



Consulting
Engineers and
Scientists

Habitat Assessment Report

UW Vintage Lane
475 & R006B Governors Highway, 5 & 25 Talbot Lane
South Windsor, Connecticut

Submitted to:

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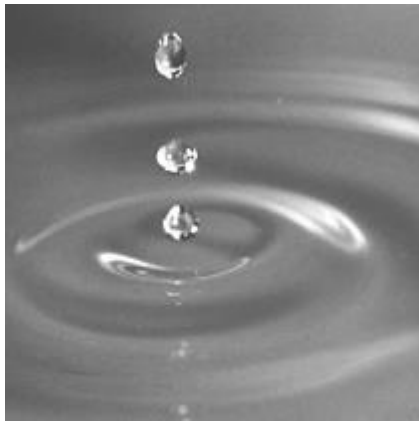
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1. Introduction

Emily Perko, Project Ecologist with GEI performed a site investigation on September 27, 2021 to evaluate the wetland habitat within the two delineated watercourses that are proposed to be filled during development. The watercourses were delineated by James McManus, CPSS, on June 10, 2021. During the site investigation topography, hydrology, vegetation, wildlife and soils were examined in and around the watercourses as well as the overall site to determine the level of habitat functionality. Photographs were taken to document site conditions and can be viewed in Appendix A.

The delineated watercourses are isolated, man-made ditched watercourses located on the edges of prior agricultural fields. Both ditched watercourses were excavated in order to lower the water table of the adjacent moderately well drained upland soils, which in turn extending the growing season. There is an abrupt 3-4 ft drop off from the upland landscape into the linear watercourses that follows the length of the delineated areas to off property drainage features. Aside from the drainage ditches themselves, there was no other drainage features intersecting the watercourses nor drainage patterns observed on the landscape leading to the watercourses that would provide regular surface flow. The watercourses were between 5-10 feet wide throughout and there was no surface water present during the site investigation with the exception of an approximately 2' x 2' pocket of surface water at the western end of the southern watercourse.

Aquents were identified at the bottom of the watercourses, these soils are poorly drained and are often found in landscapes that have been subject to filling or excavation activities. These soils are characterized by a seasonal to prolonged high ground water table. During the site investigation a soil pit was advanced in both watercourses, ground water was encountered within six inches of the surface. There was very sparse to no vegetation observed within either watercourse.

Based on the examination of the hydrology, soils, topography and vegetation, the primary function of these watercourses is groundwater recharge and flood flow alteration. Moderately well drained soils underlain the wetland areas, providing suitable conditions for recharging of groundwater. The watercourses were designed to lower the water table in the upland landscape thus making them suitable to handle excess surface water. Maintaining surface water is a requirement to support aquatic habitats, numerous site visits have documented the lack of surface water within the watercourses. They are ephemeral watercourses and do not provide the capacity to support aquatic habitats.

2. Reported Wetland Species

Written testimony and affidavits have been produced documenting the presence of the painted turtle, common snapping turtle and grey tree frog within and around the Site. It is not being disputed these species may occasionally be present on the property for the purposes of foraging or as a pathway between waterbodies, however the delineated watercourses are not ideal and suitable habitats for these species. Additionally, the species identified within these affidavits are not on the State of Connecticut listed threatened, endangered or species of concern lists.

2.1 Painted Turtle (*Chrysemys picta picta*)

Painted turtles are primarily aquatic and inhabit quiet shallow pools, rivers, lake shores, wet meadows, bogs, and slow-moving streams. The ephemeral nature of the watercourses do not provide enough continual water to support the habitat needs of this species. Painted turtles prefer more permanent pools with suitable basking sites and soft, muddy bottoms rich with aquatic vegetation. There is a dense tree cover surrounding the length of the watercourses providing minimal suitable areas for basking. The lack of vegetation does not provide adequate food sources for the painted turtle, which prefers aquatic vegetation. The turtles also only feed underwater, aside from aquatic plants, they'll also eat aquatic insects, crayfish, snails, small fish, mussels and tadpoles. Painted turtles not only feed off of aquatic vegetation they spend a large portion of their time submerged in it, due to the adequate protection and cover from predators. This type of vegetation is a key component to the suitable turtle habitat. The turtles spend winters hibernating in pond bottoms in mud or under decayed vegetation. The continual presence of water, aquatic vegetation and aquatic species are three key components and requirements for the painted turtle that these watercourses do not possess.

