

# Arborist Report

## ~ Tree Inventory & Protection Zones ~

### Client

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### Arborist

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**October 20, 2020**

To Whom it May Concern:

Tree133 LLC was hired to perform a pre-construction tree inventory and recommend appropriate tree protection for street trees adjacent to the Mercer Island Shell Station, 7833 SE 28<sup>th</sup> St. The site visit for this project was completed on October 12, 2020.

The following report describes my findings, conclusions and recommendations.

Please review Limitations & Assumptions at the end of this report.

<b>Scope of Work</b>
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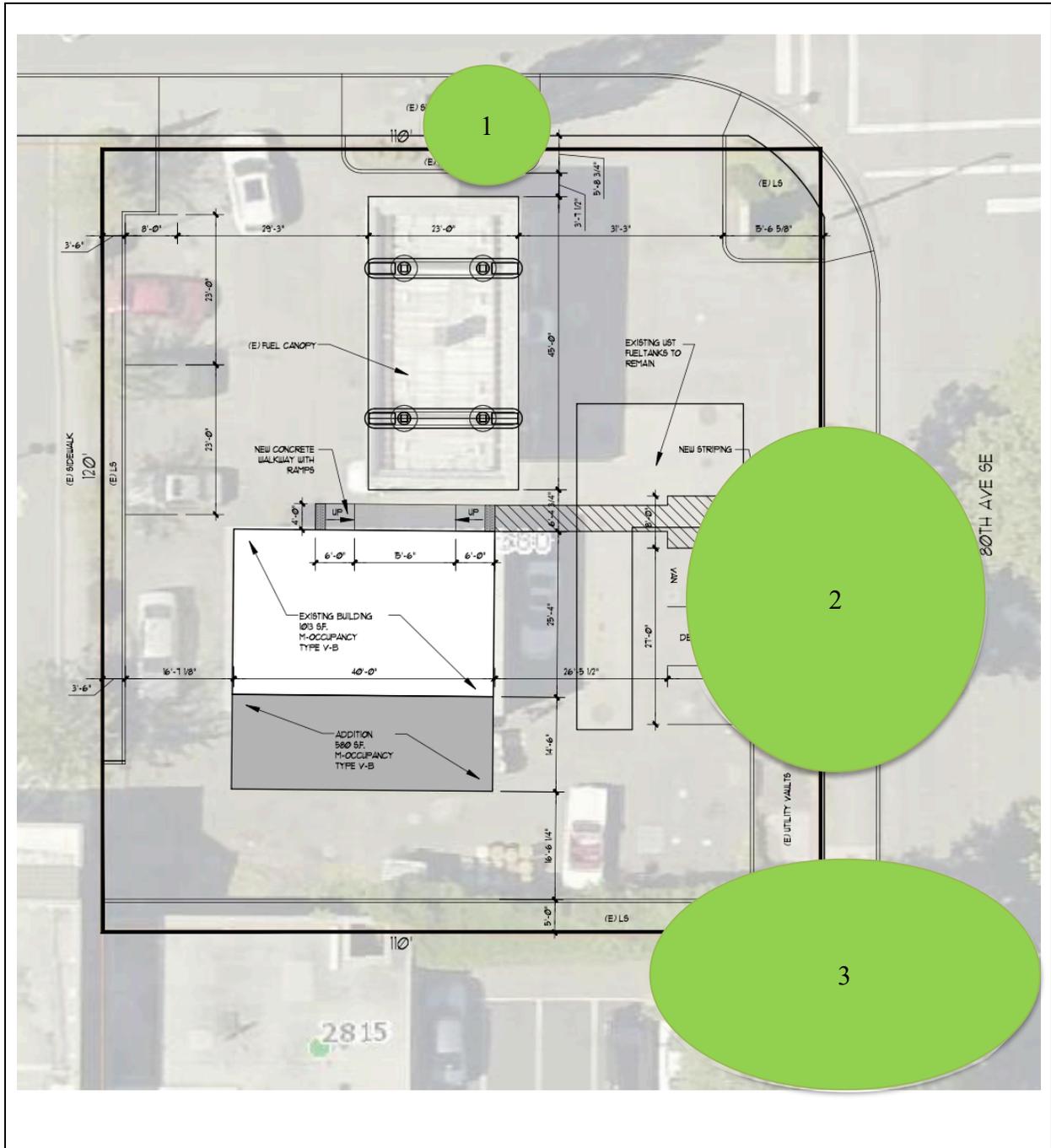
During the site visit, I compiled relevant data for the tree inventory including species, trunk diameter and canopy area. Based on my visual assessment and data collection, I have prepared recommendations for each tree regarding tree projection during construction, including definition of an appropriate tree protection zone (TPZ). These recommendations are described below.

