

## Three Corners Solar Project

MDEP Site Location of Development Act Permit Application

### SECTION 9: UNUSUAL NATURAL AREAS

## 9.0 UNUSUAL NATURAL AREAS

### 9.1 INTRODUCTION

The Project area was evaluated for the presence of unusual natural areas. According to the Preservation of Unusual Natural Areas standard of the No Adverse Environmental Effect Standards of the Site Law (06-096 CMR 375.12), an unusual natural area is defined as “any land or water area, usually only a few acres in size, which is undeveloped and which contains natural features of unusual geologic, botanical, zoological, ecological, hydrological, other scientific, educational, scenic, or recreational significance”. State and federal agencies were contacted to identify information regarding documented occurrences or the potential presence of sensitive natural resources within the Project area. In addition, between 2019 and 2021, the Applicant retained Kleinschmidt (vernal pools), BRI (wetlands/streams, vernal pools, DWA surveys), and Stantec (wetlands/streams, vernal pools, botanical, and soil surveys) to evaluate the presence of unusual natural areas within the Project area.

### 9.2 AGENCY CONSULTATION

The MNAP, MDIFW, and USFWS were contacted to request information regarding SWH and known botanical features, including rare and exemplary natural communities, that have been documented in the vicinity of the Project. The response from MNAP is provided as Exhibit 9-1. Responses from MDIFW and USFWS are provided in Section 7.0, Exhibit 7-1.

According to the MNAP Biological and Conservation Data System, several rare botanical features have been documented within the vicinity of the Project. To address the potential occurrence of rare botanical features with the Project area, a rare, threatened, and endangered plant field survey and a rare and exemplary natural community survey were completed in July and August of 2020 (Exhibit 9-2).

The MDIFW reviewed the Project area in 2018 and determined that no mapped Essential Habitats will be directly affected by the Project. The MDIFW also provided guidance on the following: several bat species; great blue herons and documented colonies; rare mussels; bald eagles; eastern ribbon snakes; IWWH; SVPs; DWA; and streams, including recommended buffer widths and new and modified stream crossings. Since the 2018 MDIFW response, the Applicant has been in regular communication with MDIFW to evaluate potential impacts to wildlife habitat and develop a Project specific mitigation plan (see Section 7.0).

The USFWS IPaC online review process was performed for the Project, and an IPaC resource list was generated identifying northern long-eared bat and Atlantic salmon as potentially occurring within the Project area. The IPaC resource list did not identify designated critical habitat for Atlantic salmon<sup>1</sup> within the Project area. The USFWS has no designated critical habitat for northern long-eared bat. Northern long-eared bat and Atlantic salmon are discussed in Section 7.0 of this application. Additionally, monarch butterfly is currently under consideration for listing under the Endangered Species Act and may occur in the Project area. However, there are generally no Endangered Species Act Section 7 requirements for candidate species.

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<sup>1</sup> USFWS. 2022. Atlantic salmon (*Salmo salar*) species profile. Available online at: <https://ecos.fws.gov/ecp/species/2097>. Accessed January 10, 2022.

## **Three Corners Solar Project**

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### **SECTION 9: UNUSUAL NATURAL AREAS**

#### **9.3 FIELD SURVEYS**

The wetland delineation efforts for the Project included a field evaluation of hydrologic, soil, and vegetative conditions for the entire Project area in 2020, with additional surveys in 2021. A rare, threatened, and endangered plant field survey and a rare and exemplary natural community survey were completed in July and August of 2020 (Exhibit 9-2). No rare or exemplary natural communities were located within the Project area, and no unusual natural areas were documented during the survey. One population of wild garlic (*Allium canadense*; Special Concern) was observed within in a small floodplain community along the northern edge of Fifteenmile Stream. The observed population of wild garlic is located outside of the Project's Genlead limits of disturbance. Additionally, Genlead clearing is anticipated to occur during frozen ground conditions, will not include stumping or grubbing, and will utilize timber mats to further minimize soil disturbance. As such, the Project is not expected to have an adverse impact on sensitive botanical resources or unusual natural resources.

**Three Corners Solar Project**

MDEP Site Location of Development Act Permit Application

**SECTION 9: UNUSUAL NATURAL AREAS**

**Exhibit 9-1**

MNAP Correspondence



**STATE OF MAINE**  
**DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY**

93 STATE HOUSE STATION  
 AUGUSTA, MAINE 04333

**WALTER E. WHITCOMB**  
 COMMISSIONER

**PAUL R. LePAGE**  
 GOVERNOR

August 15, 2018

Steve Knapp  
 Kleinschmidt  
 PO Box 650  
 Pittsfield, ME 04967

Via email: [steve.knapp@kleinschmidtgroup.com](mailto:steve.knapp@kleinschmidtgroup.com)

Re: Rare and exemplary botanical features in proximity to: #4679, Three-Corners Solar Project, Unity Twp, Unity, Benton, and Albion, Maine

Dear Mr. Knapp:

I have searched the Natural Areas Program’s Biological and Conservation Data System files in response to your request received August 13, 2018 for information on the presence of rare or unique botanical features documented from the vicinity of the project primarily in Benton and Unity Twp, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are several sites that support rare plants and rare and exemplary natural communities and ecosystems within the Project Area of Interest. Please refer to the attached map, shapefile sent with the email, and table below. If the project or any project activities are planned within 500 feet of any of these features, please consult MNAP for further recommendations.

