



February 15, 2018

Planning and Building
City of West Linn
22500 Salamo Road #1000
West Linn, Oregon 97068

Re: Revised Arborist Report and Tree Preservation Plan for the Suncrest Partition
West Linn, Oregon
Project No. MHA17054 Suncrest Partition

Please find enclosed the revised Arborist Report and Tree Preservation Plan for the Suncrest Partition located at 19310 Suncrest Drive in West Linn, Oregon. Please contact us if you have questions or need any additional information.

Respectfully,
Morgan Holen & Associates, LLC

A handwritten signature in black ink that reads "Morgan E. Holen". The signature is written in a cursive, flowing style.

Morgan E. Holen, Member/Owner
ISA Board Certified Master Arborist, PN-6145B
ISA Tree Risk Assessment Qualified
Forest Biologist



Arborist Report and Tree Preservation Plan

Suncrest Partition
19310 Suncrest Drive
West Linn, Oregon

January 18, 2018
Revised: February 15, 2018

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Suncrest Partition – 19310 Suncrest Drive, West Linn, Oregon
Arborist Report and Tree Preservation Plan
January 18, 2018
Revised: February 15, 2018

MHA17054

Purpose

This Arborist Report and Tree Preservation Plan for the Suncrest Partition at 19310 Suncrest Drive in West Linn, Oregon, is provided pursuant to City of West Linn Community Development Code Chapter 55, Municipal Code Sections 8.500 and 8.600, and the West Linn Tree Technical Manual. This report describes the existing trees located on the project site, as well as recommendations for tree removal, retention and protection. This report is based on observations made by International Society of Arboriculture (ISA) Board Certified Master Arborist (PN-6145B) and Qualified Tree Risk Assessor Morgan Holen during a site visit conducted on November 3, 2017, a subsequent site meeting with the City's Arborist Mike Perkins on December 19, 2017, and site plan coordination with 3J Consulting. **This report was revised on February 15, 2018 based on utility connections in the southeast corner of proposed lot-2 which necessitate removal of tree #2782; changes are indicated in bold underlined type.**

Scope of Work and Limitations

Morgan Holen & Associates, LLC, was contracted by 3J Consulting to collect tree inventory data for individual trees measuring six inches and larger in diameter and to develop an arborist report and tree preservation plan for the project. The project proposes a 3-lot partition for the western most lot, but includes providing utilities for a remnant of parcel 2 located directly east of the 3-lot partition. Therefore, the existing trees located on and directly adjacent to both the 3-lot partition and the remnant parcel are included in our assignment. Site plans were provided by 3J Consulting illustrating the location of existing trees and potential construction impacts.

Visual Tree Assessment (VTA) was performed on individual trees located across the site. The enclosed tree inventory data and sheet C110 in the Land Use Plan Set demonstrate that existing trees located on and directly adjacent to the site were physically identified. VTA is the standard process whereby the inspector visually assesses the tree from a distance and up close, looking for defect symptoms and evaluating overall condition and vitality of individual trees. Trees were evaluated in terms of general condition and potential construction impacts.

Following the inventory fieldwork and prior to preparing this report, we coordinated with 3J Consulting to discuss potentially significant trees and tree protection recommendations, and reviewed significant tree classifications and discussed the proposed tree removal and preservation plan on-site with the City's Arborist. The Tree Protection Plan drawing was prepared by 3J Consulting with our review, comments, and coordination as needed.

The client may choose to accept or disregard the recommendations contained herein, or seek additional advice. Neither this author nor Morgan Holen & Associates, LLC, have assumed any responsibility for liability associated with the trees on or adjacent to this site.

Tree Inventory

In all, 44 existing trees were inventoried, including 20 different species and 11 trees located off-site. Table 1 provides a summary of the number of inventoried trees by species and location. The enclosed tree data provides a complete description of the individual trees.

Table 1. Number of Trees by Species – Suncrest Partition.

