

MEMORANDUM

DATE: December 10, 2023

TO: Kim-Hien Nguyen

FROM: Todd Prager, RCA #597, ISA Board Certified Master Arborist

RE: Tree Protection Plan for 4975 SW 139th Avenue

Summary

This is the tree protection plan for the proposed lot partition and construction at 4975 SW 139th Avenue in Beaverton, Oregon. Both onsite trees are proposed for removal and all 11 offsite trees near the property line will be retained and protected according to the recommendations in this report.

Background

Kim-Hien Nguyen is proposing to partition her property at 4975 SW 139th Avenue in Beaverton and construct a duplex on the new rear parcel 2. On November 14, 2023, I inventoried and assessed the two existing onsite trees along with 11 offsite trees near the property. The tree inventory is in Attachment 1 and the proposed site plans with tree locations are in Attachment 2. The tree numbers on plan sheet 8 of 9 in Attachment 2 correspond to the tree numbers in the tree inventory in Attachment 1.

Based on the proposed construction shown in Attachment 2, both onsite trees are proposed for removal. All 11 offsite trees will be retained and protected according to the recommendations in this report. The purpose of this report is to provide protection recommendations for the trees to be retained.

Tree Protection Recommendations

The standard tree protection requirement in the City of Beaverton Code is to protect trees at five feet beyond the driplines.

A typical alternative minimum protection zone allows encroachments no closer than a radius from a tree of 0.5 feet per inch of DBH if no more than 25 percent of the root protection zone area (estimated at one foot radius per inch of DBH) is impacted. Figure 1 illustrates this concept.

The reason for using this alternative is because it allows the tree protection zone to better relate to the size of the tree and its root zone. Tree driplines can be highly variable based on species growth habits and onsite conditions such as the presence of adjacent trees or past pruning.

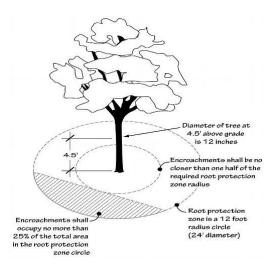


Figure 1: Typical minimum protection zone

The tree protection zones shown on the plan sheets in Attachment 2 will protect the minimum protection zones shown in Figure 1 for the trees to be retained prior to construction with arborist oversight to minimize impacts when construction is required within those zones. The following site-specific recommendations will help to minimize construction impacts for the trees to be retained:

Tree Protection Fencing:

Prior to construction, tree protection fencing shall be set in the locations shown on the plan sheets in Attachment 2. When work is required within the tree protection zones, it shall be under the onsite supervision of the project arborist.

Arborist Oversight:

The project arborist shall be onsite to oversee, guide, and document driveway paving and construction of the retaining wall for the stormwater facility within the tree protection zones adjacent to trees 3 through 13. Work within the zones will be documented for the owner by the project arborist.

Paving:

The driveway access adjacent to trees 3 through 8 along the north property line shall be constructed of clean crushed rock (with no fines) over geotextile fabric that is permeable to air and water. The surface litter layer shall be carefully removed under arborist supervision prior to fabric and rock placement to minimize damage and disturbance to any surface roots of trees to be retained. No excavation beyond the native soil surface is permitted. At least four inches of crushed rock over geotextile fabric shall be placed over exposed surface roots to protect them from damage. The paving detail on sheet 4 of 9 in Attachment 2 includes the required paving cross section in the tree protection zone.

Pruning:

It may be necessary or desirable to prune trees that overhang the site. All pruning should be completed by a qualified tree service with an ISA Certified Arborist on site. All pruning should be in accordance with ANSI A300 pruning standards and Z133.1 safety standards and approved in coordination with the project arborist.

Sediment Fencing:

Sediment fencing shall be installed outside the protection zones of the trees to be retained to minimize root disturbances. If erosion control is required inside the protection zones, straw wattles shall be used on the soil surface.

The following additional tree protection recommendations meet and/or exceed Beaverton Development Code requirements:

Before Construction Begins

- 1. Notify all contractors of tree protection procedures. For successful tree protection on a construction site, all contractors must know and understand the goals of tree protection.
 - a. Hold a tree protection meeting with all contractors to explain the goals of tree protection.
 - c. Have all contractors sign memoranda of understanding regarding the goals of tree protection. The memoranda should include a penalty for violating the tree protection plan. The penalty should equal the resulting fines issued by the local jurisdiction or the appraised value of the tree(s) within the violated tree protection zone per the current Trunk Formula Technique as outline in the current edition of the *Guide for Plant Appraisal* by the Council of Tree & Landscape Appraisers, whichever is greater. The penalty should be paid to the owner of the property.

