



ARBOR INFO LLC

2406 N Castle Way Brier, WA, 98036

**Tree Assessment
For
CHC Architects
At
2720 71st Ave SE
Mercer Island, Washington**

**Date
10/17/2024**

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Addenda

- I. Site Development Plan with Tree Protections
- II. Tree Assessment Summary Table
- III. Mercer Island Check list
- IV. Mercer Island Tree Inventory Form
- V. Tree Protection Signage Requirements

1. Introduction

I was contacted by Chaohau Chang at CHC Architects to describe and assess the condition and viability of trees on and adjacent to 2720 – 71st Ave SE., Mercer Island, WA. This report summarizes my observations and conclusions.

2. Competence

- Certified Arborist ISA #23136, PN 0426 A)
- Registered Consulting Arborist (American Society of Consulting Arborists #499).
- Tree Risk Assessment Qualified (ISA).
- Seattle Tree Service Provider 18581
- Certified forester (Society of American Foresters #951)
- Bachelor of Science degree in Forest Management from the University of Washington
- Licensed Washington State Real Estate Managing Broker #11534

3. Client

The client to whom this report is addressed is:

Chaohua Chang
CHC Architects
13301 SE 79th Pl. Unit A205
Newcastle, WA 98059

4. Assignment, Purpose and Use of Report

The assignment is to describe and assess the condition and viability of on-site and off-site trees adjacent to the subject parcel. Protection recommendations in conformance with the City of Mercer Island “Tree Submittal Check List” are included.

5. Limits of Assignment

The assignment is limited to the information gathered during the site visit October 4, 2024 (date of assessment) and references noted in this report. No excavation or sampling was undertaken to determine unseen defects. No inspection of trees not reported herein was made.

A site plan indicating the current condition of the property was provided and is included in the Addenda with tree locations noted.

6. Site Description

2720 71st Ave SE. Mercer Island, WA
King County Parcel No. 2174501915, 9,000 square feet; 0.21 acres

The subject property is a rectangular lot on level ground that contains a single-family residence.

The existing house will be retained and single story attached accessory dwelling unit constructed in southeast or back yard of the lot.

7. Methodology

Each tree was measured for diameter at 4.5-feet above ground, (or equivalent) total height, percentage of live green crown, and dripline (extent of live limbs).

Each tree was assessed as to its vitality, structure, vigor and viability:

Vigor or condition:

Vitality: Biotic

- Good: No evidence of fungal infection or decay;) Tree has sufficient photosynthetic capacity to reach expected normal life expectancy. (40-100 years) in this case
- Fair: Tree has initial fungal decay or evidence of insect habitat and is less likely to survive to normal life expectancy. . Some with minor defects, are rated viable because they have sufficient photosynthetic capacity to reach expected normal life expectancy,
- Poor: Tree has significant fungal decay and defects that render it not likely to survive three years.

Structural: Abiotic

- Good: no significant abiotic or mechanical defects
- Fair: less than preferred form, defects such as breaks in the bole, poor limb attachments, included bark, poor root contact, etc. May be rated non-viable.
- Poor: Broken or cracked bole or limbs; root plate compromised; generally rated non-viable.

Viability:

- A measure of whether the tree is likely to live to its “normal” life span or has defects limiting that potential or poses a risk to the residence or proposed development is a simple ‘yes/no’ rating.

8. Tree Description

Refer to the attached Tree Assessment Summary Form. There are a total of eighteen on-site trees and one off-site. A summary of the trees follows.

Table 1- Tree Category Summary – On site

| <u>Category</u> | <u>Number</u> |
|-------------------------------|---------------|
| Total | 18 |
| Total viable | 16 |
| 36”+ | 0 |
| 24”+ | 5 |
| Exceptional | 0 |
| Large Regulated | 14 |
| Large Regulated to be Removed | 8 |
| Percentage Retention | 42% |

Table 2- Tree Category Summary – Off site – Private

| <u>Category</u> | <u>Number</u> |
|-------------------------------|---------------|
| 24”+ | 1 |
| Exceptional | 0 |
| Large Regulated | 1 |
| Large Regulated to be Removed | 0 |
| Percentage Retention | 100% |

9. Tree Retention and Removals

Refer to Addendum II and Mercer Island City Code 19.10.060.

There are Eighteen trees on site with nine proposed for removal, leaving 43-percent retention.