Common Name	Species Name	On-Site	Off-Site	Total	Percent
Ash	<i>Fraxinus</i> spp.		3	3	7%
Atlas cedar	<i>Cedrus atlantica</i>		1	1	2%
Austrian pine	<i>Pinus nigra</i>		1	1	2%
cherry	<i>Prunus</i> spp.	6	1	7	16%
deciduous	unknown	3		3	7%
deodar cedar	<i>Cedrus deodara</i>		1	1	2%
dogwood	<i>Cornus</i> spp.	1		1	2%
Douglas-fir	<i>Pseudotsuga menziesii</i>	2	1	3	7%
English hawthorn^	<i>Crataegus monogyna</i>	3		3	7%
English holly^	<i>Ilex aquifolium</i>	2		2	5%
European white birch^	<i>Betula pendula</i>	1		1	2%
falsecypress	<i>Chamaecyparis</i> spp.	2		2	5%
flowering pear	<i>Pyrus calleryana</i>		1	1	2%
fruit	unknown	1		1	2%
giant sequoia	<i>Sequoiadendron giganteum</i>	1		1	2%
incense cedar	<i>Calocedrus decurrens</i>		2	2	5%
lodgepole pine	<i>Pinus contorta</i>	2		2	5%
noble fir	<i>Abies nobilis</i>	1		1	2%
scots pine	<i>Pinus sylvestris</i>	5		5	11%
sweet cherry^	<i>Prunus avium</i>	3		3	7%
Total		33	11	44	100%

^Identifies tree species widely accepted as being invasive in our region.

The 11 off-site trees include seven trees located in public rights of way, six of which are across existing streets from the project site and entirely unaffected, and four trees located on adjacent private properties with some portion of their crowns overhanging the project site.

The 33 on-site trees are scattered across the site, but primarily near property boundaries and around the existing home that will remain on proposed lot 2, including: a mix of planted ornamental and landscape trees in variable condition; a relatively dense cluster of scots pines (*Pinus sylvestris*) that are overgrown with ivy and blackberries and two remnant Douglas-firs (*Pseudotsuga menziesii*) with extensive ivy up their trunks near the northern property boundary; and, a group of invasive species trees that likely sprouted from natural regeneration near the western property boundary.

Based on our evaluation of the size, type, location, health, and long-term survivability of the individual trees, and on-site coordination with the City’s Arborist, tree #2784 is the only significant tree on the project site. This is a 67-inch diameter giant sequoia (*Sequoiadendron giganteum*) in good condition with no major defects. It is located in the front of proposed lot 3 and is the largest and most prominent tree on the project site.

Tree Preservation Plan

We coordinated with 3J Consulting and the City’s Arborist to discuss trees suitable for preservation in terms of general condition and potential construction impacts. Table 2 provides a summary of the number of inventoried trees by treatment recommendation and general condition.

Table 2. Number of On Site Trees by Treatment Recommendation and General Condition.

Treatment	Poor	Fair	Good	Total	Percent
Remove On-Site	11	11	<u>1</u>	23	52%
Retain On-Site	0	3	<u>7</u>	10	23%
Protect Off-Site	0	2	9	11	25%
Total	11	16	17	44	100%
Percent	25%	36%	39%		

*Percent total may not sum to 100% due to rounding.

All 11 of the off-site trees will be protected, including six trees that are entirely unaffected by the proposed development because they are located across existing streets from the project site and five trees that will require protection fencing at the dripline plus 10-feet where crowns overhang the project site.

Of the 33 on-site trees, **23** non-significant trees, including 11 in poor condition, 11 in fair condition, **and one tree in good condition** are planned for removal either because of condition or to accommodate site development. The other **10** on-site trees, including three in fair condition and **seven** in good condition, are planned for retention. One of the **10** trees to be retained is classified as significant, which is the only significant tree located on-site.

Trees to be retained should be protected with tree protection fencing established at the dripline plus 10-feet. Lot 3 will require consideration for home design and construction in accordance with protection of the significant tree; coordinate with the project arborist to provide supplemental tree protection recommendations based on the actual building footprint. Encroachment within the tree protection zone of tree #2784 may require a pier and beam foundation or other approaches to minimize tree root and crown impacts. In addition, the final location of the private LIDA stormwater planter at lot 3 should remain beyond the dripline plus 10-feet tree protection zone and the new storm sewer lateral should be located beyond the dripline of the tree at a minimum.

Tree protection specifications are provided in the next section and should be translated onto construction drawings.

Tree Protection Standards

Trees to be protected will need special consideration to assure their protection during construction. Any work that is necessary within the standard tree protection zone should be performed under the guidance of a qualified arborist. It is the Client’s responsibility to implement this plan and to monitor the construction process. Tree protection measures include:

Before Construction

- 1. Tree Protection Zone.** The standard Tree Protection Zone (TPZ) for each tree to be protected shall be established at the dripline of the tree plus 10-feet. The location of TPZs shall be shown on construction drawings.