<b>Feature</b>	<b>State Status</b>	<b>State Rank</b>	<b>Global Rank</b>	<b>Occurrence Rank</b>	<b>Site</b>
Silver Maple Floodplain Forest	N/A	S3	GNR	B Good	Fifteenmile Stream
Wild Garlic ( <i>Allium canadense</i> )	SC	S2	G5	B Good	Fifteenmile Stream
Wild Garlic ( <i>Allium canadense</i> )	SC	S2	G5	H Historical	Fifteenmile Stream, East Benton
Silver Maple Floodplain Forest	N/A	S3	GNR	C Fair	Fifteenmile Stream at Sebacook River
MacGregor’s Rye ( <i>Elymus macgregorii</i> )	SC	S2	GNR	E Extant	Fifteenmile Stream at Sebacook River

**MOLLY DOCHERTY, DIRECTOR**  
 MAINE NATURAL AREAS PROGRAM



PHONE: (207) 287-8044  
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 WWW.MAINE.GOV/DACF/MNAP

Swamp White Oak ( <i>Quercus bicolor</i> )	T	S1	G5	C Fair	Fifteenmile Stream at Sebasticook River
Barren Strawberry ( <i>Geum fragarioides</i> )	E	S1	G5	C Fair	Foss Hill Road
Unpatterned Fen Ecosystem	N/A	5	GNR	B Good	Fowler Bog
Wild Garlic ( <i>Allium canadense</i> )	SC	S2	G5	C Fair	Sebasticook River – Johnson Brook
Silver Maple Floodplain Forest	N/A	S3	GNR	B Good	Twenty-five Mile Stream

This finding is for project scoping purposes only and should not be considered as a final review of the proposed project. When specific location options for the project or projects have been determined and updated environmental assessments have been completed, a subsequent review request should be submitted to us for recommendations regarding impacts to significant natural features prior to application submittal. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

The Natural Areas Program is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. The Natural Areas Program welcomes coordination with individuals or organizations proposing environmental alteration, or conducting environmental assessments. If, however, data provided by the Natural Areas Program are to be published in any form, the Program should be informed at the outset and credited as the source.

The Natural Areas Program has instituted a fee structure of \$75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for \$225.00 for our services.

Thank you for using the Natural Areas Program in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.






Sincerely,

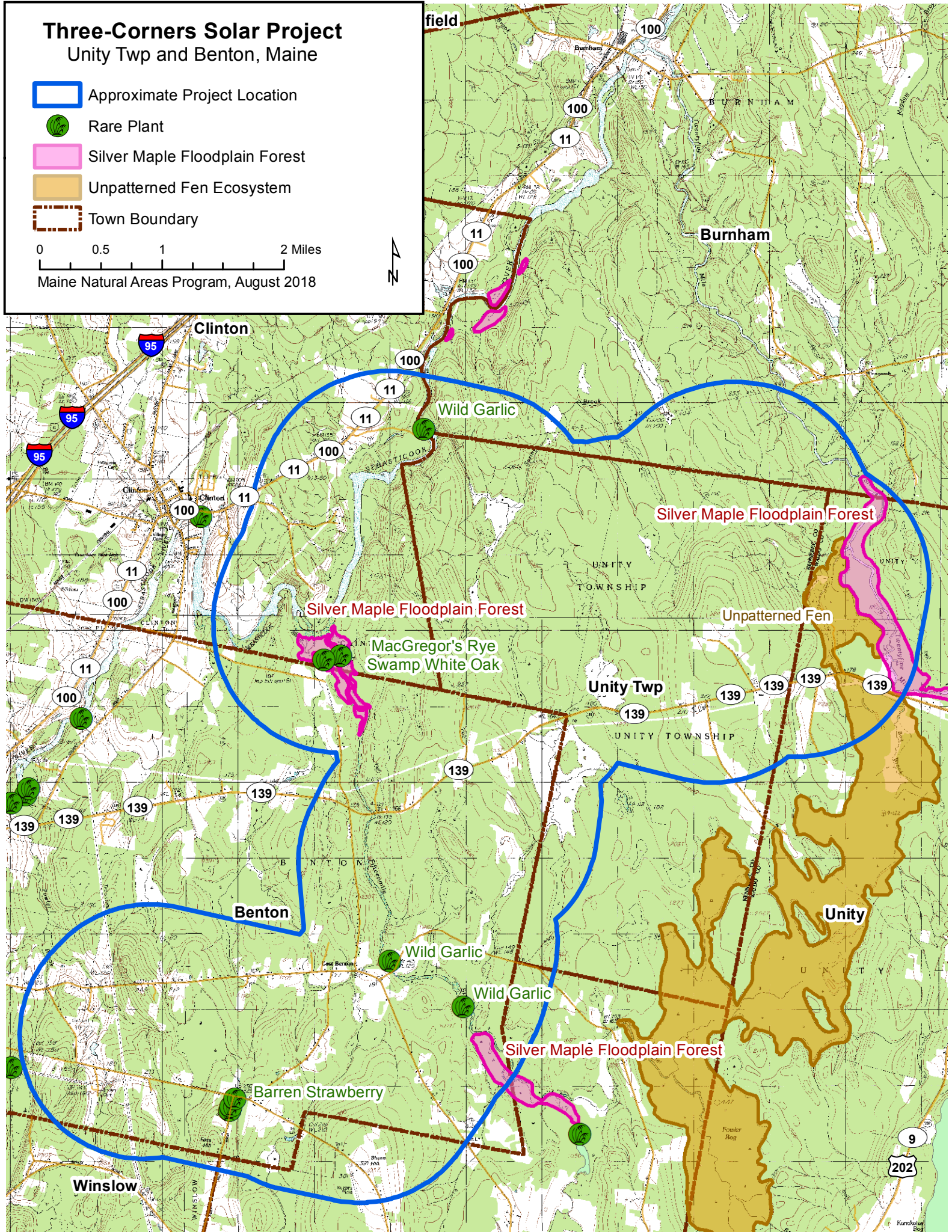
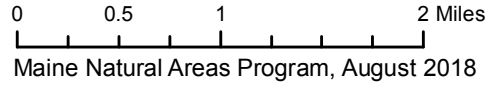


Kristen Puryear | Ecologist | Maine Natural Areas Program  
 207-287-8043 | [kristen.puryear@maine.gov](mailto:kristen.puryear@maine.gov)

# Three-Corners Solar Project

## Unity Twp and Benton, Maine

-  Approximate Project Location
-  Rare Plant
-  Silver Maple Floodplain Forest
-  Unpatterned Fen Ecosystem
-  Town Boundary