19.10.060.A.2. *Retention requirement.* Development proposals specified under subsection (a)(1) of this section shall retain trees as follows:

- a .A minimum of 30 percent of trees with a diameter of ten inches or greater, or that otherwise meet the definition of large tree, shall be retained over a rolling five-year period.

The retention requirement is met.

The following Table 3 provides the likely root zone incursion and impacts for all trees.

Table 3 – Root Zone Impacts

| Root Zone Impacts | | | | | | | | | | | | | |
|---|-------------------|----------|-------------|--------|--------------------|------------|------------------------|-------------|------------------------|---------------------------------|-------------------------|---------------------------|----------|
| Site: Tseng, 2720 71st Ave SE., Mercer Island, Wa | | | | | | | | | | Date: 10/17/2024 | | P 2024-122 | |
| Tree # | Species | DBH (in) | Disposition | | Root Zone (radius) | | Distance tree face to: | | Root Zone Area (sq ft) | Impacted Root Zone Area (sq ft) | Impacted Root Zone (%)* | Purpose | Impact |
| | | | Retain | Remove | Outer (ft) | Inner (ft) | Excavation** (ft) | Fill** (ft) | | | | | |
| On Site | | | | | | | | | | | | | |
| 1* | Purple leaf plum | 10.7 | X | | 11 | 5 | 18 | 0 | 89.9 | 0 | 0.0 | Excavation for foundation | None |
| 2 | Fruit cherry | 11.6 | X | | 12 | 6 | 13 | 0 | 105.6 | 0 | 0.0 | Excavation for foundation | None |
| 3 | Western red cedar | 26.4 | X | | 26 | 13 | 13 | 0 | 547.1 | 10 | 1.8 | Excavation for foundation | Minimal |
| 4 | Oregon ash | 9.8 | X | | 10 | 5 | 13 | 0 | 75.4 | 0 | 0.0 | Excavation for foundation | None |
| 5 | Douglas-fir | 9.9 | | X | 10 | 5 | 2 | 0 | 76.9 | 35 | 45.5 | Excavation for foundation | NA |
| 6 | Douglas-fir | 26.5 | | X | 27 | 13 | 11 | 0 | 551.3 | 200 | 36.3 | Excavation for foundation | NA |
| 7 | Port Orford cedar | 23.4 | X | | 23 | 12 | 9 | 0 | 429.8 | 50 | 11.6 | Excavation for foundation | Minor |
| 8 | Port Orford cedar | 15.7 | X | | 16 | 8 | 11 | 0 | 193.5 | 0 | 0.0 | Excavation for foundation | None |
| 9* | Port Orford cedar | 30.4 | X | | 30 | 15 | 10 | 0 | 725.5 | 100 | 13.8 | Excavation for foundation | Minor |
| 10 | Port Orford cedar | 13.0 | | X | 13 | 7 | 0 | 0 | 132.7 | 80 | 60.3 | Excavation for foundation | NA |
| 11 | Western red cedar | 18.5 | | X | 19 | 9 | 0 | 0 | 268.7 | 120 | 44.7 | Excavation for foundation | NA |
| 12 | Western red cedar | 25.2 | | X | 25 | 13 | 0 | 0 | 498.5 | 250 | 50.1 | Excavation for foundation | NA |
| 13 | Western red cedar | 24.2 | | X | 24 | 12 | 0 | 0 | 459.7 | 220 | 47.9 | Excavation for foundation | NA |
| 14 | Scots pine | 16.1 | | X | 16 | 8 | 13 | 0 | 203.5 | 0 | 0.0 | Excavation for foundation | NA |
| 15* | Vine maple | 6.4 | | X | 6 | 3 | 14 | 0 | 32.2 | 0 | 0.0 | Excavation for foundation | NA |
| 16* | Holly | 21.1 | X | | 21 | 11 | 13 | 0 | 349.5 | 0 | 0.0 | Excavation for foundation | None |
| 17 | Fruit cherry | 11.8 | X | | 12 | 6 | 3 | 0 | 109.3 | 30 | 27.4 | Excavation for foundation | Moderate |
| 18 | Purple leaf plum | 7.1 | | X | 7 | 4 | 0 | 0 | 39.6 | 39 | 98.6 | Excavation for foundation | NA |
| Off site | | | | | | | | | | | | | |
| A | Japanese maple | 17.7 | X | | 17.7 | 9 | 12 | 0 | 245.9 | 0 | 0 | Excavation for foundation | None |

*A calculation of the total area (square feet) of proposed disturbance in the outer half of the tree's outer root zone radius divided by the total area of the outer half of the root zone (square feet) that cannot exceed 33 percent or 1/3 of the outer root zone.

