

**MEMORANDUM**

TO: Mr. Paul Montagno, AICP, Senior Planner, Pittsfield Charter Township

FROM: John A. Freeland, Ph.D. *JA*  
Professional Wetland Scientist Certificate #1264

DATE: June 24, 2011

RE: Fox Glen Subdivision Wetland and Stormwater Review (RZ#10-04)

Environmental Consulting & Technology, Inc. (ECT) has reviewed the wetland and stormwater detention basins at the Fox Glen subdivision located at the northeast corner of Ellsworth Road and Lohr Road. Our site visit was conducted on June 14, 2011 and consisted of observations related to type and extent of vegetation, wetland characteristics, water flow through the stormwater to wetland drainage system, and regulatory status of the wetlands and stormwater basins. In addition, ECT understands that the Fox Glen Homeowners Association would like to remove vegetation from around inlet and outlet structures within the stormwater basins to promote drainage.

**Existing Conditions**

Areal locations of wetlands and stormwater basins are shown in Figure 1.

Table 1. Summary and photographs of wetlands and stormwater basins, Fox Glen.

**Wetland 1** is a mainly a wooded wetland with a small area of emergent wetland in the interior. Some of the wooded portion is wetland, and some is upland buffer. This wetland appears to receive drainage from nearby stormwater basins (SW Basin #1 and #2). The drainage flows through a culvert under the street south to Wetland 2. Dominant vegetation in Wetland 1 includes elm (*Ulmus Americana*), black willow (*Salix nigra*), cottonwood (*Populus deltoides*), common buckthorn (*Rhamnus cathartica*), rice cut-grass (*Leersia oryzoides*), and cattail (*Typha angustifolia*). ECT believes this wetland offers valuable functions including wildlife (especially songbird) habitat, nutrient and sediment removal, and stormwater storage.



Wetland 1 with wooded buffer, facing south.

**Wetland 2** is the larger of two wetlands on the property. It is a wetland complex with a ponded portion and a mainly forested portion. Dominant vegetation is similar to that of Wetland 1 with the addition of rushes (*Juncus spp.*), duckweed (*Lemna minor*), and algae found in the open water (ponded) area. Drainage (dashed white line in Figure 1) continues through Wetland 2 and leaves the Fox Glen subdivision and enters a county drain culvert running under Ellsworth Road. ECT believes this wetland offers valuable ecological services including urban heat island mitigation, wildlife (especially songbird) habitat, nutrient and sediment removal, and stormwater storage. Given the wetland's attributes, ECT does not recommend any more vegetation trimming than what is necessary to keep sidewalks clear.



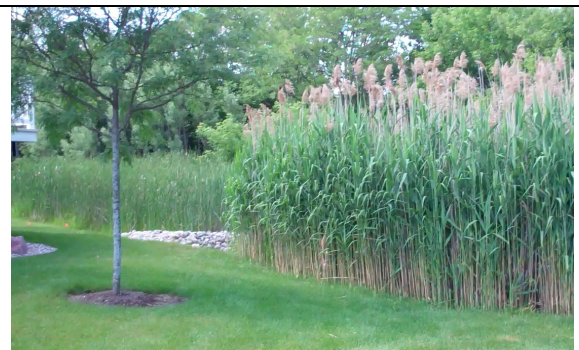
Wetland 2 ponded area and woodland buffer, facing north.

**SW Basin 1** is thickly vegetated almost entirely by common reed (*Phragmites australis*), which is a non-native invasive species. Considerable plant biomass has accumulated in the basin, reducing some of the basin's storage capacity.



SW Basin 1 full of Phragmites, facing southeast.

**SW Basin 2** is thickly vegetated with cattail (*Typha angustifolia*), and Phragmites. Like SW Basin 1, it has accumulated a significant volume of biomass, which, on the one hand, helps absorb and filter runoff, but also can diminish storage capacity and restrict flow. Some cottonwood and willow tree saplings are becoming established in this basin.



SW Basin 2 with dense cattails (L) and Phragmites (R), facing north.