**Three Corners Solar Project**

MDEP Site Location of Development Act Permit Application

**SECTION 9: UNUSUAL NATURAL AREAS**

**Exhibit 9-2**

Rare Plant Survey Report



Stantec Consulting Services Inc.  
30 Park Drive, Topsham ME 04086-1737

August 18, 2020  
File: 195601453

**Attention: Deron Lawrence**  
Longroad Energy Management  
30 Danforth Street, Suite 201  
Portland, ME 04101

**Reference: Rare Plant Survey Report, Proposed Three Corners Solar Site, Unity Township and Benton, Maine**

Dear Deron,

As requested, Stantec Consulting Services Inc. (Stantec) conducted a rare, threatened, and endangered (RTE) plant survey between July 27 and August 6, 2020, at Longroad Energy Management's (Longroad) proposed Three Corners solar facility in Unity Township and Benton, Maine (Attachment 1: Figures 1–5; hereafter, Project). The proposed Project area includes two ground mounted solar panel areas north of Route 139 totaling approximately 1,500 acres (i.e., eastern and western areas), an approximately 5.3-mile transmission line that extends from the western panel area south and then west to an existing substation near Albion Road in Benton, and 2 miles of new access roads along the transmission line. The field surveys were conducted in support of permit application preparations and to address standards under Chapter 375 of the Maine Department of Environmental Protection Site Location of Development Act. This report summarizes the results of the field surveys.

## **METHODS**

### **DESKTOP ASSESSMENT**

Available information regarding occurrences of RTE plants within the landscape surrounding the Project area was obtained and reviewed prior to conducting field surveys. This included information provided by the Maine Natural Areas Program (MNAP) in an August 15, 2018, Project review letter<sup>1</sup> as well as RTE plant location information publicly available through Maine's Beginning with Habitat program and personal knowledge of Stantec's botanists.

Utilizing the habitat preferences of the RTE plants known from the surrounding landscape, a desktop assessment was conducted to identify potential natural community types and landforms where RTE plants may be anticipated within the Project area. This review included a Geographic Information Systems (GIS) analysis that involved overlaying the Project components on various publicly available digital color imagery along with 2-foot topographic contours, wetland data available through the National Wetlands Inventory program, and waterbody features available through the National Hydrography Dataset.

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<sup>1</sup> August 15, 2018, letter from Kristin Puryear (MNAP) to Steve Knapp (Kleinschmidt) regarding *Rare and exemplary botanical features in proximity to: #4679, Three-Corners Solar Project, Unity Twp, Unity, Benton, and Albion, Maine.*



## FIELD SURVEYS

Areas identified during the desktop assessment within the Project area that had potentially suitable habitat characteristics for the RTE plants known from the surrounding region were targeted for field surveys. Surveys were conducted by Matt Arsenault, a professional botanist and Certified Ecologist, and consisted of meander surveys within the areas identified during the desktop assessment. In addition, meander surveys were conducted within representative natural community types throughout the Project site to provide a general characterization of existing habitat conditions and to confirm the results of the desktop assessment. Within the proposed solar panel array areas, surveys were generally limited to upland communities and the periphery of wetland communities. The interior of large wetland systems or waterbodies were not targeted as part of this effort as it was understood that the interior of these features would be avoided during Project construction based on preliminary project design plans.

RTE plant populations observed were located with a global positioning system (GPS) receiver capable of submeter accuracy. Appropriate population data were recorded for each RTE plant population observed including approximate size, condition, associated habitat, and evidence of disturbance. Photographs were taken of key identifying features and associated habitat conditions. In addition, general data were recorded on existing natural community conditions throughout the Project area including dominant and characteristic vegetation, as well as other notable plant species, hydrology, evidence of disturbances, and overall landscape context. Representative photographs were taken of existing conditions (Attachment 2). The GPS was also used to navigate through the Project area and record the survey path.

## RESULTS

### DESKTOP ASSESSMENT

The August 15, 2018, MNAP letter identified several occurrences of RTE plants within the vicinity of the Project area. These species included:

- Wild garlic (*Allium canadense*), Special Concern
- MacGregor's Rye (*Elymus macgregorii*), Special Concern
- Swamp white oak (*Quercus bicolor*), Threatened
- Barren strawberry (*Geum fragaroides*), Endangered

Additional species identified within the vicinity of the Project area based on a review of Beginning with Habitat data include:

- Red-stemmed gentian (*Gentiana rubricaulis*), Threatened
- Wild coffee (*Triosteum aurantiacum*), Endangered
- Water stargrass (*Heteranthera dubia*), Special Concern
- Stiff arrowhead (*Sagittaria rigida*), Special Concern

Table 1 summarizes the habitat characteristics of these species.

**Table 1. Summary of Target RTE Plant Habitat Characteristics**

Species	Associated Habitat <sup>1</sup>
Wild garlic	Floodplains, riparian forests, often on rich soils of terraces
MacGregor's rye	Rich, mesic soils of high-terrace riparian floodplains and deciduous forests, often associated with <i>Acer saccharum</i> , <i>Tilia americana</i> , and/or <i>Fraxinus americana</i>
Swamp white oak	Swamps, riparian forests, lacustrine forests, forest borders
Barren strawberry	Forests, woodlands, riparian terraces, river banks, fields, clearings, logging roads; all of the locations in Maine are known from roadsides
Red-stemmed gentian	Meadows, clearings, graminoid marshes, open rights-of-way
Wild coffee	Dry-mesic to mesic forests, woodlands, and forest borders; seems to grow most vigorously in rich, moist soil where it receives at least partial sunlight
Water stargrass	Shallow, still or slow-moving, circumneutral to basic water of lakes and rivers
Stiff arrowhead	Lakes, river shores, backwaters, and pools, including fresh to brackish-tidal rivers

<sup>1</sup> Per rare plant fact sheets available from MNAP (<https://www.maine.gov/dacf/mnap/features/trioaur.htm>) and Haines, A. 2011. *Flora Novae Angliae: A Manual for the Identification of Native and Naturalized Higher Vascular Plants of New England*. Yale University Press. New Haven, CT.

