

# Arborist Report

8802 Portland Dr., Portland, OR

Prepared by Ryan Gilpin, Nidus Consulting  
for Portland Construction Company  
January 2, 2024





# Introduction

## Demolishing one single family home to construct three new townhomes

Portland Construction Company is planning to build three townhomes at 8802 Portland Drive in Portland, OR. The project is in the design phase and the City of Portland requires an Arborist Report discussing impacts to trees and tree protection measures to preserve trees. Portland Construction Company asked Nidus Consulting to prepare an Arborist Report including a [tree inventory](#), [evaluation of impacts](#) and [tree preservation recommendations](#).

## Design Phase

The site has one single family home with a detached garage. The existing structures will be demolished and replaced with three townhomes each with a separate driveway.



[Portland Maps](#) showing 8802 Portland Dr.

## Portland Tree Code

On construction projects, the City of Portland regulates the removal and protection of trees 12" and greater on private property and trees of any size within the public right-of-way with municipal code [Title 11.50 Trees in Development Situations](#). [Title 33 Planning and Zoning](#) can also play a large role in protecting and permitting the removal of trees.

## Prescriptive Path

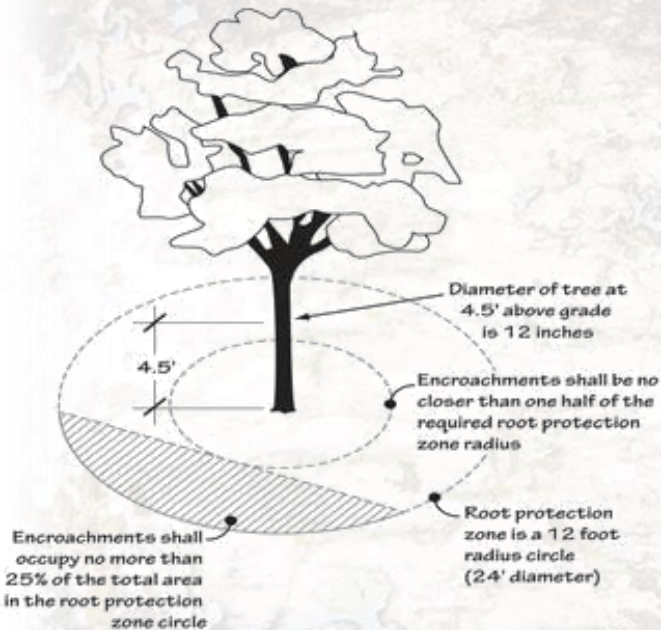
The City prefers that projects follow the Prescriptive Path for tree preservation in which the Root Protection Zone is established for each tree as 1 foot radius for every 1-inch trunk diameter. Construction cannot encroach within more than 25% of the Root Protection Zone and cannot encroach closer to the trunk than half the Root Protection Zone radius.

## Performance Path

For projects attempting to preserve trees that cannot meet these requirements, an alternative option called the Performance Path is available. A Consulting Arborist recommends tree protection measures and monitors the trees during construction.

## Tree Removal Fees

To encourage property owners to preserve trees during construction projects, the City has fees associated with removing trees. The fee for removing trees greater than 20 inches in diameter or more than 2/3 of the trees on a property is \$450.00 per inch diameter.



The City of Portland's graphic explaining the Prescriptive Pathway.

