



# NDDDB State-Listed Plants Survey Report

**Wake Robin Inn Proposed Redevelopment  
104 & 106 Sharon Road and 53 West Hills Road, Salisbury, CT**

## **ARADEV LLC**

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Prepared by:

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SLR Project No.: 141.22100.00001

November 22, 2024

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## Acronyms and Abbreviations

AMSL	Above Mean Sea Level
BMP	Best Management Practice
CTDEEP	Connecticut Department of Energy and Environmental Protection
E	Endangered
F	Fahrenheit
GPS	Global Positioning System
LOD	Limits of Disturbance
NDDB	Natural Diversity Data Base
NRCS	Natural Resources Conservation Service
SC	Special Concern
SLR	SLR International Corporation
T	Threatened



## 1.0 Introduction

On behalf of ARADEV LLC (the Applicant), SLR International Corporation (SLR) has consulted the Connecticut Department of Energy and Environmental Protection (CTDEEP) Natural Diversity Data Base (NDDDB) program on listed species mapped by NDDDB as potentially occurring within the subject property located at 104 and 106 Sharon Road and 53 Wells Hill Road in Salisbury, Connecticut (**Appendix A, Figure 1**). The approximately 13.4-acre subject site (M/B/L 47-02) currently supports the seasonally active Wake Robin Inn, which consists of one primary three-story building, two linear one-story buildings, a standalone garage, parking area, and various appurtenances (**Appendix A, Figure 2**). This report presents the methodology and results of a listed flora survey performed by SLR qualified botanists on June 25 and July 3, 2024. This survey was conducted in response to an NDDB Preliminary Assessment letter for the project dated May 28, 2024 (NDDB Automated Site Assessment 407433177). The Automated Site Assessment presented four species of state-listed plants (one State Endangered, one State Threatened, and two State Special Concern) with the potential to occur within the project parcel (**Table 1**).

The study area subject to this report comprises the limits of disturbance (LOD) for proposed updates to the existing Wake Robin Inn, including expansion of the existing inn building, construction of new cabins, an event barn, a gym and spa, a pool, and associated parking, drives, and pervious gravel walking paths (**Appendix A, Figure 3**). Additional components include a new stormwater management system consisting of open, vegetated stormwater detention basins to be around the site.

This report contains the methodology and results of the June and July 2024 botanical survey for the listed plant species. In summary, one plant species, eastern few-fruited sedge (*Carex oligocarpa*), listed as State Special Concern, was identified on site within the proposed project disturbance limits and is also believed to exist off site to the south. Although proposed ground disturbance will impact the small number of individual plants observed on site, mitigation strategies are proposed within this report to minimize overall impact to the local species' population.



**Table 1: State-Listed Plant Species from NDDB Automated Site Assessment  
 Wake Robin Inn, Salisbury, Connecticut**

Scientific Name	Common Name	State Status	Preferred Habitat	Potential Habitat In/Adjacent To Project Area (Y/N)	Potential Impact On Species From Project (Y/N)
<i>Pellaea glabella</i>	Smooth cliff-brake	E	Damp or shaded calcareous rocky slopes, ridges, ledges, high pH cliffs, occasionally roadcuts. Produces spores June, July, September.	Y	N
<i>Asplenium ruta-muraria</i>	Wall-rue spleenwort	T	Sheltered cliffs, seams, and crevices of limestone outcrops. Produces spores in July.	Y	N
<i>Carex formosa</i>	Handsome sedge	SC	Calcareous meadows, woods, thickets, and open swamps; calcareous spring fens; mesic to dry deciduous forests and ravines, moist soil in woods and thickets. Flowers May-June, fruits persist onward.	Y	N
<i>Carex oligocarpa</i>	Eastern few-fruited sedge	SC	Shaded rock ledges, hillsides, rich woods. On marble and traprock. Flowers in June, fruits persist onward.	Y	Y*

E = State Endangered

T = State Threatened

SC = State Special Concern

\*Applicant proposes mitigation (described herein) to minimize impacts to the local species' population from proposed project activities.

## 1.1 Methods

Prior to the survey, the defining physical characteristics and habitat preferences of the four target plant species were reviewed by the surveyors using reliable online and print botanical resources, including Go Botany and Gray's *Manual of Botany*, 8th edition.

On June 25 and July 3, 2024, Marlee Antill, SLR environmental scientist and qualified botanist with experience conducting botanical surveys across the state for these and other similar floral taxa (**Appendix D**), completed a field investigation to determine the presence or absence of the above-listed species and to assess habitat suitability within the project site (**Appendix A, Figures 1 and 2**). Weather conditions were sunny and clear, with air temperatures of approximately 75 degrees F.



The survey was completed using the visual encounter method. Proposed disturbance limits are presented on the attached survey figure (**Appendix A, Figure 3**) as well as the project site plans (**Appendix E**), which included the study area for survey efforts. In many areas, the survey efforts expanded beyond the proposed disturbance limits, including an undeveloped forested slope with rocky outcrops just south of the limits of disturbance on site. A complete floristic inventory within potentially suitable habitat areas for the four species was recorded using a field book and categorized based on vegetation stratum and habitat communities (**Appendix C**). A photographic log was created to document site conditions at the time of the survey (**Appendix B**). The survey was conducted during the known fruiting and/or flowering time for all species listed.

A handheld global positioning system (GPS) with submeter accuracy was utilized throughout the survey to record the survey path. Prior to the site visit, the proposed limits of disturbance for the project were imported to the GPS unit. The boundaries of inland wetlands and watercourses, delineated previously by SLR and others, were also imported to the GPS unit. Based on the preferred habitats of the plant species, survey efforts focused on relatively closed canopy, undisturbed, forested portions of the site, predominantly south of the existing inn, and with rocky outcrops and overall low density of groundcover.

## 2.0 Site Description

The project survey site comprises approximately 13.35 acres situated between Wells Hill Road to the east and Sharon Road to the west. Primary site access is from Sharon Road to the west, with secondary access via Wells Hill Road. The site is comprised of two parcels: the main 11.15-acre parcel (104 and 106 Sharon Road) contains the existing Wake Robin Inn facilities, including buildings and appurtenances, a paved access road, parking area, maintained lawn, and upland forest with small areas of forested wetland. The project also proposes to incorporate 53 Wells Hill Road, a 2.2-acre parcel located in the northeastern portion of the site, with direct access to Wells Hill Road to the east via an existing gravel driveway. The smaller parcel contains several existing residential structures and maintained lawn, with the remainder of the parcel to the north and west comprised of upland forested bisected by a wetland corridor with a north-flowing watercourse. Land use surrounding the site is comprised of a mix of light residential, open space/forested, and agricultural, with Wononskopomuc Lake located approximately 0.1 mile to the west.

Much of the forested survey area is comprised of steep slopes with exposed rocky soils rated by the Natural Resources Conservation Service (NRCS) as Well Drained (**Appendix A, Figure 4**). Numerous calcareous bedrock outcroppings also exist within the southern portion of the site. The site generally slopes from south to north, with elevations on site ranging from 780 feet above mean sea level (amsl) in the northern portion of the site to 855 atop forested, rocky outcroppings in the southern portion of the site. Wetland areas exist on site along the eastern site boundary and to the northwest; as none of the state-listed species are known to occur in wetland habitats, these areas of the site were a lesser focus during the botanical surveys.

The parcel is located within the 15.7-square-mile Factory Brook subregional watershed, which extends from the Massachusetts border to southern Salisbury. The site drains north and west towards Wononskopomuc Lake and Factory Brook, which outlets from the northeast portion of the lake and flows northeast to Salmon Creek upstream of its confluence with the Housatonic River along the eastern boundary of Salisbury.