2. Fencing

- a. Trees to remain on site will be protected by installation of tree protection fencing at the edge of the protected root zone, which is defined by the City of Beaverton as the tree dripline plus 5-feet. Alternatively, tree protection fencing may be set as shown on the plan sheets in Attachment 2.
- b. The fencing should be put in place before the ground is cleared to protect the trees and the soil around the trees from disturbances.
- c. Fencing should be established by the project arborist based on the needs of the trees to be protected and to facilitate construction.
- d. Fencing should consist of 6-foot high steel fencing on concrete blocks or 6-foot metal fencing secured to the ground with 8-foot metal posts to prevent it from being moved by contractors, sagging, or falling down. Alternative fencing material that meets the City of Beaverton tree protection requirements may also be used.
- e. Fencing should remain in the position that is established by the project arborist and not be moved without approval from the project arborist until final project approval.

3. Signage

a. All tree protection fencing should have signage as follows so that all contractors understand the purpose of the fencing:

TREE PROTECTION ZONE

<u>DO NOT REMOVE OR ADJUST THE APPROVED</u> LOCATION OF THIS TREE PROTECTION FENCING.

Please contact the project arborist if alterations to the approved location of the tree protection fencing are necessary.

Todd Prager, Project Arborist - 971-295-4835

- b. Signage should be placed every 75-feet or less.
- c. Colored tree flagging indicating that this area is a tree protection zone is to be placed every five (5) linear feet on the fence to alert construction crews of the sensitive nature of the area.

During Construction

- 1. Protection Guidelines Within the Tree Protection Zones:
 - a. No new buildings; grade change or cut and fill, during or after construction; new impervious surfaces; or utility or drainage field placement should be allowed within the tree protection zones.
 - b. No traffic should be allowed within the tree protection zones. This includes but is not limited to vehicle, heavy equipment, or even repeated foot traffic.
 - c. No storage of materials including but not limiting to soil, construction material, or waste from the site should be permitted within the tree protection zones. Waste includes but is not limited to concrete wash out, gasoline, diesel, paint, cleaner, thinners, etc.
 - d. Construction trailers should not be parked/placed within the tree protection zones.
 - e. No vehicles should be allowed to park within the tree protection zones.
 - f. No other activities should be allowed that will cause soil compaction within the tree protection zones.
- 2. The trees should be protected from any cutting, skinning or breaking of branches, trunks or woody roots.
- 3. The project arborist should be notified prior to the cutting of woody roots from trees that are to be retained to evaluate and oversee the proper cutting of roots with sharp cutting tools. Cut roots should be immediately covered with soil or mulch to prevent them from drying out.
- 4. Trees that have roots cut should be provided supplemental water during the summer months.
- 5. Any necessary passage of utilities through the tree protection zones should be by means of tunneling under woody roots by hand digging or boring with oversight by the project arborist.

6. Any deviation from the recommendations in this section should receive prior approval from the project arborist.

After Construction

- 1. Carefully landscape the areas within the tree protection zones. Do not allow trenching for irrigation or other utilities within the tree protection zones.
- 2. Carefully plant new plants within the tree protection zones. Avoid cutting the woody roots of trees that are retained.
- 3. Do not install permanent irrigation within the tree protection zones unless it is drip irrigation to support a specific planting or the irrigation is approved by the project arborist.
- 4. Provide adequate drainage within the tree protection zones and do not alter soil hydrology significantly from existing conditions for the trees to be retained.
- 5. Provide for the ongoing inspection and treatment of insect and disease populations that can damage the retained trees and plants.
- 6. The retained trees may need to be fertilized if recommended by the project arborist.
- 7. Any deviation from the recommendations in this section should receive prior approval from the project arborist.

If adhering to any of the tree protection recommendations in this section of the report is not feasible, additional trees may need to be removed.

Conclusion

The recommendations in this report will provide adequate protection for the offsite trees to be retained.

Please contact me if you have questions, concerns, or need additional information.