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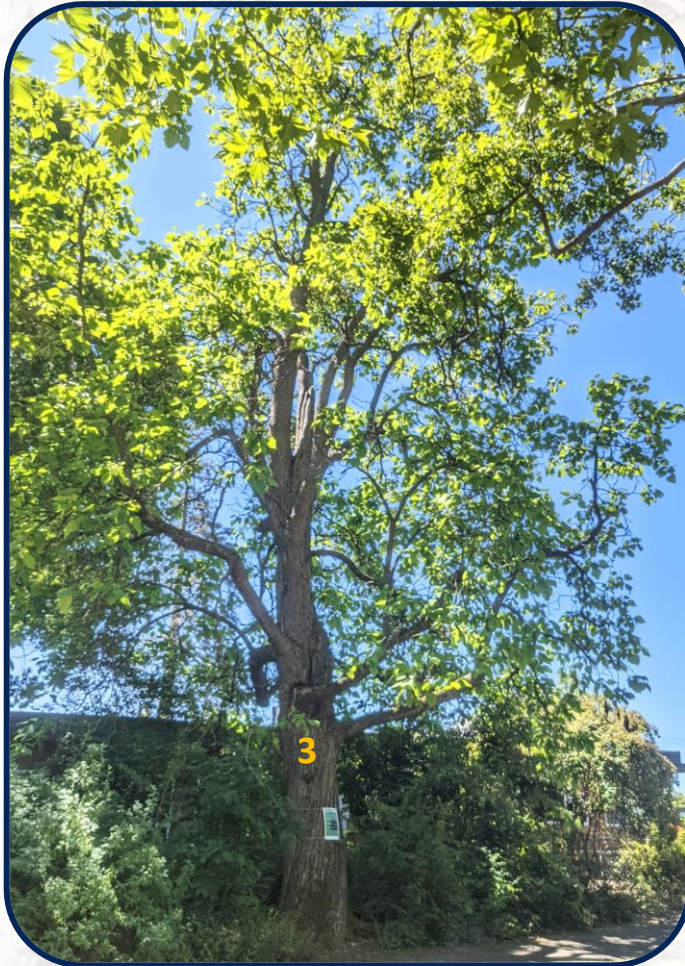




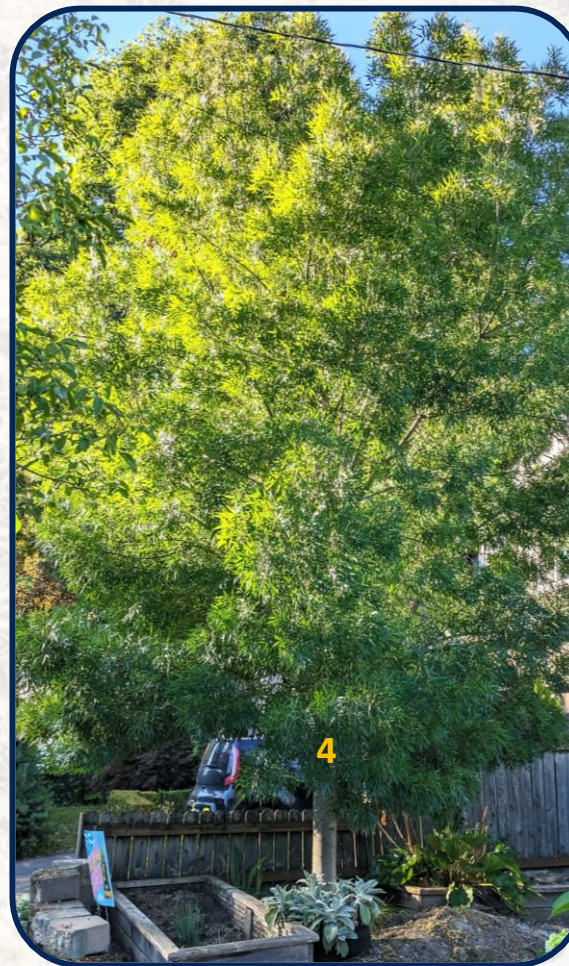
# Trees

## Four common, non-native trees

European white birch #1 and London plane #2 were growing in the public right of way along Portland Drive. Southern catalpa #3 and Raywood Ash #4 were growing on private property. Data on each tree is shown in the [Tree Inventory](#), and accurate trunk locations are mapped in the [Tree Map](#).



Southern catalpa #3 was in fair condition with a thinning crown and poor branch attachments.



Raywood ash #4 was in good condition with a dense, green crown.

**Managing Trees During Site Development and Construction** recommends that Suitability for Preservation be considered prior to specific construction plans. *While it is future focused, ratings for suitability for preservation are based on the species, current size, current condition, and species tolerance to construction.*

European white birch #1 has a low suitability for preservation. Birches are intolerant of root loss.