** Allows two feet Over Excavation/Equipment Area.

Site Development impacts are rated as follows:

- None; Site Disturbance, Excavation and fill are beyond the Critical Root Zone
- Minor: Shallow Site Disturbance, will affect less than 15-percent of the Critical Root Zone –Careful excavation required
- Moderate: Site Disturbance will affect less than 30-percent of the Critical Root Zone with depths up to 12-inches – Careful excavation required
- Significant: Site Disturbance, Excavation and fill exceed the above limits: Tree not recommended for retention.

Table 3 indicates that only retained tree No. 17 will have moderate root zone incursion. This tree is in poor condition and could be removed as a non-viable tree.

Within the Guidelines of MICC as excerpted following, trees 5,6,10,11,12,13,14,,15,18 that are planned for removal meet the allowable removal criteria as demonstrated by demonstrates unavoidable root zone impacts. Tree no. 17 decaying fruit cherry is also allowed to be removed.

19.10.060.A.3 *Retention of exceptional trees.* Development proposals specified under subsection (a)(1) of this section shall retain exceptional trees with a diameter of 24 inches or more. Exceptional trees with a diameter of 24 inches or more that are retained shall be credited towards compliance with the retention requirements of subsection (A)(2) of this section. Removal of exceptional trees with a diameter of 24 inches or more, shall be limited to the following circumstances:

- a. Retention of an exceptional tree(s) with a diameter of 24 inches or more will result in an unavoidable hazardous situation; or

b. Retention of an exceptional tree(s) with a diameter of 24 inches or more will limit the constructable gross floor area to less than 85 percent of the maximum gross floor area allowed under [chapter 19.02](#) MICC; or,

c. Retention of an exceptional tree(s) with a diameter of 24 inches or more will prevent creation of a residential lot through a subdivision or short subdivision that is otherwise allowed by this title.

10. Replacement Trees

Table 4- Replacement Tree Summary

| Diameter | No. Removed | Replacement ratio | Required |
|---------------|-------------|-------------------|----------|
| Less than 10” | 1 | 1:1 | 1 |
| 10”-24” | 5 | 2:1 | 10 |
| 24”-36” | 3 | 3:1 | 9 |
| | | | 20 |

The project landscape architect will develop a tree planting plan including species and placement on the property.

11. Tree Protection

Trees to be retained must be protected per MIC 19.10.080.b. The following guidelines should be employed to protect all retained trees on and off site at this project location.

- Place no construction material or equipment within the protected area of any tree to be retained
- Tree protection fencing consisting of chain link at least 4-feet in height. at the dripline
- “Tree Protection Area- Entrance Prohibited” at 15-foot intervals on the fence
- Prohibiting excavation or compaction of earth or other damaging activities within the barriers unless approved by the Planning Official and supervised by a qualified professional
- Approved landscaping in a protected zone shall be done by light machinery or by hand
- Any exposed roots should be cut cleanly and backfilled with soil as soon as possible
- Root zones should be protected by a 4-inch-deep layer of clean organic material (tree chips, etc.)

Detailed Tree Protection Signage requirements per Mercer Island Requirements are attached in Addendum V.

12. Summary

The tree retention, removal and protection plan described above meets the objectives of MIC 19.10.010 by retaining and protecting 43-percent of the onsite trees and 100-percent of the trees on adjacent property.

13. Assumptions and Limiting Conditions

1. Any legal description provided to the consultant is assumed to be correct. Ownership of the subject trees as provided by the client is assumed to be correct. No responsibility is assumed for legal matters. No opinion as to the property line location is made.
2. Care has been taken to obtain all information from reliable sources. The consultant can neither guarantee nor be responsible for the accuracy of information provided by others.
3. The consultant shall not be required to give testimony or attend court by reason of this report unless subsequent contractual arrangements are made, including additional fees.
4. This report and any values expressed herein represent the opinion of the consultant, and the consultant's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.
5. The exhibits in this report are included to assist the reader and are not necessarily to scale.
6. Unless expressed otherwise, the information in this report covers only items that were examined and reflects the condition of those items at the time of inspection. The subject site was cleared of all vegetation at the time of inspection therefore the extent of removals is inferred from adjacent undisturbed areas. The inspection is limited to visual examination of accessible portions of the trees and plants.
7. Loss or alteration of any part of the report invalidates the entire report. Ownership of any documents related to this report passes to the client only.
8. The liability of ArborInfo LLC its contractors and employees is limited to the client only and only up to the amount of the fee actually received for the assignment.
9. *There is no warranty suggested for any of the trees subject to this report. Weather, latent tree conditions, and future man-caused activities could cause physiologic changes and deteriorating tree condition. Over time, deteriorating tree conditions may appear and there may be conditions, which are not now visible which, could cause tree failure. This report or the verbal comments made at the site in no way warrant the structural stability or long-term condition of any tree, but represent my opinion based on the observations made.*