2. **Protection Fencing.** Protection fencing shall be erected at the TPZ, or as otherwise directed by the project arborist in coordination with the City Arborist, before demolition, grubbing, grading, or construction begins. All trees to be retained shall be protected by six-foot-high chain link fences installed at the edge of the TPZ. Protection fencing shall be secured to two-inch diameter galvanized iron posts, driven to a depth of a least two feet, placed no further than 10-feet apart. If fencing is located on pavement, posts may be supported by an appropriate grade level concrete base. Protection fencing shall remain in place until final inspection of the project permit, or in consultation with the project arborist. Where infrastructure must be installed closer to the tree(s), protection fencing may be established within the TPZ if the project arborist, in coordination with the City Arborist, determines that the tree(s) will not be unduly damaged. The contractor shall coordinate with the project arborist prior to opening, adjusting, or removing tree protection fencing.
3. **Signage.** An 8.5x11 –inch sign stating, “WARNING: Tree Protection Zone,” shall be displayed on each protection fence at all times.
4. **Designation of Cut Trees.** Trees to be removed shall be clearly marked with construction flagging, tree-marking paint, or other methods approved in advanced by the project arborist. Trees shall be carefully removed so as to avoid either above or below ground damage to those trees to be preserved. Where stumps of removed trees are located within the TPZ of a protected tree, stumps shall remain in the ground or else be extracted from the ground under the project arborist’s supervision.
5. **Preconstruction Conference.** The project arborist shall be on site to discuss methods of tree removal and tree protection prior to any construction.
6. **Verification of Tree Protection Measures.** Prior to commencement of construction, the project arborist shall verify in writing to the City Arborist that tree protection fencing has been satisfactorily installed.
7. **Pruning.** The project arborist can help identify if and where pruning is necessary once trees planned for removal have been removed and the site is staked and prepared for construction. Pruning shall be performed by a Qualified Tree Service.

During Construction

8. **Tree Protection Zone Maintenance.** The protection fencing shall not be moved, removed, or entered by equipment except under direction of the project arborist, in coordination with the City Arborist.
9. **Storage of Material or Equipment.** The contractor shall not store materials or equipment within the TPZ.
10. **Excavation within the TPZ.** Excavation with the TPZ shall be avoided if alternatives are available. If excavation within the TPZ is unavoidable, including installation of a new storm sewer lateral at lot 3, the project arborist shall evaluate the proposed excavation to determine methods to minimize impacts to trees. This can include tunneling, hand digging or other approaches. All construction within the TPZ shall be under the on-site technical supervision of the project arborist, in coordination with the City Arborist.

11. Surfacing. Where surfacing is proposed within the TPZ, including lot 3 driveway construction adjacent to tree #2784, coordinate with the project arborist to provide recommendations for adjustments to protection fencing and to monitor construction. Avoid excavation and use a modified profile to build up from existing grade (Figure 1). This profile includes a layer of permeable geotextile fabric on the ground surface and crushed rock to raise the grade as needed. Surfacing may include asphalt, concrete, or other materials.

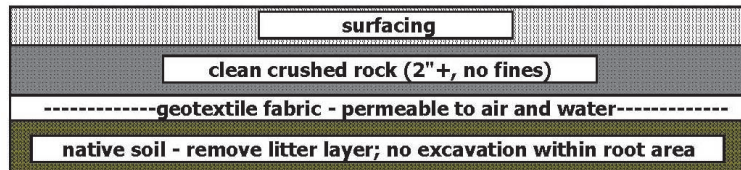


Figure 1. Sample profile for areas within Critical Root Zones. Depth of rock is dependent on grading. Technique based on best management practices.

12. Quality Assurance. The contractor shall be responsible for coordinating with the project arborist as needed, in a timely manner, prior to construction activities that could encroach on protected trees. The project arborist should monitor construction activities and progress on-call and provide written reports to the developer and the City following each site visit.

Post Construction

13. Final Report. After the project has been completed, the project arborist shall provide a final report to the developer and the City. The final report shall include concerns about any trees negatively impacted during construction, and describe the measures needed to maintain and protect the remaining trees for a minimum of two years after project completion.

Please contact us if you have questions or need any additional information. Thank you for choosing Morgan Holen & Associates, LLC, to provide consulting arborist services for the Suncrest Partition project.