## 3.0 Survey Results

In summary, one of the four target plant species – *Carex oligocarpa* – was observed during the botanical surveys. As depicted on **Appendix A, Figure 2**, *C. oligocarpa* was identified within two locations on site, and other growing sites of the species are believed to exist just off site to the south. The observation sites are located within the southern, sloped hardwood deciduous forested portion of the site, southwest of the existing main inn building and within the project limits of disturbance (described in Section 3.1.1). The number of individuals observed within the three locations was relatively small, with between 1 and 20 plants counted in each separate location.

*Carex oligocarpa* is distinguished from other *Carex* species by the combination of clump forming, red-purple at the base, sheaths mostly convex at the tip and extended above the base of the leaf, all-staminate terminal spike, 2 to 4 pistillate spikes with 2 to 7 perigynia per spike, pistillate scales with a rough-textured awn often longer than the perigynia, perigynia with up to 59 impressed veins, and the short beak straight and toothless.

While some potentially suitable habitat exists on site for the remaining three species, a comprehensive investigation across the full subject site yielded no observations of these species during their known reproductive period when identification would be the most likely.

### 3.1 Habitats Surveyed

Potential habitat for all species exists within the proposed limits of disturbance. A description of the habitats surveyed within the project limits and plant species observed within each follows.

#### 3.1.1 Upland Mixed Hardwood/Deciduous Forested Slope with Rocky, Calcareous Outcrops

South of the main inn building, the site has been less recently disturbed and features more rolling topography punctuated by rocky outcroppings. The mid-successional forest occupying the southern portion of the site is connected to the south with other undeveloped/forested and largely open space parcels extending in a contiguous corridor nearly 1.5 miles to Race Track Road. The relatively closed canopy is comprised of mature red maple (*Acer rubrum*), sugar maple (*A. saccharum*), tulip poplar (*Liriodendron tulipifera*), shagbark hickory (*Carya ovata*), red oak (*Quercus rubra*), eastern hemlock (*Tsuga canadensis*), and smaller-diameter American elm (*Ulmus americana*) and black locust (*Robinia pseudoacacia*). Shrubs exist in isolated patches, largely comprised of nonnative Japanese barberry (*Berberis thunbergii*). Groundcover varies between the thinly layered soil atop bedrock outcroppings, to the mossy, exposed rockfaces along steep slopes, and deeper soil deposits with leaf litter in the moderately sloped to flat valleys between hillsides. The high points along ridges and outcrops are vegetated with young tree saplings, Japanese barberry, and herbaceous vegetation, including Virginia-creeper (*Parthenocissus quinquefolia*), poison ivy (*Toxicodendron radicans*), sweet cicily (*Osmorhiza claytonii*), meadow-rue (*Thalictrum thalictroides*), and wood ferns (*Dryopteris* sp.). Dense monocultures of herbaceous vegetation carpet large swaths within the valley bottoms, with Pennsylvania sedge (*Carex pennsylvanica*) occupying deeper shade areas and American hog-peanut (*Amphicarpaea bracteata*) growing in more dappled light. It is along the gently sloping hills below the rocky outcrop faces and above the flatter valleys that *Carex oligocarpa* was observed. These areas feature moderately well-drained loamy soils with little to no exposed bedrock or bare mineral soil.



The larger patch of *C. oligocarpa* was observed approximately 200 feet north of the southern property boundary and approximately 30 feet north of an existing frame garage with recent disturbance from cart and foot traffic along an existing path. The plants were observed growing in a relatively dense clump beneath a patchy canopy of eastern hemlock (*Tsuga canadensis*) and American elm (*Ulmus americana*). The *C. oligocarpa* in this location were growing near several herbaceous species, including eastern woodland sedge (*Carex blanda*), white wood-aster (*Eurybia divaricata*), garlic-mustard (*Alliaria petiolata*), and with some leaf litter among the groundcover.

The second *C. oligocarpa* location on site exists near the toe of slope beneath a rocky outcropping and was observed growing in a small clearing beside a patch of Pennsylvania sedge and near a grouping of red oak and white pine (*Pinus strobus*) saplings. No recent disturbance was observed in this location near the southern property boundary. SLR's survey did not continue off site to the south, although it is assumed that additional suitable *C. oligocarpa* habitat exists off site in this direction.

### **3.1.2 Early Successional/Disturbed White Pine/Mixed Hardwood/Eastern Hemlock Upland Forest**

Compared to the forest in the southern portion of the site, the northern forested area features a relatively evenly sloped topography with fewer bedrock outcroppings. This area displays more evidence of recent disturbance. The upland forest features a higher proportion of evergreen trees, including white pine and eastern hemlock, with deciduous canopy trees, including Norway maple (*Acer platanoides*) and sugar maple, basswood (*Tilia latifolia*), and saplings of white pine and green ash (*Fraxinus pennsylvanica*) in clusters. The shrub stratum is dominated in large part by nonnative species, including Japanese barberry, Morrow's honeysuckle (*Lonicera morrowii*), and garlic-mustard. While some patches of potentially suitable habitat exist for the state-listed NDDB species, in general the shrub understory was found to be too dense to support much herbaceous growth throughout this portion of the site.

### **3.1.3 Other Ecological Communities**

While SLR covered the entire limits of the site during the two survey days, less detailed investigation was performed within the wetland areas on site (which were previously delineated by SLR and described in SLR's 2024 wetland delineation report, available upon request) as well as areas of existing development, including standing structures, open lawn and manicured landscaping, and existing roadway and walking paths. These areas are frequently disturbed and do not provide habitat for the state-listed plants, nor were any of the species (or commonly associated species) observed during the botanical survey work.

## **3.2 Floristic Inventory**

A comprehensive floristic inventory of all observed vegetation within the surveyed habitats described above was collected and categorized based on vegetation stratum (**Appendix C**).



## 4.0 Proposed Project

### 4.1 Project Description

The proposed project would expand upon the existing use of the site as a seasonal vacation and retreat destination by renovating/adding on to several existing buildings, replacing some buildings on site, and adding new low-impact recreational opportunities, including walking trails. The proposed improvements also include some roadway updates and additions, new areas of pervious parking, and new stormwater treatment infrastructure comprised of vegetated detention basins. All proposed site improvements are depicted on the attached site plans, titled *Wake Robin Inn Redevelopment*, dated November 6, 2024, and prepared by SLR (**Appendix E**).

The proposed activities will have a direct impact to the state-listed species, *Carex oligocarpa*, identified on site. One growing location overlaps with the site of a proposed event building in the southwest portion of the site while the second growing location is located adjacent to a proposed storage building along the southern site boundary. While these proposed activities will result in direct loss of habitat, the Applicant has proposed a comprehensive relocation plan in Section 4.2 in order to rehabilitate the onsite population and avoid substantial, long-term impacts to the species resulting from the proposed work.

### 4.2 *Carex oligocarpa* Mitigation/Relocation Plan

As stated above, a listed plant species relocation plan has been designed in order to mitigate for damage or loss of the identified state-listed plants and their habitat within the project area and to ensure the continued local survival of this species.

The intended outcome of this plan is to relocate the plant through its herbaceous material and/or propagules (also referred to as transplanting) to a nearby location with suitable habitat. It is imperative that the chosen relocation site will not be further developed or disturbed and is located where individuals of the species can be monitored in subsequent years for continued survival. SLR's recommended strategy for protection and impact mitigation is outlined below.

#### 4.2.1 Proposed *Carex oligocarpa* Relocation Protocol Overview

SLR recommends that all identified individuals of the state-listed Special Concern species be carefully transplanted to a protected area outside of the project disturbance limits (shown on **Appendix A, Figure 3**) and monitored for survival. The selected transplantation area must resemble as closely as possible the existing plants' locations in terms of elevation, slope, aspect, soil type, shade, and surrounding vegetation type and density. SLR recommends transplanting this species during the late spring, before production of flowering parts and when the soil is warm and conducive for root establishment.