The desktop assessment indicated that the Project area provides a number of habitat types that are potentially suitable for RTE plants, including fields and clearings, floodplains, roadsides, mesic forests (which were assumed to be potentially present on concave slopes or at the toe of slopes dominated by hardwood trees), and open and forested wetlands. These areas were targeted during field surveys.

## FIELD SURVEYS

Field surveys were conducted between July 27 and August 6, 2020. Wild garlic was identified within the proposed transmission line area and was observed growing along the northern bank of Fifteenmile Stream (Attachment 1: Figure 2; Attachment 2: Photos 1–4). Five remnants of wild garlic were observed at the toe of the slope along the edge of a narrow floodplain along the stream. The plants were growing with bracken fern (*Pteridium aquilinum*), lakeside sedge (*Carex lacustris*), sensitive fern (*Onoclea sensibilis*), eastern poison-ivy (*Toxicodendron radicans*), bluejoint (*Calamagrostis canadensis*), calico American-aster (*Symphotrichum lateriflorum*), and three-petaled bedstraw (*Galium tridifum*). It is important to note that wild garlic is a spring ephemeral and the specimens observed were in an advance state of decomposition. As such, identification of wild garlic is tentative as the key diagnostic features were not observable at the time of the field survey; follow-up surveys in the spring would be required to confirm the identification. However, given the landscape position (e.g., floodplain), associated habitat, and proximity to other known wild garlic populations on Fifteenmile Stream, it is likely that the observed specimens are indeed that of wild garlic. It is also important to note that the population is likely larger than the five observed individuals as wild garlic tends to occur in rather large populations where it occurs (M. Arsenault, personal observations).

Although portions of the Project area provide potentially suitable habitat for several of the target RTE plant species, no other RTE plants were observed during the field surveys. The following discussion summarizes the representative natural community conditions of the Project area. Representative photographs are provided as Attachment 2.

Reference: Rare Plant Survey Report, Proposed Three Corners Solar Site, Unity Township and Benton, Maine

### Western Panel Installation Area

Upland forests in the western panel installation area consist of second and third growth mixed forests as well as early successional stands. Forest harvests have occurred at various times throughout the area and a network of forest roads and trails bisect the parcel. Overall plant diversity is very low throughout the upland forests. Dominant and characteristic trees include eastern hemlock (*Tsuga canadensis*), eastern white pine (*Pinus strobus*), American beech (*Fagus grandifolia*), northern red oak (*Quercus rubra*), balsam fir (*Abies balsamea*), sugar maple (*Acer saccharum*), and hop-hornbeam (*Ostrya virginiana*). Understory vegetation is generally sparse and consists of American witch-hazel (*Hamamelis virginiana*), bracken fern, Canada-mayflower (*Maianthemum canadense*), starflower (*Lysimachia borealis*), Indian cucumber root (*Medeola virginiana*), sessile-leaved bellwort (*Uvularia sessilifolia*), New York fern (*Parathelypteris noveboracensis*), wild sarsaparilla (*Aralia nudicaulis*), Christmas fern (*Polystichum acrostichoides*), bunchberry (*Chamaepericlymenum canadense*), and eastern hay-scented fern (*Dennstaedtia punctilobula*). Trails created by logging equipment are dominated by red raspberry (*Rubus idaeus*) and common blackberry (*Rubus allegheniensis*) along with eastern hay-scented fern.

Presence of rich-mesic forest conditions were very limited within the western panel area and limited to a small occurrence near the western perimeter along a small wetland swale. This area supported rich woods indicator species such as ostrich fern (*Matteuccia struthiopteris*), doll's-eyes (*Actaea pachypoda*), Canada wood-nettle (*Laportea canadensis*), and eastern leatherwood (*Dirca palustris*). However, no RTE plants were observed within this area.

Forested wetlands are present in lowland portions of the Project area and are characterized by balsam fir, northern white cedar (*Thuja occidentalis*), yellow birch (*Betula alleghaniensis*), red maple (*Acer rubrum*), and black ash (*Fraxinus nigra*) trees. Commonly observed shrubs include speckled alder (*Alnus incana*), common winterberry (*Ilex verticillata*), and alder-leaved buckthorn (*Rhamnus alnifolia*). Herbaceous species are rather diverse and include common species such as cinnamon fern (*Osmundastrum cinnamomeum*), flow manna grass (*Glyceria striata*), three-seeded sedge (*Carex trisperma*), sensitive fern (*Onoclea sensibilis*), jewelweed (*Impatiens capensis*), dwarf red raspberry (*Rubus pubescens*), hop sedge (*Carex lupulina*), nodding sedge (*Carex gynandra*), necklace sedge (*Carex projecta*), eastern poison ivy, woodland horsetail (*Equisetum sylvaticum*), marsh fern (*Thelypteris palustris*), greater bladder sedge (*Carex intumescens*), and northern water-horehound (*Lycopus uniflorus*).

The central portion of the western panel installation area includes a large wetland complex consisting of forested, scrub-shrub, and open water wetland communities. A red maple woodland fen comprises the southern portion of this wetland complex and consists of a partially open wetland dominated by red maple trees. The understory is dense and includes tall shrubs such as common winterberry and speckled alder with lakeside sedge in the herbaceous stratum. Beaver (*Castor canadensis*) activity has impounded portions of the wetland community resulting in a mixed shrub and graminoid marsh as a result of dieback of the tree species due to inundation. This area is dominated by broad-leaved cat-tail (*Typha latifolia*), speckled alder, northern white cedar, red maple, marsh fern, steeplebush (*Spiraea tomentosa*), American bur-reed (*Sparganium americanum*), woolgrass (*Scirpus cyperinus*), bearded sedge (*Carex comosa*), water arum (*Calla palustris*), lakeside sedge, rattlesnake manna grass (*Glyceria canadensis*), and royal fern (*Osmunda regalis*). A small pond with an emergent fringe of three-way sedge (*Dulichium arundinaceum*), woolly-fruited sedge (*Carex lasiocarpa*), common spikesedge (*Eleocharis palustris*), and tussock sedge (*Carex stricta*) is also present as part of this central wetland complex.

