

**TO: Ms. Meghan Lally, Chair, Inland Wetlands & Watercourses Commission
Town of Andover, 17 School Road, Andover, CT 06232**

FROM: Hank Gruner, Herpetologist

**RE: IWWC20-36, 26 Old Farms Road – Stream crossing for proposed new
residential development**

DATE: January 12, 2021

At the request of the Andover Inland Wetlands and Watercourses Commission, on December 23, 2020 in the company of the Wetlands Agent, I conducted a field inspection of stream crossing sites for a planned new access driveway proposed to be located off of a cul-de-sac on Pine Ridge Road (between #68 and #74). Due to heavy snow cover, it was difficult to visualize the habitat characteristics of the watercourses present, so we conducted a second site visit on January 9, 2021. The focus of the inspection was to determine if there were any potential ecological impacts from the proposed project.

The proposed crossing(s) occurs along watercourses that drain from the forested upland to the north. Although there are two small stream channels, these channels converge into a broader riparian corridor at the location of the proposed crossing(s). This riparian zone receives further input from another stream just south of the site that drains the uplands to the northeast. This combined system connects with the Hop River floodplain which is located approximately 500 feet south of the site. This riparian corridor appears to flood annually, likely during the spring.

The proposed crossing is for a 12 feet wide gravel driveway. The crossing design includes clearing and the installation of a concrete retaining wall and two, 36-inch diameter pipes, one located along each of the two small stream channels. Approximately 4.5 feet of fill would be placed within the corridor as part of the crossing installation.

Although the proposed crossing design may adequately address water discharge, I am concerned about potential impacts to the natural hydrological dynamics of the riparian corridor, and alteration of the physical characteristics of the wetland system on site, and downstream of the crossing. In my opinion, the proposed design will likely increase channelization of the watercourse which results in scouring of natural substrates and increases sediment loading into downstream systems.

These are important considerations given proximity of the site to the Hop River and its connection to the floodplain of that system. The Hop River has been noted as “the town’s greatest natural resource” in the 2015 Plan of Conservation and Development. The Hop River is mapped by the CTDEEP’s NDDB as an important ecological system that supports a diversity of state-listed species. The site falls within the NDDB mapped zones and lower stretches of the riparian corridor and river floodplain provide seasonal habitat for the wood turtle, a special concern species.

Ideally, a crossing would be designed that bridges the width of the riparian corridor, minimizing disturbance, and maintaining the natural hydrological dynamics and habitat characteristics of the watercourse(s), and mitigating downstream impacts. Admittedly, bridging is likely a costly option, however, exploring the feasibility of a timber-decked bridge might be a consideration. Additional options to explore would be the combined installation of a pipe at the first crossing where the watercourse channel is relatively well-defined and tight up against the upland slope, and the installation of a wide box culvert (preferably 3-sided) to span the second crossing where the watercourse is not well-defined and has fanned out into a broader wetland system.