



August 17, 2022

Heather Osborn  
Illinois Department of Natural Resources  
Division of Natural Heritage  
One Natural Resources Way  
Springfield, Illinois 62702-1271

RE: *Revised* Conservation Plan and ITA Review Request – Eastern Massasauga Rattlesnake  
Lakeside Villas  
Carlyle, Illinois  
SCI No. 2019-0027.3B

Dear Heather Osborn:

SCI Engineering, Inc. (SCI) is pleased to submit the attached *Revised Conservation Plan and ITA Request - Eastern Massasauga Rattlesnake – Lakeside Villas – Carlyle, Illinois*, dated July 2022, in order to initiate an Incidental Take Authorization (ITA) process review for a proposed residential development in Carlyle, Illinois. SCI understands that the project will include a development of 8 villa-style buildings (48 units) and is funded by the federal Housing and Urban Development (HUD) and the Illinois Housing Development Authority (IHDA). An executive summary of the report is provided below.

- SCI performed a Threatened and Endangered Species Habitat Assessment on May 5, 2022, including field reconnaissance to document the existing site conditions.
- An informal consultation request was submitted to the U.S. Fish and Wildlife Service (USFWS) on June 9, 2022, requesting concurrence that the project “may effect, but not likely to adversely affect” the Eastern Massasauga Rattlesnake (EMR). *Received “no effect” concurrence on June 23, 2022.*
- The Illinois Department of Natural Resources (IDNR) provided comments on the June 2022 submittal. *Comments addressed were in regards to the winter tree clearing, project plans, chain of notification of eastern Massasauga rattlesnakes (EMR) to IDNR/USFWS within 24 hours, and approval of EMR snake educational materials by IDNR.*
- The revised July draft was reviewed by IDNR, and two comments were received regarding the incidental take of potentially one EMR, as well as signatures needed for the implementing agreement. Both comments have been addressed in this final iteration.
- Approximately 0.35 acre of marginal mesic/upland habitat is located within the project footprint and is proposed for tree clearing.
- A monetary mitigation payment for the loss of 0.35-acre of marginal habitat impact is proposed to be paid to the Illinois Wildlife Preservation Fund (IWPF). The IDNR provided a median per acre cost is \$21,591.00. The 0.35 acre and 5.5 multiplier would require \$43,890.00 as a mitigation payment to the IWPF for the proposed habitat impacts.

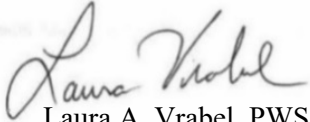
- The U.S. Army Corps of Engineers (USACE), St. Louis District, has also informally determined that there are no federally regulated wetlands or Waters of the U.S. within the proposed project footprint.

SCI, on behalf of the Lakeside Villas Associates, LP, respectfully requests a review of our *Revised* EMR Conservation Plan and ITA based on modifications to the previously submitted report at the request of IDNR.

The attached report should be read in its entirety. If you have any questions or comments, please do not hesitate to contact me at 636-757-1058 or [lvrabel@sciengineering.com](mailto:lvrabel@sciengineering.com).

Respectfully,

**SCI ENGINEERING, INC.**



Laura A. Vrabel, PWS  
Project Scientist



Scott E. Billings  
Senior Project Scientist

LAV/SEB/rah

Enclosure

*Revised* Conservation Plan for Eastern Massasauga Rattlesnake

C: Destini Lednický; Lakeside Villas Associates, LP  
Matthew Mangan; U.S. Fish and Wildlife Service  
Aaron Burnett, Bywater Development  
Anna Wendt, Bywater Development  
David Dodson, Bywater Development  
Heather Loehr, Bywater Development

**Illinois Department of Natural Resources**  
**CONSERVATION PLAN for EASTERN MASSASAUGA RATTLESNAKE**  
**Lakeside Villas – Clinton County, Illinois**  
*(Application for an Incidental Take Authorization)*  
Per 520 ILCS 10/5.5 and 17 Ill. Adm. Code 1080

150-day minimum required for public review, biological and legal analysis, and permitting

PROJECT APPLICANT: Lakeside Villas Associates, LP  
PROJECT NAME: Lakeside Villas  
COUNTY: Clinton County  
AREA OF IMPACT (acreage): 0.35 acre

The incidental taking of endangered and threatened species shall be authorized by the Illinois Department of Natural Resources (IDNR) only if an applicant submits a Conservation Plan to the IDNR Incidental Take Coordinator that meets the following criteria:

**1. Impacts likely to Result from the Proposed Taking**

**A) Legal description of the project area**

The proposed project is located at the Third principal meridian, Township 2 North, Range 2 West, Section 7. The project is located north of Eula Mae Parkway in Carlyle, Clinton County, Illinois 62231 (*Figure 1. Vicinity & Topographic Location Map*). Parcel: 08-08-07-300-018 and 08-08-07-300-015 (6.16 acres). Owner-WARREN WILLIAM W TRUST. Lakeside Villas Associates, LP is the contract purchaser of the parcel. A SHP file has been included with this submittal.

The project will include a development of 48 affordable housing units for the elderly population in villa-style buildings and is funded by the federal Housing and Urban Development (HUD) and the Illinois Housing Development Authority (IHDA).

Photographs and a map of the project area are provided in *Appendix A: Eastern Massasauga Rattlesnake - Habitat Assessment Report – May 5, 2022 – SCI Engineering, Inc.*

Appendix B. Development Plans – Lakeside Villas, Thouvenot, Wade, and Moerchen, Inc (TWM), March 16, 2022

**B) Eastern Massasauga Rattlesnake (EMR) Biological Data**

The EMR is a federally-listed threatened species and state-listed endangered species in Illinois. Their preferred habitat in the Spring, Fall, and Winter includes wet prairies, marshes and low areas along rivers and lakes. In many areas, the EMR may be found utilizing adjacent uplands during late Spring and Summer. They often hibernate in crayfish burrows, small mammal burrows, and ground fissures, but may also be found under logs and tree roots. Unlike other rattlesnakes, EMR hibernate alone. The area near Carlyle Lake is known to host an extant population of the species. However, in 2016, the U.S. Fish and Wildlife Service (USFWS) stated that potentially fewer than 6 populations remain, which occur primarily

on public conservation lands (*Federal Register/Vol. 81, No. 190/Friday, September 30, 2016/Rules and Regulations, page 67027*). According to the University of Illinois and the Illinois Natural History Survey (INHS) report, *Demography of the Eastern Massasauga (Sistrurus c. catenatus) at Carlyle Lake, Illinois* (April 2011), both of these state parks have known populations of the EMR. Additionally, the report states that the “Carlyle Lake region maintains a large number of EMR hibernacula and remains the only region in Illinois where the species can be readily captured in large numbers.”

Typically, EMR habitat will need some type of maintenance, be it controlled burning or mowing, in order to reduce the growth of woody vegetation. These maintenance methods however also may coincidentally kill individuals. In January of 2021, an EMR, found to have been killed, was discovered by a hunter within Eldon Hazlet State Park and reported to IDNR. The Park is approximately 1.4 miles north of the proposed project site.

EMR Features:

- 18 to 30 inches in length
- heat-sensitive pits on each side of the head between eyes and nostrils
- flattened head much wider than neck
- pupil of each eye is vertically elliptical
- the rattle is present at the tip of tail
- scales are keeled (ridged)
- row of dark blotches is present down back and there are three rows of dark spots on the sides
- body is gray

Appendix A. Eastern Massasauga Rattlesnake - Habitat Assessment Report – May 5, 2022 – SCI Engineering, Inc.

An informal consultation request was submitted to the U.S. Fish and Wildlife Service (USFWS) on June 9, 2022, requesting concurrence of the determination that the project “may effect, but not likely to adversely affect” the Eastern Massasauga Rattlesnake (EMR) (Appendix C).

**C) Project Activities that may Result in Take**

The majority of site is an open agricultural field which was cultivated during the growing season in 2021. The field appears to be fallow in Spring 2022. An approximately 0.73-acre portion of a forested corridor is located along the eastern boundary of the project site. Herbaceous vegetation growing within the open field during our recent field reconnaissance included white clover, henbit deadnettle, Shepard’s purse, butterweed, yellow bristlegrass, ground cherry, and red clover. The eastern edge is dominated by Japanese honeysuckle and beefsteak plant. The forested area is dominated by bush honeysuckle and autumn olive shrubs. The field appears to be dryer in the center, but saturated areas were noted around the boundary, particularly along the eastern and northwestern boundaries. The EMR prefer early successional, graminoid dominated plant communities for habitat. Based on our observations, the field area does not possess significant habitat for the species. The eastern forested area was found to possess marginal habitat.

The EMR migrate through different habitats changing with the seasons. They may utilize the open field in the late Spring and Summer months for sunning to gain warmth (thermoregulation) or in search of prey. However, the open field may also leave them vulnerable to predators. They may also utilize the forested area in the Fall through the Spring for hibernation or migration to hibernacula near Carlyle Lake. A habitat assessment figure is included in *Appendix A – Figure 2* of the *Habitat Assessment Report*.



Construction is planned for the Fall of 2022. It would include the installation of utilities, parking lots, villa-style buildings, and stormwater infrastructure. These construction activities would include heavy equipment for grading and digging, and large trucks for delivering or hauling away materials.

***Potential Impacts to EMR Species***

- The existing potential habitat will be converted to villa buildings, parking lots, and associated utilities. Potential impacts to the species due to construction includes:
  - Snakes may be taken during excavation, grading, and filling activities.
  - Taken by heavy equipment.
  - Trapped in BMP fencing.
  - Migration routes between habitats would be fragmented due to the constructed development
- Temporary increase in noise due to construction, and permanent noise from the new buildings and residence. The noise increase may deter snakes from utilizing the abutting property for habitat. There will be a temporary increase in ground vibration during construction, and then permanently once residents and traffic are active within the project area.
- There will be a temporary increase in light during construction and then permanently once the project is constructed, including parking lot and road lights, and general lights from the villas as well. Increase in light pollution may deter snakes from utilizing the neighboring habitat.
- The reduction in potential habitat for the snake also likely removes habitat for the predator and prey of the species. A lack of prey for instance reduces the amount of food available for the species and increase the stress on individuals hunting.
- Increased in potential roadway mortalities due to an increase in residential traffic.

**D) Adverse Effects**

The potential adverse effects on the EMR as a result of the project include the following:

Depending on the construction schedule, the EMR could either be in hibernation or active near the construction site. The EMR emerge in mid-spring around the middle of April and remain active through mid to late October.