The London plane #2 has a high suitability for preservation. This species handles pruning and root loss from construction relatively well.

The Southern catalpa #3 has a low suitability for preservation. This tree is likely towards the end of its life expectancy and will be challenging to preserve regardless of the construction plans.

Raywood ash #4 has a moderate suitability for preservation. While young and in good condition, Emerald Ash Borer will likely kill this tree in the next few years, unless it is treated with a systemic insecticide.

Mature southern catalpa #3 was the largest tree on site (31 inch DBH) and in fair condition.





# Evaluation of Impacts

## Building three new structures

The project will involve demolishing the existing structures, then building three new buildings. The process includes grading, excavating, and constructing across much of the site. Construction will be limited around three trees planned for preservation.

## Overall, 1 tree will be removed to complete construction:

- Tree #3 will be removed; it is within the footprint of the center structure.
- Trees #2 and 4 will experience minor impacts, but I expect them to survive.
- Tree #1 will be moderately impacted by construction and may not survive.

## Excavation

Excavation damaging roots is the most impactful part of construction on most projects. Excavation needed to install the utilities will be within 8 feet of tree #1 and 14 feet of tree #4. Excavation for a new driveway will be 15 feet from tree #2. The existing driveway 4 feet from tree #1 will be replaced, and I expect root loss to be minimal.

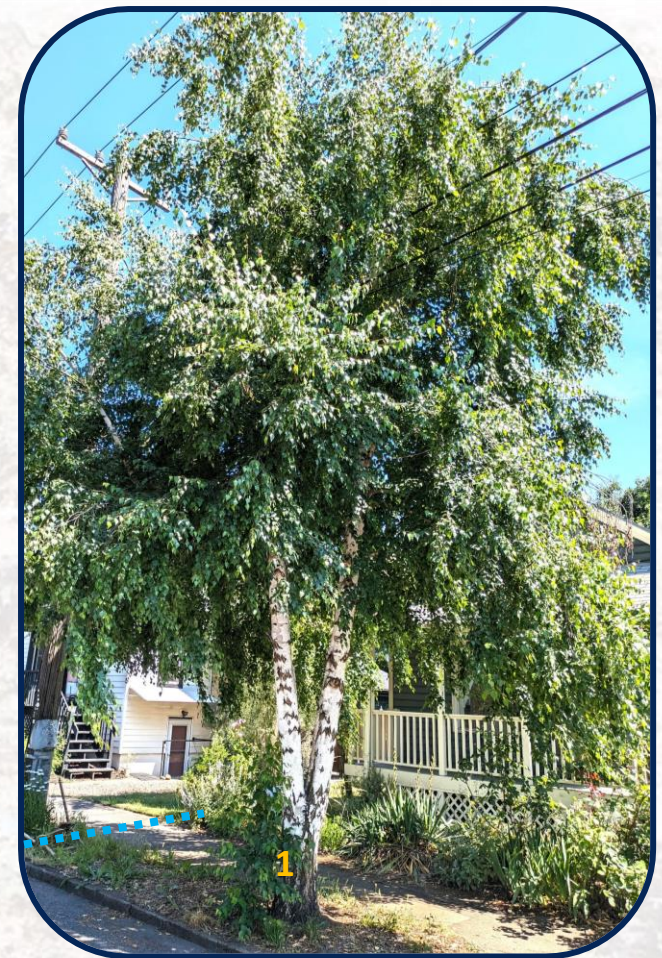
Prior to construction, the Project Arborist will monitor exploratory root trenching near trees #1 and 2. The Project Arborist will estimate root loss, update the trees likelihood of surviving construction, and suggest any plan changes to help trees survive. As described in the [Tree Protection Recommendations](#).