### *Eastern Panel Installation Area*

The eastern panel installation area consists of a uniform northern hardwood forest dominated by American beech, northern red oak, sugar maple, white ash (*Fraxinus americana*), and eastern hemlock along with paper birch (*Betula papyrifera*), hop-hornbeam, and balsam fir trees. The understory is open and consists of sparse herbaceous coverage with overall low diversity. Characteristic species include Christmas fern, Canada mayflower, starflower, wild sarsaparilla, sessile-leaved bellwort, New York fern, and eastern hay-scented fern. Past forest harvests have occurred throughout the area.

The eastern panel area also includes five active agricultural fields planted with corn as well as a small old field community planted with balsam fir, eastern white pine, and red pine (*Pinus resinosa*) saplings and small trees. Herbaceous plants within the field are weedy and consist of smooth brome (*Bromus inermis*), Kentucky blue grass (*Poa pratensis*), reed canary grass (*Phalaris arundinacea*), and red raspberry along with common milkweed (*Asclepias syriaca*), and Canada goldenrod (*Solidago canadensis*).

The western perimeter of the eastern panel area abuts a forested wetland dominated by red maple, balsam fir, black ash, and yellow birch trees. Understory species include cinnamon fern, sensitive fern, three-seeded sedge, small enchanter's-nightshade (*Circaea alpina*), and three-leaved goldthread (*Coptis trifolia*).

### *Transmission Line Area*

The proposed transmission line corridor and associated access roads includes several natural community types including mixed forested uplands, forested and scrub-shrub wetlands, fields, aquatic habitats, roadsides, and existing utility line corridor.

Upland forested communities are unexceptional and consist primarily of second and third growth mixed forests with overall low floristic diversity similar to that of the panel installation areas. Characteristic trees including balsam fir, northern red oak, red maple, eastern hemlock, American beech, sugar maple, and eastern white pine are present throughout. Overall understory diversity is low and consists primarily of wild sarsaparilla, eastern hay-scented fern, Canada-mayflower, starflower, sessile-leaved bellwort, bracken fern, red raspberry, Christmas fern, Indian cucumber root, evergreen wood fern (*Dryopteris intermedia*), interrupted fern (*Osmunda claytoniana*), and New York fern.

Recent forest harvests have occurred in scattered locations resulting in early successional and regenerating natural communities. These areas include saplings and small trees of quaking aspen (*Populus tremuloides*), bigtooth aspen (*Populus grandidentata*), gray birch (*Betula populifolia*), balsam fir, eastern white pine, and red maple. Herbaceous and shrub vegetation commonly includes common blackberry, red raspberry, bracken fern, eastern hay-scented fern, Canada goldenrod, common wrinkle-leaved goldenrod (*Solidago rugosa*), common cinquefoil (*Potentilla simplex*), bristly blackberry (*Rubus hispidus*), common strawberry (*Fragaria virginiana*), flattened oatgrass (*Danthonia compressa*), and redtop bentgrass (*Agrostis gigantea*).

Forested wetlands are scattered in lowland portion of the transmission line areas and are dominated by red maple, northern white cedar, balsam fir, black ash, and yellow birch trees with an understory consisting commonly of common winterberry, speckled alder, cinnamon fern, marsh fern, sensitive fern, dwarf red raspberry, fowl manna grass, and various sedges (*Carex* spp.). A large peatland wetland complex is located to the east of the western terminus of the transmission line and consists of black spruce (*Picea mariana*), red maple, and American larch (*Larix laricina*) trees. Shrub vegetation in this peatland includes leatherleaf (*Chamaedaphne calyculata*), rhodora (*Rhododendron canadense*), mountain holly (*Ilex mucronata*), common winterberry, highbush blueberry (*Vaccinium corymbosum*), and steeplebush. Common herbaceous vegetation includes swamp yellow-loosestrife (*Lysimachia terrestris*), green-keeled

Reference: Rare Plant Survey Report, Proposed Three Corners Solar Site, Unity Township and Benton, Maine

cottonsedge (*Eriophorum viridicarinatum*), three-seeded sedge, bunchberry, purple pitcherplant (*Sarracenia purpurea*), water arum, cinnamon fern, and three-leaved false Solomon's-seal (*Maianthemum trifolium*).

A deep floodplain emergent marsh and scrub-shrub wetland is located north of Fifteenmile Stream and along its banks. It is a diverse wetland community that has been partially inundated as a result of beaver activity. Commonly observed species include broad-leaved cat-tail, lakeside sedge, tussock sedge, common buttonbush (*Cephalanthus occidentalis*), white meadowsweet (*Spiraea alba*), meadow willow (*Salix petiolaris*), water arum, marsh mermaid-weed (*Proserpinaca palustris*), common arrowhead (*Sagittaria latifolia*), pickerelweed (*Pontederia cordata*), river horsetail (*Equisetum fluviatile*), bearded sedge, rattlesnake manna grass, bulblet-bearing water-hemlock (*Cicuta bulbifera*), hop sedge, northern water-horehound, swamp yellow-loosestrife, great bur-reed (*Sparganium eurycarpum*), American bur-reed (*Sparganium americanum*), and three-way sedge. As noted above, wild garlic was observed in a narrow zone at the upper edge of the floodplain along the northern shore of Fifteenmile Stream. No potential specimens of wild garlic were observed along the southern shoreline although suitable habitat is present.

