

2. Tree Inventory

The following table summarizes the trees assessed on site:

Tree ID	Species	DSH (in)	Exceptional	Height	Drip Zone Diameter	Condition	Comments	Retention
86	Western Red Cedar (Thuja pilcata)	15"	No	35'	16'	Good	Conflict with building area	Remove
87	Douglas FIR (Pseudotsuga menziesii)	23"	No	65'	22'	Fair	Conflict with building area	Remove
88	Willow (Salix spp.)	19"	Yes	65'	20'	Poor	50% Dead branches, decay, cavity	Save
89	Western Red Cedar (Thuja pilcata)	15"	N/A Condition	65'	10'	Dead		Save
90	Alder, Red (Alnus rubra)	14"	No	40'	10'	Fair	In decline, Ivy, blackberry, steep slope	Save

3. Tree Health Assessment

Each tree has been evaluated for structural integrity, health (disease, pests, decay), and potential to thrive post-development. Trees selected for retention will require protection during construction.

4. Disturbance allowance

The Critical Root Zone is measured as one foot of radius for every inch of trunk diameter measured at 4.5 feet from grade. Measurements are calculated from DSH and may not be an accurate representation of the actual dimensions of the root zone of the trees in the field. Factors may limit root growth and expansion such as slope, hardscape or compacted areas, or tree health.

5. Protection Measures

For the retained trees, the following steps are recommended:

Tree Protection Zone (TPZ) Fencing:

- Install tree protection fencing at least 4' high and construction from chain link fence for exceptional trees and/ or high visibility safety fencing materials around the drip line of all trees that are to be retained prior to construction.

- Install tree protection fencing at least 4' high and construction from chain link fence for exceptional trees and/ or high visibility safety fencing materials around the drip lines of trees that extend over the subject property.
- "Tree Protection Area - Keep Out" or similar signs must be posted at regular intervals along the tree protection fencing.
- Limits of Disturbance (LODs) should be designed in such a way that they cannot be easily moved or dismantled.
- LODs must remain intact throughout the duration of the project and can only be removed, either temporarily or permanently, with authorization from an ISA-certified arborist, following submission and approval of a removal request.
- No work or access is allowed within the LOD of retained trees. This includes the storage of materials, parking, or contamination of the soil through equipment washout.
- No excavation or material storage within the protected zones.
- Ensure periodic inspections during construction.

Soil Protection:

- In addition to tree protection barriers, additional care measures are recommended for preserved trees. These include mulching around the dripline, providing supplemental fertilization for stressed trees, irrigation as needed, soil amendments, soil aeration, and pruning to remove deadwood or create necessary clearance for protection.

Construction Activity Restrictions:

- No grading, excavation, or heavy equipment within TPZ areas

Monitoring and Inspections:

A qualified site arborist should be retained for the entire project to perform periodic inspections, ensure compliance with tree protection measures, and assess the health and condition of the trees during construction

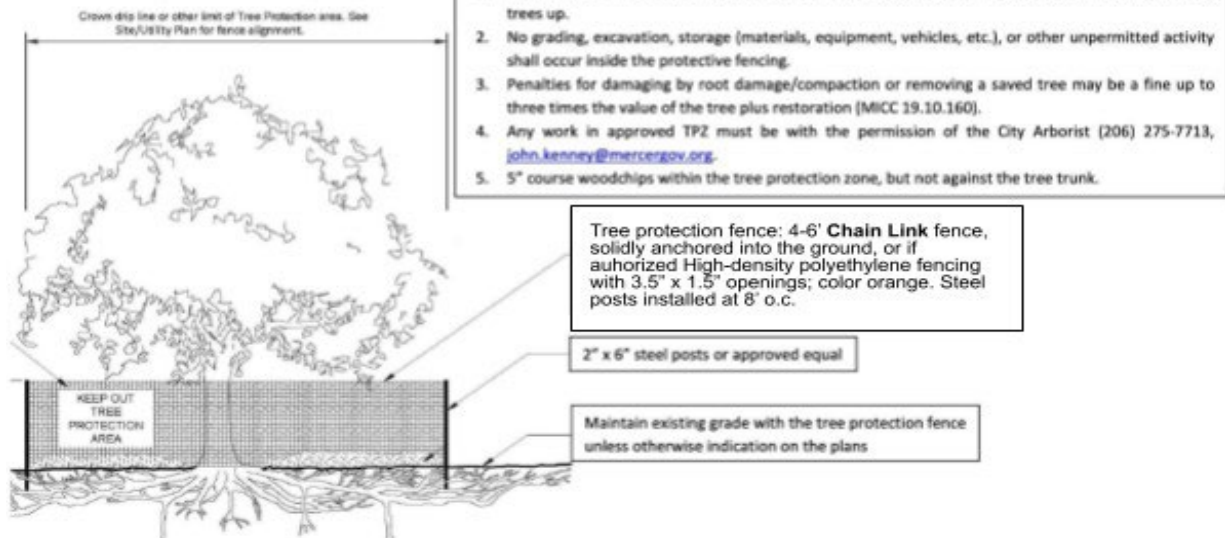
TREE PROTECTION AREA (TPZ)

KEEP OUT!