## Soil Compaction in Root Zone

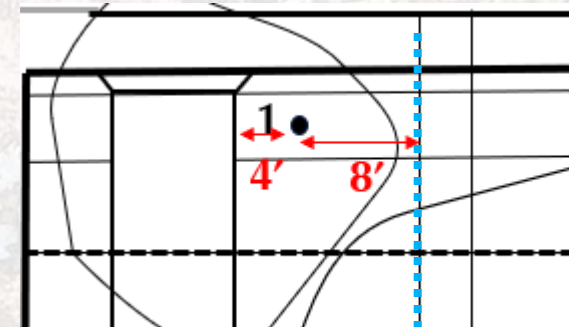
Movement of excavators, transporting concrete, etc. can cause substantial compaction of soil and damage to tree roots. Most of this damage can be avoided by carefully following the [Tree Protection Recommendations](#) and [Tree Protection Plan](#).

## Prune Tree #2 for Clearance

In order erect scaffolding around a 2-story building 15 feet from tree #2, approximately 30% of the crown will be removed. London planes typically tolerate this level of pruning with minimal negative effects. See recommendations in the [Tree Protection Recommendations](#).



In addition to replacing the driveway, tree #1 will experience root loss from installation of underground utilities (blue).



Construction will be limited around three tree planned for preservation.





# Tree Preservation Recommendations

## Healthy Trees After Construction

The goal of tree preservation on construction projects is to have healthy trees that provide health and environmental benefits into the future. Trees that do not have sufficient Root Protection Zones or are not adequately protected during construction can become liabilities rather than assets. These Tree Protection Measures are designed to help increase the chances of having healthy trees many years after construction is complete.

### Design Phase

1. As plans change or when final plans are approved, forward to the Project Arborist for review.

### Pre-Construction Phase

2. Schedule a meeting with the Project Arborist and contractors working on site to discuss construction activities, Tree Protection Measures, and monitoring schedule.
3. Conduct exploratory root trenching to identify roots 2 inches or greater along the planned utility lines.
4. Hire a licensed, bonded, tree care company with a Certified Arborist to prune tree #2 for clearance prior to any work commencing on site.
5. Install chain link tree protection fencing at least 4 feet tall with 6 foot tall metal posts driven into the ground to shield the Root Protection Zone as shown on the [Tree Protection Plan](#). Signs shall be prominently secured to each fence designating the Root Protection Zone, penalties for violations and contact information for the Project Arborist.
6. Install orange snow fencing supported by heavy T-posts driven into the ground as shown on the [Tree Protection Plan](#).
7. The following activities are prohibited within the Root Protection Zone:
  - a. Ground disturbance or construction activity including vehicle or equipment access
  - b. Storage of equipment or materials including soil, temporary or permanent stockpiling
  - c. Proposed buildings, impervious surfaces, underground utilities
  - d. Excavation or fill, trenching or other work activities.



In addition to replacing the driveway (yellow), tree #2 will experience root loss from in installation of underground utilities (blue).

Install chain link and snow tree protection fencing to shield the Root Protection Zone as shown on the Tree Protection Plan.





# Tree Preservation Recommendations

## Construction Phase

10. Tree Protection Fencing shall remain in place and not be moved without prior approval from the Project Arborist.
11. Preserve all roots that are 2 inches and larger along utility lines.
12. Cut all roots cleanly with a saw before being damaged by blunt tools. If clean cuts cannot be achieved, additional hand digging to expose healthy roots may be necessary.
13. Stop construction activities in the area and contact the Project Arborist anytime a root larger than 2 inches in diameter is encountered.
14. Contact the Project Arborist any time a tree is injured to evaluate the health and structural stability of the tree.
15. If construction occurs between May and October, water the trees weekly, or as prescribed by the Project Arborist.
16. Do not store, dump or clean any materials or equipment within the Root Protection Zone. No wastewater, concrete, paint, etc. shall be dumped in the Root Protection Zone.
17. Use the smallest equipment possible to complete construction.

If you have any questions or comments about my observations or recommendations, please contact me.