Immediately following transplanting, all relocated individuals shall be adequately watered. Follow-up monitoring and watering may be required in the months following, depending on local precipitation levels.

##### 4.2.1.1 Detailed Proposed Relocation Mitigation Protocol

The following protocol is intended to be completed during late spring (March through April), prior to the commencement of ground-disturbing activities within the listed-species growing locations.



All stages will be performed by a qualified sensitive vegetation management crew and/or under the supervision of a qualified botanist and fully documented (including photos, GPS points, and written observations).

1. The chosen relocation site (depicted in **Appendix A, Figure 3**) occurs outside of the limits of disturbance and shall be physically isolated from the project area with sturdy silt fencing and signage.
2. Existing conditions (photos and mapping points) will be collected within the site(s) chosen for plant relocation. This will include number of individuals of any listed plant species (either positively identified or potentially identified prior to flowering) to be transplanted and a full floristic inventory within the removal boundaries.
3. Hand-digging with a hand trowel will be performed to the maximum depth to collect the full root system of each individual (or small clump) of plants. Individuals will be photographed and counted and placed flat within a safe collection container/tarp in a shaded location. Relocation should occur within the same day as collection and will also utilize hand trowels to dig holes to an appropriate depth to accommodate the root system. A brightly colored, labeled flag will be placed in the ground next to any individual transplants for future identification during the remainder of the growing season.
4. If plants are not relocated and planted immediately, then said plants removed from the soil shall be stored temporarily under shade prior to transplanting.
5. Immediately following transplanting, sufficient water will be provided to the soil around the transplanted individuals. Daily or near daily watering may be required. Watering requirements should be determined by a qualified horticulturist experienced with dry site species management. No plants should be translocated during recognized drought conditions. (If state-listed plants are dug up during a drought or other unfavorable conditions, they must be stored in pots in a controlled environment determined such as a greenhouse and tended by a qualified horticulturist until conditions favor installation on site).
6. Submeter GPS points will be collected to create a translocation map showing the areas of collection and transplanting. Data, including number of individuals/species, will also be recorded with each point.
7. Invasive species will be managed as needed within the relocation area(s) under close supervision by the client's qualified botanist for a maximum of 4 years. Low-impact mechanical methods are highly preferred (such as hand-pulling and use of nonmotorized, hand-operated equipment) to ensure minimal disturbance within the mitigation area.
8. Adaptive management strategies, including seed collection from known reference populations of the listed plant species and/or propagation and planting of these species, will be visited on an as-needed basis and under consultation with NDDB staff. As no evidence of the listed plant species' present occurrence on the project site has yet been identified, it is too soon to determine whether these types of strategies will be either possible or appropriate.



## **4.2.2 Construction-Phase Protections**

The relocation area will be physically separated from the construction limits with sturdy silt fencing installed prior to the listed species relocation and marked with signage indicating a “Sensitive Habitat Area” to avoid. The silt fencing will be checked prior to and during all construction activities, and a qualified botanist shall be on site to monitor construction activities within the vicinity of the transplantation area.

In general, standard construction-phase best management practices (BMPs), including sedimentation and erosion controls, and a comprehensive stormwater management system will provide water quality protections and prevent the migration of construction debris, soil, and toxicants from impacting sensitive habitat areas in the vicinity of the project area.

## **4.2.3 Long-Term Monitoring and Maintenance**

Following plant relocation, SLR recommends 4 years of monitoring and maintenance of the relocation areas. The following section outlines the follow-up surveys, invasive species management recommendations, and annual reporting requirements.

### **4.2.3.1 Post-Relocation Listed-Species Monitoring Surveys**

Listed-species surveys should be performed during the known species’ blooming period (June through July). A qualified botanist will complete annual monitoring for all state-listed plants during the appropriate blooming period. During Year 1 post-relocation, baseline data will be collected and presented to NDDB at the end of the growing season (November), reporting on the number of individuals that successfully recruited in the relocation site(s). This data will be accompanied by GPS points/maps, photos, and descriptive information about plant health.

During subsequent monitoring years, if new annual plant recruitment is found to fall below 50 percent of what was surveyed during Year 1 (barring unpredicted meteorological or natural disturbances on site such as extreme drought, wildfire, or storms, which could impact the annual recruitment of the species in a given year), SLR recommends collecting seed from the nearest extant population of the species and adding these propagules to the site. Recruitment of individuals from collected seeds will subsequently be monitored for 3 years from their introduction to the site.

### **4.2.3.2 Invasive Species Management**

Invasive species will be managed as needed within the relocation area(s) under close supervision by the client’s qualified botanist for a maximum of 4 years. Low-impact mechanical methods are highly preferred (such as hand-pulling and use of nonmotorized, hand-operated equipment) to ensure minimal disturbance within the mitigation area. Managing and discouraging the growth of invasive species within the relocation sites will be a crucial step to ensuring continued survival and success of the relocated state-listed plants.

The first treatment of invasive species will ideally occur at the start of the growing season to ensure early removal of new growth. Identification of invasive species and total cover within the monitoring sites should be performed by the client’s qualified botanist during each monthly botanical survey and reported to the client. If total cover of invasive species exceeds 10 percent of the monitoring site, the client will be responsible for retaining the services of a qualified contractor that can perform the appropriate invasive species management techniques.



### 4.2.3.3 Annual Reporting

The client will be responsible for submitting an annual report to NDDB following the initial survey and relocation year as well as up to 4 years following the initial year. The annual monitoring report shall be submitted by the end of each year.

Each annual report will contain the following components:

- a. Survey information, including identity and qualifications of person(s) performing the surveys, dates and duration of each survey, and meteorological data (seasonal precipitation trends and other factors relevant to plant recruitment and survival)
- b. Representative photos of the survey location(s) and of any state-listed species identified
- c. Maps identifying the location(s) of surveys and GPS points where state-listed species were observed
- d. Full floristic inventory (separated by each date of survey)
- e. Details of maintenance activities undertaken on site, including any adaptive management strategies and invasive species removal activities

## 5.0 Conclusion

On May 28, 2024, SLR submitted a Preliminary NDDB Determination request for the 13.4-acre Wake Robin property in Salisbury. The auto-generated list contained four state-listed plant species.

SLR biologists and qualified botanists performed two site visits in June and July 2024. During the site visits, all areas within the proposed project footprint/limit of disturbance were covered on foot, enabling the biologists to take photos, detailed site notes, and GPS points.

In summary, one state-listed species of Special Concern – Eastern few-fruited sedge (*Carex oligocarpa*) – was observed and documented on site by SLR. Direct disturbance is proposed within the two onsite identified species locations. SLR has prepared a proposed plant relocation strategy to mitigate for loss of these individuals and habitat within the project proposed limits of disturbance.

## 6.0 Closure

If you have any questions about the information in this report, please do not hesitate to contact either of the undersigned at 203-271-1773.

Sincerely,

**SLR International Corporation**



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## 7.0 References

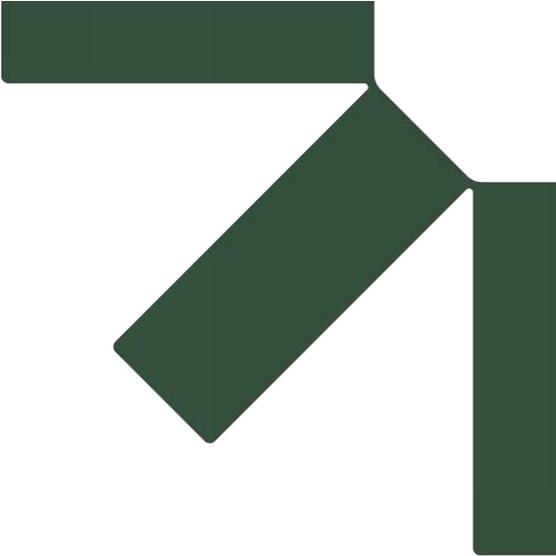
Fernald, Merritt Lyndon, and Asa Gray. *Gray's Manual of Botany*. 8th (Centennial) edition—  
Illustrated. ed. New York: American Book Company, 1950.

