

EEPAC COMMENTS

Southdale Road West Class

Environmental Assessment

Subject Lands Status Report and Environmental Impact study

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The main issues identified in this report were as follows:

1. Trees with cavities suitable for roosting bats may be removed from within the study area. Section 10 of the Endangered Species Act forbids the damage to or destruction of SAR habitat. Without acoustic surveys it is unknown which bats species might be present.
2. The Western Tributary is conveyed beneath Southdale Road West through a Corrugated Steel Pipe (CSP) culvert approximately 650 mm in diameter. After field visits, it was determined that it had become buried and serves as a dispersal barrier for fishes. Based on this, it can be concluded that keeping a culvert of the same size will “limit or diminish the ability of fish to use such habitats as spawning grounds and as a migration corridor” which is a direct violation of the Fisheries act section 4.
3. The OMNRF has released a May 2018 report titled “Considerations for the Development of a Wetland Offsetting Policy for Ontario. The document outlines a mitigation sequence that has four steps: Avoid, Minimize, Mitigate and Compensate. The sequence is intended to be applied in a stepwise fashion and since so much in this report is left for the detailed design process, it is important to emphasize that offsetting is considered only when all other steps have been accomplished.
4. A proposed ESA north of Southdale, a potential ESA south of Southdale and an eventual four lane footprint will lead to greater fragmentation and reduced wildlife movement.
5. A detailed tree survey and a tree compensation plan should be included within this EIS.
6. The loss of habitat for species protected by the Endangered Species Act
7. Invasive species management plan should start now

Theme #1: Bat habitat.

“While specific studies for bats were not conducted for the woodland areas, the two forest areas have potential to support bat maternity colonies as habitat for bat SAR.” (Southdale Road West Class EA, EIS, 2018)

Specific studies were conducted for the Boler Mountain Access Road EIS 2016. The study area stretched from Wickerson Road to the west boundary of the Boler Mountain property and south to include part of the northern boundary of the proposed extension of the Dingman Creek ESA. During the 2016 tree inventory, six (6) trees were observed with cavities suitable for roosting bats. Candidate maternity roost habitat is determined by a density of >10 cavities/hectare within a forest, as described in the Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E (OMNRF,2015a). The survey did not meet the Ontario requirement in the Boler Access Road study area as the tree inventory was completed within the proposed access road footprint only and not the entire forest community. The EIS did recommend additional cavity surveys if future development is proposed. The Southdale Road Widening study area, located 200 m south is part of that same forest community.

Replacing snags with bat boxes has had mixed results. See Acta Chiropterologica, “**Bat Boxes — A Review of Their Use and Application, Past, Present and Future,**” 18(1):279-299. 2016

<https://doi.org/10.3161/15081109ACC2016.18.1.017>

Recommendation 1: Complete a June snag survey to determine potential bat cavities.

Recommendation 2: Complete a June bat acoustic survey as there may be a need to seek an overall benefit permit if there is loss of bat SAR habitat.

Theme #2. The Western Tributary and its culvert under Southdale Road

The description of the current Aquatic Resources (section 4.11) is outdated and incomplete. Since the site visit and its description in 2016, the new SWM pond has been completed and is providing inputs into the west branch of the western tributary. This increased input of water could increase the discharge of the tributary and result in water present in the tributary for more of the year. As such, the EIS should be updated.

The proposed Boler Mountain Access Road project crosses the Western Tributary. A 1050 mm CSP culvert has been proposed. South of that, the Western Tributary is conveyed

beneath the current Boler Mountain Access Road. The size of the pipe/culvert is not known. Culvert sizing is left to the detailed design.

Provincial policy statement: Policy 2.1 and 2.2 states alteration of fish habitat is prohibited unless it can be demonstrated that no negative impacts will occur (2.1.5). The current Southdale culvert size is too small and cannot handle flows. Current condition of the culvert is buried as a result of a build up of sediment and detritus around its northern opening (Fig. 1). This build up of debris has cut off much of the opening and future flooding events could result in the complete blockage of the culvert and cause flooding in the surrounding area. As such, keeping it in its current condition will result in negative impacts to fish habitat and culvert size must be address during the design phase.

Include in the detail design requirements, improvements to the watercourse north of Southdale where it crosses the current Boler Mountain Access Road. It is assumed that the area the access road encompasses will be restored to its original state, capable of supporting a forest community.

In section 7.1.3. Watercourse Crossing/Aquatic habitat, it is mentioned that “there may be opportunity to improve fish passage and riparian areas adjacent to the channels”. Keeping a culvert of the same size in the current design will not improve access to fish habitat but will continue to inhibit access to it. As such, a large box culvert is recommended. In addition, riparian areas can be improved if erosion control measures such as bank stabilization are included and a large box culvert is installed as increasing the cross-sectional area of the culvert is found to reduce surface flow and cause less erosion (Booth and Henshaw 2013).