The proposed transmission line and an associated access road intersect an existing open transmission line corridor near its western terminus. The existing transmission line corridor and associated substation are relatively new and constructed within the past 13 years based on a review of available historic digital aerial imagery. The existing corridor consists of open upland and wetland communities consisting of common species. Upland species frequently include Canada goldenrod, common wrinkled-leaved goldenrod, common strawberry, wild carrot (*Daucus carota*), common milkweed, red raspberry, common cinquefoil, white sweet-clover (*Melilotus albus*), sweet vernalgrass (*Anthoxanthum odoratum*), eastern hay-scented fern, bracken fern, and common raspberry. Wetlands include broad-leaved cat-tail, sallow sedge (*Carex lurida*), golden groundsel (*Packera aurea*), woolgrass, fowl blue grass (*Poa palustris*), Allegheny monkey-flower (*Mimulus ringens*), jewelweed, woodland blue grass (*Poa nemoralis*), nodding sedge, fowl manna grass, purple loosestrife (*Lythrum salicaria*), and reed canary grass.

## SUMMARY AND CONCLUSIONS

Field surveys for RTE plant species were targeted in several different natural community types throughout the Project area. As a result of the surveys, one population of wild garlic (a species listed as Special Concern) was observed within in a small floodplain community along the northern edge of Fifteenmile Stream. Wild garlic is a spring ephemeral and senesces in late spring or early summer. As such, full evaluation of the population at this location could not be conducted as the specimens observed were remnant and in an advanced stage of decomposition. Although there are likely (many) more specimens than the five individuals observed at the time of the July 2020 field survey, suitable habitat is limited to a very narrow floodplain band between the inundated stream banks and a steeper non-floodplain embankment. It is recommended that field surveys be conducted in May to fully assess the population and to confirm the identification of wild garlic at this location as well as along the southern bank of Fifteenmile Stream. In the absence of follow-up field surveys, it is recommended that direct impacts be avoided and minimized along the banks and floodplain of Fifteenmile Stream. Such efforts include avoiding soil disturbance within the floodplain along Fifteenmile Stream such as grubbing, grading, or rutting. The placement of timber mats may be appropriate minimization measures provided that they are placed in a manner to minimize soil compaction such as during frozen ground conditions.

Although the Project area provides habitats and natural community types that are potentially present for several RTE plant species, no other RTE plants were observed within the Project area.

August 18, 2020

Page 7 of 7

**Reference:** Rare Plant Survey Report, Proposed Three Corners Solar Site, Unity Township and Benton, Maine

Please let us know if you have any questions on the information provided in this report.

Regards,

**Stantec Consulting Services Inc.**



**Matt Arsenault**

Botanist / Ecologist - Sr. Project Manager

Phone: 207 406 5488

Fax: 207 729 2715

matt.arsenault@stantec.com

Attachment: Attachment 1: Figures 1-5. Rare Plant Survey Map  
Attachment 2. Representative Photographs

c. Brooke Barnes (Stantec)

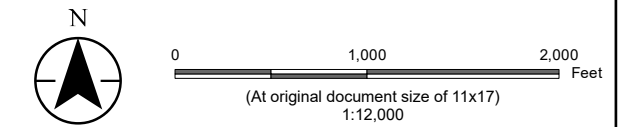
August 18, 2020

Attachments

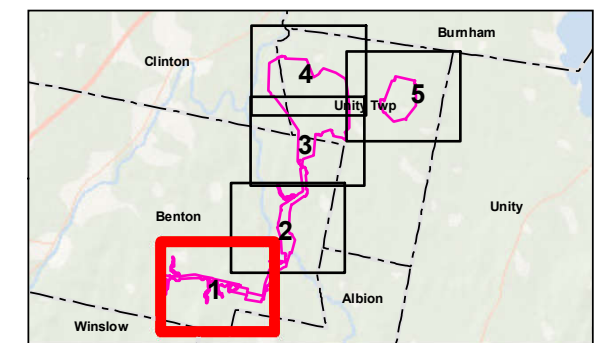
Reference: Rare Plant Survey Report, Proposed Three Corners Solar Site, Unity Township and Benton, Maine

## **Attachment 1: Figures**

- Legend**
- Rare Plant Survey Tracks
  - ▣ Rare Plant Population (1 location)
  - ▣ *Allium canadensis* (Wild Garlic)
  - ▭ Survey Limits
  - ▭ Municipal Boundary
  - ▭ Delineated Wetland
  - ▭ Delineated Stream
  - ▭ Proposed Panel Layout
  - ▭ Proposed Transmission Centerline



- Notes**
1. Rare plant survey performed by Stantec between July 27 and August 8, 2020.
  2. Data Sources: Longroad, MEGIS
  3. Background: National Agriculture Imagery Program (NAIP) aerial orthoimagery.
  4. Coordinate System: NAD 1983 UTM Zone 19N