Tree(s) included in this project were measured using industry-standard guidelines. Single-stem trees were measured at 4.5 feet above grade (referred to as dsh, diameter at standard height). Trees with unions or swelling that interferes with the measurement were measured at the narrowest point below 4.5 feet. Multi-stem trees were measured using the “square root of the sum of the squares” method. Please note; diameter measurements for some trees are estimated due to access limitations. All tree heights are approximations.

## Site Description & Map

The site at 7833 SE 28<sup>th</sup> St is a commercial property developed as a gas station. The terrain is flat with impermeable surfaces, concrete/asphalt paving and roofing, covering the vast majority of the property. Each street tree is surrounded by a planting bed with concrete curbing.

The image below identifies the approximate location of all trees inspected for this project.



## Findings & Recommendations

The following provides a summary of my findings and recommendations for each tree. Tree numbers reference the attached site map (above).

**Tree 1: Red maple (*Acer rubrum*)  
10.4” dsh, 42 ft height, canopy spread 10x10 ft**

This street tree is located at the north end of the property along SE 28<sup>th</sup> St, near the canopy structure. Overall, the tree is in fair condition with visible mechanical damage along with minor canopy dieback on the west aspect of the trunk.

Based on species, size and condition, the recommended tree protection zone (TPZ) radius for this tree is 8x trunk diameter (ie. 83” or approx. 7 ft). As described by Brad Kaul, project architect, the client anticipates excavation will extend to the property line adjacent to/including this tree. If significant excavation (greater than 15% of protected area) is required within the TPZ, proactive removal and replacement is recommended due to anticipated severe impacts to health and/or stability.

Considering all input received, it appears that tree removal and replacement will be necessary. Therefore, site plans should include appropriate space for appropriate replacement as directed by the City of Mercer Island.

If the tree will be retained, tree protection fencing should be installed in accordance with City of Mercer Island guidelines. Please note the defined tree protection zone includes paved areas on the site, and they should be fenced appropriately. Excavation within the tree’s dripline area will require supervision by a Qualified Arborist, per city code.

See References section below for tree images and details on required tree protection.

**Tree 2: American sycamore (*Platanus occidentalis*)  
17.8” dsh, 46 ft height, canopy spread 45x39 ft**

This street tree is located at the east edge of the property, along 80<sup>th</sup> Ave SE. The tree appears to be in excellent condition with no visible defects.

Based on species, size and condition, the recommended TPZ radius for this tree is 8x trunk diameter (ie. 142” or approx 12 ft). Similar to Tree 1 (above), the client anticipates excavation will extend to the property line adjacent to/including Tree 2. Several access points for underground fuel infrastructure are located approximately 9 ft northwest of the trunk. We understand these structures will be removed and replaced during the project.

If significant excavation (greater than 15% of protected area) is required within the TPZ, proactive removal and replacement is recommended due to anticipated severe impacts to health and/or stability.

Considering the input received, it appears that removal and replacement will be necessary for this tree. Therefore, site plans should include appropriate space for appropriate replacement as directed by the City of Mercer Island.