Sincerely,

Todd Prager

ASCA Registered Consulting Arborist #597 ISA Board Certified Master Arborist, WE-6723B

ISA Qualified Tree Risk Assessor

AICP, American Planning Association

Todd Prager

Attachment: Attachment 1: Tree Inventory

Attachment 2: Plan Sheets with Tree Protection

Attachment 3: Assumptions and Limiting Conditions



Attachment 1

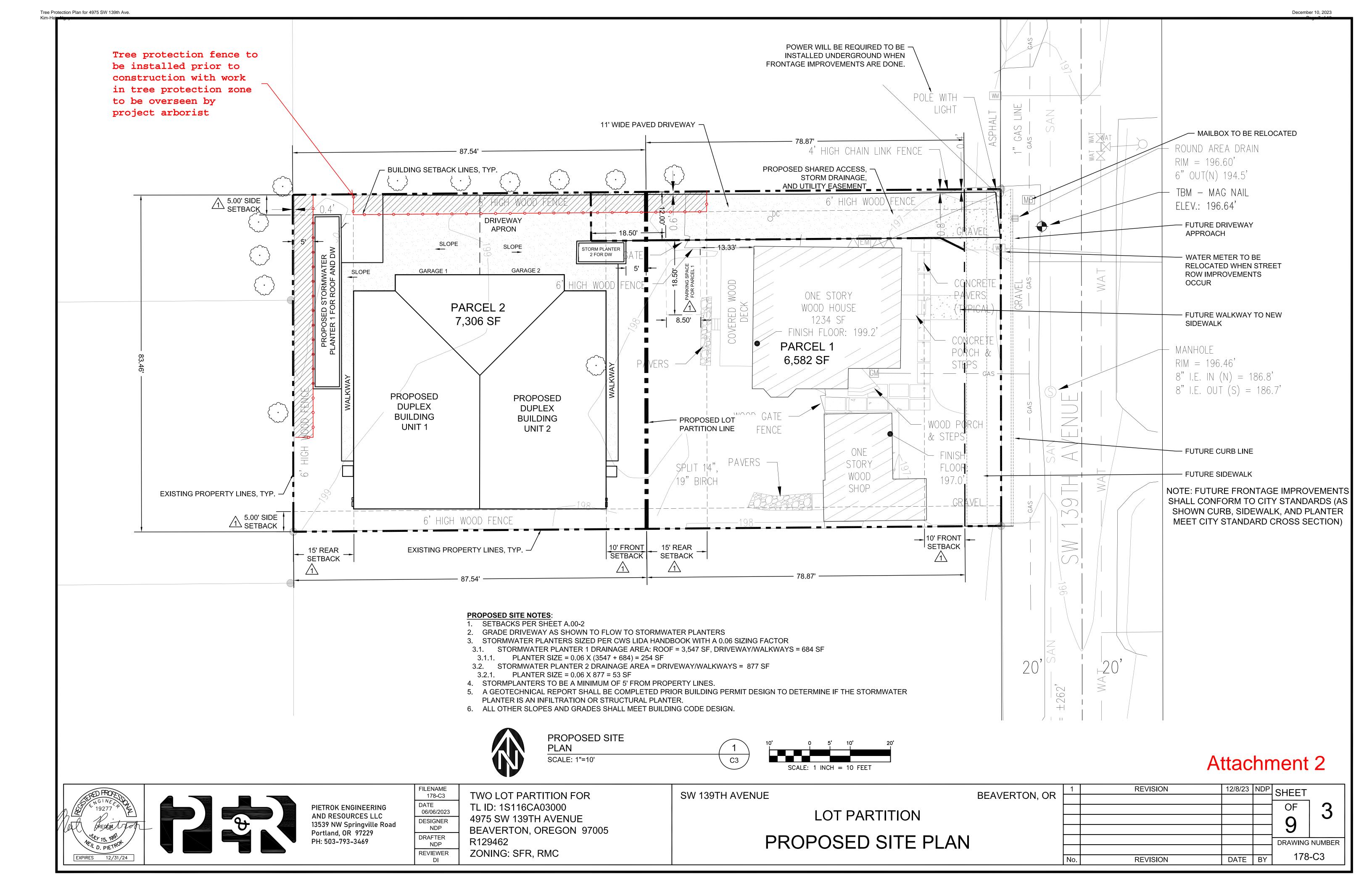
Tree No.	Common Name	Scientific Name	Decid. or Conif.	DBH ¹	C-Rad ²	Condition ³	Structure ³	Comments	Tree Type	Treatment
1	orchard apple	Malus domestica	decid.	15	13	fair	fair	headed for fruit production	exempt ⁴ (edible fruit tree)	remove
2	western redcedar	Thuja plicata	conif.	10	11	very poor	very poor	dying from top down	community tree	remove
3	incense cedar	Calocedrus decurrens	conif.	12,12	10	fair	fair	headed, offsite, size and location approximated by arborist	offsite	retain
4	incense cedar	Calocedrus decurrens	conif.	7	5	good	fair	moderately one sided, offsite, size and location approximated by arborist	offsite	retain
5	incense cedar	Calocedrus decurrens	conif.	7	4	good	good	offsite, size and location approximated by arborist	offsite	retain
6	incense cedar	Calocedrus decurrens	conif.	14	8	fair	fair	headed, one sided, offsite, size and location approximated by arborist	offsite	retain
7	incense cedar	Calocedrus decurrens	conif.	8	6	good	fair	multiple leaders at top, offsite, size and location approximated by arborist	offsite	retain
8	incense cedar	Calocedrus decurrens	conif.	12	4	fair	fair	headed, one sided, offsite, size and location approximated by arborist	offsite	retain
9	incense cedar	Calocedrus decurrens	conif.	14	10	good	fair	codominant at 8', one sided, offsite, size and location approximated by arborist	offsite	retain
10	incense cedar	Calocedrus decurrens	conif.	14	10	good	fair	codominant at 8', one sided, offsite, size and location approximated by arborist	offsite	retain
11	river birch	Betula nigra	decid.	12	20	good	fair	multiple leaders at 10' to 15', offsite, size and location approximated by arborist	offsite	retain
12	river birch	Betula nigra	decid.	13	15	good	fair	multiple leaders at 10' to 15', offsite, size and location approximated by arborist	offsite	retain
13	English hawthorn	Crataegus monogyna	decid.	7,4,3x8	8	good	fair	multiple leaders at ground level, offsite, size and location approximated by arborist	offsite	retain

