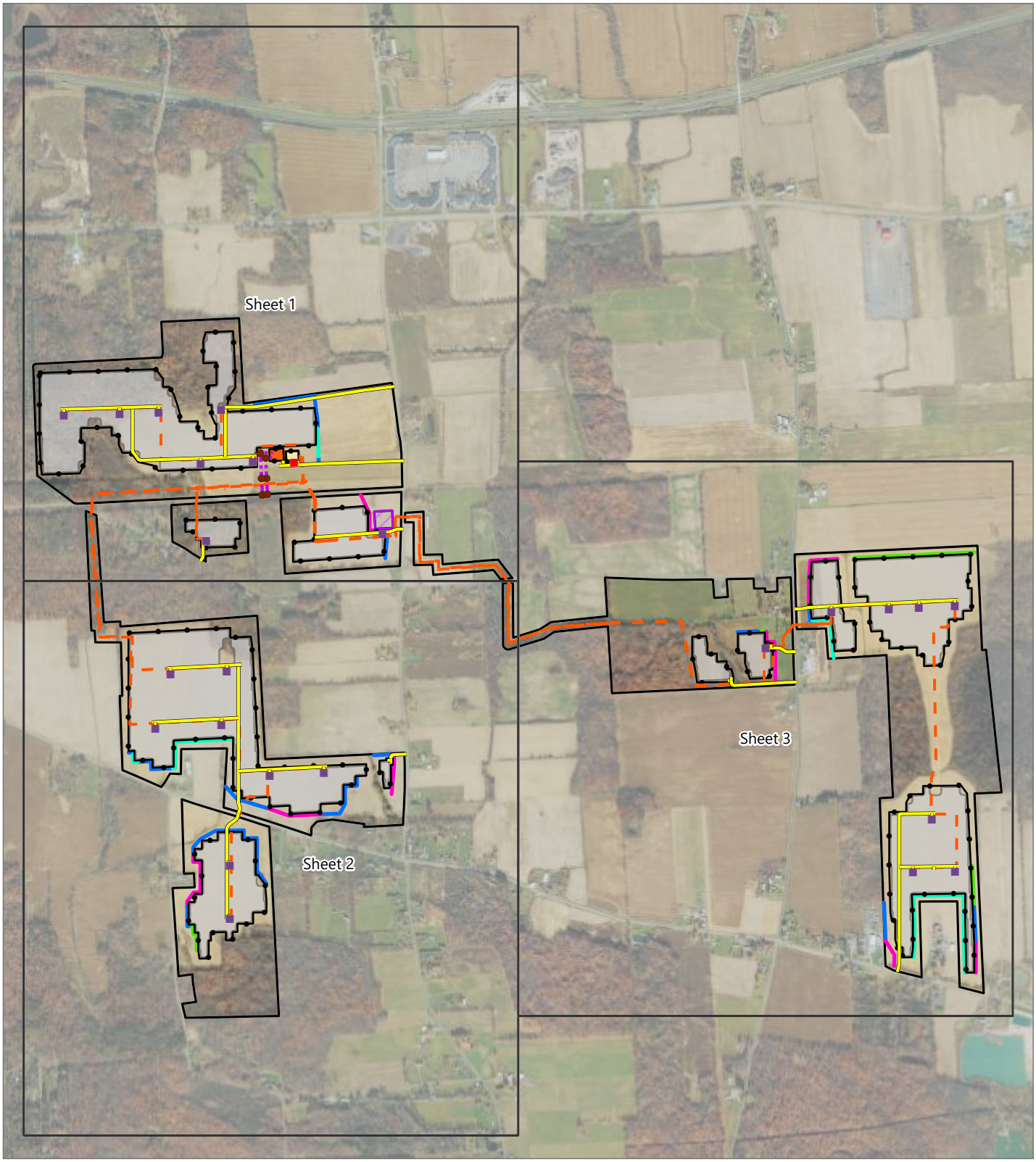
Module 4: Sensitive Area

Module 4 consists of a seed mix containing native herbaceous wildflower and grass species that will reach a three to four-foot height in late summer, and provide cover, nesting habitat, and food sources beneficial to birds and pollinator species throughout the year. Module 4 is suitable for use in locations with environmental sensitivity, as planting the seed mix will not require soil disturbance beyond six inches. A 10-foot minimum maintenance strip will be provided to accommodate routine fence inspections and maintenance. Module 4 is proposed in six locations, totalling 5,463 linear feet of the Facility perimeter.