Thank you,
Morgan Holen & Associates, LLC

Morgan E. Holen, Member/Owner
ISA Board Certified Master Arborist, PN-6145B
ISA Tree Risk Assessment Qualified
Forest Biologist

Enclosures: MHA17054 Suncrest Partition – Tree Data 11-3-17 **Rev. 2-15-18**



No.	Common Name	Species Name	DBH*	C-Rad^	Cond#	Comments	Sig?	Treatment
2138	ash	<i>Fraxinus</i> spp.	18	14	G	off-site street tree, lower trunk wound street side, large surface roots, sidewalk heave	no	protect
2139	ash	<i>Fraxinus</i> spp.	15	14	G	off-site street tree, large surface roots, sidewalk heave	no	protect
2140	ash	<i>Fraxinus</i> spp.	14	20	G	off-site street tree, large surface roots, sidewalk heave	no	protect
2253	Austrian pine	<i>Pinus nigra</i>	22	22	F	off-site tree with crown overhanging project site, in group with other similar trees further off-site	no	protect
2458	cherry	<i>Prunus</i> spp.	8	12	G	off-site street tree	no	protect
2565	deodar cedar	<i>Cedrus deodara</i>	36	22	G	off-site ROW tree, some crown asymmetry, sidewalk heave	yes	protect
2566	incense cedar	<i>Calocedrus decurrens</i>	44	10	G	off-site ROW tree, codominant stems 18" & 26", moderate structure	yes	protect
2567	incense cedar	<i>Calocedrus decurrens</i>	48	12	G	off-site ROW tree, codominant stems 22" & 26", moderate structure, sidewalk heave	yes	protect
2568	cherry	<i>Prunus</i> spp.	6	8	P	poor structure, advanced trunk decay	no	remove
2569	sweet cherry	<i>Prunus avium</i>	10	15	P	invasive species, poor structure	no	remove
2570	sweet cherry	<i>Prunus avium</i>	10	15	P	invasive species, poor structure, trunk decay	no	remove
2571	sweet cherry	<i>Prunus avium</i>	10	15	P	invasive species, poor structure, trunk decay	no	remove
2572	English hawthorn	<i>Crataegus monogyna</i>	10	15	F	invasive species, poor structure	no	remove
2660	English holly	<i>Ilex aquifolium</i>	12	12	P	codominant stems 2x6", invasive species, poor structure, extensive ivy infestation	no	remove
2661	English holly	<i>Ilex aquifolium</i>	18	12	P	codominant stems 3x6", invasive species, poor structure, extensive ivy infestation	no	remove
2662	Douglas-fir	<i>Pseudotsuga menziesii</i>	34	30	F	multiple leaders, extensive ivy up trunk into crown (limited visual assessment)	no	retain

No.	Common Name	Species Name	DBH*	C-Rad^	Cond#	Comments	Sig?	Treatment
2663	Douglas-fir	<i>Pseudotsuga menziesii</i>	18	25	F	extensive ivy up trunk into crown (limited visual assessment)	no	retain
2664	English hawthorn	<i>Crataegus monogyna</i>	26	20	P	invasive species, poor structure, extensive ivy infestation	no	remove
2665	scots pine	<i>Pinus sylvestris</i>	6	8	P	inaccessible - overgrown with ivy and blackberries, poor structure	no	remove
2666	scots pine	<i>Pinus sylvestris</i>	10	15	P	inaccessible - overgrown with ivy and blackberries, codominant stems	no	remove
2667	scots pine	<i>Pinus sylvestris</i>	8	10	F	inaccessible - overgrown with ivy and blackberries	no	remove
2668	scots pine	<i>Pinus sylvestris</i>	9	15	F	inaccessible - overgrown with ivy and blackberries	no	remove
2669	scots pine	<i>Pinus sylvestris</i>	12	15	F	inaccessible - overgrown with ivy and blackberries, extensive ivy infestation	no	remove
2670	cherry	<i>Prunus spp.</i>	9	15	F	codominant stems	no	retain
2671	cherry	<i>Prunus spp.</i>	9	15	G		no	retain
2672	cherry	<i>Prunus spp.</i>	9	15	G		no	retain
2673	European white birch	<i>Betula pendula</i>	11	15	F	invasive species, poor structure, topped	no	remove
2674	falsecypress	<i>Chamaecyparis spp.</i>	27	16	G	codominant leaders	no	retain
2675	falsecypress	<i>Chamaecyparis spp.</i>	20	16	G	codominant leaders, old trunk wound on west face	no	retain
2676	lodgepole pine	<i>Pinus contorta</i>	16	18	F	codominant stems 6", 10", ornamental, moderate structure, crack in one codominant stem, dead branch	no	remove
2677	noble fir	<i>Abies nobilis</i>	20	12	G	old wound at base of trunk on east face - gall like with bacterial wetwood or similar	no	retain
2698	deciduous	unknown	6	10	F	basal and lower trunk decay on northwest face	no	remove
2757	English hawthorn	<i>Crataegus monogyna</i>	8	10	P	invasive species, poor structure, advanced trunk decay, dead top	no	remove