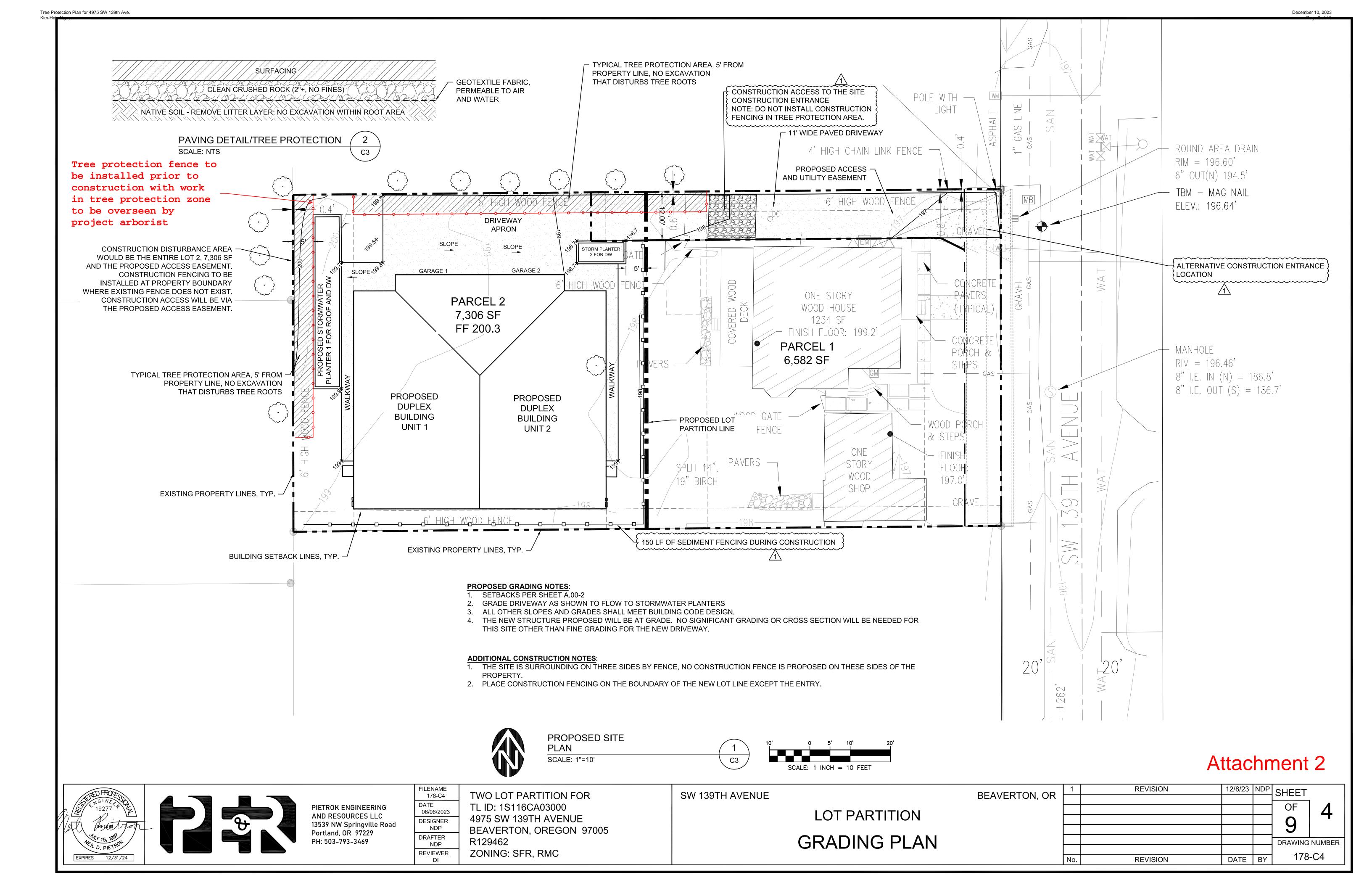
¹DBH is the trunk diameter measured according to the International Society of Arboriculture standards in inches. In cases where the tree splits into multiple trunks at ground level, DBH is the square root of the sum of the squared DBH of each stem.

