



LAYTON TREE CONSULTING, LLC

TREES & CONSTRUCTION MEMO

To: Paul Bosveld
From: Bob Layton
CC: Heather Crain, Matt Wittman
Date: March 31, 2022; Updated August 20, 2022
Re: Tree Protection at 7345 SE 38th Street, Project 2110-193

Dear Mr. Bosveld,

On Friday March 25th per your request, I visited your project site at 7345 SE 38th Street on Mercer Island to evaluate the limits of acceptable impacts near trees to be retained around the new proposed single-family residence. Several areas near retained trees were recently opened up with an air-spade so the presence and size of existing roots could be inspected and ascertained.

The purpose of this memo report is to address the comments from the City regarding the protection of impacted trees. These comments are individually addressed as follows:

Comment 2 – Need specific discussion of impacts to all exceptional trees

Trees requiring the most attention include Tree #23 and #34, and neighboring Trees B, C, D and E. These are closest to the proposed site work.

Tree #23

The buttress root locations of Tree #23 were air-excavated near the two closest proposed footings. See pictures below. The concrete footing proposed directly 4-feet east of the trunk face sits between the two exposed buttress roots which radiate away from the footing location. I believe this footing could have been hand-dug and poured without harming the tree; however, to provide more clearance between ground work and the tree trunk, the two closest footings have been omitted from the plans. This will allow protection fencing to be moved out away from the trunk face. It will now be +/- 8-feet from the trunk face at the closest point. Large buttress roots are not expected to be found in the location of the two remaining footings.

It's all about trees.....

A trench was also air-excavated at 14 ½-feet south of Tree #23 at the proposed cut in grade for the new house. Only one 2-inch diameter root was exposed. See picture below. This root can be cut at the excavation limit without having any impact on the health or stability of the tree.

Tree #34

There is a single deck footing located roughly 8-feet from the trunk face of Tree #34. The footing pad within the tree's limit-of-disturbance (LOD) boundary will be hand-excavated and sited to avoid any roots larger than 2-inches in diameter. Any roots under 2-inches in diameter encountered will be pruned clean at sound tissue.

Trees B, C, D and E

Another trench was air-excavated adjacent to the east property line at the proposed excavation extents. A cluster of +/- 5 structural roots exist directly west of Tree B. See the attached map. In order to protect roots, the proposed footing northwest of Tree D will be omitted and a cantilever system will be used to support the floating garage floor.

All concrete footing locations will be hand-excavated and sited to avoid existing roots that have been exposed by air-excavation or encountered during hand-digging. All preparation work to be done by hand-labor. Concrete will be poured via a chute extending from a truck parked within the confined limits of the new proposed driveway. All concrete needed for this project will be delivered/poured in the same manner.

Excavation for the house foundation which lies at the LOD of Tree E will be done with a mini-excavator under the direction of the project arborist. Soils will be gradually cut in small increments and pulled back away from the tree. Any encountered roots will be exposed by hand-digging and pruned back to sound tissue. Over-excavation will be minimized and not exceed 2-feet from the face of the foundation.

Comment 3 – Provide at least 5-feet of clearance for access and construction around proposed improvements

The two closest footings have been omitted from the plans allowing for 5-feet of clearance adjacent to Tree #23.

Comment 4 – Utility Trenching near Exceptional Trees

The sewer utility has been designed to avoid the driplines of adjacent trees. The storm drain utility on the south perimeter shall be moved closer to the property line to the farthest extent allowable to reduce the impact to Tree #13 and Tree #3. See the attached copy of the site plan. Slightly move trench north away from Tree #15. The majority of trenching can be accomplished with a tracked mini-excavator. Air-excavate adjacent to Tree #13 if access available or hand-excavate to preserve any roots greater than 2-inches in diameter.

Given the number of exceptional trees to be retained within the vicinity of the water line utility, it is not possible to stay at least 12-feet away from all exceptional trees. The location of the trench will ultimately be field-located to be as far from exceptional trees as possible. The entire length of the water line trench will be air-excavated. All roots greater than 2-inches in diameter will be preserved and the utility/pipe routed beneath them. The trench location on the

attached map is shown as 4-feet in width. Realistically, the trench would only need to be a foot to a foot and a half wide to install the plastic waterline.