**SW Basin 3** is similar to SW Basin 1 in that it has a thick stand of Phragmites. Willow and cottonwood saplings are becoming established around the perimeter of the basin.



SW Basin 3 with Phragmites and willows, facing south.

**SW Basin 4** is the most “naturalized” of the stormwater basins at Fox Glen, resembling natural wetland habitat. The basin contains a variety of vegetation, including grown trees such as cottonwood, black willow, and boxelder.



SW Basin 4 with Phragmites, willows, and cottonwood saplings, facing northwest.

**SW Basin 5** is an open water pond with a fountain at the southeast corner of the property. The pond appears to be mowed up to the water’s edge, which is not the preferred practice. A vegetated buffer left mostly un-mowed would help to filter runoff and absorb nutrients from surrounding turfgrass lawns. A “naturalized” un-mowed buffer would also discourage use of the pond by geese.



Photo 8. SW Basin 5 facing southeast (ECT June 20, 2011)



### **Comments and Recommendations**

**Wetlands 1 & 2** are regulated by the Township and the Michigan Department of Environmental Quality (MDEQ). ECT does not recommend any cutting of vegetation within wetland boundaries. If stormwater outlets in the wetlands are blocked (ECT does not at this time believe they are), removal of enough vegetation to clear the blockage would be reasonable. Removal of vegetation would require a Wetland Use Permit from the Township. No disturbance of the soil appears to be warranted and is not recommended. Soil disturbance in a regulated wetland would require a permit from the Township and the MDEQ.

**SW Basins 1, 2, 3, and 4** are heavily vegetated and would benefit from trimming some of the thick reeds, cattails, and woody plants from around inlet and outlet structures. The common reed (Phragmites) and cattails can be cut periodically, for example, annually, to prevent build-up of biomass and maintain optimum storage capacity. The cutting of vegetation above ground level within the stormwater basins does not require a permit from the Washtenaw County Water Resources Commission (Mr. Scott Miller, personal communication June 20, 2011), or the MDEQ. A second option would be chemical treatment of the Phragmites, which requires an Aquatic Nuisance Control Permit through the MDEQ. Or, the homeowners association could contract with a licensed herbicide applicator, who would obtain the necessary permit.

**SW Basin 5** (Photo 8) would benefit from a naturalized buffer around its perimeter. The buffer would take up nutrients found in lawn runoff, help trap sediment, provide songbird habitat, and discourage use by geese. The buffer vegetation would ideally consist of a variety of native perennial herbaceous plants and shrubs.

### **Conclusion and Permits Required**

The Fox Glen Homeowners Association has a range of options available to control vegetation in the stormwater basins including mechanical removal and chemical treatment. The best time to cut or treat vegetation would be late summer or fall. ECT generally does not recommend trimming or chemically treating vegetation within the regulated wetlands or 25-foot natural features buffer. Because the stormwater basins outlet to a regulated waterbody, an MDEQ Aquatic Nuisance Control Permit is required from the MDEQ. In summary, ECT concludes the following:

1. Trimming of vegetation within SW basins 1, 2, 3, and 4 would not require a permit from the MDEQ, the Washtenaw Water Resources Commission, or the Township.
2. Cutting of vegetation within wetlands or within the 25-foot natural features buffer adjacent to wetlands (not recommended) would require a permit from the Township.
3. Any dredging or filling of wetlands, or construction within wetlands, or disturbance to the soil is prohibited without a permit from the MDEQ and the Township.
4. ECT supports a planting plan for the perimeter of **SW Basin 5**.
5. Chemical treatment of Phragmites in the stormwater basins is an option available to the homeowners association. Information regarding the MDEQ Aquatic Nuisance Control Permit is available on their website: [http://michigan.gov/statelicensesearch/0,1607,7-180-24786\\_24787-245049--,00.html](http://michigan.gov/statelicensesearch/0,1607,7-180-24786_24787-245049--,00.html)

Please contact us if you would like to discuss this matter.

Figure 1. Aerial view of Fox Glen subdivision's stormwater basins (SW Basin) and wetlands.