No.	Common Name	Species Name	DBH*	C-Rad^	Cond [#]	Comments	Sig?	Treatment
2782	deciduous	unknown	10	12	G	codominant stems	no	remove
2783	dogwood	<i>Cornus spp.</i>	10	10	G	codominant stems	no	retain
2784	giant sequoia	<i>Sequoiadendron giganteum</i>	67	24	G	could prune to lift crown if retained	yes	retain
2785	lodgepole pine	<i>Pinus contorta</i>	30	20	P	codominant stems 14", 16", crack in juncture, sequoia pitch moth in juncture, trunk decay in one stem, moderate crown structure	no	remove
2788	deciduous	unknown	7	14	F	likely natural regeneration, poor structure	no	remove
2790	Douglas-fir	<i>Pseudotsuga menziesii</i>	28	25	G	off-site tree with crown overhanging project site	no	protect
2791	cherry	<i>Prunus spp.</i>	16	18	F	previously topped	no	remove
2792	cherry	<i>Prunus spp.</i>	18	16	F	previously topped	no	remove
2793	fruit	unknown	18	14	F	codominant stems, not very well maintained, previously topped, trunk decay in upper crown	no	remove
2794	flowering pear	<i>Pyrus calleryana</i>	7	6	G	off-site tree with crown overhanging project site	no	protect
2795	Atlas cedar	<i>Cedrus atlantica</i>	8	10	F	weeping off-site tree with crown overhanging project site	no	protect

***DBH** is tree diameter measured at breast height, 4.5-feet above the ground level (inches); codominant trunks splitting below DBH are measured individually and DBH is reported as the sum of each stem.

^C-Rad is the average crown radius measured in feet.

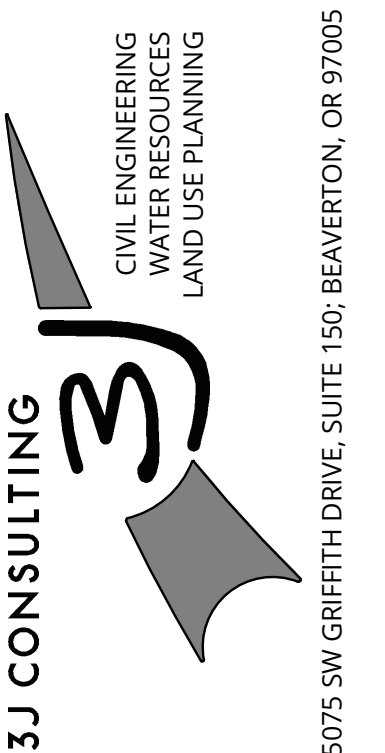
#Cond is an arborist assigned rating to generally describe the condition of individual trees as follows- **D**ead; **P**oor; **F**air; or **G**ood condition.

Sig? asks whether or not individual trees are considered potentially significant, either Yes (likely significant) or No (not considered significant).