2.2 Common Snapping Turtle (*Chelydra serpentina*)

The common snapping turtle is an adaptive species that is highly aquatic and will inhabit almost any body of water. They prefer slow moving water and sandy or muddy bottoms but can also be found in marshes, creeks, swamps, rivers, streams and lakes. Although they are adaptive species, the presence of water is a requirement for hibernation and breeding. The snapping turtle will foray over land consuming both plant and animal matter. They will eat fish, frogs, reptiles, small mammals, birds and various plant species. Based on observations during the September 27, 2021 site investigation, the watercourses do not support aquatic life. There were no fish, frogs, or vegetation present within the watercourses leaving the area a sparse location for foraging. Although it has been documented snapping turtles can inhabit semi-permanent bodies of water, these watercourses are ephemeral in nature and do not hold water long enough to meet the requirement for the snapping turtle. They hibernate and breed within permanent bodies of water, their primary habitat type

2.3 Grey Tree Frog (*Hyla chrysoscelis*)

Grey tree frogs are not an aquatic species and spend most of the year high up in the trees, however they breed in swamps, pools or semi-permanent ponds. The best breeding sites tend to be semi-permanent kettle ponds that rarely dry. Tadpoles will live in water until they reach maturity. Grey tree frogs often travel great distances from their breeding habitat. They often hide in trees during the day and emerge at night to feed on small invertebrates and insects. Although mature frogs do not reside in bodies of water, this is still a requirement for their life cycle. As previously stated, the ephemeral nature of these watercourses do not provide an adequate water sources for these species to breed.

3. Stormwater Quality Basin

As stated above the delineated watercourses do not provide adequate water or vegetation sources for aquatic or semi-aquatic species that have been identified on site. The proposed site development plan includes a stormwater quality basin that is designed to permanently hold a percentage of the surface water that will generate from on-site impervious surfaces. It has been noted the common snapping turtle is an adaptive species and favors slow moving water with sandy or muddy bottoms. This stormwater quality basin can also serve as a potential habitat for this species. Over time, native vegetation will grow in and around the basin, creating a potential habitat for the painted turtle that feeds on aquatic vegetation. While performing the site investigation, an off-site detention basin was observed that is located in the southwestern corner, immediately off the property. Multiple green frogs, *Lithobates clamitans*, were observed as the perimeter of the pond was walked. This is a man-made habitat that is supporting aquatic life, based on these observations, if properly managed the on-site stormwater quality basin may have the capacity to serve such aquatic species.

4. Conclusion

The proposed development will result in the creation of wetlands that will provide multiple functions and values as well as enhancing wildlife habitat. The watercourses that were delineated are intermittent in nature and do not have a continual flow and are likely not conducive for supporting aquatic life such as turtles, fish, shellfish or frogs. The intermittent, man-made watercourses do not provide optimal habitat for painted turtles, snapping turtles, and grey treefrogs. A stormwater quality basin will retain water and have the potential to support aquatic wildlife that is adaptive to changing conditions such as the snapping turtle. Based on the information presented and review of development plans, with diligent monitoring of erosion and sediment controls there will not be significant adverse impacts to the inland wetland habitats remaining on site.

Work Cited

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Appendix A

Site Photos

Date Photographed: September 27, 2021

Address: 475 & R006B Governors Highway, 5 & 25 Talbot Lane, South Windsor, CT



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Photo No. 1 – Western portion of Watercourse 1



Photo No. 2 – Upland landscape to the north of Watercourse 1

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Photo No. 3 – Side of bank in Watercourse 1



Photo No. 4 – Upland landscape between Watercourses

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Photo No. 5 – South western portion of the Site



Photo No. 6 – Former roadway running in the northern portion of the Site.

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Address: 475 & R006B Governors Highway, 5 & 25 Talbot Lane, South Windsor, CT



Photo No. 7 – Eastern portion of Watercourse 2



Photo No. 8 – Central portion of Watercourse 2

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Photo No. 9 – Western portion of Watercourse 2.



Photo No. 10 – Green frog observed in man made detention pond located off property in the southwest corner.