Magee, Dennis and Harry Ahles. *Flora of the Northeast*. University of Massachusetts Press,  
1999.

*Native Plant Trust: Go Botany*, <https://gobotany.nativeplanttrust.org/species/>

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# Appendix A: Figures

## **NDDB State NDDB State-Listed Plants Survey Report**

Wake Robin Inn Proposed Redevelopment, Salisbury, CT

**ARADEV LLC**

SLR Project No.: 141.22100.00001

November 22, 2024

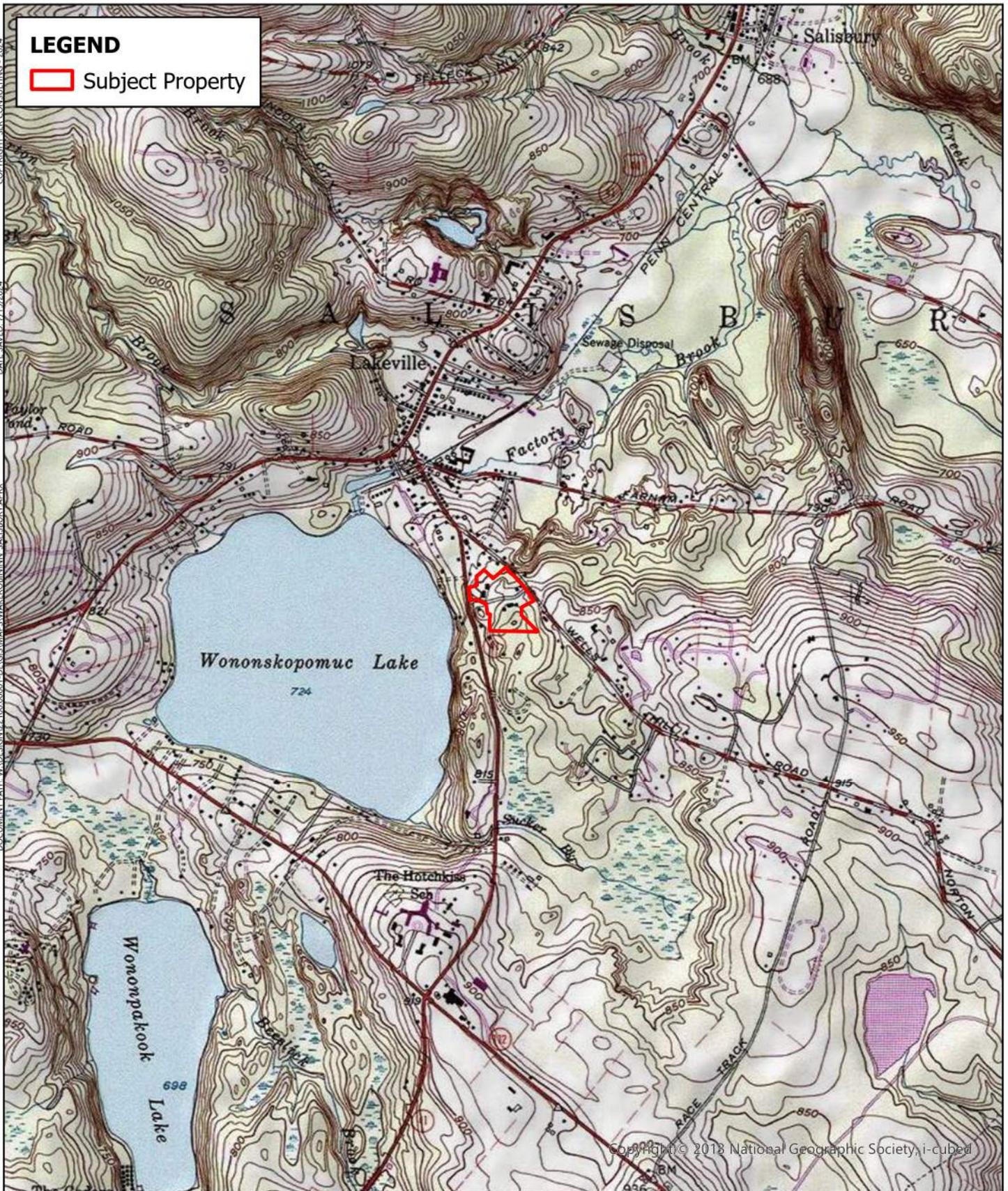


DATE SAVED: 7/15/2024

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**LEGEND**

 Subject Property



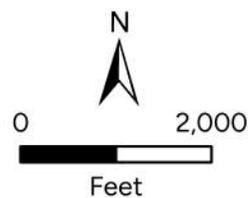
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99 REALTY DRIVE  
CHESHIRE, CT 06410  
203.271.1773

**USGS LOCUS MAP**

WAKE ROBIN INN IMPROVEMENTS  
ARADEV LLC  
104 & 106 SHARON ROAD  
SALISBURY, CONNECTICUT



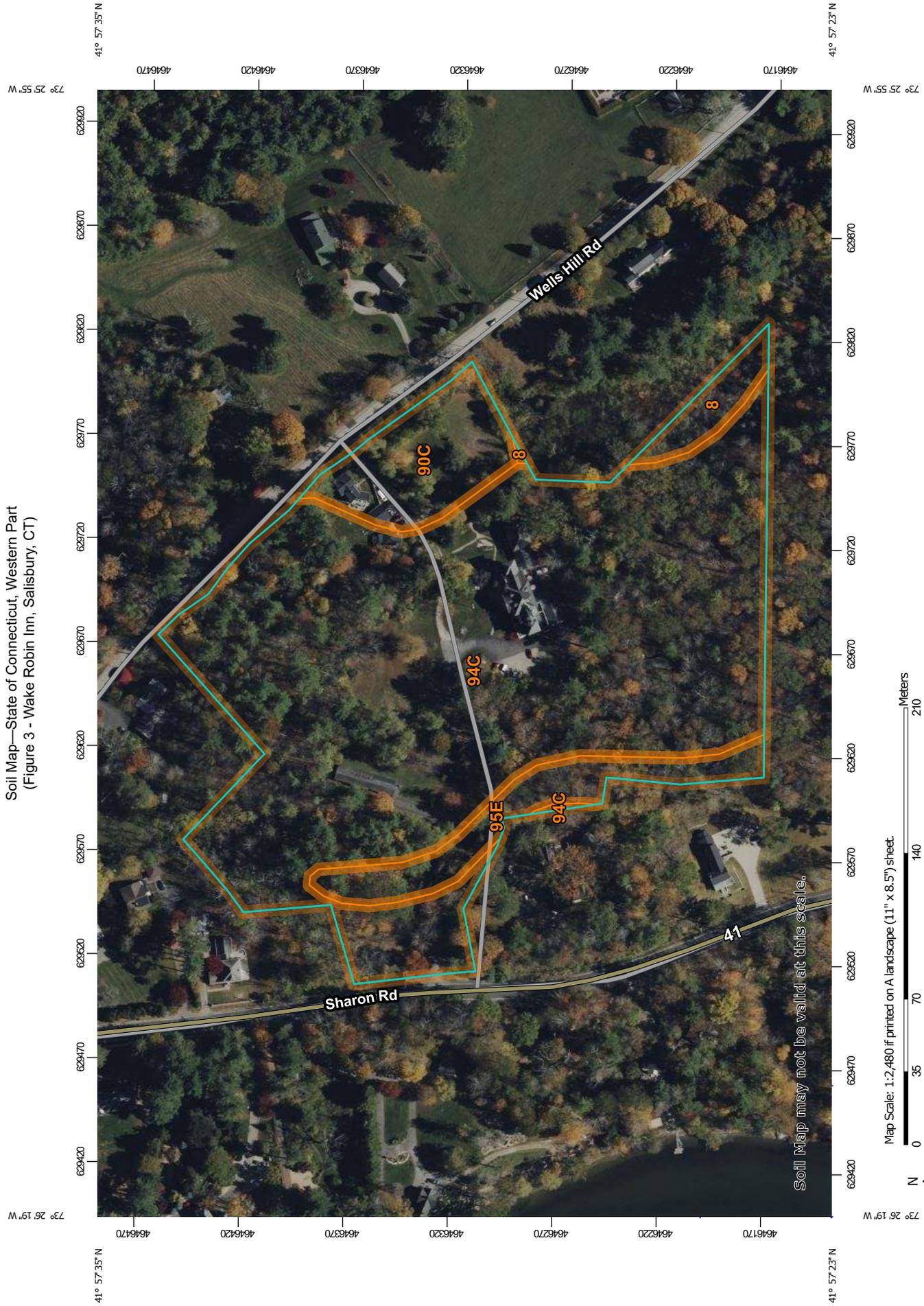
SCALE	1" = 2,000'
DATE	7/16/2024
PROJ. NO.	141.21759.00001