Examples of Common Planting Constraints

- (A) proximity to adjacent residence requires dense planting
- (B) presence of overhead utilities limits planting options
- (C) consider plants with limited height to reduce southern exposure shadowcast
- (D) close proximity to road can reduce available planting area
- (E) existing vegetation can provide screening or allow for infill planting layout
- (F) avoiding impacts to existing wetlands limits planting extents
- (G) close proximity to property line can reduce available planting area



North Seneca Solar Project

Towns of Waterloo and Junius
Seneca County, New York

Landscape Mitigation Plan

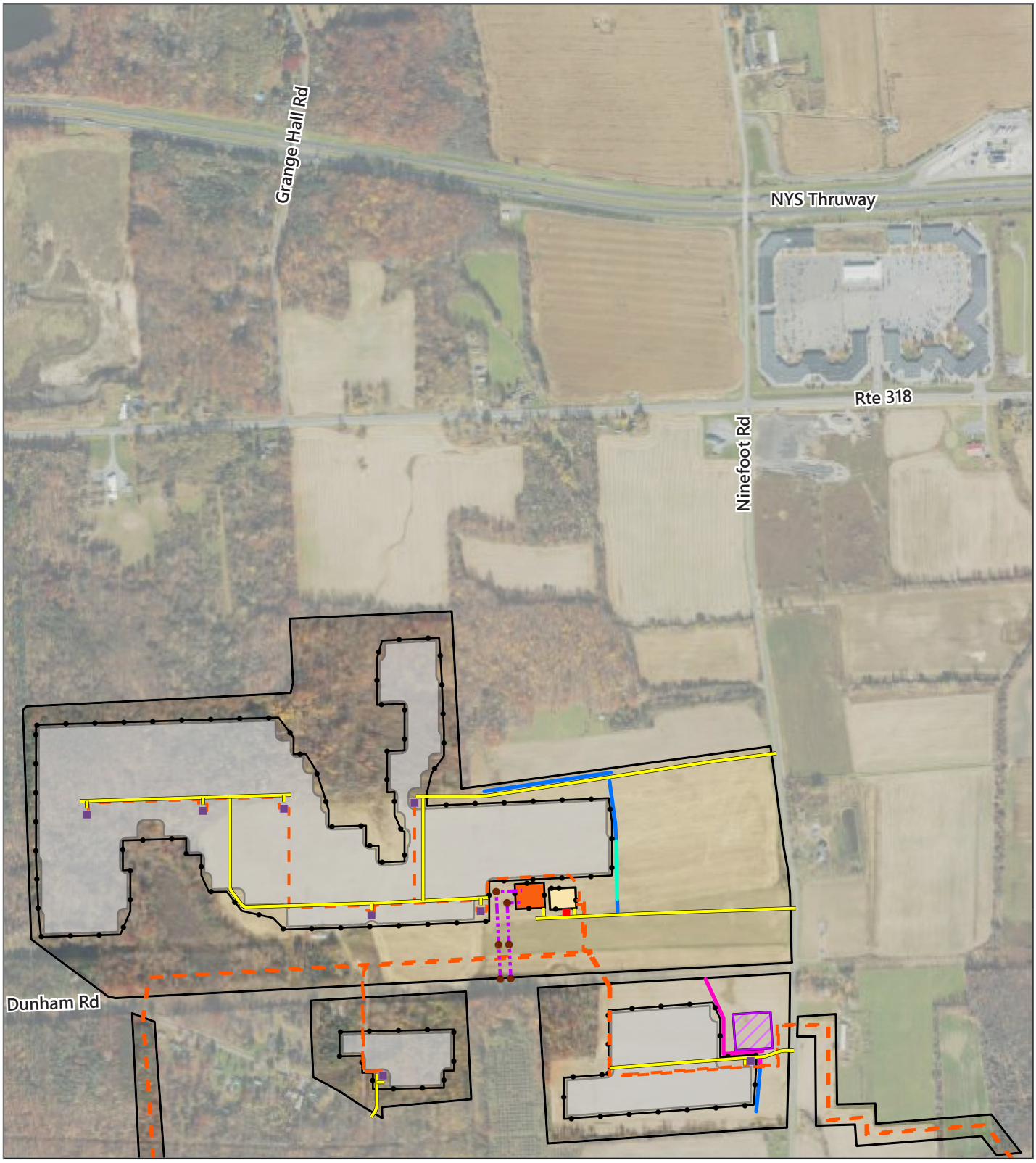
EDR

Landscape Mitigation Module
- Module 1
- Module 2
- Module 3
- Module 4

Project Components
- Utility Pole
- Storage Trailer
- Access Road
- Collection Line
- Transmission Tap Line
- PV Array Area
- Inverter
- Collection Substation
- POI Substation
- Fence Line
- Laydown Area
- Facility Site

