

October 16, 2025

***By email and portal upload only***

City Arborist (acting or permanent)  
C/o Molly McGuire, Senior Planner  
Department of Community Planning and  
Development

Re: *Review of Reduction Under MICC 19.10.070B.4 (File no. DSR25-009)*

Dear Molly:

I hope this finds you well. On behalf of the Barnabie Point Project (“BPP,” or “Project”), thank you again for all of your thoughtful review and analysis in this permitting process. It is a complex proposal, and we recognize that many of the applicable provisions of the Mercer Island City Code (“MICC” or “Code”) probably were not drafted with such a project in mind.

I understand that you may currently be serving as an interim city arborist (e.g., “[t]he person designated by the code official to administer the provisions of chapter 19.10 MICC”). If that is not correct, please just let me know at your earliest convenience who the code official has currently designated to review these matters.

As you know, the code dictates that permits to remove trees in multifamily and commercial zones will be granted when “[i]t is necessary to enable construction work on the property to proceed and the owner has used reasonable best efforts to design and locate any improvements and perform the construction work in a manner consistent with the purposes” of Mercer Island’s tree code, ch. 19. 10 MICC. *See* MICC 19.10.060.B. When trees are cut pursuant to such a permit, they are to be replaced (with new trees and/or through a fee-in-lieu) as set forth in MICC 19.10.070. A “base replacement ratio” for removed trees is set forth under MICC 19.10.070.

I understand that you are very busy. However, the BPP team seeks your input regarding whether there is any certain kind of further information that the City would like to receive in support of a request for a reduction under MICC 19.10.070.B.4. That provision provides three factors that the city arborist “may consider,” but also creates authority for the city arborist to consider additional factors that are not named in the code. In this context, the team is wondering what additional factors or information would be most informative or useful for you.

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In support of the City Arborist's review into whether "other measures designed to mitigate the tree loss by restoring the tree canopy coverage and its associated benefits are considered to be effective and consistent with the purposes of this chapter," under MICC 19.10.070.B.4, the Project team has commissioned the attached professional letter and its quantitative analysis. *See* Letter at 1 ("this letter serves as a supplemental analysis of the environmental services provided . . . to demonstrate measures that will mitigate the tree loss by restoring tree canopy coverage and the associated benefits through tree planting efforts.")

Of course, in the MICC's tree rules, "the purposes of this chapter" are twofold and they are broad. They are "to encourage building and site design to minimize tree removal, and to establish standards and procedures that will result in the retention of trees on Mercer Island. MICC 19.10.005.

The Project's attached letter, and its professional quantitative analysis, uses standard industry practices and metrics (in ecosystem services, which are customarily quantified economically by U.S. dollar) in support of the Project's request for a reduction in the number of replacement trees below the base replacement ratio that the code applies as its default. Through this analysis, it shows that given the current status and quantitative features of the trees proposed to be removed, 145 replacement trees would "restor[e] the tree canopy coverage and its associated benefits," consistent with the criterion for the requested reduction, and consistent with the chapter's overarching purposes.

If additional types of information or analysis would be helpful or supportive to your decision about whether or not to approve a reduction, we stand ready to prepare such information or analysis at your convenience. Please do let us know what kind of information would be most useful or informative for you.

Very truly yours,



Josh Friedmann  
Attorney for Herzl-Ner Tamid Conservative  
Congregation

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enclosure



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Herzl-Ner Tamid Conservative Congregation  
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### RE: Fee-in-lieu analysis for Grove mitigation (Parcel 0824059045)

Davey Resource Group (DRG) was contracted to consult on tree preservation planning in support of permit application DSR25-009. DRG's assignment was to evaluate the impacts to environmental services provided by the grove of trees on this parcel. There are 82 trees are proposed for removal to accomplish the client's development objective. Pursuant to MICC 19.10.070, this letter serves as a supplemental analysis of the environmental services provided by the grove, to demonstrate measures that will mitigate the tree loss by restoring tree canopy coverage and the associated benefits through tree planting efforts.

### Environmental Benefits of Impacted Trees

All trees provide environmental benefits and services to their owners and the surrounding community. Through scientific research and with assistance from the US Forest Service, the i-Tree suite of software tools (<https://www.itreetools.org/>) was developed to give communities access to models that communicate the benefits of trees. Exploring the trees using this model reveals how the grove provides an estimated \$651 in environmental services each year. The trees in the grove have an estimated 31 tons of carbon stored and intercept 32,000 gallons of rainfall (as avoided runoff) each year. The value of the stored carbon in these trees is estimated to be \$13,313. Over a 20-year timeframe, the trees store more carbon and provide the other annual benefits totalling \$26,553 in environmental services (Table 1).