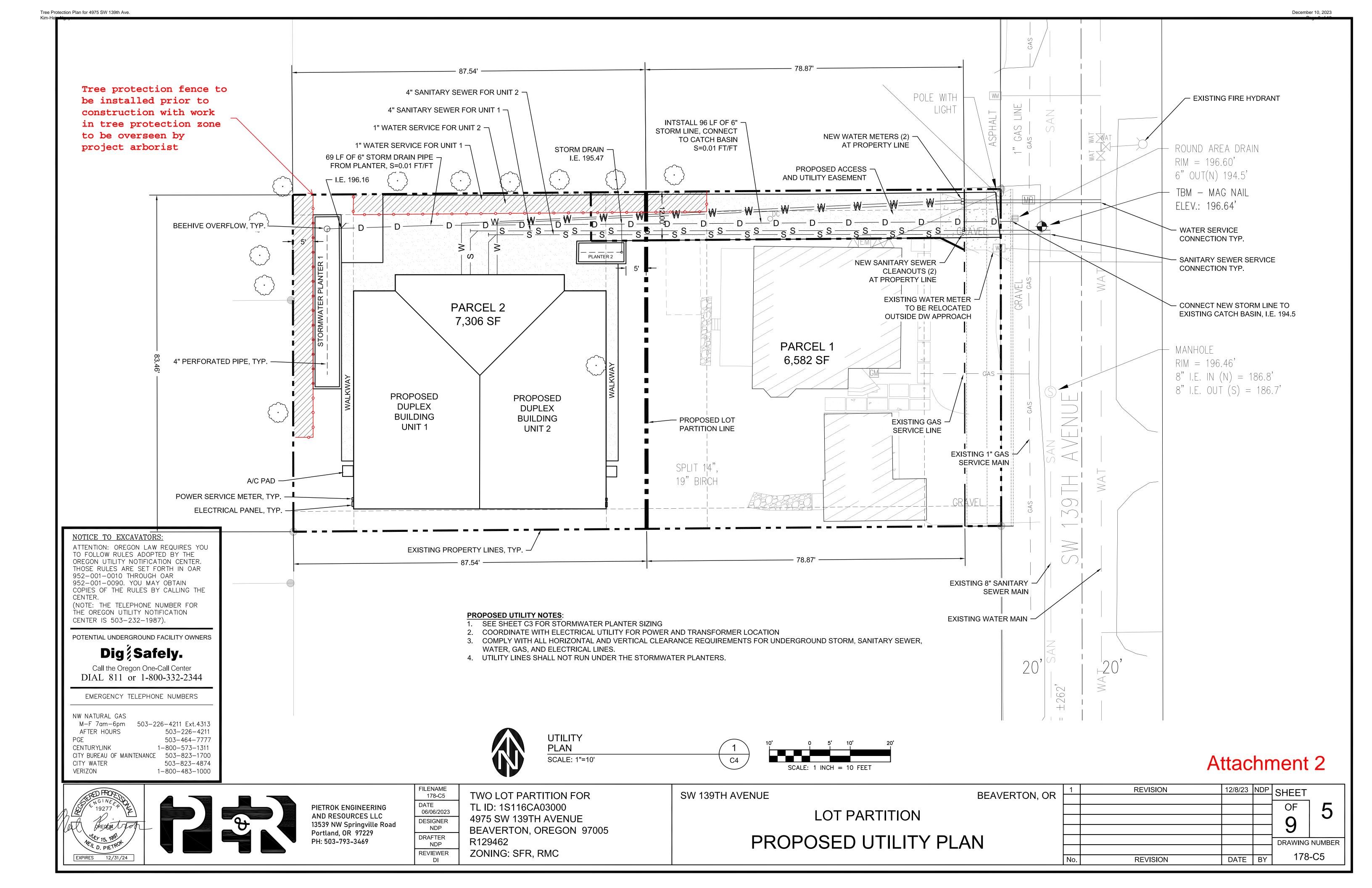
²C-rad is the approximate crown radius in feet.