If there are any crayfish burrows or rodent burrows on site, the species is more likely to be present on the site and may be impacted by grading activities (none were observed in February of 2022). Snakes that are thermoregulating (males or pregnant females) as they come out of hibernation may bask on new roads and parking lots within the development. They could be killed by cars on accident or on purpose because residents are scared and do not know about the species, or they could be retained and collected as pets or other uses.

Of the 6.16 acres, approximately 0.73 is mesic/upland forested habitat. The 0.73-acre forested area is considered a marginal quality habitat. Approximately 0.35-acre of the 0.73-acre would be cleared during project construction. A portion of one building holding 6 to 7 units would be sited within this forested area as well as a residential recreation area and associated infrastructure.

Direct effects will include the immediate construction impacts associated with site development and possible associated mortalities. Indirect and direct impacts of habitat loss and fragmentation may occur via the loss of potential seasonal/migration habitat. These adverse effects have the potential to reduce the numbers of an already extant population of the species within Illinois, particularly the population around Carlyle Lake. However, as the potential habitat on site would be considered marginal in nature, the effects due to construction would be temporary and efforts to employ best management practices would be employed.

It is difficult to predict the number of individuals of EMR that may be “taken” by this project, as the size of the extant population around Carlyle Lake is one of the largest populations in Illinois. This ITA request was triggered because within the last 10 years a report of an EMR, possibly a road killed individual, was recorded on a nearby roadway. Permanent marginal habitat modification or degradation may lead to the death or injury of the listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. It is estimated that potentially one EMR could be “taken” by the proposed project, as the appropriate best management practices will be utilized both during and post-construction and encountering an individual during and following construction is unlikely. Based upon the location of the Carlyle Lake extant population, the potential for incidental take cannot be completely ruled out.

### **Minimization and Mitigation Measures and Funding**

Funding for the outlined minimization and mitigation measures will be provided by Lakeside Villas Associates, LP. Below is the minimization and mitigation features that are proposed to be implemented before, during, and after project development in an effort to reduce the overall impact to the species.

- Mitigation Measure 1: Prior to construction, at least one day but not more than 10 days prior to construction, the project area will be walked with a competent person familiar with EMR identification to make sure no snakes are present within the action area. Following the preliminary survey, permanent exclusion barriers are to be installed along the entire project boundary. The exclusion fence would be similar to silt fence, without large holes, and should be installed and trenched in before snakes migrate to winter dens in the fall. This is to deter snakes from entering the project area from the wooded tract and surrounding travel corridors such as the offsite stormwater swale outside the western project boundary. The exclusion fence would reduce the potential of EMR that might utilize the golf course for habitat from entering the construction site from the north as well. Exclusion fencing will be inspected periodically and any observed defects, such as holes or tears, will be replaced. Construction activity will be limited to the project footprint and the construction ingress/egress area. If construction activities will take place in the springtime when snakes are emerging from dens and more sluggish, they may be unable to escape the path of heavy equipment. Therefore, additional monitoring efforts may be necessary by the contractor in order to avoid encounters with EMR such as walking the fence, site, and any trenches to make sure snakes are not within active construction areas prior to moving equipment each day.
- Mitigation Measure 2: Trenches and excavations dug as a result of this project will be covered at the end of each workday with plywood sheets or other suitable material covering the excavated areas. Before starting work each day, trenches and excavations will be routinely inspected to ensure snakes have not fallen in and become trapped.
- Mitigation Measure 3: All on-site personnel involved in the project and incoming residents will be educated on how to recognize the EMR and how to report sightings. The permittee will work with IDNR to create educational materials with color photos. Prior to distribution, IDNR must

approve of the educational materials. Due to the EMR snakes' past persecution, materials will contain wording such as "May be present in the area". The materials will be distributed to the contractor, discussed at pre-construction meetings, displayed at work zones, and provided to future residents.

- Mitigation Measure 4: If EMR are encountered during construction activities, work will cease and an IDNR District Heritage Biologist (DHB) will be contacted at (217) 854-8007 as soon as practicable, but no more than 24 hours after discovery. If the DHB cannot be reached, the USFWS may be notified as a secondary in order to document the discovery until an IDNR representative can be reached. The project contractor should then follow the recommendations given by the IDNR DHB regarding how to respond to the confirmed presence of the species whether alive or dead.
- Mitigation Measure 5: Pre and post construction vegetation management should include mowing grass around the immediate residences and recreation areas so that vegetation does not exceed 6 inches. Tall grasses potentially could be utilized as habitat for the species and would increase the chances for EMR to be killed or captured during and after construction.
- Mitigation Measure 6: A monetary mitigation payment for the loss of 0.35-acre of marginal EMR habitat impact is proposed to be paid to the Illinois Wildlife Preservation Fund (IWPF). The IDNR provided a median per acre cost is \$21,591.00. The 0.35 acre and 5.5 multiplier would require \$43,890.00 as a mitigation payment to the IWPF for the proposed habitat impacts.

#### **Adaptive Management Practices**

- Regular, periodic inspection of exclusion fencing will be conducted. If any EMR are found around the exclusion fencing or within the project site, an increase in the monitoring effort will be employed by a qualified environmental consulting firm to monitor for individuals during construction.
- Due to the nature of the project, Lakeside Villas Associates, LP does not anticipate any changed or unforeseen circumstances at this time. However, if individual EMR are encountered during construction activities, as stated above, an IDNR biologist will be contacted immediately and all work will cease until further notice. If possible, the individuals will be transported offsite by IDNR.
- If snakes are misidentified by contractor crews, additional educational materials will be offered and kept on-site as well as the measures to be taken once a snake is identified. *A) Plans to minimize the area affected by the proposed action, the estimated number of individuals of each endangered or threatened species that will be taken, and the amount of habitat affected (please provide an estimate of area by habitat type for each species).*

The existing site conditions within the project area currently include the following:

- Approximately 5.43 acres of open agricultural field.
- Approximately 0.73 of mesic/upland forested edge adjacent to Carlyle Lake; potential marginal winter hibernation habitat. The entire forested portion of the parcel will not be cleared. The limits of tree clearing include 0.35 acre, prior to construction.

- It is the goal to clear this area prior to the migration period of the EMR in the fall to their winter habitat during the winter clearing window between mid-November and mid-February when the ground is solid (dry/hard or solidly frozen). There is a slight chance that EMR could utilize the wooded area for foraging during the summer, however, more suitable habitat is located nearby. Winter tree clearing would also reduce the potential for impacts to threatened and endangered bat species that may be located nearby.
- If tree clearing would be required outside of the mid-November and mid-February window, EMR snake monitors should be on site until all trees are cleared and removed from the project site. Trees will be felled in one day in order to reduce the potential for incidental take of the species. Additionally, any tree clearing shall take place after the ITA is issued.

Excavation and fills that will be required in order to construct the residential development will be kept to the quantity required and the footprint within the engineered design.

As stated previously, it is difficult to predict the number of individuals of EMR that may be “taken” by this project, as the size of the extant population around Carlyle Lake is one of the largest populations in Illinois, but the species is rarely observed. This ITA request was triggered because within the last 10 years a report of an EMR, possibly a road killed individual, was recorded on a nearby roadway. Permanent marginal habitat modification or degradation may lead to the death or injury of the listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. It is estimated that one EMR will likely be incidentally “taken” by the proposed project due to low records of EMR in the area and best management practices will be utilized during construction and post-construction to reduce the chances of an incidental take of EMR. Based upon the location of the Carlyle Lake extant population, the potential for incidental take cannot be completely ruled out.

**B) Plans for management of the area affected by the proposed action that will enable continued use of the area by endangered or threatened species by maintaining/re-establishing suitable habitat.**

Prior to mowing vegetation around the project fencing during construction, a person will walk in front and visually assess the ground in an effort to reduce the chance for a mowing fatality. Additionally, the grass immediately surrounding the exclusion fencing should not be mowed under 6 inches in height (too close to the ground) to further reduce the chance of mortalities. Any sightings will be immediately reported to IDNR.

**C) Description of all measures to be implemented to avoid, minimize, and mitigate the effects of the proposed action on endangered or threatened species.**

- Avoidance measures include clearing the wooded habitat prior to fall migration (mid-November to mid-February) of snakes into winter habitat (*if the incidental take authorization can be approved in an expedited manner*).
- The entire 0.73-acre forested portion of the parcel will not be cleared. The limits of tree clearing includes 0.35 acre, prior to construction. It is the goal to clear this area prior to the migration period of the EMR in the fall to winter habitat.
- A monetary mitigation payment for the loss of 0.35-acre of marginal habitat impact is proposed to be paid to the IWPF. The IDNR provided a median per acre cost is \$21,591.00. The 0.35 acre and 5.5 multiplier would require \$43,890.00 as a mitigation payment to the IWPF for the proposed habitat impacts.

**D) Plans for monitoring the effects of the proposed actions on endangered or threatened species, such as species and habitat monitoring before and after construction, include a plan for follow-up reporting to IDNR.**

The EMR migrates through different habitats depending on the time of year, season, weather, and life stage. Therefore, it can be difficult to monitor. EMR are active between April and late October. If construction occurs when EMR are in winter hibernation, monitoring efforts would not be helpful until they emerge again in the spring. If required by IDNR, Lakeside Villas Associates, LP will contract a biological consultant to monitor the site for snakes after construction is completed. A detailed monitoring plan will be prepared and submitted to the IDNR for approval.

**E) Adaptive management practices that will be used to deal with changed or unforeseen circumstances that affect endangered or threatened species. Consider environmental variables such as flooding, drought, and species dynamics as well as other catastrophes. Management practices should include contingencies and specific triggers.**

Due to the nature of the project, Lakeside Villas Associates, LP does not anticipate any changes or unforeseen circumstances. However, if EMR or other threatened or endangered species are encountered during construction activities, as stated above, an IDNR biologist will be contacted immediately, and all work will cease.

**F) Assurance of adequate funding to support and implement all mitigation activities described in the conservation plan. This may be in the form of bonds, certificates of insurance, escrow accounts, or other financial instruments adequate to carry out all aspects of the Conservation Plan.**

Lakeside Villas Associates, LP will provide the funding necessary for the implementation of the mitigation activities, which includes the previously discussed construction and monitoring activities, as well as the payment to the Illinois Wildlife Preservation Fund. The appropriate financial instrument (bonds, certificates of insurance, escrow accounts, or other financial instruments) to assure necessary funding will be submitted to IDNR.