In the report it is mentioned that there is moderate bank erosion downstream of the CSP and transitions to a poorly defined channel. Much of this erosion and channelization is most likely due to the stream passing through a CSP of 650mm in width. Several studies have shown that too small a culvert actually increase downstream erosion and the major cause of this erosion is most likely the result of this undersized culvert (Booth and Henshaw 2013).

Measures to control bank erosion are recommended in addition to increasing the size of the culvert, especially since the mitigation measure include to improve fish passage at watercourse crossings and the fact that the road will be expanded.

Recommendation #3: There is an opportunity to enhance (a net gain) the fish habitat upstream and downstream of the Southdale crossing by installing a large box culvert where the Western Tributary goes under the road.

Recommendation #4: Given the extent of cut and fill, consult landowners near the Western Tributary now with a mitigation plan to add a riparian zone south along private land. Also consult with UTRCA.

Reference: Booth, D. B. and P. C. Henshaw. 2013. Rates of channel erosion in small urban streams. Pages 17–38 in M.S. Wigmosta and S. J. Burges, editors. Land use and watersheds: human influence on hydrology and geomorphology in urban and forested areas. American Geophysical Association, USA.



Figure 1. Image of the partially buried culvert on the north side of Southdale Road. The image shows a large build-up of detritus causing the burying of the opening and restricting fish passage.

Theme #3: Wetland Management – Avoid, Minimize, Mitigate, Compensate (Offset)

Sections 4.4, 6.1 and 8.3.2 summarized:

The wetland features near and west of the Eastern Tributary are too small to be evaluated, isolated and vary in their ability to provide ecological function. The more westerly feature contains significant amphibian breeding habitat and is being treated as locally significant. The wetland feature nearest the Eastern Tributary would require minimal encroachment (0.03ha). Public lands adjacent to the wetland features are limited, so compensation for the loss of wetland habitat will take place elsewhere.

The OMNRF May 2018 document suggest that offsetting does not only refer to wetland area; it should also compensate for loss of ecological function (e.g. hydrologic functions, carbon storage and biodiversity), and traditional, cultural and Indigenous values. A baseline assessment of each impacted wetland is necessary to determine its function and their value within the sub-watershed or watershed.

Some wetland features are just depressions in the soil surface relying on surface flow for their water supply. However, these wetland features are situated relatively close to the Eastern Tributary and appear to serve as natural stormwater facilities. The tributary overflows its banks and the wetland features will: 1. help to control flooding and reduce flood damage, 2. maintain and improve water quality by filtering contaminants and excessive nutrients, 3. trap moderate amount of soils off nearby uplands before they enter Dingman Creek.

The road profile and design will incorporate LID measures in the form of stormwater storage in oversize pipes or perforated pipes to convey roadway runoff. Storage systems called “wetlands” already exist, ready to accept roadway runoff. In the near future, the south side of Southdale will be filled with Low Impact Development. Enhancing these wetland features will support these future LIDs as well.

Recommendation #5: The road improvement has a defined footprint and therefore avoidance and minimizing the project are not options. However, Southdale will eventually become a four lane road. To insure mitigation measures are long lasting, they should be drawn up based on the eventual four lane footprint.

Recommendation #6: A baseline assessment of each impacted wetland is necessary to determine its ecological function.

Recommendation #7: Consult landowners near the Eastern tributary now with a mitigation plan to add a riparian zone south along agricultural land. Consult with UTRCA.

Recommendation #8: If there is no possibility of avoidance or minimization to the wetlands, there must be a mitigation and/or compensation plan approved by the UTRCA prior to construction. Ideally it is included as a requirement in the bid documents for the construction.

Theme #4: Enhancing Wildlife Movement across Southdale Road

The Boler Mountain Lands Status Report (2012) describes the natural areas within the Boler Mountain study area as having a strong ecological connection to the Dingman Creek ESA located approximately 300 metres to the south of Southdale Road. The large area of native woodland present within the study area is connected to the Dingman Creek ESA through a corridor of similar woodland 100 to 200 metres wide south of Southdale Road. An extension of the existing Dingman Creek ESA boundary is proposed for the Boler Mountain study area. The area between the Dingman ESA and Boler Mountain is an unevaluated, potential ESA.

Leveling Southdale Road will improve sightlines and possibly reduce deer collisions. Upgrading the culverts and adding riparian zones along the Western and Eastern Tributaries will enhance fish migration. Tree planting along Southdale Road will close the forest canopy somewhat to aid bird movement. Terrestrial wildlife (e.g. red fox, coyote, turtles, amphibians chipmunks, squirrels) require a wildlife corridor for safe passage across Southdale Road.

Recommendation #9: The city should begin acquiring lands south of Southdale Road for long term management ecosystem planning (re: to create a continuous ESA from Boler Mountain to Pack Road.