Summary

It is the intent of the owners to preserve and protect the trees at the site, since they will be living among them for the foreseeable future. Some impacts into the typical Limits of Disturbance for trees of this size and age will be necessary to construct the new residence. Revisions to the site plan have been made to lessen these impacts. Per MICC 19.10.080 - Tree protection standards. B.1. and B.2., the activities or work within a proximity of trees is not expected to threaten the long-term health of the retained trees. The protective methods and building practices to be employed are consistent with those established by the International Society of Arboriculture.

Douglas fir is a hardy species and tolerable of the proposed impacts, so long as work is carried out diligently. Protecting the soils within areas that do not need to be disturbed will be important to reduce the overall impacts and stress on trees. Cover all of these areas with a protective covering of a +/- 6-inch layer of coarse wood chip mulch or hog fuel as shown on the attached maps.

All severed or damaged roots at the excavation limits of foundations, footings or utility trenches will be hand-excavated and pruned back to healthy, sound tissue, prior to backfilling or finishing areas. Sound tissue is where the root is undamaged and the bark is completely intact with the root.

To maintain the subject trees in the best condition possible, frequent supplemental irrigation during the dry season of June through September shall be applied to the disturbed outer dripline areas of impacted trees. Keeping the soils moist in these areas will create a favorable environment for new feeder root growth and reduce the degree of stress associated with the site changes and any root disturbance or loss.

Please let me know if you have any questions or need further assistance.

Sincerely,



Bob Layton
Registered Consulting Arborist #670
ISA Certified Arborist #PN-2714A
ISA Tree Risk Assessment Qualified

Attachments – Copies of Site Plans

Tree #23 Protection Plan

Waterline Plan

South Utility Plan

East property Line Plan

Arborist Disclosure Statement

Arborists are tree specialists who use their education, knowledge, training and experience to examine and assess trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risks associated with living near trees. Clients may choose to accept or disregard the recommendations of the arborist, or to seek additional advice.

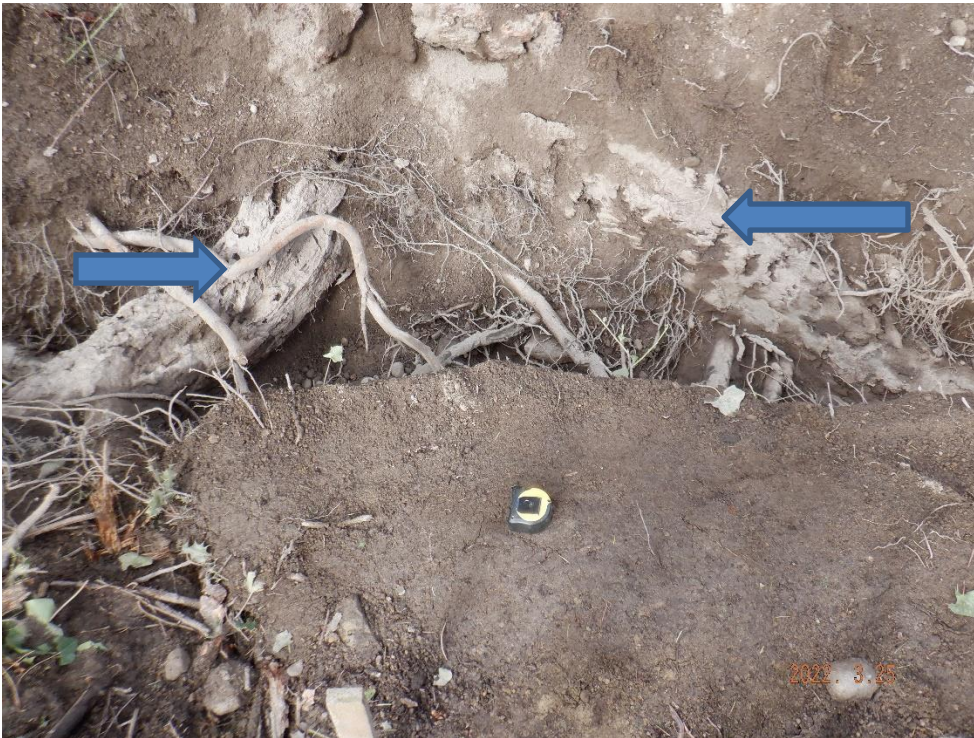
Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that grow, respond to their environment, mature, decline and sometimes fail in ways we do not fully understand. Conditions are often hidden within trees and below ground.