DO NOT REMOVE OR ADJUST THE APPROVED LOCATION OF THIS TREE PROTECTION AREA

Trees enclosed by this fence are protected and are subject to the conditions of the tree permit. Violation of tree conditions may lead to:

1. Correction Notices or Stop Work Orders until compliance is achieved
2. RE Inspection Fees/financial penalties
3. Arborist reports recommending mitigation



Any Work in the protected area must be with the permission of the City Arborist john.kenney@mercergov.org

6. Tree Replacement

The suggested location for tree replacement is dependent on the desired of the new housing structures and hardscaping. Generally, the replacement plantings shall be native to the Pacific Northwest. Coniferous trees shall be at least six feet tall and deciduous trees shall be at least one and one-half inches in caliper. Replacement trees shall be planted in the wet season (October 1 through April 1), following the applicable tree removal or, in the case of a development proposal, completion of the development work.

Tree planting and maintenance are crucial components of ensuring healthy, thriving trees in urban, suburban, and rural landscapes. The specification for tree planting and maintenance typically involves a set of guidelines, procedures, and standards to follow to ensure the long-term health, safety, and aesthetic value of trees. Below is an overview of the key aspects related to tree planting and maintenance specifications:

Tree Planting Specifications

Site Selection and Preparation

- **Soil Testing:** Before planting, soil should be tested for its pH, texture, drainage, and nutrient levels to determine the best tree species for the location.
- **Space Requirements:** Ensure sufficient space for the tree's root system to grow. Consider the mature size of the tree and its potential impact on structures (e.g., sidewalks, buildings) and utilities.
- **Drainage:** The planting site should have adequate drainage to avoid waterlogging, which could harm the roots. Proper drainage can be ensured by creating a raised bed or installing drainage pipes, if necessary.
- **Sunlight and Wind Exposure:** Choose a planting site that provides the appropriate sunlight and wind exposure for the specific species being planted.

Planting Process

- **Root System:** Ensure the tree is planted at the correct depth, with the root collar (where the trunk meets the roots) level with the surrounding soil surface.
- **Soil Amendments:** If necessary, amend the soil with organic material to enhance nutrient content, but avoid over-amending, which could lead to weak root growth.
- **Watering:** After planting, water thoroughly to settle the soil around the roots. Water should be applied slowly to avoid washing away the soil.
- **Mulching:** Apply a 2-4 inch layer of organic mulch around the base of the tree (but not directly on the trunk) to retain moisture and suppress weeds.
- **Stake/Support:** Stake the tree only if necessary to prevent leaning, and ensure that the stakes don't damage the tree trunk. Remove stakes after the first growing season to allow the tree to establish itself.

Spacing and Layout

- Ensure adequate spacing (10 feet minimum) between trees to allow for full canopy development.
- Maintain sufficient space from obstacles like buildings, sidewalks, and power lines.

Tree Maintenance Specifications

Watering

- **Initial Watering:** Newly planted trees need consistent watering for the first 1-2 years until they establish a deep root system. Water deeply and infrequently to encourage deep root growth.
- **Ongoing Watering:** Established trees should be watered during dry periods, particularly in the summer months. Regular watering helps trees cope with stress and prevent drought damage.
- **Watering Methods:** Use a soaker hose, drip irrigation, or deep root watering techniques to ensure the water reaches the root zone.

Pruning

- **Young Tree Pruning:** In the early years, prune trees to establish a strong central leader (main trunk) and remove any dead, damaged, or crossing branches.
- **Pruning Season:** The best time for pruning is typically during the tree's dormant season (late winter or early spring) to avoid stressing the tree and promoting unwanted growth.
- **Proper Pruning Cuts:** Use clean, sharp tools to make smooth cuts just outside the branch collar, avoiding damaging the tree.

Mulching

- **Replenish Mulch:** Mulch should be replenished annually to maintain a consistent 2-4 inch layer, ensuring it doesn't touch the tree's trunk.
- **Avoid Over-Mulching.**

Fertilization

- **Soil Testing:** Conduct soil tests regularly to determine if additional fertilization is needed. Apply organic fertilizers or slow-release nutrients according to tree species requirements.
- **Timing:** Fertilizer should be applied during the active growing season (typically in spring or early summer) to support growth.
- **Balanced Fertilization:** Use a balanced fertilizer (e.g., NPK: Nitrogen, Phosphorus, Potassium) to promote healthy root, stem, and leaf development.

Weeding and Grass Control

- **Weeding:** Remove competing weeds and grasses from around the tree's root zone, especially during the first few years of growth, to reduce competition for water and nutrients.

- Grass: Grass around trees can be detrimental if it competes with roots for nutrients. Avoid allowing grass to grow right up to the tree base, and use mulch to minimize competition.

7. Tree Removal

The proposed tree removals of 001 and 003 on this site will not adversely affect any other nearby trees.

8. Conclusion

This report provides a detailed tree inventory and recommendations for the development site at 2424 74th Ave. S.E., Mercer Island. Of the trees evaluated, one tree is recommended for retention, while two trees are to be removed. Proper protection measures must be enforced to preserve the health of retained trees throughout construction.

About Bruce MacCoy:

I obtained a Master of Science degree in Forestry, Entomology, and Plant Pathology from Michigan State University in 1974. I was elected to an honorary forestry fraternity (Xi Sigma Pi) for high academic achievement. I started work on a Ph.D. in Plant Pathology before accepting a job with a national tree service (Bartlett Tree Experts) as the representative for their New Haven, Connecticut office. While there, I obtained a second Master's Degree in Business Management with an emphasis in finance. I became certified by the state of Connecticut as an Arborist. I am a graduate of the Davey Institute of Tree Surgery.

I am certified by the International Society of Arboriculture as an Arborist: PN-0159A, 10828. I am a graduate of the academy for the American Society of Consulting Arborists' (ASCA).