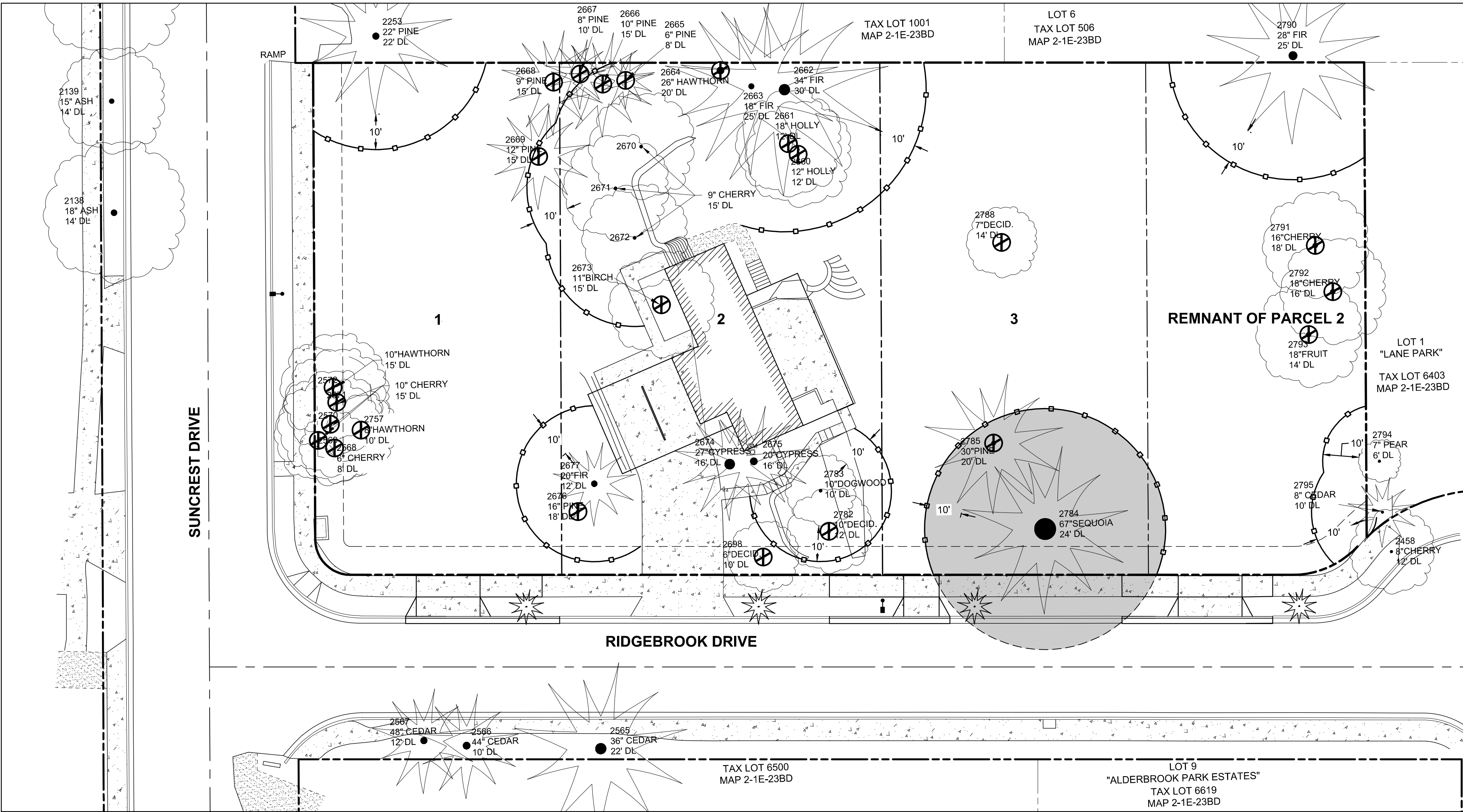
PUBLISH DATE
02-03-18
ISSUED FOR
LAND USE SET
REVISIONS

TREE PROTECTION PLAN
SUNCREST PARTITION
19310 SUNCREST DRIVE
 KATHLEEN DAILEY
 WEST LINN, OREGON



PROJECT INFORMATION
 3J PROJECT # | 17414
 TAX LOT(S) | 21E23BD 6401
 LAND USE # | N/A
 DESIGNED BY | CKW
 CHECKED BY | AJM

SHEET NUMBER
C110



LEGEND

	EXISTING BUILDING
	PROJECT BOUNDARY
	RIGHT-OF-WAY LINE
	RIGHT-OF-WAY CENTERLINE
	EASEMENT LINE
	EXISTING LOT LINE
	EXISTING ADJACENT PROPERTY LINE
	SIGNIFICANT TREE CANOPY TO REMAIN (DRIPLINE + 10 FT)
	EXISTING CONIFEROUS TREE
	EXISTING DECIDUOUS TREE
	TREE TO BE REMOVED

