SUNNINGDALE GOLF & COUNTRY CLUB LTD – GOLF HOLE RE-LOCATION, ADDITIONAL COMMENTS

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PREAMBLE

It is noted that Sunningdale Golf & Country Club was certified as an Audubon Cooperative Sanctuary in the fall of 2005. Although there are many elements in the Scoped EIS that seem to continue the goals of Audubon International, specifically Sunningdale's efforts to compensate for disturbed natural heritage features resulting from the re-location of six golf holes, there are also elements in the report that do not go far enough or even do the opposite.

1.0 CONCERNS and OBJECTIONS

1.1 The wetland (SWD4) is a distinct ecosystem that is saturated with water, either permanently or seasonally. It is comprised of a wetland ecosystem and despite proposed mitigation, constructing a golf hole through its middle would alter the water balance and disrupt wetland ecosystem services. This seems in direct conflict with the Audubon International goals, and other guidelines to protect wetlands. Is there no way to avoid this area, perhaps by moving the hole eastward? It is unclear why this hole has to cross over the seep. If it is agreed that this is the only option, then compensation (not based on land lost, but function lost) should be provided by planting native riparian and wetland vegetation along the waterways.

1.2 It is impossible to judge, based on storm quantity and well head data the effect of this new golf hole on wetlands, seeps and base flow. Additional factors not included are the consideration of changing a wetland to a golf course (expect runoff coefficient to change) and changing contours of the region (affecting runoff, standing water and drainage pathways). The report does offer general assurances, but is insufficient. The absence of a sense of topography and how it will be altered makes it difficult to predict the impact of altering this large seep. The wetland surrounding the seep will be negatively affected. A concern is that the False Rue-anemone to the east may be threatened by these changes as well.

1.3 A part of FOD6 will be removed and another part (flyover) will be altered. The flyover areas will not retain their natural features. Once you remove the canopy and understory (next generation) what remains are shade-tolerant groundcover and wildflowers that complete their life cycle before the leaves appear. This ecosystem will not retain any of its natural features. It

is hoped that monitoring timelines will increase so that the replacement for the removed 80 year old forest component has a chance to thrive.

1.4 The proposed location of golf hole #7 eliminates any viable riparian zone in that area. This zone is an integral interface between the land and Medway Creek, characterized by specialized hydrophilic plants. Its presence enhances the water quality of the creek and serves as a corridor for wildlife. A suitable width to this zone should be established for it to function properly. More on this concern later.

1.5 Similarly, possibilities of protecting the tributary with a riparian buffer are limited because the area of grading and ground disturbance actually crosses over the tributary (near hole 3 and 8).

1.6 Three mussel species, the Silver Shiner and False Rue-anemone were observed either outside the study area or within the study area but outside of the footprint and grading area of the project. Each species has a 'threatened' status in Ontario and even though adult members of these species may not be at risk, the project is potentially destroying suitable habitat for future generations of each species. Habitat loss leads to the inability of each species to establish new communities. Aquatic measurements are limited and fail to provide adequate baseline data.

2.0 THE SPECIAL POLICY

2.1 The concerns and objections listed are but a few as the special policy makes this exercise mostly redundant. EEPAC commends Sunningdale on their plan to restore and enhance land and the proposed mitigation efforts. Because EEPAC believes that Sunningdale and its membership strongly believe in environmental stewardship we enthusiastically make the following recommendation.

3.0 RECOMMENDATION

3.1 As noted in the Scoped EIS, one of your goals is to improve the natural riparian vegetation along Medway Creek. As mentioned, the restoration and enhancement scheme could lead to some improvements to the proposed new golf holes. However, focusing on a sufficiently wide riparian zone along the entire stretch of Medway Creek (EAST and WEST) and its tributary would have a far greater impact. This would result in a riparian zone that would function properly and therefore enhance the water quality of the creek, creating a continuous corridor through the property for wildlife and establishing links with neighbouring natural heritage features.

4.0 RATIONALE

4.1 The riparian buffer along the north eastern section of fairway seven near the tee boxes is too narrow to be ecologically relevant and is much less than the 30m buffer recommended for a permanent watercourse (City of London, 2007). Furthermore, the golf course development plan calls for the buffer to be cleared of trees to the edge of Medway Creek. The clearing of trees within the buffer zone will increase the exposure of Medway Creek to solar radiation, which will increase the water temperatures of Medway Creek within the cleared buffer area as well as areas downstream. River ecosystems are highly sensitive to temperature fluctuations and the removal of buffer areas will increase diurnal temperature variations and lead to higher maximum summer temperatures (Malcolm et al., 2004; Gomi et al., 2006; Cole and Newton, 2013). The riparian buffers of Medway Creek have already been heavily eroded by development and the continued degradation of its riparian buffers is unwise and irresponsible.

4.2 A recent case study by Mah et al.; (2015) on exploited riparian corridors and appropriate riparian buffer width, suggests that to maintain the health of riparian corridors, buffers of at least 40 m are required. The net benefits are four-fold: enhance the buffering and health of the riparian corridor, eliminate the impact of the relocation on the seep, the butternut tree, and the wetland (SWD4). Ideally, widening the riparian buffer on both sides of the stream would be best.

4.3 Zedler and Kercher et al.; (2004) state that nutrient (nitrate) runoff into wetlands can increase the risk of invasive plant species into wetlands. This would pose a particular issue for the remaining remnants of SDW4. Generally, wetlands in riparian zones can absorb a significant amount of the nutrient runoff, but at the risk of encouraging the growth of invasive species.

4.4 Lin et al.; (2002) use modeling to investigate the effects of riparian buffer width in attenuating pesticide runoff. Depending on the type(s) of pesticide used and their solubility, a larger buffer zone may be required to prevent pesticide contamination in waterways. Buffers of 30 m to even 60 m may be required depending on the intensity of soluble pesticide use. This further supports the value of an enhanced wetland buffer which would complement the Audubon integrated pest management program initiated in 2005.

5.0 SUMMARY OF RECOMMENDATIONS

5.1 Agree to preserve a large riparian buffer along Medway Creek near the new construction.

5.2 Commit to reclaiming the original Medway Creek Riparian Zone (EAST and WEST) and its tributary from the golf course.

5.3 Educate your membership on the importance of a healthy Medway Valley.

5.4 Place signage on the course, display posters in the clubhouse and provide pamphlets to new members reminding golfers of the ongoing restoration project.

5.5 Discard the two year monitoring program. This restoration project is a 10 -20 year affair and monitoring should reflect the complex nature of EEEPAC's recommendation.

5.6 Employ Audubon Cooperative Sanctuary Program guidelines to restore a "living, breathing" riparian zone along Medway Creek.