**G) A description of Alternative Actions the applicant considered that would reduce take, and the reasons that each of those alternatives was not selected. A "no-action" alternative shall be included in this description of alternatives. Please, describe the economic, social, and ecological tradeoffs of each action.**

1. The No Action alternative is defined as abandoning the plan to construct the development in its entirety. The project area is currently predominantly used for agricultural purposes. The project area has been proposed for other developments previously as part of a plan for the economic development of the area. The No Action alternative would not contribute to the economic development of the area and would result in the loss of potential construction jobs and housing for 48 affordable housing units for the elderly population. Therefore, this alternative was abandoned.

2. Alternative sites were evaluated in Carlyle for this proposed development. One site located near 12th and Fairfax was less than one acre in size and would likely require four-story buildings in order to accommodate the project program. This building would not be in character with the surrounding community. Additionally, the City was more interested in a single story, "villa-style" development, which is more suitable for an independent senior population within smaller rural communities. A site south of William Road in Carlyle was also evaluated, but it was not contiguous to other developments and would have required complicated subdivision and utility extensions. These alternative sites were abandoned.

3. Alternative layout, which was studied included reducing the units and avoiding the clearing of the 0.35-acre wooded area along the project's eastern boundary. Future development of the entire project provides the most cost-effective option and would increase available housing units to the elderly from 40 to 48. It should be noted that having less than 48 dwelling units was not a realistic option due to project feasibility. Through financial analysis, 48 units is the minimum number of units that make this affordable housing development for lower income seniors financially viable. Therefore, the alternative layout was abandoned.

4. The preferred alternative currently requires construction of 8 buildings, 48 individual units, a community building, recreation area, roadways and parking, utilities, and stormwater retention. The City recommended evaluating the current site, which was suitable for the proposed development. It is contiguous to other developments. Being relatively small in size for a 48 unit, single story development, there was only one viable way to develop and maintain the villas-style townhomes while preserving as much of the existing eastern tree line as possible. A cul-de-sac road was contemplated, but a U-shaped road best accommodated the development. The stormwater detention was located on the western boundary of the site due to grade and outlet location with the stormwater swale. A substantial variance from the City's parking requirements was obtained to minimize the amount of parking and consumption of the site, thereby also reducing existing tree line disturbance. The townhomes were also placed close together to minimize existing tree line disturbance.

The approximately 0.35-acre of wooded mesic/upland winter habitat will be the only marginal EMR habitat impacted during project development. In an effort to provide mitigation for the species, Lakeside Villas Associates, LP will contribute \$43,890.00 to the IWPF, earmarked for the EMR.

*H) **Data and information to indicate that the proposed taking will not reduce the likelihood of the survival or recovery** of the endangered or threatened species in the wild within the State of Illinois, the biotic community of which the species is a part, or the habitat essential to the species existence in Illinois.*

According to the USFWS *5-Year Review – Eastern Massasauga Rattlesnake, August 2021* report, in Illinois there was “No change in statewide spatial distribution or range. The population in Bond and Clinton counties is extant.”

The potential habitat for the EMR on site is marginally suitable for the species. A walk through the project action area will be conducted to identify snakes within the footprint prior to initiation of construction. The contractor and personnel onsite will be educated on identification, sighting, and reporting if snakes are present in the construction action area. If the proposed project is constructed utilizing best management practices and mitigation measures outlined in this conservation plan approved by the IDNR, it is expected that the project will not adversely affect the overall survival of the EMR extant species.

5) **An implementing agreement**, which shall include, but not be limited to (on a separate piece of paper containing signatures)

See last page of this conservation plan and ITA application

A) **Names and signatures** of all participants in the execution of the conservation plan.

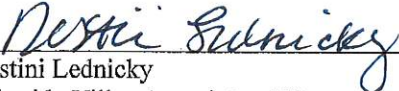
Lakeside Villas Associates, LP  
Thouvenot, Wade, and Moerchen, Inc.  
SCI Engineering, Inc.  
Illinois Department of Natural Resources

B) **Obligations and responsibilities** of each of the identified participants with schedules and deadlines for completion of activities included in the conservation plan and a schedule for preparation of progress reports to be provided to the IDNR;

- The IDNR is responsible for the review of this Conservation Plan and for subsequent issuance of the ITA, if so required. Lakeside Villas Associates, LP is responsible for all biological clearance coordination and recommendations and funding related to the project.
- At this time, construction is estimated to begin in August 2022 and continue until approximately August 2023. The IDNR's recommendations will be followed to the extent possible within the project area.
- Thouvenot, Wade, and Moerchen, Inc. is responsible for the creation of the engineering plans.
- SCI Engineering, Inc. is responsible for the monitoring and reporting to IDNR.

C) **Certification** that each participant in the execution of the conservation plan has the legal authority to carry out their respective obligations and responsibilities under the conservation plan.

This project will be funded by Lakeside Villas, LP, which will be utilizing funding through the United States Department of Housing and Urban Development (HUD).

  
\_\_\_\_\_  
Destini Lednicky  
Lakeside Villas Associates, LP

  
\_\_\_\_\_  
Date

D) **Assurance of compliance** with all other federal, State and local regulations pertinent to the proposed action and to execution of the conservation plan.

Lakeside Villas Associates, LP exclusively abides by all associated state and federal environmental laws in carrying out the mission of performing the most environmentally sensitive methods of planning and engineering.

E) **Federal authorizations for a taking already issued to the applicant**, if any.

No authorizations have been issued or are anticipated.

# **Appendix A**





**SCI ENGINEERING, INC.**

**EARTH • SCIENCE • SOLUTIONS**

GEOTECHNICAL  
ENVIRONMENTAL  
NATURAL RESOURCES  
CULTURAL RESOURCES  
CONSTRUCTION SERVICES

May 5, 2022

Destini Lednicky  
Southwestern Illinois Development Authority  
1022 Eastport Plaza Drive  
Collinsville, Illinois 62234

RE: Eastern Massasauga Rattlesnake - Habitat Assessment Report  
Lakeside Villas  
Carlyle, Illinois  
SCI No. 2019-0027.3B

Dear Destini Lednicky:

At your request, SCI Engineering, Inc. (SCI) recently completed an Eastern Massasauga Rattlesnake (*Sistrurus catenatus*) habitat assessment at the above-referenced site to determine if suitable habitat for the federally-listed species exists within the proposed project boundaries. The proposed project area is located north of Eula Mae Parkway and west of Carlyle Lake in Carlyle, Illinois. Our services were completed as detailed in our proposal dated April 11, 2022.

We understand that in recent conversations with the Illinois Department of Natural Resources (IDNR) it was determined that the project site has the potential to contain habitat for the listed Eastern Massasauga Rattlesnake (EMR). IDNR has determined that the project may adversely impact the species during construction activities. Additionally, the IDNR has determined that a Conservation Plan and Incidental Take Authorization (ITA) may be required in order to comply with the Illinois Endangered Species Protection Act and Illinois Natural Areas Preservation Act.

This habitat assessment was completed in order to review existing site conditions and to provide information to the U.S. Fish and Wildlife Service (USFWS) to initiate an informal consultation request and project review. Once the USFWS has reviewed the information provided in this report and the project activities, they will provide recommendations on whether or not the project would or would not adversely affect the species and if additional studies and permits may be necessary.

## **PROJECT LOCATION**

The proposed project is located just north of Eula Mae Parkway, approximately 0.5 mile northwest of the Carlyle Lake Dam of the Kaskaskia River and is presented on *Figure 1 – Vicinity and Topographic Map*. Governors Run Golf Course is located along the northern boundary of the site. Eldon Hazlet State Park is located approximately 1.4 miles northeast and South Shore State Park is located approximately 2.6 miles east of the proposed project area.

## **EASTERN MASSASUAGA RATTLESNAKE NATURAL HISTORY**

The EMR is a federally-listed threatened species and state-listed endangered species in Illinois. Their preferred habitat in the Spring, Fall, and Winter includes wet prairies, marshes and low areas along rivers and lakes. In many areas, the EMR may be found utilizing adjacent uplands during late Spring and Summer. They often hibernate in crayfish burrows, small mammal burrows, and ground fissures, but may

also be found under logs and tree roots. Unlike other rattlesnakes, EMR hibernate alone. The area near Carlyle Lake is known to host an extant population of the species. However, in 2016, the USFWS stated that potentially fewer than 6 populations remain, which occur primarily on public conservation lands (*Federal Register/Vol. 81, No. 190/Friday, September 30, 2016/Rules and Regulations, page 67027*). According to the University of Illinois and the Illinois Natural History Survey (INHS) report, *Demography of the Eastern Massasauga (Sistrurus c. catenatus) at Carlyle Lake, Illinois* (April 2011), both of these state parks have known populations of the EMR. Additionally, the report states that the “Carlyle Lake region maintains a large number of EMR hibernacula and remains the only region in Illinois where the species can be readily captured in large numbers.”

Typically, EMR habitat will need some type of maintenance, be it controlled burning or mowing, in order to reduce the growth of woody vegetation. These maintenance methods however also may coincidentally kill individuals. In January of 2021, an EMR, found to have been killed, was discovered by a hunter within Eldon Hazlet State Park and reported to IDNR. This park is approximately 1.4 miles north of the proposed project site.

### **HABITAT ASSESSMENT SUMMARY**

An SCI natural resources scientist performed a cursory habitat assessment of the approximately 6.1-acre project area on April 19, 2022. SCI did not observe any EMR individuals while on site. However, a presence/absence survey was not completed concurrently with the habitat assessment. The majority of site is an open field which was cultivated during the growing season in 2021. The field appears to have been maintained by mowing recently. An approximately 0.5-acre portion of a forested corridor is located along the eastern boundary of the project site. The landscape surrounding the project area to the west and south includes agricultural land and commercial development, to the north is maintained golf course, and to the east is fragmented forests, campgrounds, commercial sites, and Carlyle Lake. Natural areas, conservation areas, and public lands are located within 3 miles of the proposed project including Eldon Hazlet State Park and South Shore State Park.

As previously noted, the majority of the site is an open agricultural field which was farmed during 2021. Herbaceous vegetation growing within this field included white clover, henbit deadnettle, Shepard’s purse, butterweed, yellow bristlegrass, ground cherry, and red clover. The eastern edge is dominated by Japanese honeysuckle and beefsteak plant. The field appears to be dryer in the center, but saturated areas were noted around the outer edges of the site, particularly along the eastern and northwestern boundaries. Based on our observations, although the field area does not possess significant habitat for the species, EMR may utilize the area in the late Spring and Summer months for sunning to gain warmth or in search of prey.