Ryan Gilpin  
Principal Consultant

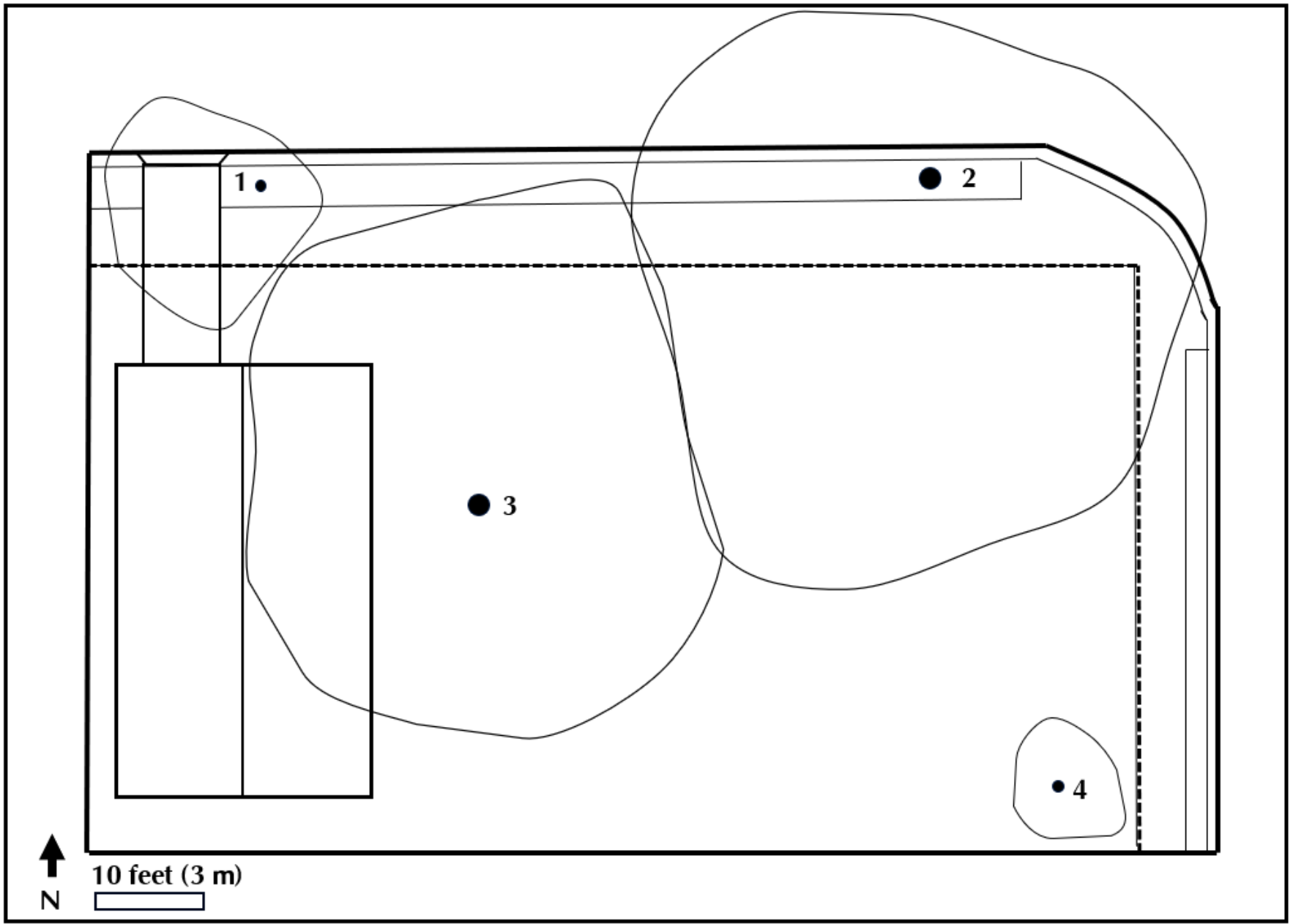


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# Tree Map

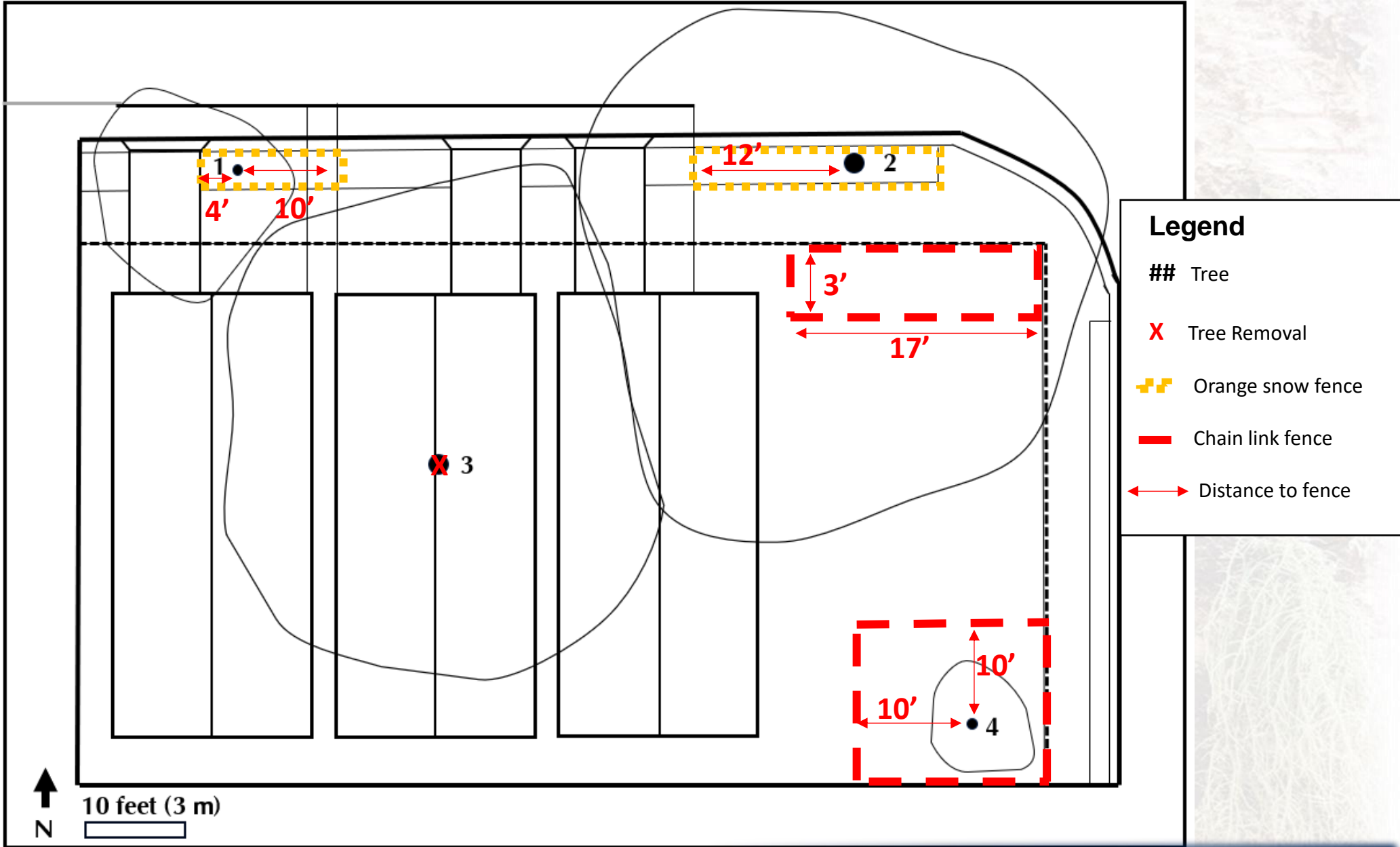


Tag numbers were added to Portland Engineer's basemap showing accurately located trees.





# Tree Protection Plan



Protect trees from construction with chain link fencing (red) and orange snow fencing (orange).







# Tree Inventory

Tree #	Species	Common Name	Trunk Diameter (inches)	Condition	Suitability for Preservation	Protected Status	Comments
1	<i>Betula pendula</i>	European white birch	9,8	Fair	Low	Street Tree	Mature street tree, two codominant stems with included bark, highly susceptible to Bronze Birch Borer.
2	<i>Platanus x hispanica</i>	London plane	21	Good	High	Street Tree, >20	Street tree, trunk divides into 3 stems at 8 feet, dense green crown.
3	<i>Catalpa bignonioides</i>	Southern catalpa	31	Fair	Low	Protected, >20	Single trunk divides into multiple trunks at 20 feet, thin crown.
4	<i>Fraxinus oxycarpa</i> 'Raywood'	Raywood ash	7	Good	Moderate	Unprotected	Young tree, growing vigorously, highly susceptible to Emerald Ash Borer.