10. *NEARLY ALL TREES IN ANY CONDITION STANDING WITHIN REACH OF IMPROVEMENTS OR HUMAN USE AREAS REPRESENT HAZARDS THAT COULD LEAD TO DAMAGE OR INJURY. THE ASSESSMENT IS VALID FOR TWO YEARS FROM THE DATE OF INSPECTION, ONLY.*

11. PERTINENT JURISDICTION RULES AND REGULATIONS SHOULD BE CONSULTED PRIOR TO THE REMOVAL OR ALTERATION OF ANY TREE.

Respectfully Submitted,

A handwritten signature in cursive script that reads "Tom Hanson".

Thomas M. Hanson, CA, RCA

Addenda

- I. Site Development Plan with Tree Protections
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CITY OF MERCER ISLAND

COMMUNITY PLANNING & DEVELOPMENT

9611 SE 36TH STREET | MERCER ISLAND, WA 98040

PHONE: 206.275.7605 | www.mercergov.org

Inspection Requests: Online: www.mybuildingpermit.com VM: 206.275.7730



TREE SUBMITTAL CHECKLIST

If a box is checked, please provide the information in your next submittal

SUBMITTAL ITEMS

1. The Mercer Island Tree Inventory Form

- Provide the City's Mercer Island Tree Inventory Form

2. Arborist report/tree inventory

- Provide an Arborist report, prepared by a qualified Arborist. Include the following information in the arborist report.
 - 1. Description of how the arborist meets the threshold requirements for Qualified Arborist.
 - 2. A complete description of each tree's diameter, species, critical root zone, limits of allowable disturbance, health, condition, and viability.
 - 3. A description of the method(s) used to determine the limits of allowable disturbance (i.e., critical root zone, root plate diameter, or a case-by-case basis description for individual trees).
 - 4. Any special instructions specifically outlining any work proposed within the limits of disturbance protection areas (i.e. hand-digging, air space, tunneling, root pruning, any grade changes, clearing, monitoring, and aftercare).
 - 5. For trees not viable for retention, a description of the reason(s) for removal based on poor health, high risk of failure due to structure, defects, unavoidable isolation, windfirmness, unsuitability species, etc. If there is no reasonable alternative action (pruning, cabling, etc.) possible, replacement recommendations must be given.
 - 6. Describe the impact of necessary tree removal on the remaining trees, including those in a grove or on adjacent properties.
 - 7. Describe timing and installation of tree protection measures. Such measures must include fencing and be in accordance with the tree protection standards as outlined in MICC 19.10.
 - 8. The suggested location and species of replacement trees to be used when required. The report shall include planting and maintenance specifications to ensure long term survival.
 - 9. **A Tree Inventory** containing the following:
 - a. A numbering system of all existing large trees on the property (with corresponding tags on trees). The inventory shall also include large trees on adjacent property with driplines or critical root zones extending into the property.
 - b. Tree size (diameter).
 - c. Proposed tree status (retained or proposed for removal).
 - d. Tree type or species.
 - e. Identify all Exceptional trees and differentiate between those less than 24 inches and those greater than or equal to 24 inches in diameter.
 - f. Brief general health or condition rating of each tree (i.e. poor, fair, good, etc.).

3. Site/tree retention plan

Indicate the following on all civil/utility and grading sheets. If there are no civil sheets indicate on the architectural site plan

- 1. Location of all proposed improvements (building footprint, access, utilities, buffers, required landscape areas).
- 2. Surveyed location of all large trees and Exceptional trees on the property
- 3. Show the critical root zone of Large trees on adjacent properties if driplines extend over the subject property line.
- 4. Trees labeled corresponding to the tree inventory numbering system on the Mercer Island Tree Inventory Form.
- 5. Identify Exceptional trees using different symbols for trees less than 24 inches and trees greater than or equal to 24 inches.
- 6. Location of tree protection measures.
- 7. Limits of excavation near potential saved trees (e.g. excavation limits for building foundation).
- 8. Indicate clearing limits/limits of disturbance (LOD) around all trees potentially impacted by site disturbances - grading, demolition, construction activities (including approximate LOD of off-site trees with overhanging driplines), etc.
- 9. Proposed tree status (trees to be removed or retained) noted by an 'X' for removal.