The forested area along the eastern boundary of the site abuts property managed by the U.S. Army Corps of Engineers (USACE). Trees and shrubs dominating this area included hackberry, cottonwood, pin oak, slippery elm, Autumn olive, bush honeysuckle, and multiflora rose. Japanese honeysuckle and grapevine were observed along the ground and climbing the shrubs located near the field edge. The understory and midstory coverage is moderately dense due to bush honeysuckle growth. The habitat within this area of the site may utilized more in the Fall, Winter, and early Spring months.

A drainage swale is located along the western boundary of the site which drains from under William Road north towards a tributary to Carlyle Lake. The swale leads into an offsite suspect wetland just outside the northwest corner of the site which contains similar characteristics of the forested area on the eastern boundary of the site. EMR may utilize this drainage in traversing the landscape moving to different habitats throughout the year.

While on site, the SCI representative also searched for crayfish burrows or other small animal burrows that the EMR might utilize, but none were identified. There were some trees with shallow roots located within the eastern edge of the site where snakes would temporarily be able to hide. Representative photos displaying current site conditions are provided below. A *Habitat Assessment* map depicting the potential habitat locations is also enclosed as Figure 2.

**Representative Photos:** Taken March and April 2022



1. Overview of site from southeast corner facing west.



2. Overview of the wet eastern field/forest boundary facing north.



3. View of the saturated forested area along the eastern boundary.



4. View of the saturated forested area facing north.



5. View of the USACE boundary facing east.



6. Overview of the northern boundary facing west.





7. View of the drainage swale along the western boundary of the site.

## SUMMARY

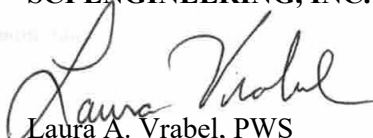
Based on the characteristics of the landscape, vegetative community, and nearby public park resources, marginal suitable habitat for the EMR was observed within the proposed project site. The potential habitat areas where the EMR would most likely utilize is located along the eastern edge of the site, although the species may utilize other sections of the project area as travel corridors, to feed, or to sun. It is our professional opinion that it would be unlikely for the species to utilize the majority of the site for an extended time frame. However, the area surrounding the proposed site is becoming more developed and not as suitable as the state parks located to the north and east of the site. We recommend best management practices (BMPs) be designed to avoid impacts to the species and should be utilized both during and following project construction.

While SCI has provided our professional opinion regarding the habitat potential for EMR on site, the USFWS and the IDNR have the final authority to determine if the site contains EMR habitat. The agencies will ultimately determine if an ITA is required, as well as the BMP's that may be implemented in an attempt to avoid impacts to the species.

If you have any questions regarding this assessment or need additional information, please contact me at (636) 757-1058 or [lvrabel@sciengineering.com](mailto:lvrabel@sciengineering.com).

Respectfully,

**SCI ENGINEERING, INC.**

  
Laura A. Vrabel, PWS  
Project Scientist

  
Scott E. Billings  
Senior Project Scientist

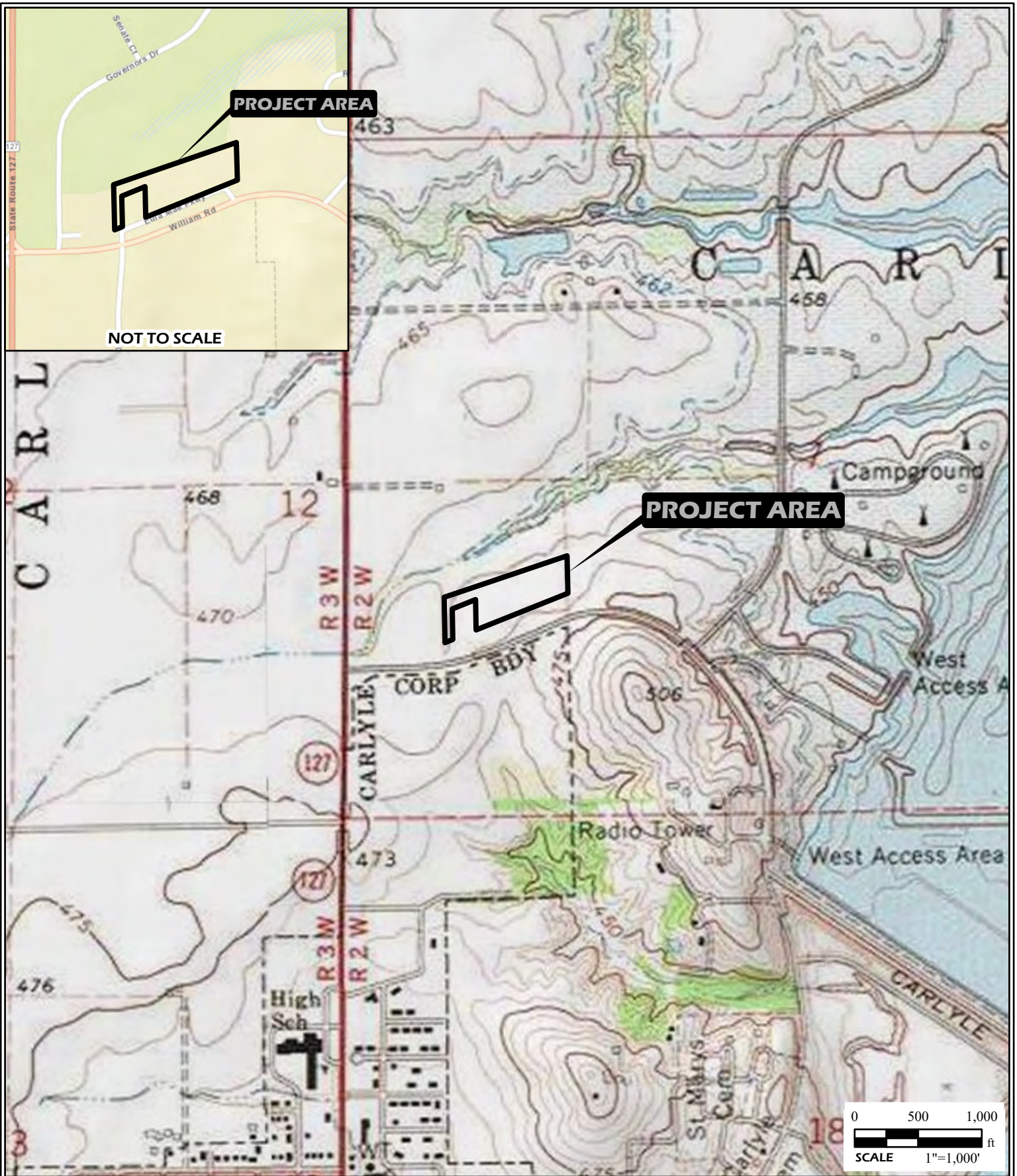
LAV/SEB/rah

C: Matt Mangan; USFWS

Enclosures

Figure 1 – Vicinity and Topographic Map

Figure 2 – Habitat Assessment Map



PROJECT NAME			
LAKESIDE VILLAS CARLYLE, ILLINOIS			
VICINITY AND TOPOGRAPHIC MAP			
DRAWN BY	RCV	DATE	JOB NUMBER
CHECKED BY	LAV	05/2022	2019-0027.3B

**GENERAL NOTES/LEGEND**  
 USGS TOPOGRAPHIC MAPS  
 KEYSPORT, ILLINOIS QUADRANGLE  
 DATED 1969  
 CARLYLE, ILLINOIS QUADRANGLE  
 DATED 1969  
 BECKEMEYER, ILLINOIS QUADRANGLE  
 DATED 1969  
 STOLLETOWN, ILLINOIS QUADRANGLE  
 DATED 1968  
 10' CONTOURS

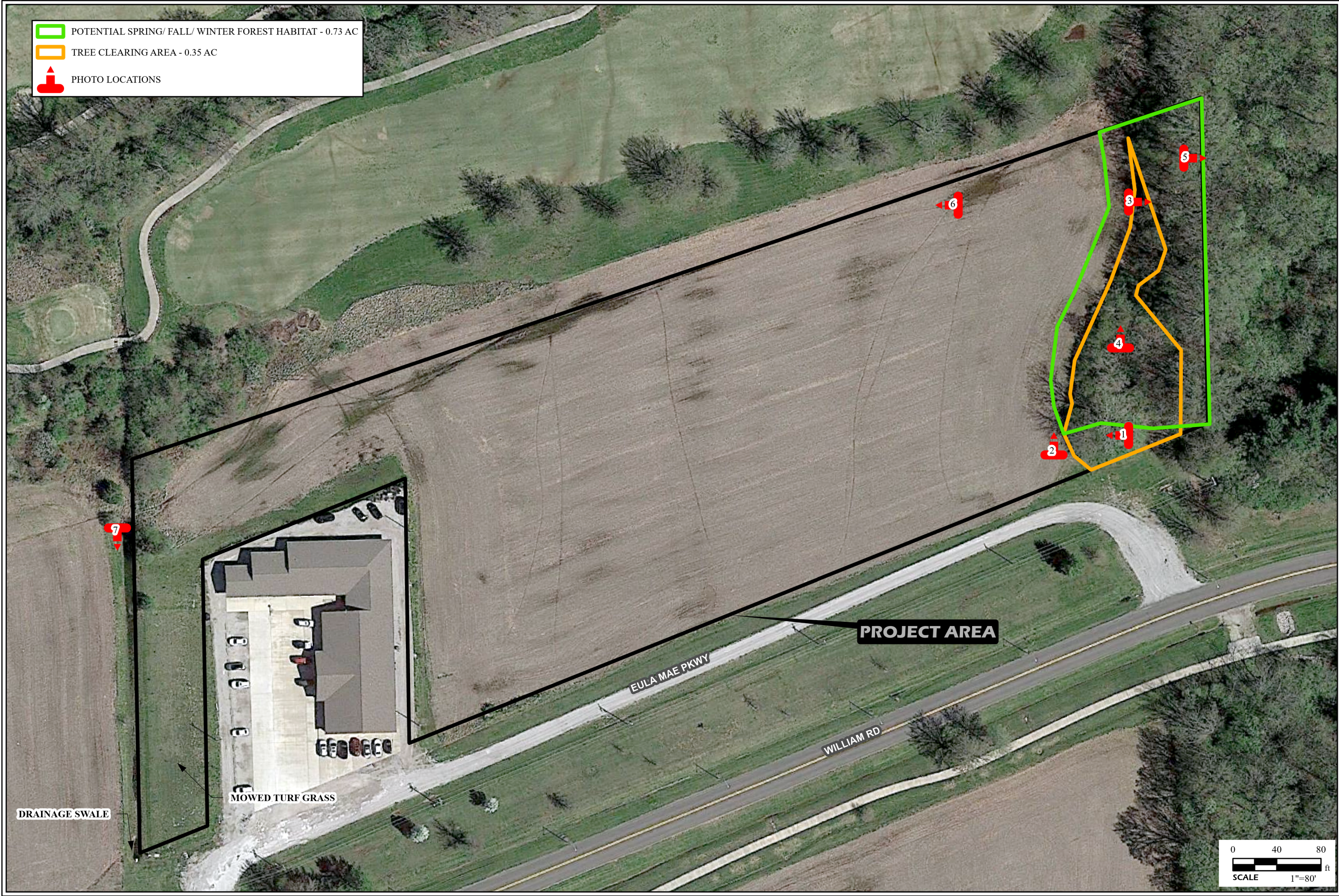
STREET MAP  
[HTTP://GTO.ARCGISONLINE.COM/MAPS/WORLD\\_STREET\\_MAP](http://gto.arcgisonline.com/maps/world_street_map)