# Tree Impacts

Tree #	Species	Common Name	DBH (inches)	Disposition	Likelihood of Survival	Impacts
1	<i>Betula pendula</i>	European white birch	9,8	Preserve	Moderate	7 feet from utilities
2	<i>Platanus x hispanica</i>	London plane	21	Preserve	High	13 feet from utilities
3	<i>Catalpa bignonioides</i>	Southern catalpa	31	Remove	None	Within building footprint
4	<i>Fraxinus oxycarpa</i> 'Raywood'	Raywood ash	7	Preserve	High	16 feet from building





# Methods

Ryan Gilpin (Principal Consultant, Certified Arborist WE10268A, Tree Risk Assessment Qualified) assessed all trees 6” and greater in trunk diameter and street trees of any size growing on the property planned for construction on December 30, 2024. Ryan collected the following data for each tree:

1. Tree genus and species
2. Trunk diameter (rounded to inches) at 54” height
3. Tree condition, see table to right based on the *Guide for Plant Appraisal* (Council of Landscape Appraisers 2019). Health, structure and form were assessed independently, and the lowest rating equals the overall condition rating.
4. Suitability for preservation considers future factors affecting the tree’s ability to be an asset to the future site.
  - **High**, tree is likely to be an asset of the future site and should be the focus of preservation efforts.
  - **Moderate**, tree may be an asset of the future site and should be considered for preservation.
  - **Low**, tree is unlikely to be an asset to the project and should be considered for removal when near construction.

Suitability for preservation starts with the current tree condition and includes species specific factors such as:

- species success in region,
- species susceptibility to root loss and other construction impacts,
- typical species longevity, and
- species invasiveness

Suitability for preservation also includes factors of the individual tree such as:

- existing infrastructure around trees,
- structural features that do not affect stability today but are likely to in the future, and
- forest stand dynamics as neighboring trees are removed.

6. Whether trees meet specific size, species, and location criteria in the permitting jurisdiction.

Ryan Gilpin reviewed the *Utility Plan* and *Site Plan* created by Portland Engineers dated June 21, 2024. Ryan measured distances from existing trunk locations and evaluated likelihood of survival of each tree using his experience from previous projects as outlined in the [ISA Best Management Practices](#).

	Health	Structure	Form
Excellent	Vigor nearly perfect with little or no twig dieback, discoloration or defoliation.	Strong branch attachments with few or no features affecting tree or branch stability.	Tree shape highly functional and aesthetic in landscape.
Good	Typical vigor with minor twig dieback, defoliation or discoloration.	Good branch attachments with minor and correctable features affecting tree or branch stability.	Tree shape functional and aesthetic in landscape.
Fair	Reduced vigor with moderate twig dieback, defoliation, and/or discoloration.	A single feature significantly affecting or multiple features moderately affecting tree or branch stability that would not be practical to correct or would require multiple treatments over several years.	Tree shape compromises function and/or aesthetics in landscape.
Poor	Compromised vigor with extensive twig and/or branch dieback and defoliation.	A single feature seriously affecting or multiple features significantly affecting tree stability that cannot be corrected.	Tree shape significantly detracts from function and/or aesthetics to a significant degree.
Very Poor	Poor vigor with little live foliage or branches.	Multiple features seriously affecting tree stability that cannot be corrected.	Tree shape provides little to no function and is visually unappealing in landscape.
Dead	No live foliage or branches	Tree failed.	-

Ryan Gilpin assessed all trees 6 inches in trunk diameter and greater that could be impacted by construction.



# Arborist Report

8802 Portland Dr., Portland, OR

Nidus Consulting

925.980.1256

[ryan@nidusconsulting.com](mailto:ryan@nidusconsulting.com)

[www.nidusconsulting.com](http://www.nidusconsulting.com)