0 500 1,000 2,000
US Feet

Prepared September 19, 2024
Basemap: USDA NAIP "2022 New York 60cm" orthoimagery map service



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Landscape Mitigation Plan

Landscape Mitigation Module
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0 250 500 1,000
US Feet

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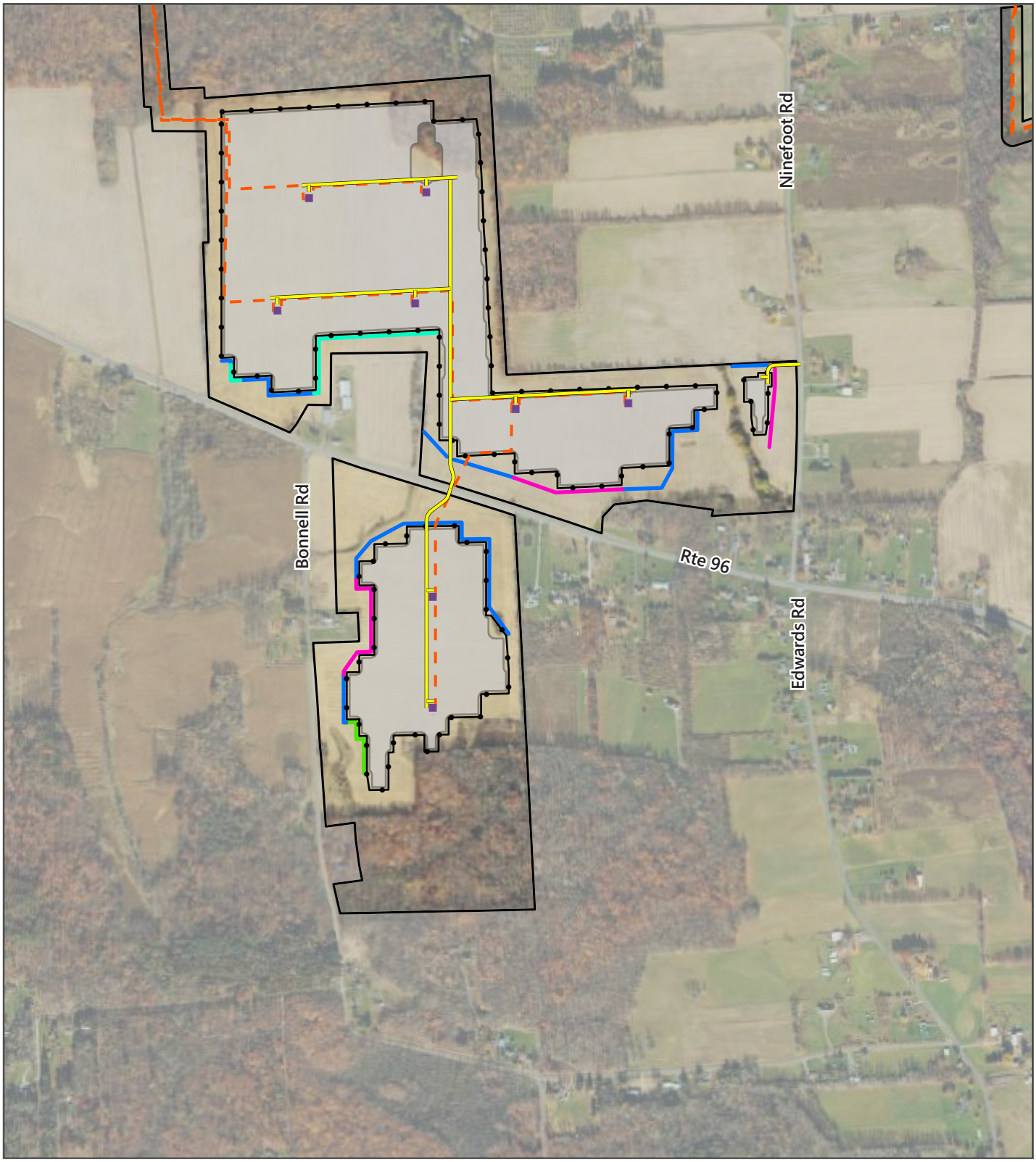