Recommendation #10: Add grassed edges to the box culvert conveying the tributary waters or build a designated wildlife box culvert (tunnel) lined with vegetation for reptile and amphibian movement.

Theme #5: Tree Removal and Compensation

Tree removal must be outside the breeding season. No removal April 1st to Aug 31st as per Migratory Bird Convention.

300 trees documented, only 9 dead 78 over 50 DBH and 97.5% healthy. How do you replace that loss of tree mass and over what period? You cannot claim no net loss of features and functions as Dillon has done in the net impacts table. Page 44 also says compensation planting and “enhancement” to keep natural cover. Where? Not going to be able to replace feature and function of 78 50+DBH trees within the Road Allowance. Missing from the document is a map of where the trees will be lost.

It is inadequate that in the two years between 2016 when the field work was done and the publication of the EIS that NO work appears to have been done on any of the “Plans” for compensation, mitigation or edge effects. It is simply NOT adequate to leave this to “detail design” given the significant cut and fill and limited area for compensation.

In the Boler Mountain Lands Status Report, section #5 – Recommended Designations and Management, two restoration areas were identified for an active restoration program. The areas border both sides of the existing Boler Access Road.

Recommendation #11: The tree compensation plan should target these degraded woodland areas as well as the existing Boler Access Road which should be restored to its original state.

Recommendation #12: Start now with working with adjacent landowners for compensatory mitigation for tree loss as well as loss of wetland and grassland features.

Recommendation #13: Identify land for acquisition or City lands for tree planting as it is unlikely sufficient land is available to compensate for the loss of tree ecological functions.

Theme #6: Provincially Significant Bird Species observed in the general area

The Boler Mountain Lands Status Report (2012) reported the following:

One provincially significant bird species was noted on the site: Barn Swallow (with a status of threatened). This species was seen in the west portion of the site, in the strip of successional habitat along the small tributary parallel to Wickerson Road. The Barn Swallow was noted foraging over the fields on the western side of the site and was not noted breeding on the site. Barn Swallow nests were searched for in the barn/shed structure located in the western portion of the site; however, no nests were located within this structure.

An additional provincially significant bird species was noted on adjacent property: Eastern Meadowlark (threatened) was noted on the fence adjacent to the agricultural fields to the west (2011), and from agricultural fields to south of the study area (2012). Although Eastern Meadowlark was not noted on the subject property, this species likely incorporates areas of the site into its breeding territory as there is suitable habitat on the southwestern part of the property (grassy fields). This species is area-sensitive, and depends on large tracts of grassland habitat. It is generally found in broad agricultural landscapes and is extremely rare in urban settings. An adjacent landowner has also identified Bobolink in the grazing lands on the south side of Southdale, east of Wickerson. Ontario’s Endangered Species Act protects both species and their breeding habitat.

Pending and ongoing development in the general area includes: road work on Wickerson Road, a new subdivision under construction along Wickerson Road, a new stormwater pond built between Wickerson Road and Boler Mountain, an Access Road between Wickerson Road and Boler Mountain is nearing the construction phase and the Southdale Road widening project in the design stage.

Recommendation #14: Reducing habitat of the Eastern Meadowlark is contrary to the Endangered Species Act. Adjacent landowners must be consulted and cooperate in a compensation plan to create and enhance grassland habitat.

Theme #7 – An Aggressive Invasive Species Strategy.

8.2 “The Study Area was observed to contain high abundance of non-native and/or invasive species which may be attributed to existing negative impacts. An Invasive Species Management Plan is to be developed during the Detailed Design to target aggressive invasive flora which include White Sweet-clover, European Common Reed (Phragmites), Common Buckthorn and Periwinkle.”

Table 4, page 21 - Common Reed Graminoid Mineral Meadow Marsh (MAMM1-12, ELC Community #4). “ This small meadow marsh feature is situated around the outlet of a stormwater management pond located north of Southdale Road West ROW. The outlet forms the headwater for the East Tributary. This small meadow marsh community is dominated by European Common Reed which appears to be taking over a Cattail dominated meadow marsh.”

Table 4, page 21 – Cattail Graminoid Mineral Meadow Marsh (MAMM1-2, ELC Community #5). This community is adjacent to ELC Community #4 which was described in the above paragraph. “The small meadow marsh community is dominated by Cattails and transitions into European Common Reed dominated meadow marsh.”

Following road construction, invasive species are the first to invade. A post-construction plan for their removal is needed. The existing wetlands have already been invaded. Offsetting (compensation) measures have been suggested for wetland habitat loss due to construction. Mitigation, which is step three in the Wetland Strategy mitigation sequence, involves rehabilitation and restoration of features and functions. This should be a pre-construction strategy.

Recommendation #15: Start the eradication of European Common Reed before construction begins. Rehabilitate the wetland features in the Study Area that will not be impacted by the road construction.