If the tree will be retained, tree protection fencing should be installed in accordance with City of Mercer Island guidelines, including paved areas. Excavation within the tree's dripline area will require supervision by a Qualified Arborist.

**Tree 3: American sycamore (*Platanus occidentalis*)  
27.0" dsh, 55 ft height, canopy spread 63x51 ft**

This street tree along 80<sup>th</sup> Ave SE overhangs the southeast corner of property. The tree appears to be in excellent condition with no visible defects. The trunk is located approximately 15 feet from the property corner.

Based on species, size and condition, the recommended TPZ radius for this tree is 8x diameter (ie. 216" or approx 18 ft). Due to the limited canopy overhang, it is recommended to establish the TPZ at the property boundary.

Based on available information, and the understanding that excavation is limited to within the property boundary, no significant impact to health or stability are anticipated for this tree.

Tree protection fencing should be installed in accordance with City of Mercer Island guidelines. Excavation within the tree's dripline area will require supervision by a Qualified Arborist.

## References

The following images show designated trees and recommended tree protection zones.

*Tree 1 - North View*



*Tree 1 - Recommended Protection Zone  
(East View)*



*Tree 2 - West View*



*Tree 2 - Recommended Protection Zone  
(North View)*



*Tree 3 - Northeast View*

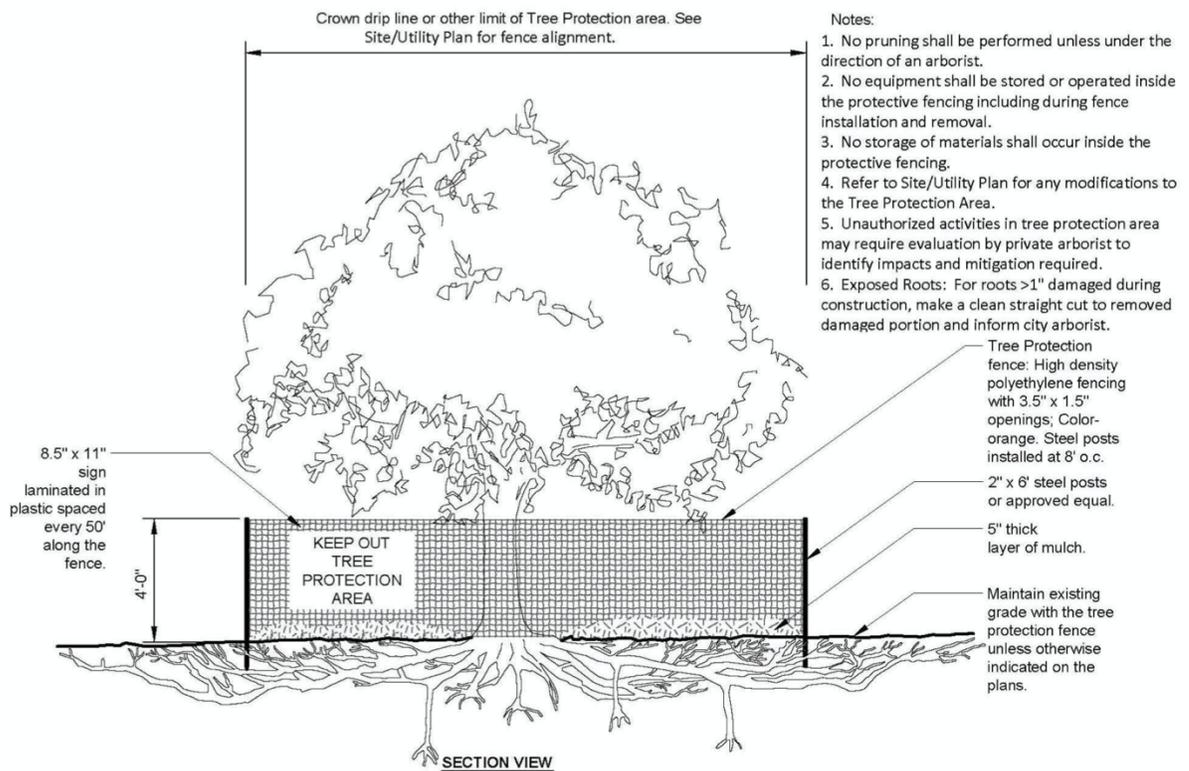


*Tree 3 - Recommended Protection Zone  
(Northeast View)*



# Detail of tree protection required by the City of Mercer Island

Source: [https://www.mercerisland.gov/sites/default/files/fileattachments/community\\_planning\\_amp\\_development/page/21988/treeprotectionfencingdetail.pdf](https://www.mercerisland.gov/sites/default/files/fileattachments/community_planning_amp_development/page/21988/treeprotectionfencingdetail.pdf)



**TREE PROTECTION DETAIL**

## **Assumptions & Limitations**

1. Consultant has agreed to undertake Services on the subject Site. Consultant assumes that the Client owns or is the agent for the owner of the Site and that the legal description of the site provided by the Client is accurate. Consultant assumes that Client has granted license for Site access for the limited purpose of providing Services.
2. Consultant assumes that the Site and its use do not violate and is in compliance with all applicable codes, ordinances, statutes or regulations.
3. The Client is responsible for making all relevant records and related information available to the Consultant in a timely manner and for the accuracy and completeness of that information. Consultant may also obtain information from other sources that it considers reliable. Nonetheless, Client is responsible for the accuracy and completeness of that additional information and Consultant assumes no obligation for the accuracy and completeness of that additional information.
4. Consultant may provide report or recommendations based on published municipal regulations. The Consultant assumes that the municipal regulations published on the date of the report/recommendation are current and assumes no obligation related to unpublished city regulation information.