**FIG. 1**





Soil Map—State of Connecticut, Western Part  
(Figure 3 - Wake Robin Inn, Salisbury, CT)



Map Scale: 1:2,480 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84



## MAP LEGEND

- Area of Interest (AOI)**
  - Area of Interest (AOI)
- Soils**
  - Soil Map Unit Polygons
  - Soil Map Unit Lines
  - Soil Map Unit Points
- Special Point Features**
  - Blowout
  - Borrow Pit
  - Clay Spot
  - Closed Depression
  - Gravel Pit
  - Gravelly Spot
  - Landfill
  - Lava Flow
  - Marsh or swamp
  - Mine or Quarry
  - Miscellaneous Water
  - Perennial Water
  - Rock Outcrop
  - Saline Spot
  - Sandy Spot
  - Severely Eroded Spot
  - Sinkhole
  - Slide or Slip
  - Sodic Spot
- Water Features**
  - Streams and Canals
- Transportation**
  - Rails
  - Interstate Highways
  - US Routes
  - Major Roads
  - Local Roads
- Background**
  - Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut, Western Part  
Survey Area Data: Version 1, Sep 15, 2023

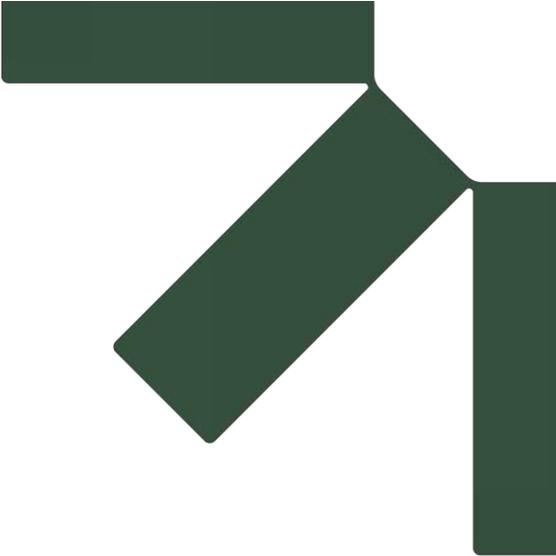
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 21, 2022—Oct 27, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
8	Mudgepond and Alden soils, extremely stony	0.3	2.5%
90C	Stockbridge loam, 8 to 15 percent slopes	1.1	7.9%
94C	Farmington-Nellis complex, 3 to 15 percent slopes, very rocky	11.0	82.5%
95E	Farmington-Rock outcrop complex, 15 to 45 percent slopes	0.9	7.0%
<b>Totals for Area of Interest</b>		<b>13.3</b>	<b>100.0%</b>



# Appendix B: Photographic Log

## **NDDB State NDDB State-Listed Plants Survey Report**

Wake Robin Inn Proposed Redevelopment, Salisbury, CT

**ARADEV LLC**

SLR Project No.: 141.22100.00001

November 22, 2024



**Client Name:**  
ARADEV LLC

**Site Location:**  
Wake Robin Inn, 104 & 106 Sharon Rd, Salisbury, CT

**Project No.**  
141.21759.00001

**Photo No.**  
1

**Date:**  
7/3/2024

**Direction Photo Taken:**  
N/A

**Description:**  
*Carex oligocarpa* identified on site.



**Photo No.**  
2

**Date:**  
7/3/2024

**Direction Photo Taken:**  
N/A

**Description:**  
Small patch of *C. oligocarpa* located on site, growing with American hog-peanut and white wood-aster.



**Client Name:**  
ARADEV LLC

**Site Location:**  
Wake Robin Inn, 104 & 106 Sharon Rd, Salisbury, CT

**Project No.**  
141.21759.00001

**Photo No.**  
3

**Date:**  
7/3/2024

**Direction Photo Taken:**  
South

**Description:**

Looking downslope from smaller clump of *C. oligocarpa* on site, in foreground.



**Photo No.**  
4

**Date:**  
7/3/2024

**Direction Photo Taken:**  
North

**Description:**

North of *C. oligocarpa* location, looking towards main inn building through forested slope.



**Client Name:**  
ARADEV LLC

**Site Location:**  
Wake Robin Inn, 104 & 106 Sharon Rd, Salisbury, CT

**Project No.**  
141.21759.00001

**Photo No.**  
5

**Date:**  
7/3/2024

**Direction Photo Taken:**  
South

**Description:**

View of larger patch of *C. oligocarpa* identified on site, just north of existing frame garage.



**Photo No.**  
6

**Date:**  
7/3/2024

**Direction Photo Taken:**  
N/A

**Description:**

*C. oligocarpa* growing amidst white wood-aster.



**Client Name:**  
ARADEV LLC

**Site Location:**  
Wake Robin Inn, 104 & 106 Sharon Rd, Salisbury, CT

**Project No.**  
141.21759.00001

**Photo No.**  
7

**Date:**  
7/3/2024

**Direction Photo Taken:**  
North

**Description:**

View from atop a bedrock outcrop in southern portion of the site, looking towards existing main inn building.



**Photo No.**  
8

**Date:**  
7/3/2024

**Direction Photo Taken:**  
Southeast

**Description:**

Valley bottom with dense carpet of Pennsylvania sedge in southern wooded portion of subject parcel.



**Client Name:**  
ARADEV LLC

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Wake Robin Inn, 104 & 106 Sharon Rd, Salisbury, CT

**Project No.**  
141.21759.00001

**Photo No.**  
9

**Date:**  
7/3/2024

**Direction Photo Taken:**  
South

**Description:**  
Front of main inn building with manicured landscaping.



**Photo No.**  
10

**Date:**  
7/3/2024

**Direction Photo Taken:**  
Northwest

**Description:**  
Forested conditions north of existing residence in smaller parcel to the northeast.



**Client Name:**  
ARADEV LLC

**Site Location:**  
Wake Robin Inn, 104 & 106 Sharon Rd, Salisbury, CT

**Project No.**  
141.21759.00001

**Photo No.**  
11

**Date:**  
7/3/2024

**Direction Photo Taken:**  
West

**Description:**

Dense understory in early successional forest occupying northern portion of the site.



**Photo No.**  
12

**Date:**  
7/3/2024

**Direction Photo Taken:**  
South

**Description:**

Invasive species growing atop a bedrock outcrop in the northern portion of the site.