4. Replanting plan

- Provide the Replanting plan showing proposed locations of any required replacement trees.

PEER REVIEW AND CONFLICT OF INTEREST

A peer review of the tree permit application by a qualified arborist may be required to verify the adequacy of the information and analysis. **The applicant shall bear the cost of the peer review.**

The City Arborist may require the applicant retain a replacement qualified arborist or may require a peer review where the City Arborist believes a conflict of interest may exist.

For example, if an otherwise qualified arborist is employed by a tree removal company and prepares the arborist report for a development proposal, a replacement qualified arborist or peer review may be required.

ARBORIST QUALIFICATION

For tree reviews associated with a development proposal, a qualified arborist must have

- A minimum of three (3) years' experience working directly with the protection of trees during construction
- Have experience with the likelihood of tree survival after construction
- Be able to prescribe appropriate measures for the preservation of trees during land development
- ISA Tree Risk Assessment Qualification
- Your qualified arborists must have at least one (1) of the following credentials:
 - ISA Certified Arborist;
 - ISA Certified Arborist Municipal Specialist;
 - ISA Board Certified Master Arborist;
 - American Society of Consulting Arborists (ASCA) registered Consulting Arborist;
 - Society of American Foresters (SAF) Certified Forester for Forest Management Plans;

ADDITIONAL INFORMATION

Additional Information. The City Arborist or Code Official may require additional documentation, plans, or information as needed to ensure compliance with applicable City regulations.

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PHONE: 206.275.7605 | www.mercergov.org



TREE INVENTORY & REPLACEMENT SUBMITTAL INFORMATION

EXCEPTIONAL TREES

Exceptional Trees- means a tree or group of trees that because of its unique historical, ecological or aesthetic value constitutes an important community resource. A tree that is rare or exceptional by virtue of its size, species, condition, cultural/historical importance, age, and/or contribution as part of a tree grove. Trees with a diameter of more than 36 inches, or with a diameter that is equal to or greater than the diameter listed in the Exceptional Tree Table shown in MICC 19.16 under Tree, Exceptional.

List the total number of trees for each category and the tree identification numbers from the arborist report.

Number of trees 36" or greater _____

List tree numbers: _____

Number of trees 24" or greater (including 36" or greater) _____

List tree numbers: _____

Number of trees from Exceptional Tree Table (MICC 19.16) _____

List tree numbers: _____

LARGE REGULATED TREES

Large Regulated Trees- means any tree with a diameter of 10 inches or more, and any tree that meets the definition of an Exceptional Tree.

Number of Large Regulated Trees on site _____

(A)

List tree numbers: _____

Number of Large Regulated Trees on site proposed for removal _____

(B)

List tree numbers: _____

Percentage of trees to be retained ((A-B)/Ax100) note: must be at least 30% _____

%

RIGHT OF WAY TREES

Right of Way Trees- means a tree that is located in the street right of way adjacent to the project property.

Number of Large Regulated Trees in right of way _____

List tree numbers: _____

Number of Large Regulated Trees in right of way proposed for removal _____

List tree numbers: _____

Reason for removal: _____

TREE REPLACEMENT

Tree replacement- removed trees must be replaced based on the ratio in the table below. Replacement trees shall be conifers at least six feet tall and or deciduous at least one and one-half inches in diameter at base.

| Diameter of Removed Tree (measured 4.5' above ground) | Tree replacement Ratio | Number of Trees Proposed for Removal | Number of Tree Required for Replacement Based on Size/Type |
|---|------------------------|--------------------------------------|--|
| Less than 10" | 1 | | |
| 10" up to 24" | 2 | | |
| Greater than 24" up to 36" | 3 | | |
| Greater than 36" and any Exceptional Tree | 6 | | |
| TOTAL TREE REPLACEMENTS | | | |

TREE PROTECTION AREA (TPZ)

KEEP OUT!