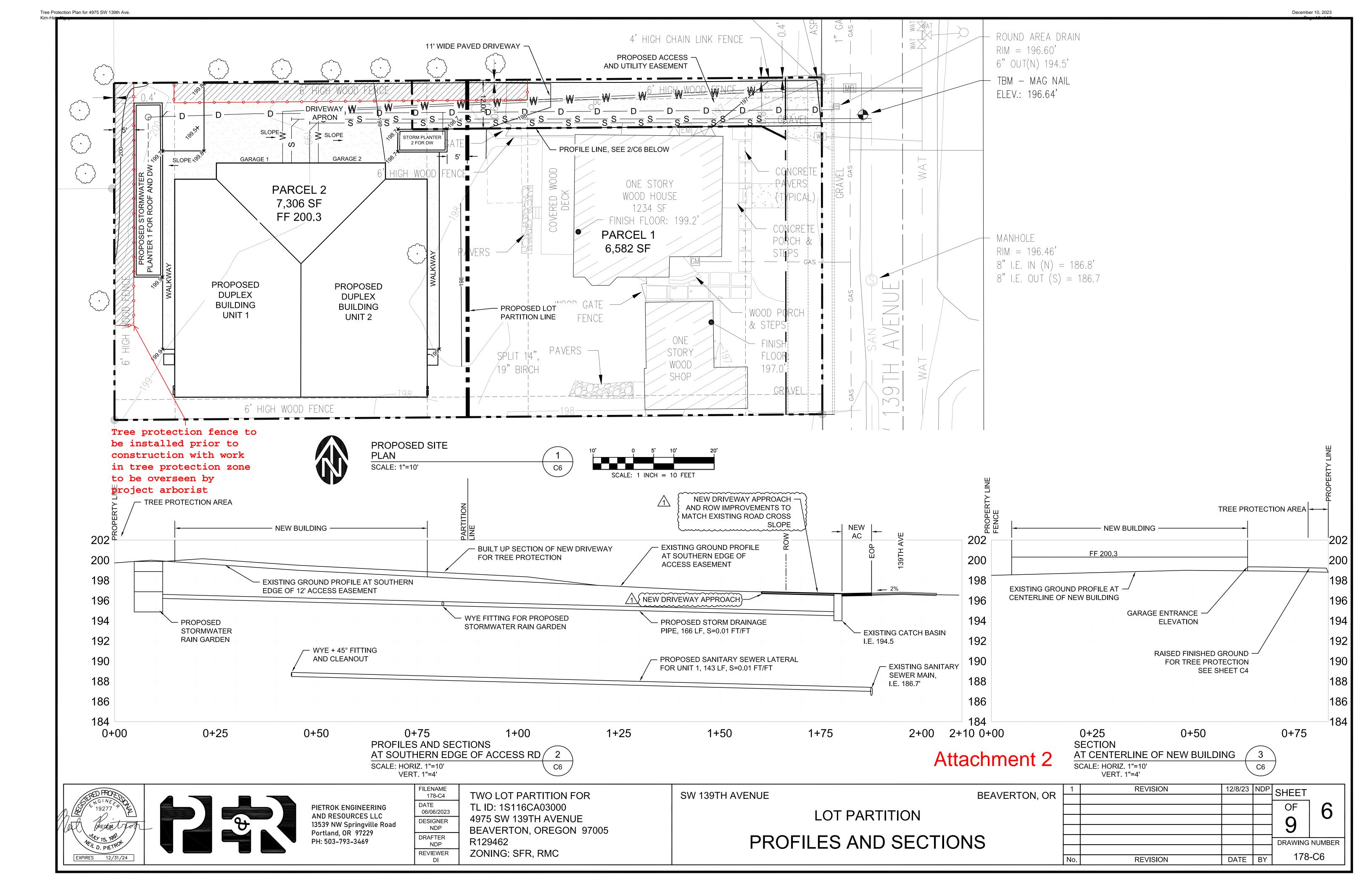
³Condition and Structure ratings range from very poor, poor, fair, to good.