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Seneca County, New York

Landscape Mitigation Plan

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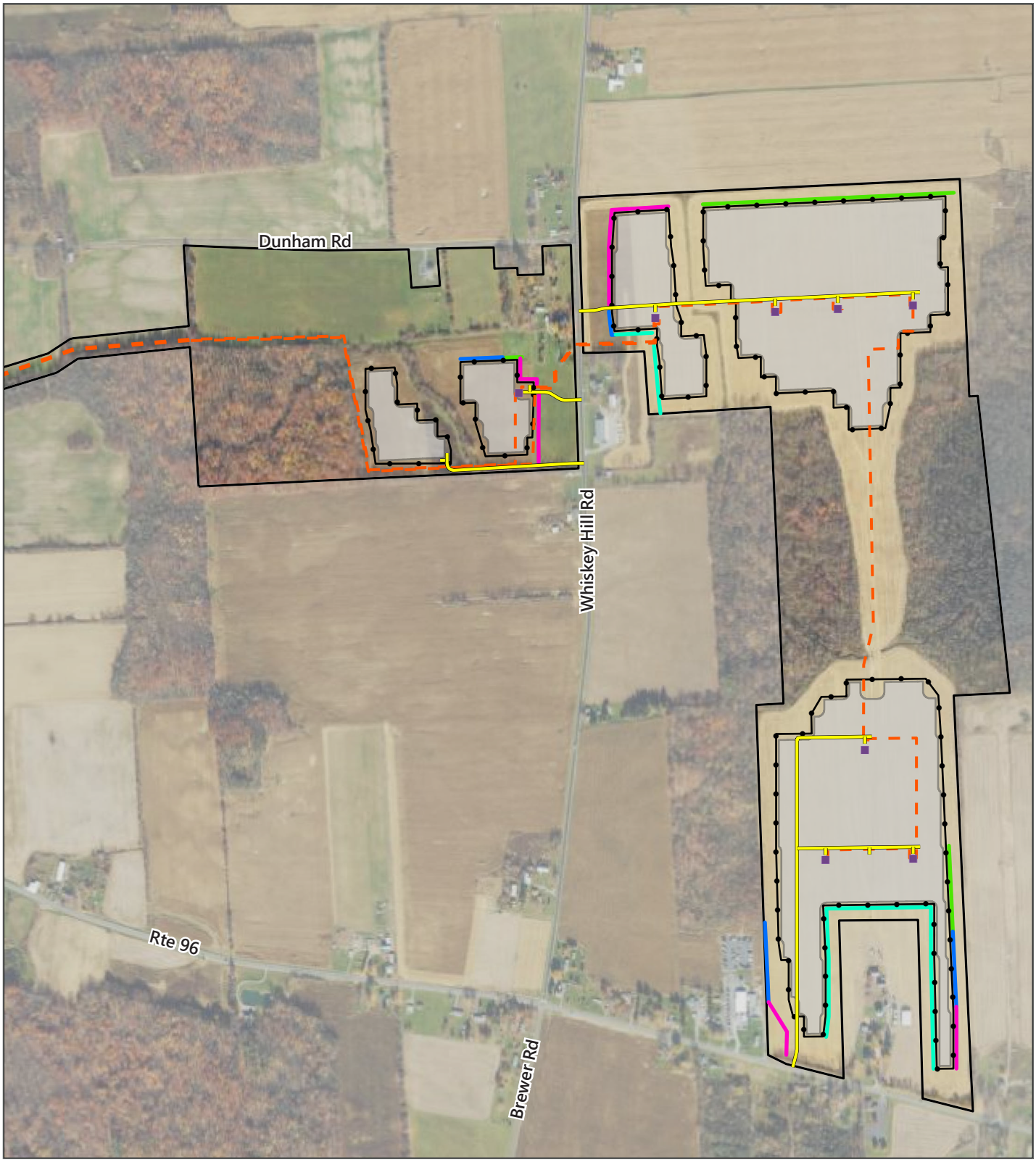

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Towns of Waterloo and Junius
Seneca County, New York

Landscape Mitigation Plan

Landscape Mitigation Module
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Project Components
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- Facility Site

0 250 500 1,000
US Feet

Prepared September 19, 2024
Basemap: USDA NAIP "2022 New York 60cm" orthoimagery map service

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4.0 Planting Requirements

Installation of plantings will be subject to the following requirements.