**Client Name:**  
ARADEV LLC

**Site Location:**  
Wake Robin Inn, 104 & 106 Sharon Rd, Salisbury, CT

**Project No.**  
141.21759.00001

**Photo No.**  
13

**Date:**  
7/3/2024

**Direction Photo Taken:**  
N/A

**Description:**  
*C. oligocarpa* leaf blade with staminate and pistillate spikes.

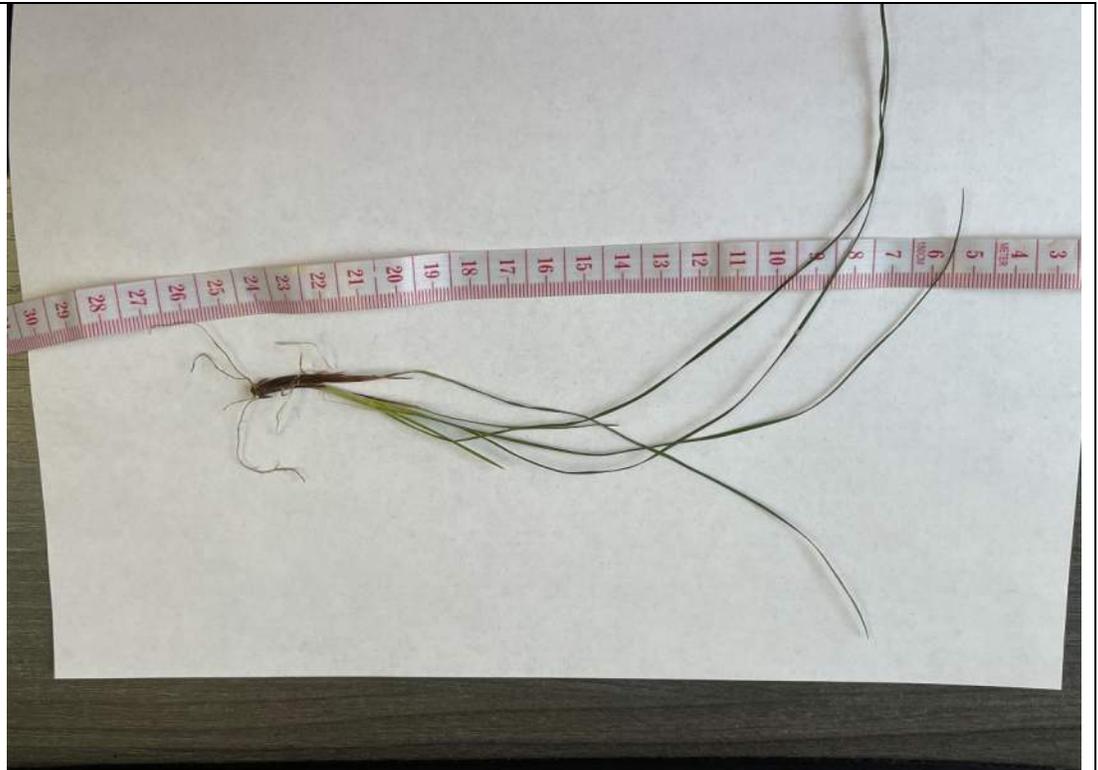


**Photo No.**  
14

**Date:**  
7/3/2024

**Direction Photo Taken:**  
N/A

**Description:**  
*C. oligocarpa* full plant with roots.



**Client Name:**  
ARADEV LLC

**Site Location:**  
Wake Robin Inn, 104 & 106 Sharon Rd, Salisbury, CT

**Project No.**  
141.21759.00001

**Photo No.**  
15

**Date:**  
7/3/2024

**Direction Photo Taken:**  
N/A

**Description:**

*C. oligocarpa* full plant with roots.



**Photo No.**  
16

**Date:**  
7/3/2024

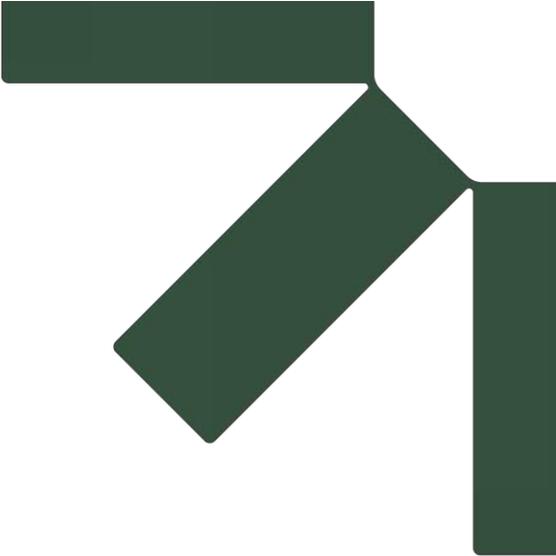
**Direction Photo Taken:**  
N/A

**Description:**

*C. oligocarpa* leaf blade with staminate and pistillate spikes.







# Appendix C: Floristic Inventory

## **NDDB State NDDB State-Listed Plants Survey Report**

Wake Robin Inn Proposed Redevelopment, Salisbury, CT

**ARADEV LLC**

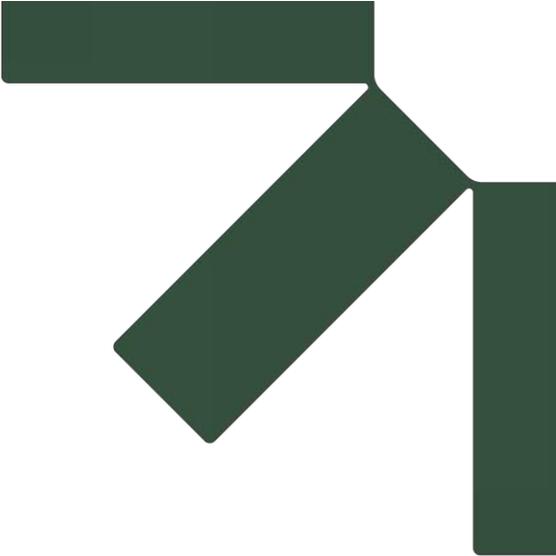
SLR Project No.: 141.22100.00001

November 22, 2024



NDDDB Listed Plant Survey Floristic Inventory (June 25 & July 3, 2024)  
Wake Robin Inn, Salisbury, Connecticut  
Weather: Sunny, 75°F