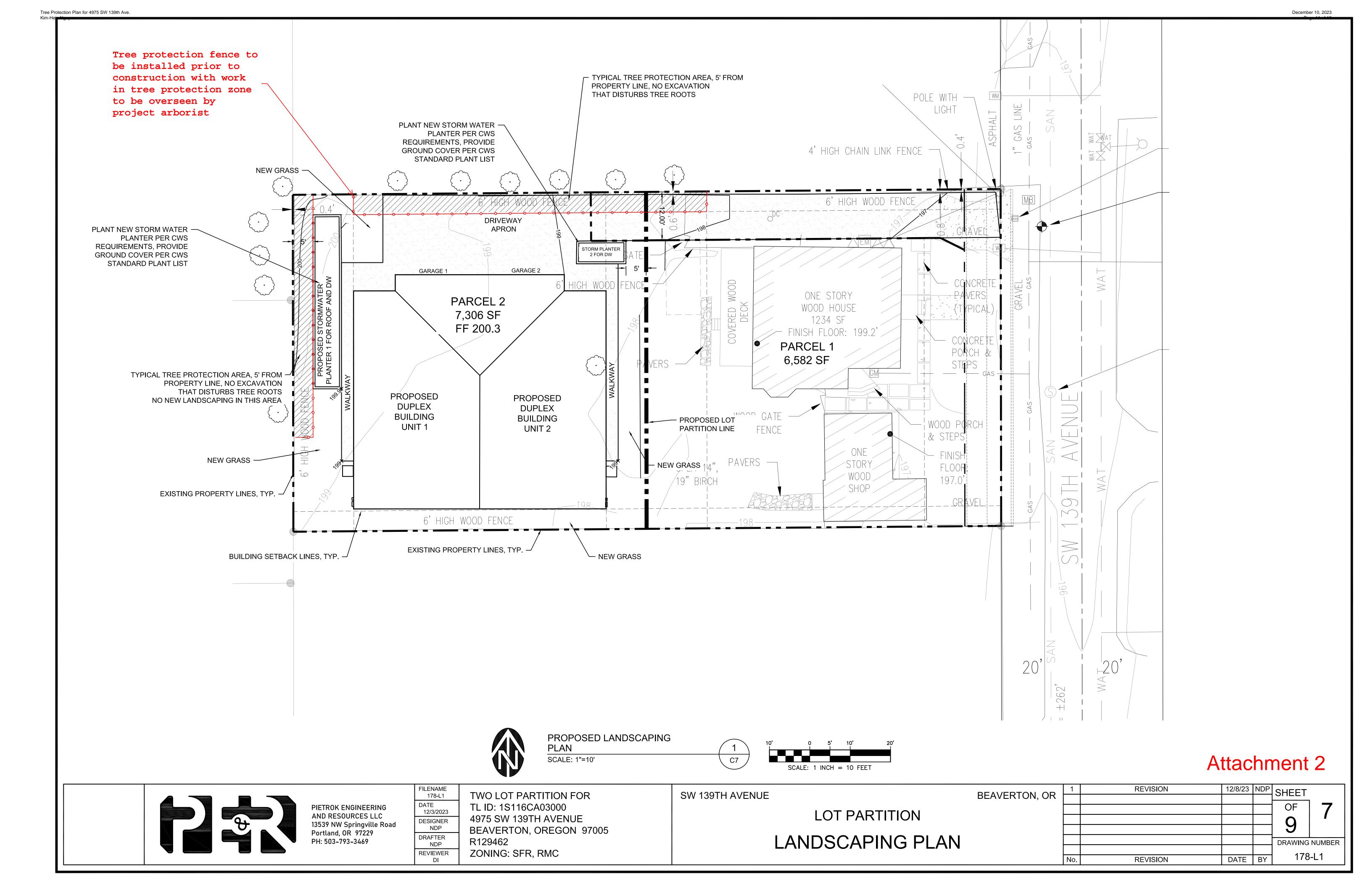
Exempt trees include hemlock, madrone, and bigleaf maples less than 6-inch DBH, any other species less than 10-inch DBH, trees listed a nuisance species on the Metro Native Plant List (Ord. No. 98-730C) or Beaverton Development Code Section 40.90.10, trees producing edible fruits, offsite trees, and stumps. Note that although hemlock, madrone, and bigleaf maples between 6- and 10-inch DBH are surveyed trees, they are not considered community trees and thus are "exempt".

