Tree Assessment 536-542 Windermere Rd.

To: Tony Mara
127 Orkney Cres.
London, Ont

Jan. 2, 2019

This letter is a short discussion in response to Michelle Peeters' Memorandum dated Nov. 1, 2018. Specifically, this will address the recommended removal of trees 22-29 of the Tree Preservation Report.

Michelle states 3 mandates;

1. Preserve all trees beyond subject site
2. Maintain the buffer of mature trees
3. Preserve as many healthy trees as possible within the subject site – particularly because the site is within a City of London Tree Protection Area, and because we are aiming to retain as much existing vegetation as we can for the purpose of visually buffering the site from neighbouring properties

Michelle then describes 3 Coniferous buffers which are significant to neighbouring properties. 2 are recommended to be preserved while the 3rd is recommended for removal (trees 22-29). Reasoning for removal is stated as **'Removal due to overall health and condition, and conflict with the proposed site plan'**. A note is then made that this buffer will be replaced with a dense planting of Norway spruce to provide immediate and year round screen to the neighbouring property.

I would like to offer my reasoning for the preservation of these trees in the following discussion

Current Tree Health

The Tree Preservation Report (TPR) indicates the overall health is fair to good. There are 2 trees in question with less than 4 out of 5 rating for condition.

Tree #22: is rated as 2/3 in crown condition and fair structural condition; with a note that it has been limbed up to 30', there is no leader (removed?), Typ. Interior dieback, tip dieback, general decline

After onsite inspection, I saw that the leader of the tree had been broken off in a wind event and there was healthy growth repairing the damaged top of the tree. I saw minimal interior dieback, limbing was measured as under 20' and there was ZERO decline to this tree. It is healthy with a history of injury!

Tree #26: I agree with assessment of Michelle Peeters, the decline of this tree is likely and construction activities will most likely hurry this tree's demise!

Replacement trees to be planted if these trees were to be removed are an inadequate replacement for a number of reasons. There is no stated size to these replacement trees, death rates for new plantings are high due to lack of care, lack of sunlight (building obstructs) and suitability. My concerns for suitability are because the grade of the property slopes towards this row of trees and the ground is generally very wet around them. With a new building structure directly South, little sunlight will reach the ground (and tree canopy) to help evaporate water. Not only will new trees have difficulty taking root here, the current trees that are here thrive in the wet condition and are actively helping soak up the water in the area. **I have calculated how much water these trees divert each year it is an eye opening 15,868.57 L of water annually. (appendix A)** The replacement trees will not have nearly the same capacity to divert water, resulting in longer periods of oversaturation for new plantings. The current trees are easily large enough to have sunlight reach their canopy. I believe it will be very difficult to replace the buffer in this location, any trees that do get planted and survive will have a very slow growth rate and will not replace the physical buffer. Also, the recommended species to be replanted is singular, Norway Spruce, creating a monoculture. Currently there are multiple species of tree which reduces the risk of a single disease killing all of the specimens, such as the spruce gall currently effecting tree # 26.

In summary, 7 of 8 trees recommended for removal have no health or condition that would necessitate their removal. These trees are being removed **FOR CONSTRUCTION PURPOSES ONLY.** This is stated in the tree preservation report under rationale and is outside the mandate to preserve 'Buffer Zones' and 'as many healthy trees as possible'. I would instead recommend retaining these trees within this property as is. To do so would require a larger buffer zone in this area to ensure the critical root zone isn't damaged during construction. Using the DBH measurement of each tree in question we can use the formula 10 cm of protection for every 1 cm in DBH. 3 trees have a DBH of +40 cm and would require a minimum protection buffer of 4 m, the largest is 46 cm DBH and would require 4.6 m of protection. I would recommend the full 4.6 m of protection along this row of trees. Replanting is not a reasonable solution to replace this buffer as outlined above.

Regards,

Alex Morrison
Conservatree Inc.

Appendix A

MyTree Benefits

Serving size: 8 trees
Total benefits for this year
$669.54

Carbon Dioxide (CO_2) Sequestered	**$9.93**
Annual CO_2 equivalent of carbon[1]	193.64 kg
Storm Water runoff avoided	**$3.89**
Runoff avoided	1649.71 liters
Rainfall intercepted	14218.86 liters
Air Pollution removed each year	**$0.79**
Carbon monoxide	22.77 grams
Ozone	1980.05 grams
Nitrogen dioxide	345.91 grams
Sulfur dioxide	397.01 grams
Particulate matter < 2.5 microns	181.00 grams
Energy Usage each year[2]	**$485.77**
Electricity savings (A/C)	1299.80 kWh
Fuel savings (Natural Gas,Oil)	23.94 MMBtu
Avoided Energy Emissions	**$169.16**
Carbon dioxide	3268.48 kg
Carbon monoxide	1016.47 grams
Nitrogen dioxide	824.00 grams
Sulfur dioxide	4314.39 grams
Particulate matter < 2.5 microns	51.60 grams
Carbon Dioxide (CO_2) Stored to date[3]	**$126.48**
Lifetime CO_2 equivalent of carbon[3]	5438.29 kg

Benefits are estimated based on USDA Forest Service research and are meant for guidance only:www.itreetools.org

[1]Large trees: sequestration is overtaken by CO_2 loss with decay/maintenance.
[2]Positive energy values indicate savings or reduced emissions. Negative energy values indicate increased usage or emissions.
[3]Not an annual amount or value.