Arborists cannot guarantee that a tree will be healthy and/or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like any medicine, cannot be guaranteed. Treatment, pruning and removal of trees may involve considerations beyond the scope of the arborist's services such as property boundaries, property ownership, site lines, disputes between neighbors, and other issues. Arborists cannot take such considerations into account unless complete and accurate information is disclosed to the arborist. An arborist should then be expected to reasonably rely upon the completeness and accuracy of the information provided.

Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

Photo Documentation

Root crown of Tree #23, 10-inch diameter buttress on left, 12-inch diameter buttress on right (arrows).



Exposed roots east of #23, proposed footing locations (arrows), north buttress root runs farthest west along edge of trench and would not be impacted



Decayed root pictured above at edge of proposed footing, can be pruned away



Trench air-excavated south of #23 at proposed cut in grade

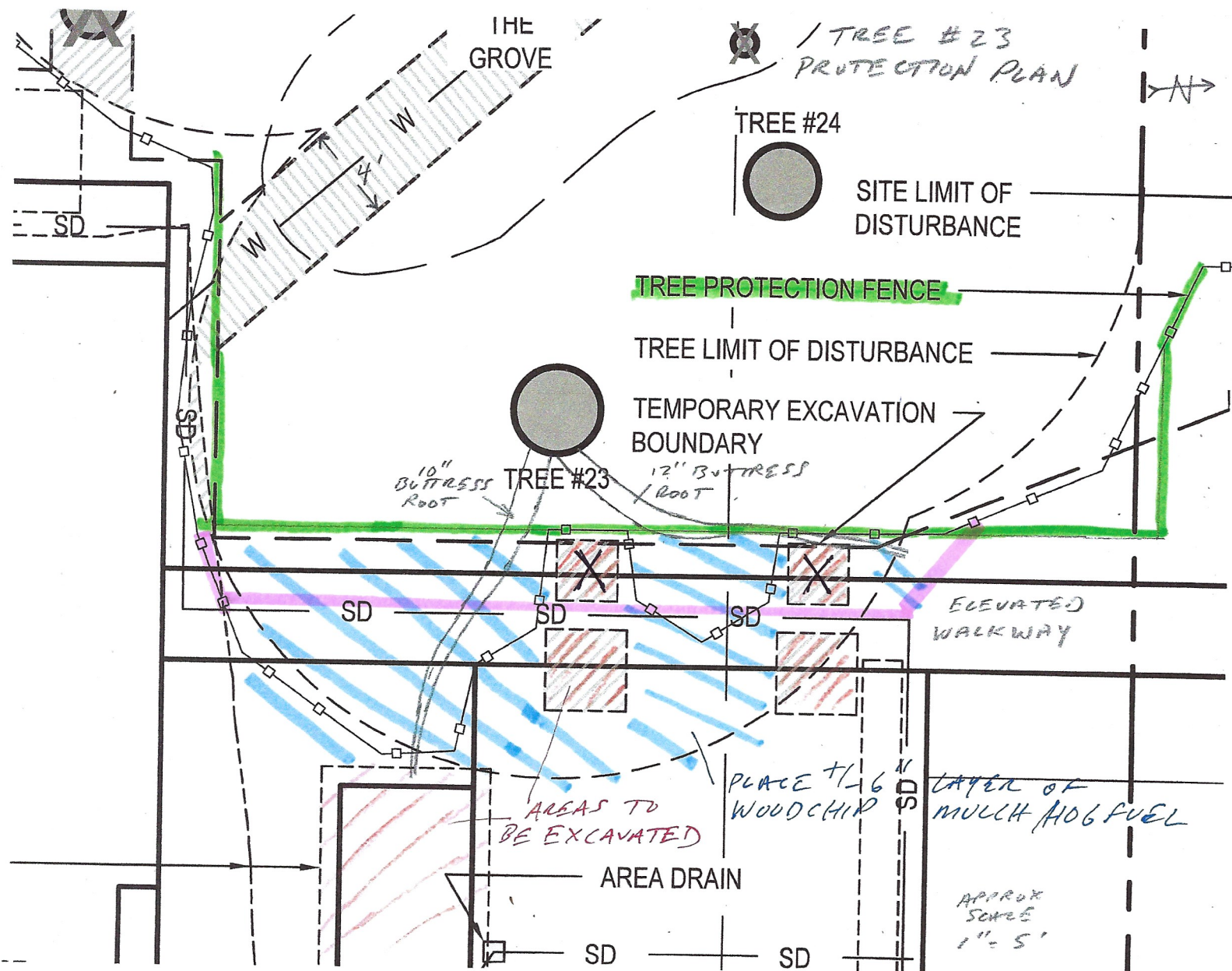


Trench air-excavated at excavation extent along east property line



Cluster of structural roots exposed west of Trees C & D



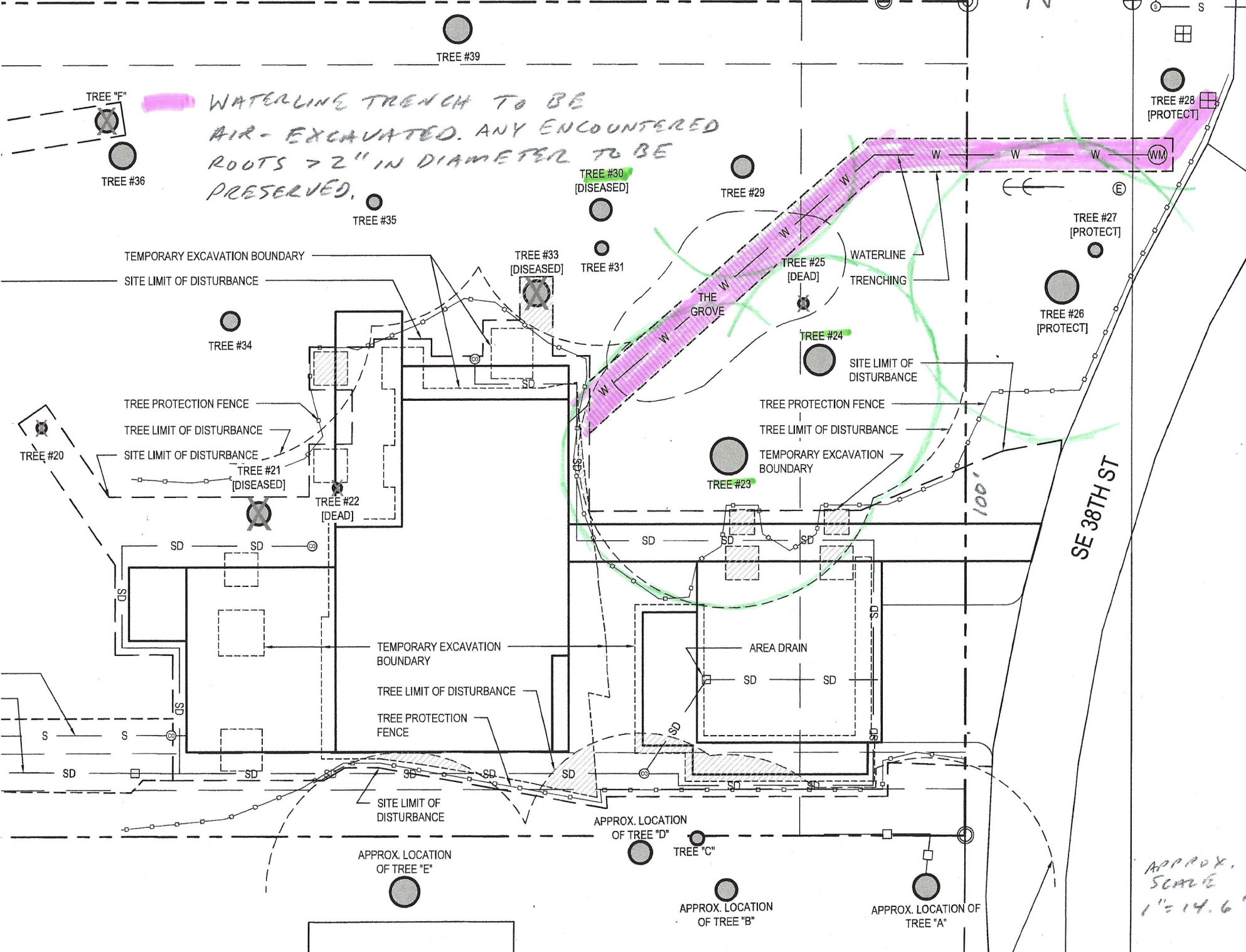


X - FOOTINGS TO BE OMITTED

— EXPAND PROTECTION FENCING

APPROX
SCALE
1" = 5'