**Project Location**  
 Benton, Clinton, Unity TWP  
 Kennebec County, Maine

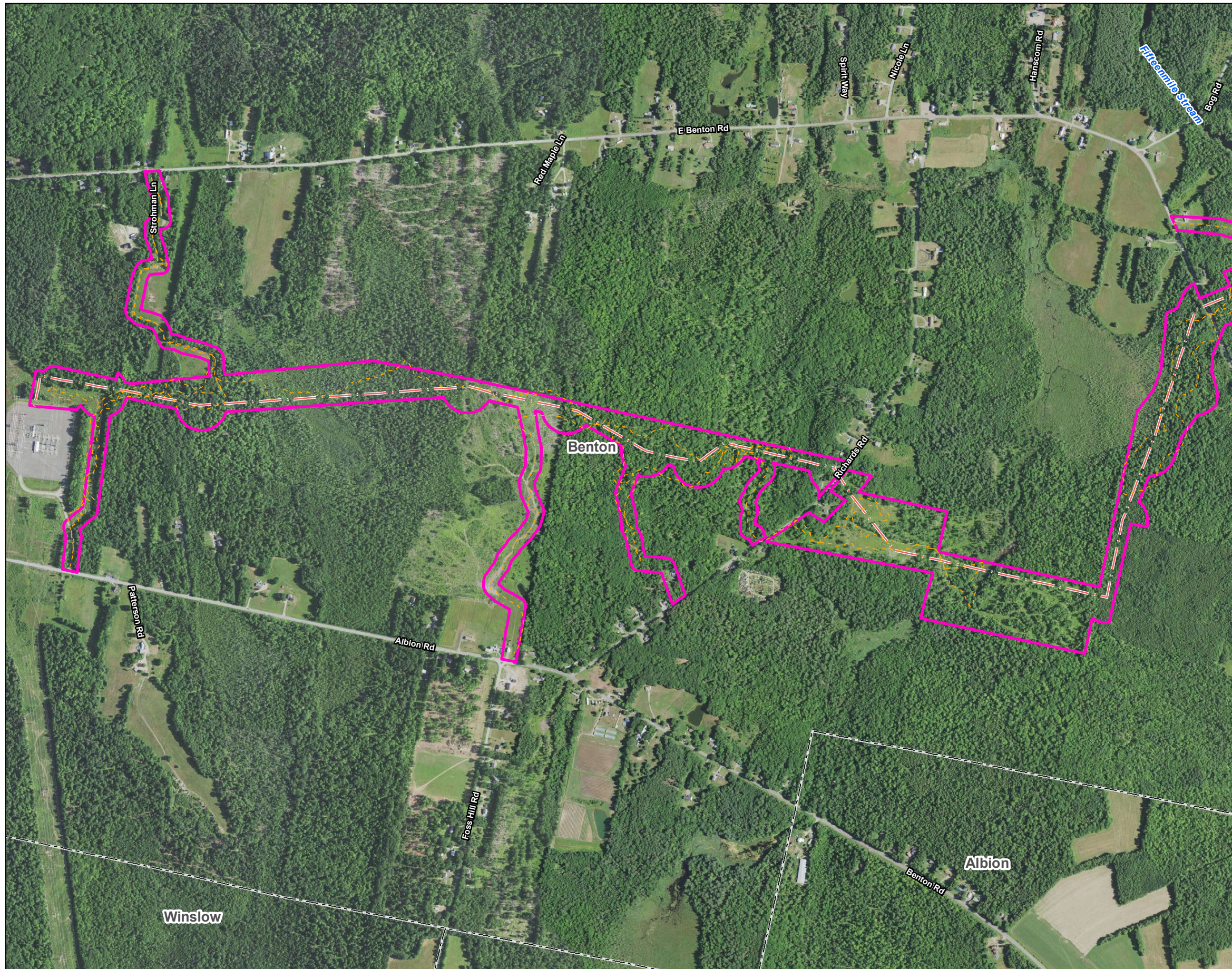
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 Reviewed by MPA on 2020-08-13

**Client/Project**  
 Three Corners Solar, LLC  
 Three Corners Solar Project  
 Rare Plant Survey

195601453

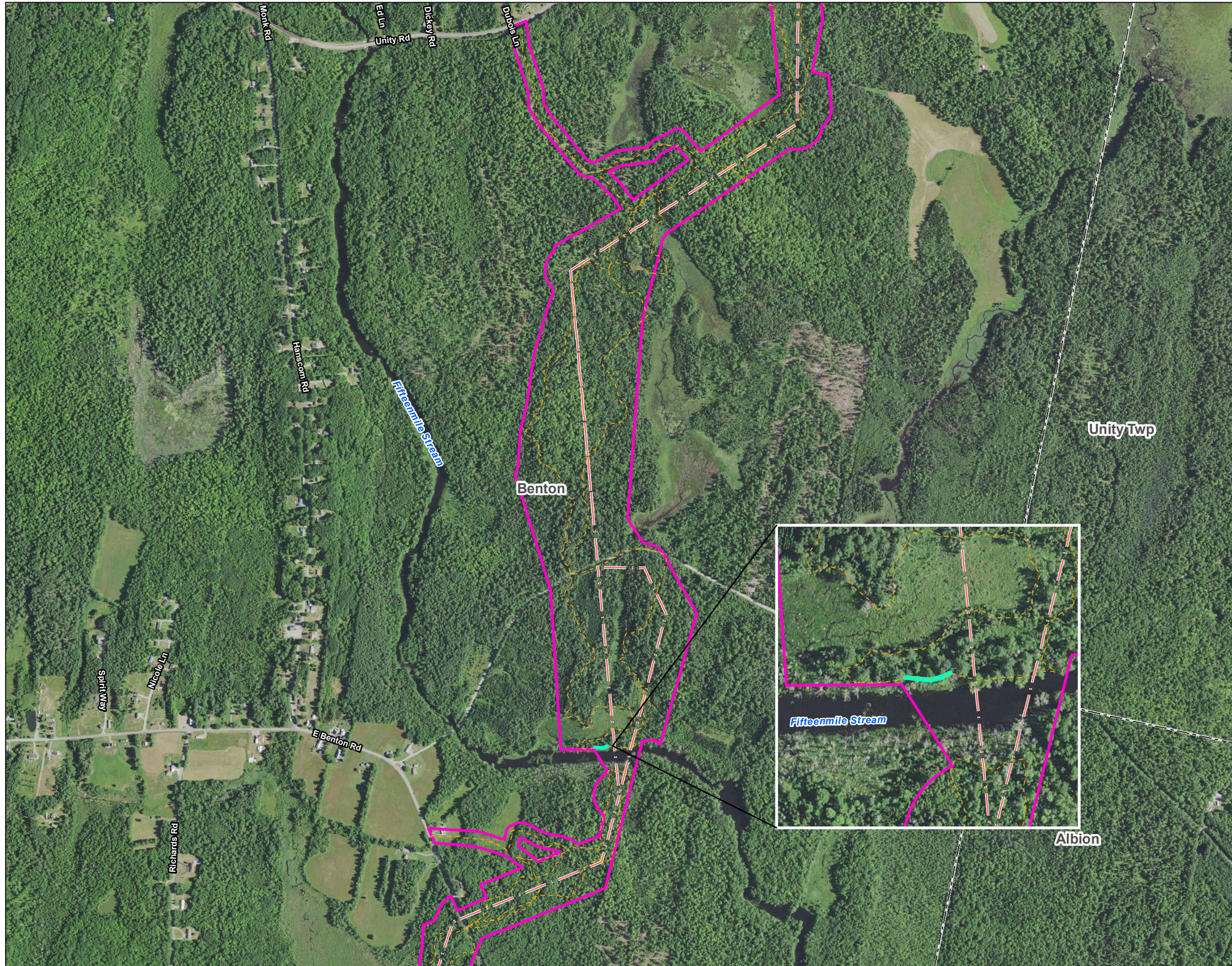
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 1

