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**SURFACE WATERS AND
THREATENED & ENDANGERED SPECIES SURVEY
THRASHER PIKE AT HIXSON PIKE
HIXSON, TENNESSEE**

September 23, 2014

To whom it may concern:

1. Introduction

Review of maps, aerial photographs, and a walkover of the project site by Envision Ecology biologists, **revealed no evidence of waters** of the State or U.S. which could not be altered under permit from the governing agencies. **We found no threatened and/or endangered species or critical habitats.** We will submit a full report of findings within seven days. However, there is **no indication of significant surface waters or rare habitats within the property from our assessment.**

2. Review of Literature

We reviewed USGS topographic maps in several scales, historic Google aerial photographs dating to 1999, National Wetland Inventory Maps, NRCS Soil Maps, and Hamilton County GIS aerial photographs, topographic maps, and lot information.

3. Site Location and Habitat Analysis

The study area is comprised of seven contiguous parcels Approx 22 acres-identified by Hamilton County, Tennessee, property records as the following addresses on Thrasher Pike: 1963 (4 acres); 1969 (7.72 acres); 1975 (1 acre); an unnumbered property at the southeast corner of Hixson Pike and Thrasher Pike (2.2 acres); and three parcels with Hixson Pike addresses: 7421 (3 acres), 7433 (0.39 acre), and another unnumbered lot to the northwest of lot 7433 (2.5 acres).

Lots 1963 and 1983 have houses and typical mowed yards, except that approximately one-half of the 1963 extends into forest; the remainder of the lots are undeveloped. Lots 7421 and 7433 have been cleared. There is a stormwater conveyance, which is likely a jurisdictional "stream" although it is basically a ditch, that borders the northeast side of 7433, but appears to actually be located on the adjacent parcel. There is an unnumbered parcel on the northwestern side of the 7433, which may or may not be included in the present project. The conveyance bordering 7433 extends along this parcel and culminates in a small, depressional pond/wetland. There is a Sewer Line in Place.

Lot 1969 is in mature, mixed, conifer-hardwood forest. Soil maps, acquired from the National Resource Conservation Service for the site indicate no hydric soils that would indicate wetlands. **In addition, the National Wetland Inventory map for the properties indicates no wetlands; examination of aerial views of the forest do not indicate wetlands or significant streams.**

The U.S.G.S. topographical map of the site (Daisy, TN 1976) **indicates no blue-line (perennial) streams at the site. There is one blue-line stream, which appears to have its origin just north of the site, and could possibly extend onto the northwestern-most boundary, but from the map, it appears to be offsite.**

The Hamilton County GIS parcel map indicates a blue-line stream that crosses lot 1969 and part of the

unnamed parcel. The stream appears to have its origin on Lot 7421, after which it crosses the lot in a straight line, runs briefly along the boundary between lots 7421 and 1969, then crosses from south to north at the eastern side of 1969, takes a turn to the east to cross the northwestern corner of the unnamed lot, then goes again to the northwest and onto lot 7607, **which is now part of the Shelton Construction Company property.**

We examined the property in search of the blue-line stream and found that its origin was actually on another unnamed lot at the corner of Thrasher Pike and Hixson Pike is Incorrect. The stream rises on the northern end of the lot as a wet-weather conveyance. A channel developed along the northwestern border of lot 7421, then proceeds onto lot 1969, where it becomes an intermittent stream a short distance onto the property. Standing water, crayfish burrows, and other stream determination features indicate that the stream becomes a perennial channel shortly after it crosses onto lot 1969. **We found evidence that the stream channel did cross onto the unnumbered lot at one time.** However, the channel has been cut off so that it continues to flow solely within lot 1969, where it eventually encounters a large berm at the southwestern boundary of the Shelton property, which in turn directs flow in a straight line along the northeast border of lot 1969 and goes North to a larger pond/reservoir and then to other Ponds.

There is no doubt that the installation of the curbing and stormwater system presently along Hixson Pike has interrupted flow that, at one time, crossed the subject property as a stream. Flow from that source, along with that from the watershed draining the uplands on Big Ridge to the south, are now interrupted by the stormwater system. The remaining watershed for the property is basically onsite, with occasional contributions to flow from the small stream that borders lot 7433 and the stream that has its origin near the border of lot 7421.

The subject site stream remains very small as it crosses lot 1969. It is no more than two feet wide, and no more than one foot deep. There was shallow, standing water in most of this stream, most likely from the past rain we had.

It is our opinion that this stream could be **Fixed/moved at relatively low cost** to an appropriate location, could be placed into a bottomless culvert where it currently exists, or could be piped. Mitigation could be in the form of purchase of mitigation credits from the Tennessee Stream Mitigation Program or possibly by onsite restoration.

Envision Ecology has more than 40 years of experience with construction projects ranging in size from a few acres, to more than 1,000 acres. We have rerouted more than 35,000 feet of stream channels and have mitigated more than 300 acres of wetlands. Most project sites of five acres or more, within the Valley and Ridge Physiographic Region, have larger or more numerous streams and at least a few wetlands. **Judging from the topography of the Hixson Pike – Thrasher Pike site, and its few and relatively minor ecological issues, it appears to be an excellent location for development.**

We will be happy to review any site plans and to make recommendations on the relocation of this small stream, or to prepare the necessary mitigation plan and submit applications to the appropriate governing agencies depending on what will be developed.

For further information, please contact Dr. Bill Phillips, Envision Ecology, at (423) 240-5736 or send emails to wphillips5736@charter.net.

Respectfully,



Bill Phillips, Ph.D., REM, TQHP
Senior Partner and Ecologist