WATERLINE PLAN



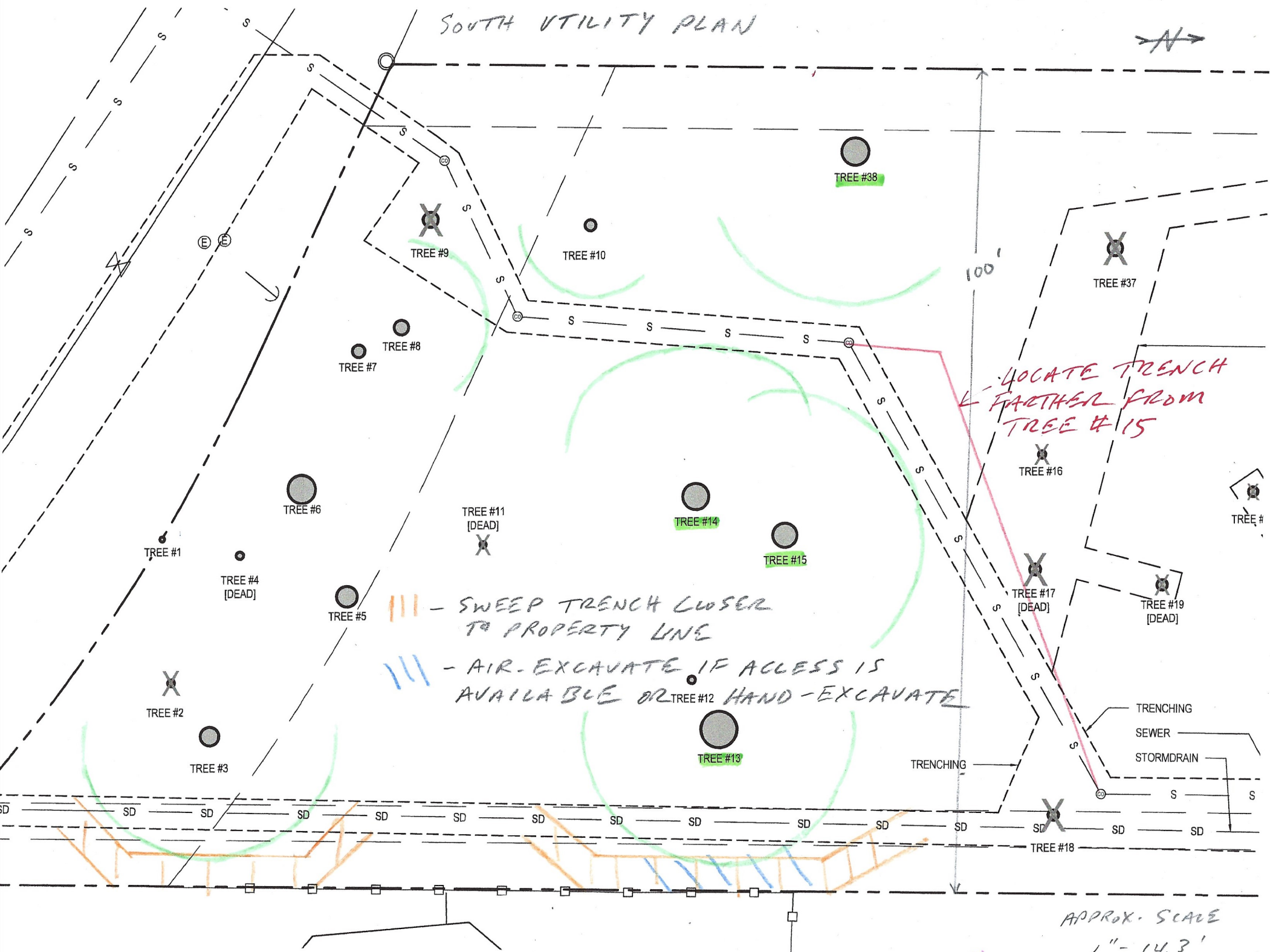
WATERLINE TRENCH TO BE AIR-EXCAVATED. ANY ENCOUNTERED ROOTS > 2" IN DIAMETER TO BE PRESERVED.

SE 38TH ST

100'

APPROX. SCALE
1" = 14.6'

SOUTH UTILITY PLAN



LOCATE TRENCH
1' FARTHER FROM
TREE #15

SWEEP TRENCH CLOSER
TO PROPERTY LINE

AIR-EXCAVATE IF ACCESS IS
AVAILABLE OR TREE #12 HAND-EXCAVATE

APPROX. SCALE
1" = 14.3'