SCALE 1"=1,000'  
 0 500 1,000 ft

FIGURE  
 1



- ▭ POTENTIAL SPRING/ FALL/ WINTER FOREST HABITAT - 0.73 AC
- ▭ TREE CLEARING AREA - 0.35 AC
- ▲ PHOTO LOCATIONS



	
GENERAL NOTES/LEGEND AERIAL PHOTOGRAPH OBTAINED FROM ARCGIS ONLINE, WORLD IMAGERY. DIMENSIONS AND LOCATIONS ARE APPROXIMATE; ACTUAL MAY VARY. DRAWING SHALL NOT BE USED OUTSIDE THE CONTEXT OF THE REPORT FOR WHICH IT WAS GENERATED.	
PROJECT NAME LAKESIDE VILLAS CARLYLE, ILLINOIS	HABITAT ASSESSMENT
	
JOB NUMBER 2019-0027.3B	
DATE 05/2022	
DRAWN BY KMC	
CHECKED BY LAV	
FIGURE 2	



# **Appendix B**

# LAKESIDE VILLAS

Eula Mae Pkwy.  
Carlyle, IL 62231

**WJW**  
Architects

401 W. Superior St., Suite 400 Chicago, IL 60654  
812-642-5587 www.wjwarchitects.com

CONSULTANT INFORMATION:



**CONSULTING ENGINEERING  
GEOSPATIAL SERVICES**

GENERAL NOTES:

NO.	ISSUED FOR:	DATE
1	100% DESIGN DEVELOPMENT	12/15/21
2	90% CD	2/9/22
3	BID/PERMIT/HDA REVIEW	2/23/22
4	ADDENDUM #1	3/16/22

© 2021 WJW ARCHITECTS, P.C.

STAMP



EXPIRATION DATE: 11.30.2023

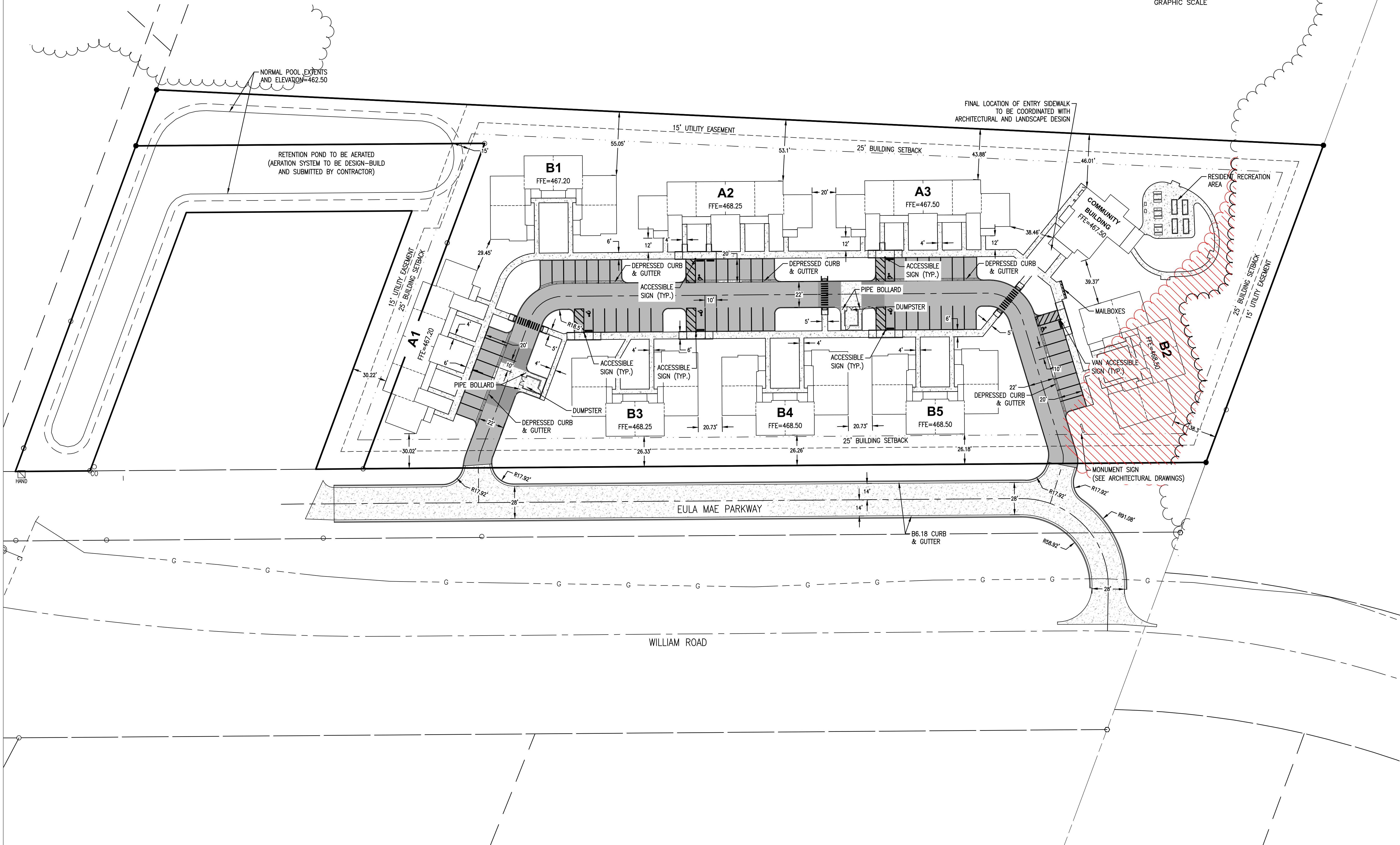
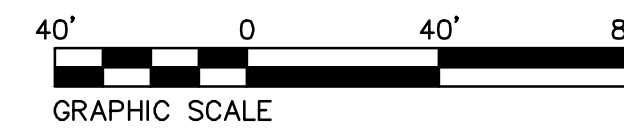
SHEET NAME:

**SITE PLAN**

PROJECT NUMBER: <b>200304</b>	SHEET NUMBER: <b>C2.1</b>
DR. BY: BF	
CK. BY: CK	

## LEGEND

- |  |                                  |  |   |
|--|----------------------------------|--|---|
|  | PROPOSED HANDICAP SYMBOL         |  | PROPOSED CENTER LINE  |
|  | PROPOSED SANITARY MANHOLE        |  | PROPOSED EASEMENT LINE  |
|  | PROPOSED CLEANOUT                |  | PROPOSED SETBACK LINE   |
|  | PROPOSED AREA INLET (AI)         |  | PROPOSED FLOWLINE   |
|  | PROPOSED CATCH BASIN             |  | PROPOSED FENCE LINE   |
|  | PROPOSED OPEN THROAT INLET (OTI) |  | PROPOSED GAS MAIN   |
|  | PROPOSED JUNCTION BOX            |  | PROPOSED ELECTRIC LINE  |
|  | PROPOSED FLARED END SECTION      |  | PROPOSED SANITARY SEWER   |
|  | PROPOSED FIRE HYDRANT            |  | PROPOSED STORM SEWER  |
|  | PROPOSED WATER VALVE             |  | PROPOSED WATER LINE   |
|  | PROPOSED WATER CURB STOP         |  | PROPOSED STANDARD-DUTY PAVEMENT (ASPHALT OR CONCRETE ALTERNATE) |
|  | PROPOSED ELECTRICAL TRANSFORMER  |  | PROPOSED HEAVY-DUTY PAVEMENT (ASPHALT OR CONCRETE ALTERNATE)    |
|  |                                  |  | PROPOSED CONCRETE PAVEMENT & SIDEWALK                           |
|  |                                  |  | PROPOSED RETENTION POND LIMITS                                  |



P:\2020\200304\1\_040 - DWG\1.1 Comm\200304-Plans.dwg Plotted By: cluester



# Appendix C



**SCI ENGINEERING, INC.**

**EARTH • SCIENCE • SOLUTIONS**

GEOTECHNICAL  
ENVIRONMENTAL  
NATURAL RESOURCES  
CULTURAL RESOURCES  
CONSTRUCTION SERVICES

June 9, 2022

Matt Mangan  
Fish and Wildlife Biologist  
USFWS-Southern Illinois Ecological Services Sub-Office  
6987 Headquarters Road  
Marion, Illinois 62959

RE: Informal Consultation - Habitat Assessment Summary  
Lakeside Villas  
Carlyle, Illinois  
SCI No. 2019-0027.3B  
IPaC Project Code: 2022-0049419

Dear Matt Mangan:

SCI Engineering, Inc. (SCI), is requesting concurrence from the U.S. Fish and Wildlife Service (USFWS) that the proposed Lakeside Villas project, located in Carlyle, Illinois, is *not likely to adversely affect* Eastern Massasauga rattlesnake (*Sistrurus catenatus*), and will have *no effect* on the Indiana Bat (*Myotis sodalis*), Northern Long-eared Bat (*Myotis septentrionalis*), Piping Plover (*Charadrius melodus*), or Monarch Butterfly (*Danaus plexippus*). The location of the critical habitat is not available or has not been designated for these listed species. The approximate 6.25-acre project site is located north of Eula Mae Parkway and west of Carlyle Lake in Carlyle, Illinois.

## **PROJECT DESCRIPTION**

SCI understands the project includes a residential development proposed for an approximately 6.25-acre site southwest of Carlyle Lake. The project will include the development of 48 affordable housing units for the elderly population in villa-style buildings and is funded by the federal Department of Housing and Urban Development (HUD) and the Illinois Housing Development Authority (IHDA).