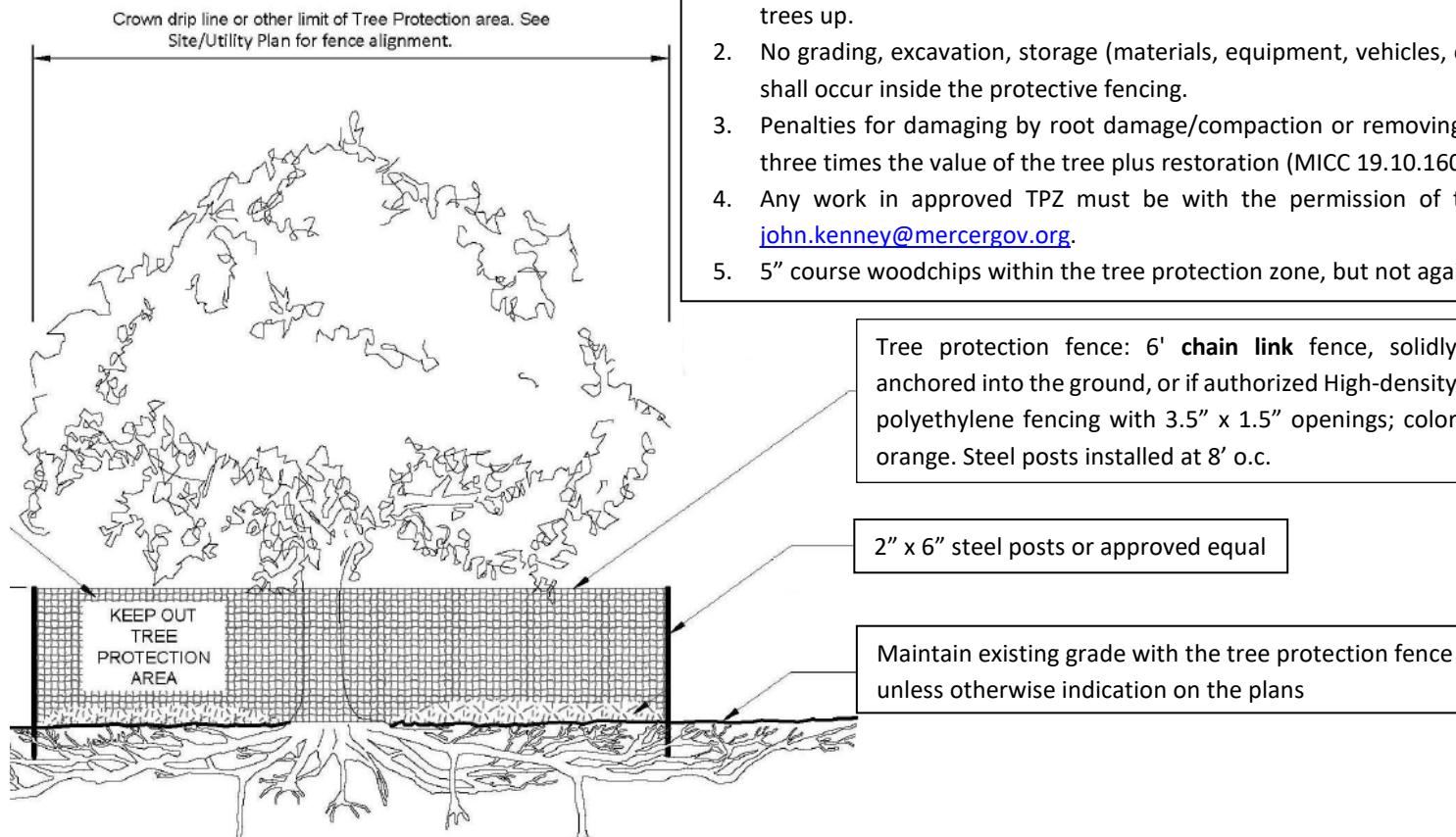
DO NOT REMOVE OR ADJUST THE APPROVED LOCATION OF THIS TREE PROTECTION AREA

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

Notes

1. No pruning shall be performed unless under the direction of the Project Arborist. Including limbing trees up.
2. No grading, excavation, storage (materials, equipment, vehicles, etc.), or other unpermitted activity shall occur inside the protective fencing.
3. Penalties for damaging by root damage/compaction or removing a saved tree may be a fine up to three times the value of the tree plus restoration (MICC 19.10.160).
4. Any work in approved TPZ must be with the permission of the City Arborist (206) 275-7713, john.kenney@mercergov.org.
5. 5" course woodchips within the tree protection zone, but not against the tree trunk.



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