No.	Common Name	DBH (inches)	Dripline Radius (feet)	Significant Designation	Proposed Action
2138	Ash	18	14	No	Protect (Offsite)
2139	Ash	15	14	No	Protect (Offsite)
2140	Ash	14	20	No	Protect (Offsite)
2253	Austrian Pine	22	22	No	Protect (Offsite)
2458	Cherry	8	12	No	Protect (Offsite)
2555	Deodar Cedar	36	22	Yes	Protect (Offsite)
2566	Incense Cedar	44	10	Yes	Protect (Offsite)
2567	Incense Cedar	48	12	Yes	Protect (Offsite)
2568	Cherry	6	8	No	Remove
2569	Sweet Cherry	10	15	No	Remove
2570	Sweet Cherry	10	15	No	Remove
2571	Sweet Cherry	10	15	No	Remove
2572	English Hawthorn	10	15	No	Remove
2660	English Holly	12	12	No	Remove
2661	English Holly	18	12	No	Remove
2662	Douglas Fir	34	30	No	Retain
2663	Douglas Fir	18	25	No	Retain
2664	English Hawthorn	26	20	No	Remove
2665	Scots Pine	6	8	No	Remove
2666	Scots Pine	10	15	No	Remove
2667	Scots Pine	8	10	No	Remove
2668	Scots Pine	9	15	No	Remove
2669	Scots Pine	12	15	No	Remove
2670	Cherry	9	15	No	Retain
2671	Cherry	9	15	No	Retain
2672	Cherry	9	15	No	Retain
2673	European White Birch	11	15	No	Remove
2674	Falsecypress	27	16	No	Retain
2675	Falsecypress	20	16	No	Retain
2676	Lodgepole Pine	16	18	No	Remove
2677	Noble Fir	20	12	No	Retain
2698	Deciduous	6	10	No	Remove
2757	English Hawthorn	8	10	No	Remove
2782	Deciduous	10	12	No	Remove
2783	Dogwood	10	10	No	Retain
2784	Giant Sequoia	67	24	Yes	Retain
2785	Lodgepole Pine	30	20	No	Remove
2788	Deciduous	7	14	No	Remove
2790	Douglas Fir	28	25	No	Protect (Offsite)
2791	Cherry	16	18	No	Remove
2792	Cherry	18	16	No	Remove
2793	Fruit	18	14	No	Remove
2794	Flowering Pear	7	6	No	Protect (Offsite)
2795	Atlas Cedar	8	10	No	Protect (Offsite)

TREE PROTECTION NOTES

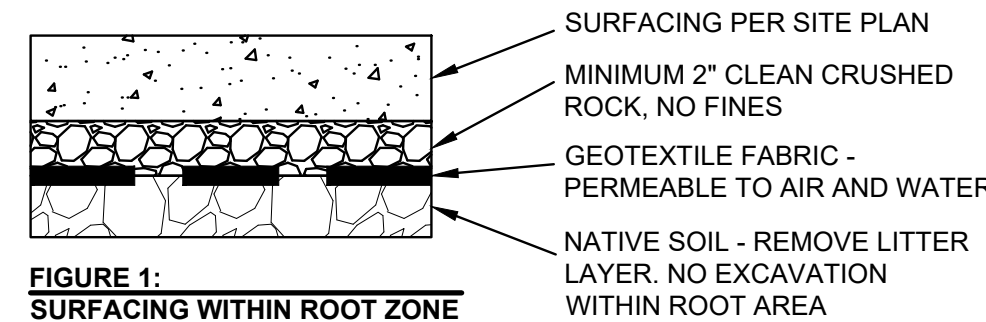
- TREE PROTECTION ZONE.** THE STANDARD TREE PROTECTION ZONE (TPZ) FOR EACH TREE TO BE PROTECTED SHALL BE ESTABLISHED AT THE DRIPLINE OF THE TREE PLUS 10-FEET. THE LOCATION OF TPZS SHALL BE SHOWN ON CONSTRUCTION DRAWINGS.
- PROTECTION FENCING.** PROTECTION FENCING SHALL BE ERCTED AT THE TPZ, OR AS OTHERWISE DIRECTED BY THE PROJECT ARBORIST IN COORDINATION WITH THE CITY ARBORIST, BEFORE DEMOLITION, GRUBBING, GRADING, OR CONSTRUCTION BEGINS. ALL TREES TO BE RETAINED SHALL BE PROTECTED BY SIX-FOOT-HIGH CHAIN LINK FENCES INSTALLED AT THE EDGE OF THE TPZ. PROTECTION FENCING SHALL BE SECURED TO TWO-INCH DIAMETER GALVANIZED IRON POSTS, DRIVEN TO A DEPTH OF A LEAST TWO FEET, PLACED NO FURTHER THAN 10-FOET APART. IF FENCING IS LOCATED ON PAVEMENT, POSTS MAY BE SUPPORTED BY AN APPROPRIATE GRADE LEVEL CONCRETE BASE. PROTECTION FENCING SHALL REMAIN IN PLACE UNTIL FINAL INSPECTION OF THE PROJECT PERMIT, OR IN CONSULTATION WITH THE PROJECT ARBORIST, WHERE INFRASTRUCTURE MUST BE INSTALLED CLOSER TO THE TREE(S), PROTECTION FENCING MAY BE ESTABLISHED WITHIN THE TPZ IF THE PROJECT ARBORIST, IN COORDINATION WITH THE CITY ARBORIST, DETERMINES THAT THE TREE(S) WILL NOT BE UNDULY DAMAGED. THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT ARBORIST PRIOR TO OPENING, ADJUSTING, OR REMOVING TREE PROTECTION FENCING.
- SIGNAGE.** AN 8.5X11 -INCH SIGN STATING, "WARNING: TREE PROTECTION ZONE," SHALL BE DISPLAYED ON EACH PROTECTION FENCE AT ALL TIMES.
- DESIGNATION OF CUT TREES.** TREES TO BE REMOVED SHALL BE CLEARLY MARKED WITH CONSTRUCTION FLAGGING, TREE-MARKING PAINT, OR OTHER METHODS APPROVED IN ADVANCED BY THE PROJECT ARBORIST. TREES SHALL BE CAREFULLY REMOVED SO AS TO AVOID EITHER ABOVE OR BELOW GROUND DAMAGE TO THOSE TREES TO BE PRESERVED. WHERE STUMPS OF REMOVED TREES ARE LOCATED WITHIN THE TPZ OF A PROTECTED TREE, STUMPS SHALL REMAIN IN THE GROUND OR ELSE BE EXTRACTED FROM THE GROUND UNDER THE PROJECT ARBORIST'S SUPERVISION.