## **USFWS IPaC Review**

SCI initiated the Endangered Species Act (ESA) Section 7 technical assistance consultation process by obtaining an official threatened and endangered species list from the USFWS. The Information for Planning and Consultation (IPaC) tool was initiated on June 2, 2022 to obtain an official species list for the project site. The official species list (Appendix A) includes five Federally listed threatened and/or endangered and candidate species, that have the potential to occur within the project area and may be affected by the proposed project. A brief description of each of the species, their preferred habitat and effects determinations follow.

### ***Eastern Massasauga (Sistrurus catenatus)***

The Eastern Massasauga rattlesnake (EMR) is a small snake with a thick body, heart-shaped head, and vertical pupils. They live in wet areas including wet prairies, marshes, and low areas along rivers and lakes. They also use adjacent uplands during part of the year. They predominantly hibernate in crayfish burrows but may also use logs, tree roots, or small rodent burrows. The EMR eat small rodents, frogs, and other snakes. There are only three or four populations remaining in Illinois. The population at

Carlyle Lake is thought to be the largest stronghold of this species and is actively being studied by natural resource agencies and habitat for this species is actively managed by USACE and IDNR. Since 1991, the EMR locations have been monitored around Carlyle Lake. The Illinois Department of Natural Resources (IDNR) has a record of an EMR on a nearby roadway, possibly a road killed individual.

SCI completed a habitat assessment for EMR on April 19, 2022 and found marginal habitat on site, especially within the wooded eastern boundary. A drainage swale is located outside of the project area, near the western boundary of the site, and could potentially be used as a travel corridor for EMR. The EMR Habitat Assessment Report is included in Appendix B.

Conservation measures will be utilized during construction to reduce the potential for impacting individuals that may travel through the site. This would include educating the contractor on EMR snake ID and walking the site prior to installing exclusion silt fence around the boundaries of the site. The exclusion fence will be installed around the construction site before snakes migrate into winter dens in the fall and avoid work in the spring when snakes are emerging from those dens. The silt fence will be trenched in, leaving an ingress/egress area for equipment. This will deter snakes from entering the site during construction. A competent person knowledgeable with EMR ID will be on site to monitor for the presence of the snake during construction and will periodically survey the construction area to determine if any individuals entered the action area. Additionally, we recommend tree removal within the marginal 0.5-acre forested area take place prior to the snakes entering their hibernacula in the fall (note, there were no crayfish burrows or small rodent holes identified within the forested area). **As we have identified marginal habitat for the EMR on site, and conservation measures will be taken during and after construction, the proposed action may affect, but will not likely adversely affect the species.**

#### *Indiana bat (Myotis sodalis)*

This endangered species hibernates during winter in caves or, occasionally, in abandoned mines. They migrate to summer habitat in forested areas after emerging from hibernation. Preferred habitat includes live or dead trees and snags with peeling or exfoliating bark, split trunks, or cavities. Preferred tree species may include eastern cottonwood, maple species, oak species, American elm, ash species, shagbark hickory, or shellbark hickory. Foraging habitat typically includes upland forest, riparian areas, and stream corridors. The eastern boundary of the project area, approximately 0.5 acre, is forested. However, there were no roost trees observed while on site, including preferred species with exfoliating bark, or snags, and the understory is heavily overgrown with bush honeysuckle. This habitat is not considered suitable summer roosting habitat for the Indiana bat, but other suitable forested habitat may lay adjacent to the project area. Temporary disturbances may occur via noise and traffic during construction but will cease once construction is complete. **Therefore, the proposed action is anticipated to have no effect on this species.**

#### *Northern long-eared bat (Myotis septentrionalis)*

Similar to the Indiana bat, this threatened species hibernates in caves or mines only during the winter. The rest of the year they roost under loose tree bark in tree crevices or cavities during the day and forage around tree canopies of floodplain, riparian, and upland forests at night. The eastern boundary of the project area, approximately 0.5 acre, is forested. However, there were no roost trees observed, including preferred species with exfoliating bark, or snags, while on site, and the understory is heavily overgrown with bush honeysuckle. This habitat is not suitable summer roosting habitat for the Northern long-eared bat but other suitable habitat may lay adjacent to the project area. Temporary disturbances may occur via noise and traffic during construction but will cease once construction is complete. **Therefore, the proposed action is anticipated to have no effect on this species.**

***Piping Plover*** (*Charadrius melodus*)

The Piping Plover is a small, stocky shorebird with a sand-colored upper body, and a white underside with orange legs. They use wide, flat, open, sandy beaches with very little grass or other vegetation. Nesting territories often include small creeks or wetlands. In the spring and summer, the Piping Plover migrates to the northern United States and Canada to breed. There are three locations where the Piping Plover is known to nest in North America: shorelines of the Great Lakes, shores of rivers and lakes in the Northern Great Plains, and along the Atlantic Coast. In the fall, plovers migrate south and spend the winter along the Gulf Coast or other southern locations. Based on the observed site conditions, the site does not appear to possess suitable habitat for the species. According to the “Checklist of the Birds of Carlyle Lake” list updated May 29, 2022 (<http://www.kassedan.net/checklist.htm>), the piping plover has not been observed within the area since September of 2016, but that does not mean it is not present within the area during migration. The project area is predominantly open agricultural field with 0.5 acre of wooded area. This is not preferred habitat of the Piping plover. **Therefore, the proposed action will have “no effect” on this listed species.**

***Monarch Butterfly*** (*Danaus plexippus*)

The monarch is a candidate species and not yet listed or proposed for listing. There are generally no Section 7 requirements for candidate species. However, any opportunity to conserve the species is encouraged. Monarchs lay their eggs on their obligate milkweed host plant (*Asclepias spp.*), and larvae emerge after two to five days. Larvae develop through five larval instars feeding on milkweed as well. There were no milkweed species observed within the open agricultural field or the wooded eastern boundary. The areas surrounding the property are maintained turf grasses. Based on the observed site conditions, the site does not appear to possess suitable habitat for the species as there was no milkweed observed on site. **Therefore, the proposed action will have “no effect” on the listed species.**

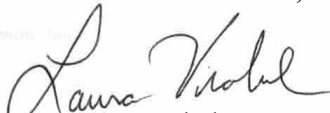
**SUMMARY**

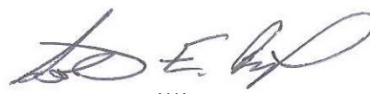
Based on the characteristics of the project action area, a portion of the site contains marginal suitability for EMR snakes. There is no suitable habitat within the action area for the four remaining species listed as potentially occurring on site. For these reasons explained, we conclude that the proposed action is *not likely to adversely affect* EMR snakes and will have no effect on the Northern long-eared bat, or Indiana bat, Piping plover or Monarch butterfly. We request USFWS concurrence with our determination.

If you have any questions regarding this assessment or need additional information, please contact me at (636) 757-1058 or [lvlabel@sciengineering.com](mailto:lvlabel@sciengineering.com).

Respectfully,

**SCI ENGINEERING, INC.**

  
Laura A. Vrabel, PWS  
Project Scientist

  
Scott E. Billings  
Senior Project Scientist

Enclosures

- Appendix A – USFWS IPaC Official Species List
- Appendix B – EMR Habitat Assessment Report

# **Appendix A**



# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

Southern Illinois Sub-Office

Southern Illinois Sub-office

8588 Route 148

Marion, IL 62959-5822

Phone: (618) 998-5945

<https://www.fws.gov/office/illinois-iowa-ecological-services>

In Reply Refer To:

Project Code: 2022-0049419

Project Name: Lakeside Villas

June 02, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the

human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

**Migratory Birds:** In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

---

Attachment(s):

- Official Species List
  - USFWS National Wildlife Refuges and Fish Hatcheries
  - Migratory Birds
-



## **Official Species List**

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

### **Southern Illinois Sub-Office**

Southern Illinois Sub-office

8588 Route 148

Marion, IL 62959-5822

(618) 998-5945

---

## Project Summary

Project Code: 2022-0049419

Event Code: None

Project Name: Lakeside Villas

Project Type: Residential Construction

Project Description: A residential development is proposed for an approximately 6.25-acre site in Carlyle, Illinois. The project will include a development of 48 affordable housing units for the elderly population in villa-style buildings and is funded by the federal Housing and Urban Development (HUD) and the Illinois Housing Development Authority (IHDA). Construction - TBD 2022.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@38.6293116,-89.36813135963436,14z>



Counties: Clinton County, Illinois

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## Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

### Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/5949">https://ecos.fws.gov/ecp/species/5949</a>	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Threatened

### Birds

NAME	STATUS
Piping Plover <i>Charadrius melodus</i> Population: [Great Lakes watershed DPS] - Great Lakes, watershed in States of IL, IN, MI, MN, NY, OH, PA, and WI and Canada (Ont.) There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/6039">https://ecos.fws.gov/ecp/species/6039</a>	Endangered

### Reptiles

NAME	STATUS
Eastern Massasauga (=rattlesnake) <i>Sistrurus catenatus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/2202">https://ecos.fws.gov/ecp/species/2202</a>	Threatened

## Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Candidate

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

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# **USFWS National Wildlife Refuge Lands And Fish Hatcheries**

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

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## Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

- 
1. The [Migratory Birds Treaty Act](#) of 1918.
  2. The [Bald and Golden Eagle Protection Act](#) of 1940.
  3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

**The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\) list](#) or warrant special attention in your project location.** To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Golden-plover <i>Pluvialis dominica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. <a href="https://ecos.fws.gov/ecp/species/1626">https://ecos.fws.gov/ecp/species/1626</a>	Breeds Oct 15 to Aug 31

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NAME	BREEDING SEASON
<p>Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.  <a href="https://ecos.fws.gov/ecp/species/9399">https://ecos.fws.gov/ecp/species/9399</a></p>	Breeds May 15 to Oct 10
<p>Bobolink <i>Dolichonyx oryzivorus</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 20 to Jul 31
<p>Eastern Whip-poor-will <i>Antrostomus vociferus</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 1 to Aug 20
<p>Henslow's Sparrow <i>Ammodramus henslowii</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.  <a href="https://ecos.fws.gov/ecp/species/3941">https://ecos.fws.gov/ecp/species/3941</a></p>	Breeds May 1 to Aug 31
<p>Kentucky Warbler <i>Oporornis formosus</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Apr 20 to Aug 20
<p>Lesser Yellowlegs <i>Tringa flavipes</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.  <a href="https://ecos.fws.gov/ecp/species/9679">https://ecos.fws.gov/ecp/species/9679</a></p>	Breeds elsewhere
<p>Prothonotary Warbler <i>Protonotaria citrea</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Apr 1 to Jul 31
<p>Red-headed Woodpecker <i>Melanerpes erythrocephalus</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 10 to Sep 10
<p>Ruddy Turnstone <i>Arenaria interpres morinella</i>            This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds elsewhere
<p>Rusty Blackbird <i>Euphagus carolinus</i>            This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds elsewhere
<p>Short-billed Dowitcher <i>Limnodromus griseus</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.  <a href="https://ecos.fws.gov/ecp/species/9480">https://ecos.fws.gov/ecp/species/9480</a></p>	Breeds elsewhere
<p>Wood Thrush <i>Hylocichla mustelina</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 10 to Aug 31

## Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

### Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

### Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

### No Data (-)

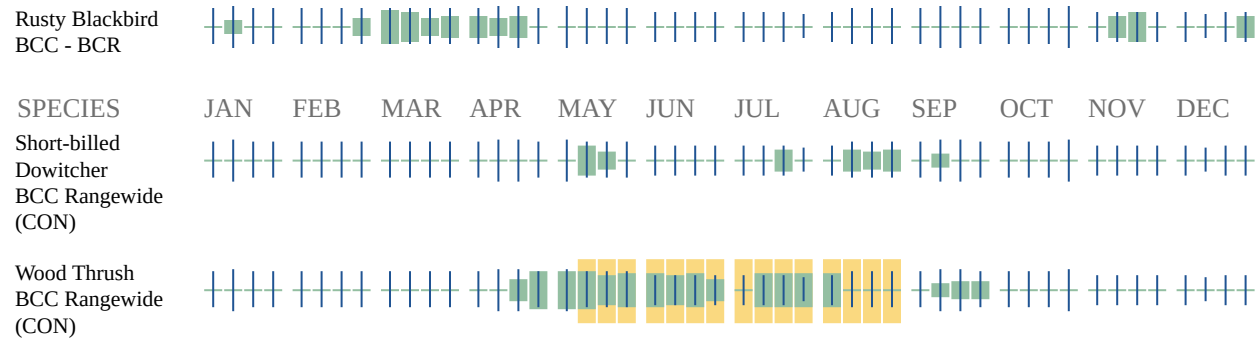
A week is marked as having no data if there were no survey events for that week.

### Survey Timeframe

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Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

## Migratory Birds FAQ

**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the migratory birds potentially occurring in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

### **What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

### **How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

### **What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

### **Details about birds that are potentially affected by offshore projects**

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides

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birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

### **What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

### **Proper Interpretation and Use of Your Migratory Bird Report**

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

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## **IPaC User Contact Information**

Agency: Department of Housing and Urban Development

Name: Laura Vrabel

Address: 130 Point West Blvd.

City: St. Charles

State: MO

Zip: 63301

Email: [lvrabel@sciengineering.com](mailto:lvrabel@sciengineering.com)

Phone: 6367571058

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# **Appendix B**



**SCI ENGINEERING, INC.**

**EARTH • SCIENCE • SOLUTIONS**

GEOTECHNICAL  
ENVIRONMENTAL  
NATURAL RESOURCES  
CULTURAL RESOURCES  
CONSTRUCTION SERVICES

May 5, 2022

Destini Lednicky  
Southwestern Illinois Development Authority  
1022 Eastport Plaza Drive  
Collinsville, Illinois 62234

RE: Eastern Massasauga Rattlesnake - Habitat Assessment Report  
Lakeside Villas  
Carlyle, Illinois  
SCI No. 2019-0027.3B

Dear Destini Lednicky:

At your request, SCI Engineering, Inc. (SCI) recently completed an Eastern Massasauga Rattlesnake (*Sistrurus catenatus*) habitat assessment at the above-referenced site to determine if suitable habitat for the federally-listed species exists within the proposed project boundaries. The proposed project area is located north of Eula Mae Parkway and west of Carlyle Lake in Carlyle, Illinois. Our services were completed as detailed in our proposal dated April 11, 2022.

We understand that in recent conversations with the Illinois Department of Natural Resources (IDNR) it was determined that the project site has the potential to contain habitat for the listed Eastern Massasauga Rattlesnake (EMR). IDNR has determined that the project may adversely impact the species during construction activities. Additionally, the IDNR has determined that a Conservation Plan and Incidental Take Authorization (ITA) may be required in order to comply with the Illinois Endangered Species Protection Act and Illinois Natural Areas Preservation Act.

This habitat assessment was completed in order to review existing site conditions and to provide information to the U.S. Fish and Wildlife Service (USFWS) to initiate an informal consultation request and project review. Once the USFWS has reviewed the information provided in this report and the project activities, they will provide recommendations on whether or not the project would or would not adversely affect the species and if additional studies and permits may be necessary.

## **PROJECT LOCATION**

The proposed project is located just north of Eula Mae Parkway, approximately 0.5 mile northwest of the Carlyle Lake Dam of the Kaskaskia River and is presented on *Figure 1 – Vicinity and Topographic Map*. Governors Run Golf Course is located along the northern boundary of the site. Eldon Hazlet State Park is located approximately 1.4 miles northeast and South Shore State Park is located approximately 2.6 miles east of the proposed project area.

## **EASTERN MASSASUAGA RATTLESNAKE NATURAL HISTORY**

The EMR is a federally-listed threatened species and state-listed endangered species in Illinois. Their preferred habitat in the Spring, Fall, and Winter includes wet prairies, marshes and low areas along rivers and lakes. In many areas, the EMR may be found utilizing adjacent uplands during late Spring and Summer. They often hibernate in crayfish burrows, small mammal burrows, and ground fissures, but may

also be found under logs and tree roots. Unlike other rattlesnakes, EMR hibernate alone. The area near Carlyle Lake is known to host an extant population of the species. However, in 2016, the USFWS stated that potentially fewer than 6 populations remain, which occur primarily on public conservation lands (*Federal Register/Vol. 81, No. 190/Friday, September 30, 2016/Rules and Regulations, page 67027*). According to the University of Illinois and the Illinois Natural History Survey (INHS) report, *Demography of the Eastern Massasauga (Sistrurus c. catenatus) at Carlyle Lake, Illinois* (April 2011), both of these state parks have known populations of the EMR. Additionally, the report states that the “Carlyle Lake region maintains a large number of EMR hibernacula and remains the only region in Illinois where the species can be readily captured in large numbers.”

Typically, EMR habitat will need some type of maintenance, be it controlled burning or mowing, in order to reduce the growth of woody vegetation. These maintenance methods however also may coincidentally kill individuals. In January of 2021, an EMR, found to have been killed, was discovered by a hunter within Eldon Hazlet State Park and reported to IDNR. This park is approximately 1.4 miles north of the proposed project site.

### **HABITAT ASSESSMENT SUMMARY**

An SCI natural resources scientist performed a cursory habitat assessment of the approximately 6.1-acre project area on April 19, 2022. SCI did not observe any EMR individuals while on site. However, a presence/absence survey was not completed concurrently with the habitat assessment. The majority of site is an open field which was cultivated during the growing season in 2021. The field appears to have been maintained by mowing recently. An approximately 0.5-acre portion of a forested corridor is located along the eastern boundary of the project site. The landscape surrounding the project area to the west and south includes agricultural land and commercial development, to the north is maintained golf course, and to the east is fragmented forests, campgrounds, commercial sites, and Carlyle Lake. Natural areas, conservation areas, and public lands are located within 3 miles of the proposed project including Eldon Hazlet State Park and South Shore State Park.

As previously noted, the majority of the site is an open agricultural field which was farmed during 2021. Herbaceous vegetation growing within this field included white clover, henbit deadnettle, Shepard’s purse, butterweed, yellow bristlegrass, ground cherry, and red clover. The eastern edge is dominated by Japanese honeysuckle and beefsteak plant. The field appears to be dryer in the center, but saturated areas were noted around the outer edges of the site, particularly along the eastern and northwestern boundaries. Based on our observations, although the field area does not possess significant habitat for the species, EMR may utilize the area in the late Spring and Summer months for sunning to gain warmth or in search of prey.

The forested area along the eastern boundary of the site abuts property managed by the U.S. Army Corps of Engineers (USACE). Trees and shrubs dominating this area included hackberry, cottonwood, pin oak, slippery elm, Autumn olive, bush honeysuckle, and multiflora rose. Japanese honeysuckle and grapevine were observed along the ground and climbing the shrubs located near the field edge. The understory and midstory coverage is moderately dense due to bush honeysuckle growth. The habitat within this area of the site may utilized more in the Fall, Winter, and early Spring months.

A drainage swale is located along the western boundary of the site which drains from under William Road north towards a tributary to Carlyle Lake. The swale leads into an offsite suspect wetland just outside the northwest corner of the site which contains similar characteristics of the forested area on the eastern boundary of the site. EMR may utilize this drainage in traversing the landscape moving to different habitats throughout the year.



While on site, the SCI representative also searched for crayfish burrows or other small animal burrows that the EMR might utilize, but none were identified. There were some trees with shallow roots located within the eastern edge of the site where snakes would temporarily be able to hide. Representative photos displaying current site conditions are provided below. A *Habitat Assessment* map depicting the potential habitat locations is also enclosed as Figure 2.

**Representative Photos:** Taken March and April 2022



1. Overview of site from southeast corner facing west.



2. Overview of the wet eastern field/forest boundary facing north.



3. View of the saturated forested area along the eastern boundary.



4. View of the saturated forested area facing north.



5. View of the USACE boundary facing east.



6. Overview of the northern boundary facing west.



7. View of the drainage swale along the western boundary of the site.

## SUMMARY

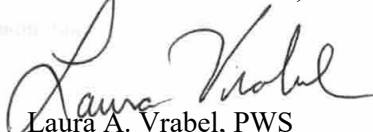
Based on the characteristics of the landscape, vegetative community, and nearby public park resources, marginal suitable habitat for the EMR was observed within the proposed project site. The potential habitat areas where the EMR would most likely utilize is located along the eastern edge of the site, although the species may utilize other sections of the project area as travel corridors, to feed, or to sun. It is our professional opinion that it would be unlikely for the species to utilize the majority of the site for an extended time frame. However, the area surrounding the proposed site is becoming more developed and not as suitable as the state parks located to the north and east of the site. We recommend best management practices (BMPs) be designed to avoid impacts to the species and should be utilized both during and following project construction.