### Mitigation Strategy to Replace Grove Benefits

According to Mercer Island code (MICC 19.10.070) the City requires mitigation that would restore the tree canopy coverage and associated benefits of the grove. Over the same 20-year timeframe modelled through i-Tree, one (1) 2" diameter Maple tree would provide \$183.39 of environmental services. To replace the services provide by the grove, 145 trees will need to be planted ( $\$26,553/\$183.39=145$  trees).

Sincerely,

Ian Scott | Seattle Area Manager  
ISA Board Certified Master Arborist® (PN-5408BUM)  
ASCA Registered Consulting Arborist #698  
Davey Resource Group Incorporated  
**ENCL.**

**Table 1: Annual benefits of the grove.**

Grove Parcel 0824059045	Amount	Unit	Value (USD)
<b>Grove Benefit Estimates (Carbon)</b>			
Sequestered Annually in Trees	1.23	Tons	\$534.00
Stored in Trees (not an annual rate)	31.00	Tons	\$13,413.00
<b>Grove Benefit Estimates (Air Pollution)</b>			
Carbon Monoxide removed Annually	13.50	oz	\$1.00
Nitrogen Dioxide removed annually	54.75	oz	negligible
Ozone removed annually	659.88	oz	\$12.00
Sulfur dioxide removed annually	118.13	oz	negligible
Particulate Matter less than 2 microns removed annually	34.45	oz	\$25.00
Particulate Matter greater than 2.5 microns and less than 10 microns removed annually	264.60	oz	\$56.00
<b>Grove Benefit Estimates (Hydrological)</b>			
Avoided Runoff	3,200	Gallons	\$29.00
Evaporation	56,390	Gallons	n/a
Interception	56,760	Gallons	n/a
Transpiration	66,790	Gallons	n/a
Potential Evaporation	348,190	Gallons	n/a
Potential Evapotranspiration	348,190	Gallons	n/a
<b>TOTAL Annual Benefits</b>			<b>\$657.00</b>

**\*Source: <https://canopy.itreetools.org/>**

# MyTree Benefits

## Over 20 years.



Maple spp, (*Acer*)

**Serving Size:** 2.00 in. diameter

**Condition:** Excellent

**Location:** Mercer Island, Wa, United States

### Expected i-Tree benefits

**over 20 years:** \$183.39

Discover benefits of all your [community trees!](#)

### Carbon Dioxide Uptake **\$94.23**

Carbon Sequestered<sup>1</sup> 435.51 lbs

CO<sub>2</sub> Equivalent<sup>2</sup> 1,596.87 lbs

### Storm Water Mitigation **\$78.03**

Runoff Avoided 8,732.05 gal

Rainfall Intercepted 12,464.61 gal

### Air Pollution Removal **\$11.13**

Carbon Monoxide 2.32 oz

Ozone 41.63 oz

Nitrogen Dioxide 18.61 oz

Sulfur Dioxide 2.01 oz

PM<sub>2.5</sub> 1.08 oz

Benefit estimates are based on USDA Forest Service research and are meant for guidance only. Visit [www.itreetools.org](http://www.itreetools.org) to learn more.

### Footnotes

<sup>1</sup> For large trees sequestration is overtaken by CO<sub>2</sub> loss with decay/maintenance.

<sup>2</sup> CO<sub>2</sub> equivalent is estimated by calculating how much atmospheric CO<sub>2</sub> is taken in by trees to provide the carbon stored in the tissues of individual trees.

<sup>3</sup> Positive energy values indicate savings or reduced emissions. Negative values indicate increased usage or emissions. Electricity used for cooling and heating and fuels like natural gas or oil used for heating, based on typical usage for the selected location.

<sup>4</sup> Not an annual amount or value.

<sup>5</sup> This location is supported by i-Tree. Localized data have been used to estimate its tree benefits.