Type	Common Name	Latin Name
Trees	tulip poplar	<i>Liriodendron tulipifera</i>
	shagbark hickory	<i>Carya ovata</i>
	red oak	<i>Quercus rubra</i>
	American elm	<i>Ulmus americana</i>
	black locust	<i>Robinia pseudoacacia</i>
	white pine	<i>Pinus strobus</i>
	basswood	<i>Tilia latifolia</i>
	eastern hemlock	<i>Tsuga canadensis</i>
	green ash	<i>Fraxinus pennsylvanica</i>
	red maple	<i>Acer Rubrum</i>
	sugar maple	<i>Acer saccharum</i>
	Norway maple	<i>Acer platanoides</i>
Shrubs and Liannas	winged euonymus	<i>Euonymus alatus</i>
	European privet	<i>Ligustrum vulgare</i>
	multiflora rose	<i>Rosa multiflora</i>
	blue cohosh	<i>Caulophyllum thalictroides</i>
	Morrow's honeysuckle	<i>Lonicera morrowii</i>
	Japanese barberry	<i>Berberis thunbergii</i>
	poison ivy	<i>Toxicodendron radicans</i>
	Rhus hirta	<i>Staghorn sumac</i>
	Asiatic bittersweet	<i>Celastrus orbiculatus</i>
Herbaceous	eastern few-fruited sedge	<i>Carex oligocarpa</i>
	eastern woodland sedge	<i>Carex blanda</i>
	white wood-aster	<i>Eurybia divaricata</i>
	garlic-mustard	<i>Alliaria petiolata</i>
	black swallow-wort	<i>Vincetoxicum nigrum</i>
	eastern star sedge	<i>Carex radiata</i>
	eastern bottle-brush grass	<i>Elymus hystrix</i>
	smooth Solomon's seal	<i>Polygonatum biflorum</i>
	roundleaf ragwort	<i>Packera obovata</i>
	lesser periwinkle	<i>Vinca minor</i>
	Jack-in-the-pulpit	<i>Arisema triphyllum</i>
	hay-scented fern	<i>Dennstaedtia punctilobula</i>
	Christmas fern	<i>Polystichum acrostichoides</i>
	sensitive fern	<i>Onoclea sensibilis</i>
	goldenrod	<i>Solidago sp.</i>
	lady fern	<i>Athyrium sp.</i>
	lungwort	<i>Pulmonaria officinalis</i>
	ground elder	<i>Aegopodium podagraria</i>
	Virginia-creeper	<i>Parthenocissus quinquefolia</i>
	sweet cicily	<i>Osmorhiza claytonii</i>
	meadow-rue	<i>Thalictrum thalictroides</i>
	wood ferns	<i>Dryopteris sp.</i>
	Pennsylvania sedge	<i>Carex pennsylvanica</i>
	American hog-peanut	<i>Amphicarpaea bracteata</i>
	Red clover	<i>Trifolium pratense</i>
	Fall panicgrass	<i>Panicum dichotomiflorum</i>
	White sweet-clover	<i>Melilotus albus</i>
	American pokeweed	<i>Phytolacca americana</i>
	Common mugwort	<i>Artemisia vulgaris</i>
	Common evening primose	<i>Oenothera biennis</i>



# Appendix D: Surveyor Qualifications

## **NDDB State NDDB State-Listed Plants Survey Report**

Wake Robin Inn Proposed Redevelopment, Salisbury, CT

**ARADEV LLC**

SLR Project No.: 141.22100.00001

November 22, 2024





Marlee Antill is an Associate Environmental Scientist with a focus in botany and strong background in natural resource management and ecological restoration. She has specific skillsets in vegetation monitoring including performing listed species surveys and conducting site floristic inventories and ecological habitat and invasive species mapping. Marlee also has extensive training and experience in GIS data management and using ArcGIS software to collect, analyze, and communicate spatial data. Marlee has utilized her background in plant taxonomy and ecology to perform wetland delineations, vegetation mapping, rare plant surveys, environmental impact assessments, and peer reviews; formalizing and

communicating her results in reports and federal and state permit applications and environmental reviews including NEPA and CEPA. She is a Wetland Professional in Training (WPIT), and currently completing the requirements to become a Professional Wetland Scientist (PWS). She has expertise in United States Army Corps of Engineer (USACE) wetland delineations and has conducted USACE delineations in Connecticut, Massachusetts, Rhode Island, New York, and California.

## Years of Experience

3.5 years with the firm | 7 with other firms

## Professional Registrations

- Wetland Professional in Training (WPIT)

## Education

- MS, Plant Science, California State Polytechnic University, Pomona
- BA, Environmental Studies, University of Vermont

## Project Experience

### Listed Species Flora & Fauna and Critical Habitat Surveys

#### Quinnipiac River Linear Trail Extension Phase IIIB, Wallingford, CT

Assisted with CT DEEP NDDDB Final Determination request for site work with potential to impact the state endangered flora species false mermaid-weed (*Floerkea proserpinacoides*). Prepared biological survey report including figures demonstrating the survey limits and location of listed species identified, indicating no anticipated impact to the listed plant species by the proposed project.

#### Stone Bridge Crossing, Cheshire, CT

Botanical surveys completed for endangered, threatened, and special concern flora species of upland and wetland communities including Nuttall's milkwort (*Polygala nuttallii*) and Tuckerman's sedge (*Carex tuckermanii*) and rare natural community sand barren habitat.

#### Trulieve Growing Facility, Meriden, CT

Coordinated with CT DEEP NDDDB program and local officials to develop an approved listed flora survey and relocation plan prior to proposed project on site. Performed surveys resulting in a full floristic inventory on site as well as ecological habitat mapping to identify potential habitat for listed flora, including several species of sedge (genus *Carex*). Supervised the relocation of state-listed sedge to suitable habitat outside of the proposed limits of disturbance.

#### Barber Cove, Simsbury, CT

Botanical surveys completed for endangered, threatened, and special concern flora species of upland and wetland communities. Prepared vegetative community mapping and summary of findings.

#### Bozzuto's Inc., 691 West Johnson Avenue, Cheshire, CT

Botanical surveys completed for endangered, threatened, and special concern flora species of upland and wetland communities including Nuttall's milkwort (*Polygala nuttallii*) and Tuckerman's sedge (*Carex tuckermanii*). Prepared vegetative community mapping for 60+-acre site, and summary report of findings.

### **New Milford Trail Phase I, New Milford, CT**

Conducted botanical surveys and habitat mapping along proposed 1.4-mile trail route and surrounding landscape, with specific emphasis on nine (9) listed NDDDB species with potential occurrence. One (1) state threatened species, Davis' sedge (*Carex davisii*), was positively identified and mapped adjacent to the project area. Prepared summary of findings and GIS mapping depicting the colony limits of Davis' sedge.

## **Experience with Other Firms**

### **SWCA Environmental Consultants, Pasadena, CA**

As a Project Botanist, responsibilities included performing plant surveys of rare, threatened, and endangered species across the western U.S.; performed wetland delineations and hydrography surveys, determining jurisdictional boundaries and impacts; collected spatial data and created vegetation community maps; and performed habitat assessments determining biological impact to sensitive plant and wildlife taxa.

### **California Botanic Garden, Claremont, CA**

As a Lead Restoration Technician, performed vegetation surveys across the State of California including for state and federal endangered flora species. Collected seed and cuttings and performed nursery propagation for restoration and research.

### **California State Polytechnic University, Pomona, CA**

As Field Crew leader, led teams of up to seven (7) members in systematic botanical surveys across remote and rugged terrain in order to collect detailed and accurate vegetation inventories which provided ground-truthing data for a remote sensing study led by researchers at the NASA Jet Propulsion Laboratory.

### **US Forest Service, Pacific Southwest Research Station**

As a Biological Science Technician (Plants), conducted rare, common, and invasive plant surveys for long-term forest restoration study, performed forest inventory and monitoring, and collected and managed GIS data using a base station, Trimble GPS unit, and ArcGIS software.

## **Memberships and Associations**

- Connecticut Botanical Society, Board of Directors (2023 – Ongoing)
- Society of Wetland Scientists
- Connecticut Association of Wetland Scientists
- New England Native Plant Trust

## **Additional Training**

- Basic Wetland Delineation
- Wilderness First Aid

## **Publications**

- Litle, J., Quon, L. H., **Antill, M. L.**, Questad, E. J., & Meyer, W. M. (2019). Vertebrate herbivory on shrub seedlings in California sage scrub: important but understudied interactions. *Plant Ecology*.
- Questad, Erin & **Antill, Marlee** & Liu, Nanfeng & Stavros, E. & Townsend, Philip & Bonfield, Susan & Schimel, David. (2022). A Camera-Based Method for Collecting Rapid Vegetation Data to Support Remote-Sensing Studies of Shrubland Biodiversity. *Remote Sensing*. 14. 1933. 10.3390/rs14081933.