While SCI has provided our professional opinion regarding the habitat potential for EMR on site, the USFWS and the IDNR have the final authority to determine if the site contains EMR habitat. The agencies will ultimately determine if an ITA is required, as well as the BMP's that may be implemented in an attempt to avoid impacts to the species.

If you have any questions regarding this assessment or need additional information, please contact me at (636) 757-1058 or [lvrabel@sciengineering.com](mailto:lvrabel@sciengineering.com).

Respectfully,

**SCI ENGINEERING, INC.**

  
Laura A. Vrabel, PWS  
Project Scientist

  
Scott E. Billings  
Senior Project Scientist

LAV/SEB/rah

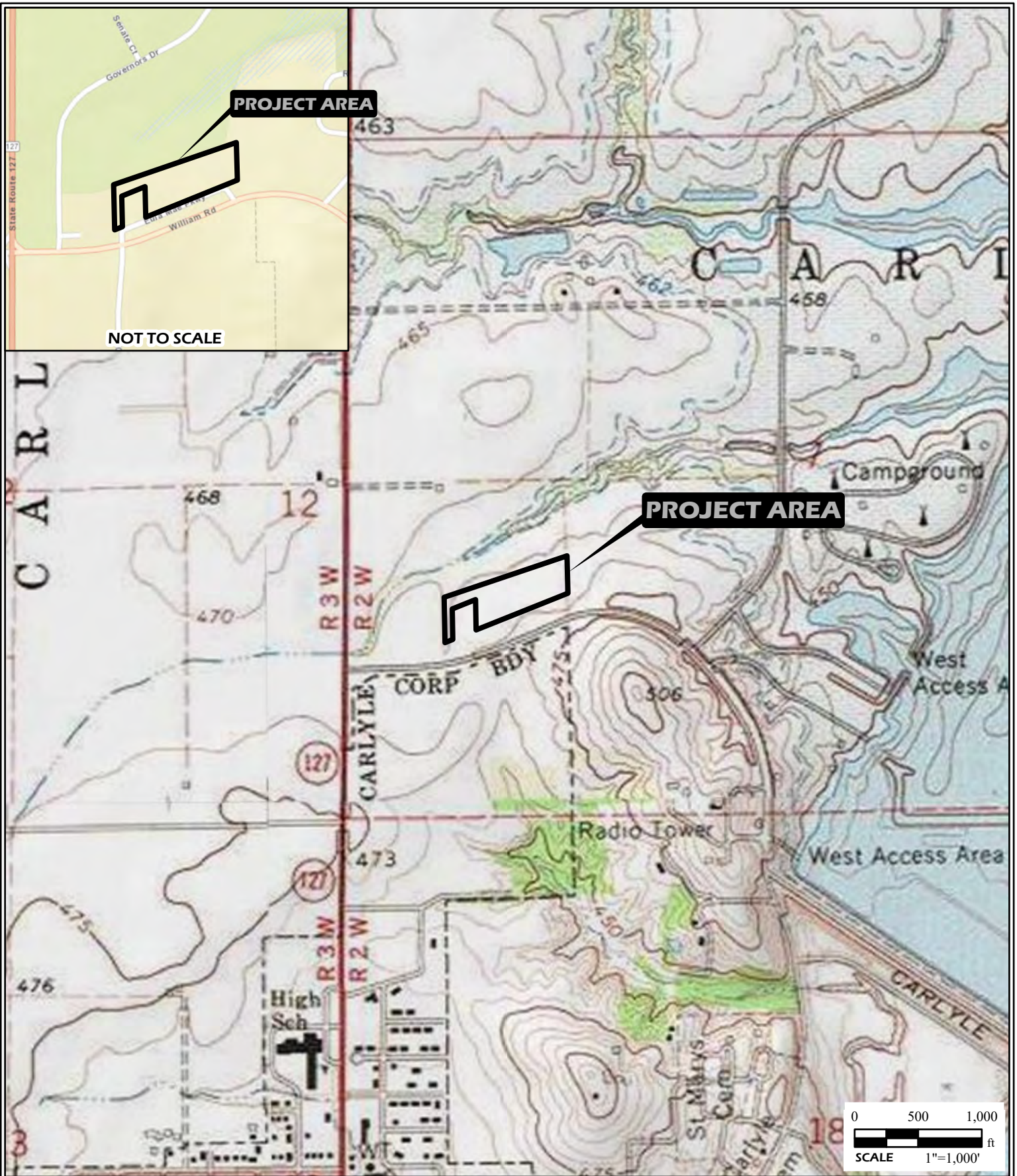
C: Matt Mangan; USFWS

Enclosures

Figure 1 – Vicinity and Topographic Map

Figure 2 – Habitat Assessment Map

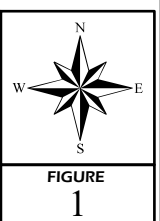




PROJECT NAME			
LAKESIDE VILLAS CARLYLE, ILLINOIS			
VICINITY AND TOPOGRAPHIC MAP			
DRAWN BY	RCV	DATE	JOB NUMBER
CHECKED BY	LAV	05/2022	2019-0027.3B

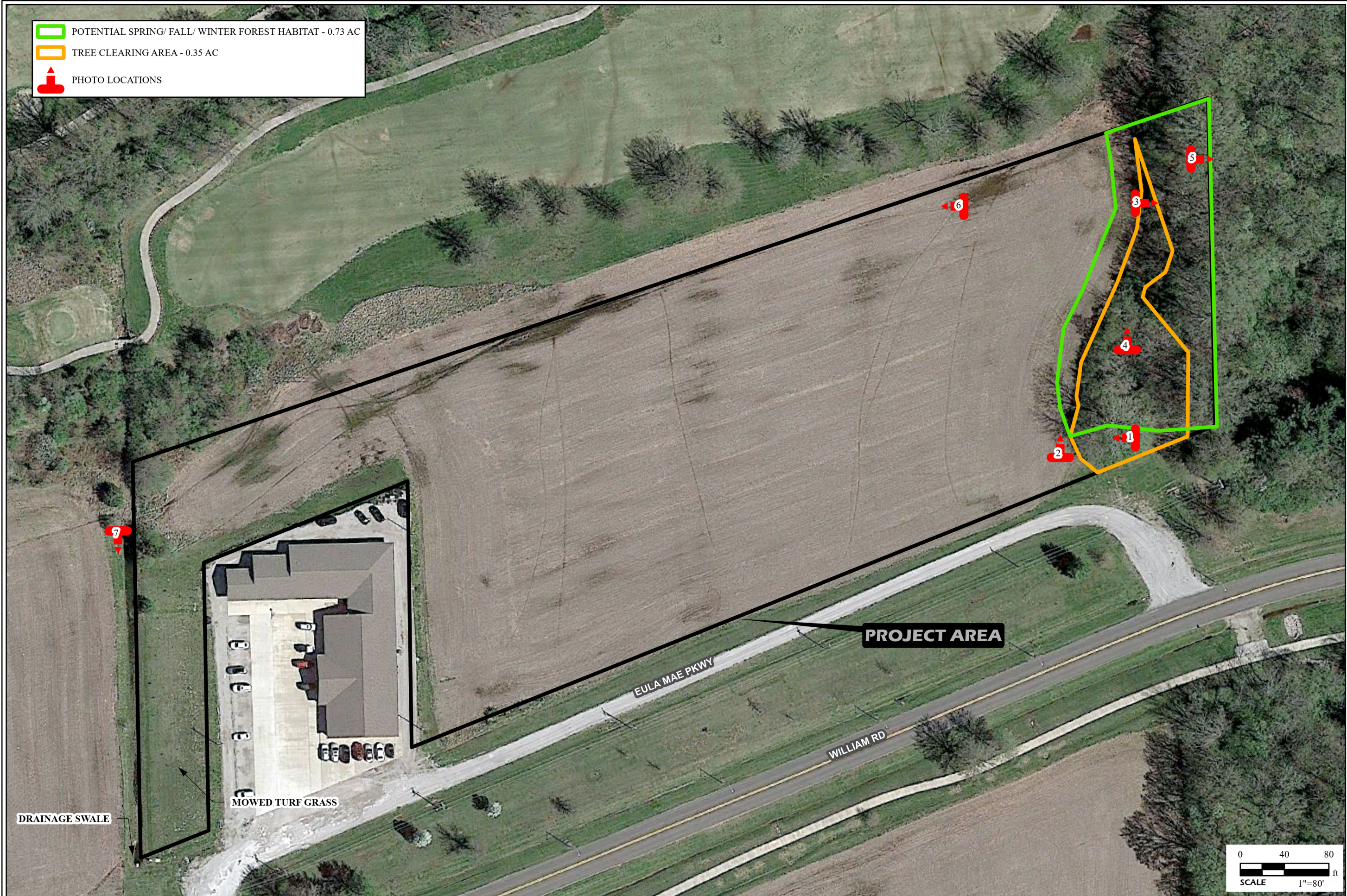
**GENERAL NOTES/LEGEND**  
 USGS TOPOGRAPHIC MAPS  
 KEYSPORT, ILLINOIS QUADRANGLE  
 DATED 1969  
 CARLYLE, ILLINOIS QUADRANGLE  
 DATED 1969  
 BECKEMEYER, ILLINOIS QUADRANGLE  
 DATED 1969  
 STOLLETOWN, ILLINOIS QUADRANGLE  
 DATED 1968  
 10' CONTOURS

STREET MAP  
[HTTP://GOTO.ARCGISONLINE.COM/MAPS/WORLD\\_STREET\\_MAP](http://gto.arcgisonline.com/maps/world_street_map)





- ▭ POTENTIAL SPRING/ FALL/ WINTER FOREST HABITAT - 0.73 AC
- ▭ TREE CLEARING AREA - 0.35 AC
- ▲ PHOTO LOCATIONS

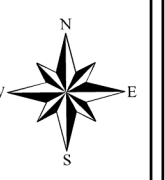


**GENERAL NOTES/LEGEND**

AERIAL PHOTOGRAPH OBTAINED FROM ARCGIS ONLINE, WORLD IMAGERY.  
 DIMENSIONS AND LOCATIONS ARE APPROXIMATE; ACTUAL MAY VARY. DRAWING SHALL NOT BE USED OUTSIDE THE CONTEXT OF THE REPORT FOR WHICH IT WAS GENERATED.

**PROJECT NAME**  
 LAKESIDE VILLAS  
 CARLYLE, ILLINOIS

**HABITAT ASSESSMENT**



**JOB NUMBER**  
 2019-0027.3B

**DATE**  
 05/2022

**DRAWN BY**  
 KMC

**CHECKED BY**  
 LAV

**FIGURE**  
 2