### Abbreviations:

CO<sub>2</sub> = Carbon dioxide

PM<sub>2.5</sub> = Particulate matter 2.5 microns or less

lbs = Pounds

kg = Kilograms

gal = Gallons

L = Liters

oz = Ounces

g = Grams

kWh = Kilowatt hour

MMBtu = Millions of British thermal units

*MyTree 2.30.0*

*Powered by i-Tree Engine 0.20.1*

*Location Species Database 12.0.90*

# i-Tree Canopy Report

## i-Tree Benefits and Cover Assessment

Estimated using random sampling statistics on 10/6/2025



### Tree Benefit Estimates: Carbon (English units)

Description	Carbon (T)	±SE	CO <sub>2</sub> Equiv. (T)	±SE	Value (USD)	±SE
Sequestered annually in trees	1.23	±0.00	4.53	±0.00	\$534	±0
Stored in trees (Note: this benefit is not an annual rate)	31.00	±0.00	113.66	±0.00	\$13,413	±0

Currency is in USD and rounded. Standard errors of removal and benefit amounts are based on standard errors of sampled and classified points. Amount sequestered is based on 0.000 T of Carbon, or 0.000 T of CO<sub>2</sub>, per ft<sup>2</sup>/yr and rounded. Amount stored is based on 0.001 T of Carbon, or 0.003 T of CO<sub>2</sub>, per ft<sup>2</sup> and rounded. Value (USD) is based on \$432.73/T of Carbon, or \$118.02/T of CO<sub>2</sub>, and rounded. (English units: T = tons (2,000 pounds), ft<sup>2</sup> = square feet)

### Tree Benefit Estimates: Air Pollution (English units)

Abbr.	Description	Amount (oz)	±SE	Value (USD)	±SE
CO	Carbon Monoxide removed annually	13.85	±0.00	\$1	±0
NO2	Nitrogen Dioxide removed annually	54.75	±0.00	\$0	±0
O3	Ozone removed annually	659.88	±0.00	\$12	±0
SO2	Sulfur Dioxide removed annually	118.13	±0.00	\$0	±0
PM2.5	Particulate Matter less than 2.5 microns removed annually	34.45	±0.00	\$25	±0
PM10*	Particulate Matter greater than 2.5 microns and less than 10 microns removed annually	264.60	±0.00	\$56	±0
<b>Total</b>		<b>1,145.66</b>	<b>±0.00</b>	<b>\$94</b>	<b>±0</b>

Currency is in USD and rounded. Standard errors of removal and benefit amounts are based on standard errors of sampled and classified points. Air Pollution Estimates are based on these values in oz/ft<sup>2</sup>/yr @ \$/oz/yr and rounded:

CO 0.000 @ \$0.04 | NO2 0.001 @ \$0.00 | O3 0.017 @ \$0.02 | SO2 0.003 @ \$0.00 | PM2.5 0.001 @ \$0.73 | PM10\* 0.007 @ \$0.21 (English units: oz = ounces, ft<sup>2</sup> = square feet)

### Tree Benefit Estimates: Hydrological (English units)

Abbr.	Benefit	Amount (Kgal)	±SE	Value (USD)	±SE
AVRO	Avoided Runoff	3.20	±0.00	\$29	±0
E	Evaporation	56.39	±0.00	N/A	N/A
I	Interception	56.76	±0.00	N/A	N/A
T	Transpiration	66.79	±0.00	N/A	N/A
PE	Potential Evaporation	348.19	±0.00	N/A	N/A
PET	Potential Evapotranspiration	348.19	±0.00	N/A	N/A

Currency is in USD and rounded. Standard errors of removal and benefit amounts are based on standard errors of sampled and classified points. Hydrological Estimates are based on these values in Kgal/ft<sup>2</sup>/yr @ \$/Kgal/yr and rounded:

AVRO 0.000 @ \$8.94 | E 0.001 @ N/A | I 0.001 @ N/A | T 0.002 @ N/A | PE 0.009 @ N/A | PET 0.009 @ N/A (English units: Kgal = thousands of gallons, ft<sup>2</sup> = square feet)

#### About i-Tree Canopy

The concept and prototype of this program were developed by David J. Nowak, Jeffery T. Walton, and Eric J. Greenfield (USDA Forest Service). The current version of this program was developed and adapted to i-Tree by David Ellingsworth, Mike Binkley, and Scott Maco (The Davey Tree Expert Company)

#### Limitations of i-Tree Canopy

The accuracy of the analysis depends upon the ability of the user to correctly classify each point into its correct class. As the number of points increase, the precision of the estimate will increase as the standard error of the estimate will decrease. If too few points are classified, the standard error will be too high to have any real certainty of the estimate.