Matthew Sanford is the firm's Manager of Ecology with experience in the areas of natural resources and specific expertise in vegetation management, invasive species control, GPS resource mapping, GIS modeling, biological inventories, water quality monitoring, watershed planning, vernal pool surveys; wetland delineation, assessment, and functions; inland wetland and tidal wetland impact mitigation; and peer review services. Matt's project experience includes computer modeling and design in ArcGIS and TR-20. He is a Professional Wetland Scientist (PWS) and is a registered soil scientist. He has expertise in United States Army Corps of Engineer (USACE) wetland delineations and has conducted USACE delineations in New York,

Connecticut, Vermont, and Massachusetts. He served as Vice President and President of the Connecticut Association of Wetland Scientists (CAWS).

## Years of Experience

21 years with the firm | 1 year with other firms

## Professional Registrations

- Certified ACOE Wetland Delineator
- Registered Soil Scientist
- Professional Wetland Scientist

## Education

- MS, Wetland Biology, Southern Connecticut State University
- BS, Natural Resource Management, University of Connecticut

## Relevant Project Experience

### Wyckoff Golf Course Property and Waterworks Property, Holyoke, MA

Completed a development feasibility assessment for the existing properties. The feasibility assessment area consisted of approximately 150-acres between the two properties. Environmental tasks included completion of graphical watercourse and bordering vegetated wetland delineations, state listed flora and fauna species survey, and evaluations of existing upland and wetland vegetative communities. The Natural Heritage and Endangered Species Program (NHESP) had reports of the state threatened green rock-cress (*Boecheira missouriensis*) located on parts of the Waterworks Property. Surveyed the property using the opportunistic encounter search method and found patches of the green rock-cress in areas not formally identified and/or known by the NHESP. Mapping of the green rock cress colonies was completed and provided to the NHESP database.

### Highland Estates and St. Anne's Golf Course, Winsted, CT

Was one of several botanists requested to perform listed plant survey on an approximately 600-acre undeveloped parcel. The team was tasked with finding/identifying critical habitats and/or listed fauna species. Two State-listed special concern species were found on site including American ginseng (*Panax quinquefolis*) and New England sedge (*Carex novea angliae*). The locations of these species were submitted to the Connecticut Department of Energy and Environmental Protection (CTDEEP) Natural Diversity Database Program.

### Tariffville Trail, Simsbury, CT

Completed flora survey along proposed pedestrian/bicycle trail along Route 315 and the Farmington River. Listed flora species including Davis sedge (*Carex davisii*) is known to occur within the floodplain areas along the river. A visual encounter survey was completed during the growing season to determine presence of Davis sedge within the project area. Davis sedge was not documented within the project activity area.

**One Old Bridge Road, Simsbury, CT**

Completed listed plant survey for the following species located along the Farmington River and Hop Brook. Listed flora species including Davis sedge (*Carex davisii*), Virginia waterleaf (*Hydrophyllum virginianum*), and Starry campion (*Silene stellata*). A visual encounter survey was completed during the growing season to determine presence of the listed flora species within the project area. None of the listed flora species were observed within the project activity area.

**River Road Drainage and Flooding Improvements, Simsbury, CT**

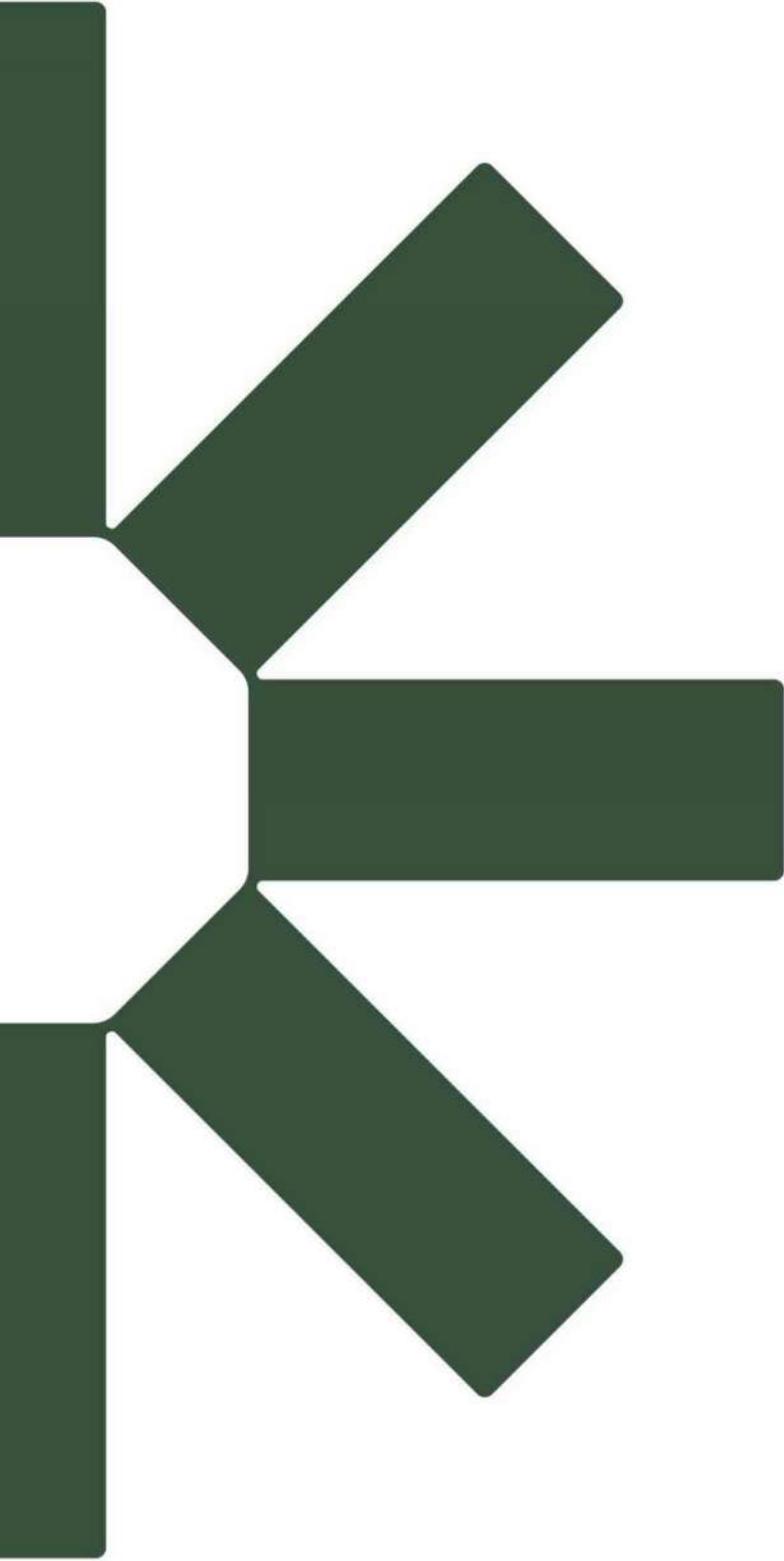
Completed listed plant survey for the following species located along the Farmington River floodplain. Listed flora species including Virginia waterleaf (*Hydrophyllum virginianum*), and Starry campion (*Silene stellata*). A visual encounter survey was completed during the growing season to determine presence of the listed flora species within the project area. None of the listed flora species were observed within the project activity area.

**Farmington Heritage Trail, Farmington, CT**

Completed flora survey along proposed 2-mile trail route, with specific emphasis on finding CT State-listed special concern tall yellow cinquefoil and sandplain gerardia. None of the mapped listed species were found; however, the low frostweed, another state-listed species of concern, was found within the project corridor. Assisted with coordination and correspondence between town and CTDEEP NDDB biologists. SLR botanist was assisted by Lauren Brown – Botanist.

**Quinnipiac River Trail, Wallingford, CT**

Completed flora survey along proposed trail route, looking specifically for CT endangered species False Mermaid Weed. Prepared summary of findings and GIS mapping depicting the colony limits of False Mermaid Weed. Worked with CTDEEP to find alternative methods for minimizing impacts to the colonies.



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