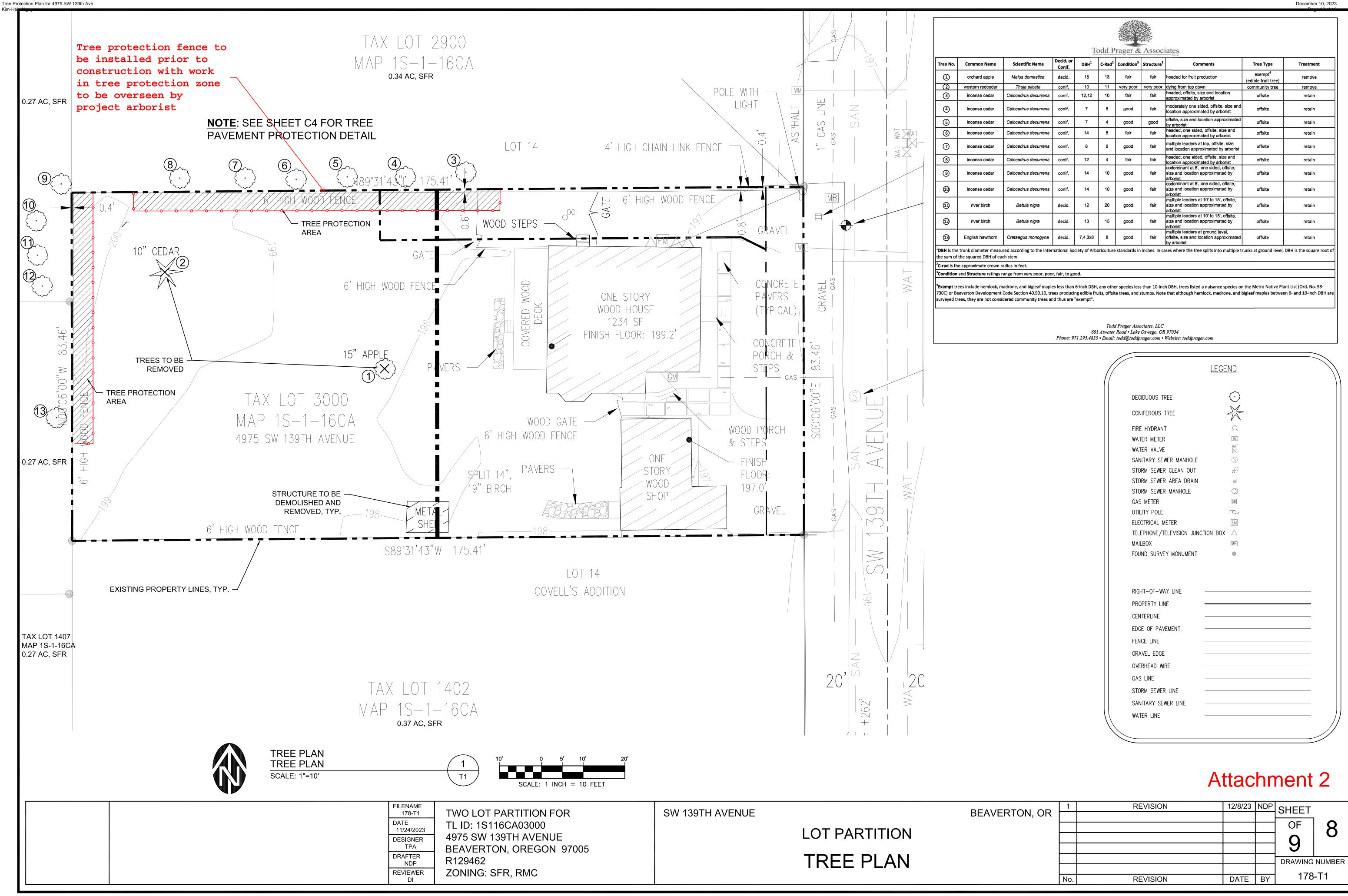












Attachment 3 Assumptions and Limiting Conditions

- 1. Any legal description provided to the consultant is assumed to be correct. The information provided by Kim-Hien Nguyen and her consultants was the basis of the information provided in this report.
- 2. It is assumed that this property is not in violation of any codes, statutes, ordinances, or other governmental regulations.
- 3. The consultant is not responsible for information gathered from others involved in various activities pertaining to this project. Care has been taken to obtain information from reliable sources.
- 4. Loss or alteration of any part of this delivered report invalidates the entire report.
- 5. Drawings and information contained in this report may not be to scale and are intended to be used as display points of reference only.
- 6. The consultant's role is only to make recommendations. Inaction on the part of those receiving the report is not the responsibility of the consultant.
- 7. The purpose of this report is to provide protection recommendations for the offsite trees to be retained.