5. Any reports and the analysis and recommendations included represent the opinion of Consultant. Our fee is in no way contingent upon any specified result or occurrence of a subsequent event, nor upon any finding to be reported.
6. Consultant assessments are made in conformity with acceptable evaluation, diagnostic and reporting techniques and procedures as recommended by the International Society of Arboriculture.
7. All Services and reports consider only known targets and visible/accessible tree conditions without dissection, excavation, probing, climbing or coring. Measurements are subject to typical margins of error, considering the oval or asymmetrical cross-section of most trunks and canopies.
8. All observations and conclusions reflect the condition of the tree(s) and Site at the time of inspection, based on observable factors at the day and time of inspection. The timeframe for risk categorization should not be considered a guarantee period for the tree or level of risk. Only those tree(s) specified in the scope of work were assessed. Please keep in mind; any tree, whether it has visible weaknesses or not, will fail if the forces applied exceed the strength of the tree of its parts.
9. Tree(s) included in this project are evaluated as though under responsible ownership and competent management.
10. Consultant shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services.
11. Any documentation/reporting resulting from this project shall be used for intended purposes only and by the parties to whom they are addressed. Possession of this report does not include the right of publication. Loss or alteration of any part of this report invalidates the entire report.
12. Neither all or any part of the contents of resulting documentation/reporting, nor copy thereof, shall be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales, or other media, without prior expressed written consent of Consultant.

13. Sketches, diagrams, graphs and images in this report are intended as visual aids. They are not necessarily to scale and should be not construed as engineering or architectural reports or surveys.
14. Consultant reserves the right to amend conclusions or recommendations if additional relevant information is made available.
15. Consultant makes no warranty or guarantee, express or implied, that problems or deficiencies of the tree(s) or Site in question may not arise in the future. Any report is based on the opinions of the authoring arborist and does not provide guarantees regarding the future performance, health, vitality, structural stability or safety of the tree(s) described or assessed. Neither the arborist nor Tree133 LLC has assumed any responsibility for liability associated with the trees on or adjacent to this project Site, their future demise and/or any damage which may result therefrom. Changes to an established tree's environment can cause decline, death and/or structural failure.

END OF REPORT

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