**Title**  
 Rare Plant Survey Map  
 1 of 5



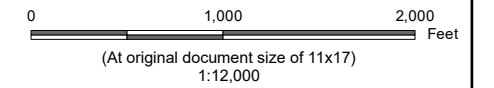


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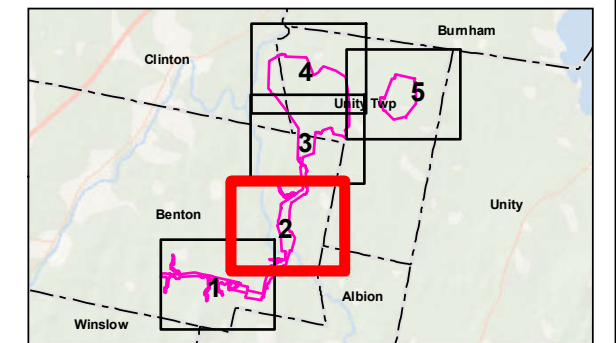
Legend

- Rare Plant Survey Tracks
- Rare Plant Population (1 location)
- Allium canadensis* (Wild Garlic)
- Survey Limits
- Municipal Boundary
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- Delineated Stream
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Project Location  
Benton, Clinton, Unity TWP  
Kennebec County, Maine

Prepared by KWH on 2020-08-12  
Reviewed by MPA on 2020-08-13

Client/Project  
Three Corners Solar, LLC  
Three Corners Solar Project  
Rare Plant Survey

195601453

Figure No.

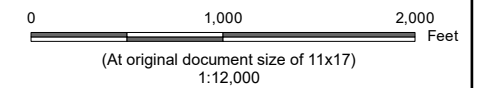
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Title

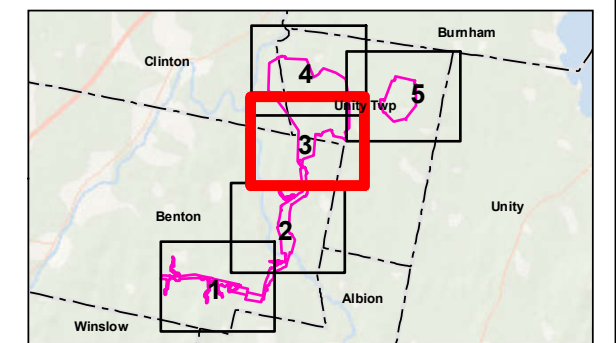
Rare Plant Survey Map  
2 of 5

Legend

- Rare Plant Survey Tracks
- Rare Plant Population (1 location)
- Allium canadensis* (Wild Garlic)
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**Project Location**  
 Benton, Clinton, Unity TWP  
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**Client/Project**  
 Three Corners Solar, LLC  
 Three Corners Solar Project  
 Rare Plant Survey

195601453

Figure No.

1

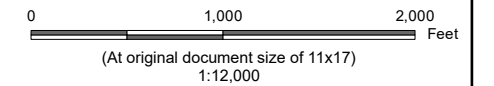
**Rare Plant Survey Map**  
 3 of 5



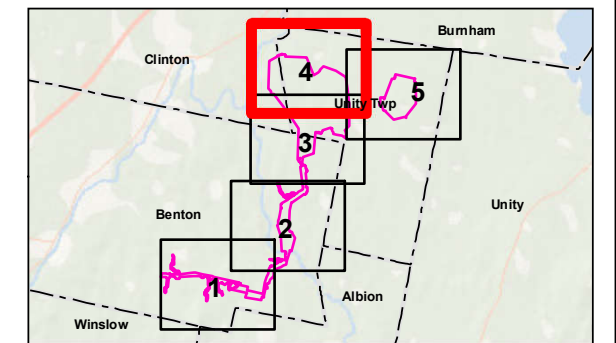


Legend

- Rare Plant Survey Tracks
- ▣ Rare Plant Population (1 location)
- ▣ *Allium canadensis* (Wild Garlic)
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**Client/Project**  
 Three Corners Solar, LLC  
 Three Corners Solar Project  
 Rare Plant Survey

195601453

**Figure No.**

1

**Title**

**Rare Plant Survey Map**  
 4 of 5

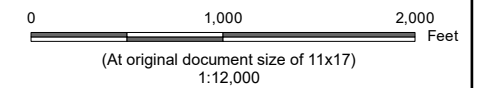
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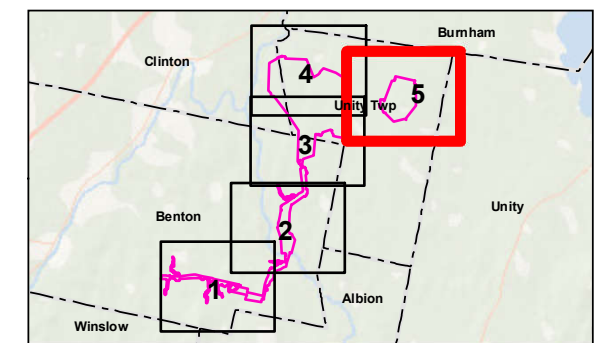


Legend

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Three Corners Solar Project  
Rare Plant Survey

195601453

**Figure No.**

1

**Title**  
Rare Plant Survey Map  
5 of 5

August 18, 2020

Attachments

Reference: Rare Plant Survey Report, Proposed Three Corners Solar Site, Unity Township and Benton, Maine

## **Attachment 2. Representative Photographs**

August 18, 2020

Attachments

Reference: Rare Plant Survey Report, Proposed Three Corners Solar Site, Unity Township and Benton, Maine



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