1. Notify Dig Safely New York at 1-800-962-7962 for area where project is located before beginning planting operations.
2. The planting operation shall be performed by a certified landscape contractor familiar with planting procedures and under the direction of a qualified supervisor.
3. All plant materials and installation shall comply with the American Standards for Nursery Stock ANSI Z60.1.
4. Planting season shall be reviewed by Owner's Representative.
5. The landscape contractor is responsible for confirming availability of all specified plant materials. If species identified in the plant lists shown are not available at the time of installation, substitute with native plant species that meet the design intent of the species to be substituted, in coordination with the project environmental monitor and construction manager. No substitution shall be permitted without prior written authorization by the Landscape Architect or project environmental monitor. The contractor is responsible for exhausting all means possible to obtain the materials as specified prior to requesting a substitution due to lack of availability. To be considered viable alternates, plants must share the same general appearance, form / growth habit, mature size, and color. Materials must be offered at no additional cost to the project.
6. The contractor shall lay out all planting modules and stake out tree planting locations on finished grade per the planting plans for review by the Owner's Representative prior to installation.
7. Upon notification, the Owner's Representative will review the layout of all planting modules and individual plant locations in the field before installation is permitted.
8. Confirm that construction activities and finished grading have been completed in the areas where plant materials are to be installed to ensure that plant materials are installed at the correct grade.
9. All plant materials shall adhere to the following standards:
   A. Plants shall be free from disease, pests, wounds, and scars.
   B. Plants shall be free from noticeable gaps, holes, or deformities.
   C. Plants shall be free from broken or dead branches.
   D. Plants shall have full, healthy branching and foliage.
10. Plants shall be installed immediately upon arrival at the site.
11. Existing, on-site soil may be used for backfill soil and topsoil, provided it is free of roots, rocks larger than one inch, subsoil, debris, weeds, or other deleterious material.
12. Provide mulch for all tree and shrub plantings per details. Mulch shall be dark brown, shredded, double-ground, un-dyed wood bark mulch free of deleterious material.
13. The contractor is responsible for protecting and maintaining the installed plant materials, including watering, re-mulching, and disease or pest treatments throughout the warranty period.
14. Vegetation shall be maintained as needed by Operations and Maintenance staff or by a contractor during the operational phase of the project.

15. The contractor shall repair all damage to property from planting operations at no additional cost to the owner.
16. The contractor shall provide approved seed and mulch to establish permanent vegetation in all areas disturbed by construction activities. Restore planting areas if eroded or otherwise disturbed after finish grading. Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

5.0 References

Bryce, S.A., Griffith, G.E., Omernik, J.M., Edinger, G., Indrick, S., Vargas, O., and Carlson, D., 2010, Ecoregions of New York (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey, map scale 1:1,250,000.

New York State Department of Environmental Conservation (NYSDEC). 2015. Prohibited and Regulated Plants. Available at: https://www.dec.ny.gov/animals/99141.html. (Accessed September 2023)

USDA, NRCS. 2023a. The PLANTS Database (http://plants.usda.gov). National Plant Data Team, Greensboro, NC 27401-4901 USA. (Accessed September 2023)

USDA, NRCS. 2023b. WebSoilSurvey (http://websoilsurvey.sc.egov.usda.gov/). Soil Survey Staff. (Accessed August 2023)

USDA Plant Hardiness Zone Map, 2023. Agricultural Research Service, U. S. Department of Agriculture. Accessed from https://planthardiness.ars.usda.gov/

Werier, David, Kyle Webster, Troy Weldy, and Andrew Nelson, Richard Mitchell, and Robert Ingalls. 2023 New York Flora Atlas. [S. M. Landry and K. N. Campbell (original application development), USF Water Institute. University of South Florida]. New York Flora Association, Albany, New York. (Accessed August 2023)