GENERAL NOTES

- INSTALL TREE PROTECTION FENCING PR CITY OF WEST LINN STANDARD DETAIL WL-219.
- CONTRACTOR SHALL COORDINATE CITY APPROVAL OF TREE PROTECTION PRIOR TO ANY TREE CUTTING OR CLEARING ACTIVITIES.
- LOT 3 WILL REQUIRE CONSIDERATION FOR HOME DESIGN AND CONSTRUCTION IN ACCORDANCE WITH PROTECTION OF THE SIGNIFICANT GIANT SEQUOIA, TREE #2784. COORDINATE WITH THE PROJECT ARBORIST TO PROVIDE SUPPLEMENTAL TREE PROTECTION RECOMMENDATIONS BASED ON THE ACTUAL BUILDING FOOTPRINT. ENCROACHMENT WITHIN THE TREE PROTECTION ZONE MAY REQUIRE A PIER AND BEAM FOUNDATION OR OTHER APPROACHES TO MINIMIZE TREE ROOT AND CROWN IMPACTS.
- THE FINAL LOCATION OF THE PRIVATE LIDA STORMWATER PLANTER AT LOT 3 SHOULD REMAIN BEYOND THE DRIPLINE PLUS 10-FOET TREE PROTECTION ZONE OF TREE #2784, AND THE NEW STORM SEWER LATERAL SHOULD BE LOCATED BEYOND THE DRIPLINE OF THE TREE AT A MINIMUM.

- PRECONSTRUCTION CONFERENCE.** THE PROJECT ARBORIST SHALL BE ON SITE TO DISCUSS METHODS OF TREE REMOVAL AND TREE PROTECTION PRIOR TO ANY CONSTRUCTION.
- VERIFICATION OF TREE PROTECTION MEASURES.** PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE PROJECT ARBORIST SHALL VERIFY IN WRITING TO THE CITY ARBORIST THAT TREE PROTECTION FENCING HAS BEEN SATISFACTORILY INSTALLED.
- PRUNING.** THE PROJECT ARBORIST CAN HELP IDENTIFY IF AND WHERE PRUNING IS NECESSARY ONCE TREES PLANNED FOR REMOVAL HAVE BEEN REMOVED AND THE SITE IS STAKED AND PREPARED FOR CONSTRUCTION. PRUNING SHALL BE PERFORMED BY A QUALIFIED TREE SERVICE.
- TREE PROTECTION ZONE MAINTENANCE.** THE PROTECTION FENCING SHALL NOT BE MOVED, REMOVED, OR ENTERED BY EQUIPMENT EXCEPT UNDER DIRECTION OF THE PROJECT ARBORIST, IN COORDINATION WITH THE CITY ARBORIST.
- STORAGE OF MATERIAL OR EQUIPMENT.** THE CONTRACTOR SHALL NOT STORE MATERIALS OR EQUIPMENT WITHIN THE TPZ.
- EXCAVATION WITHIN THE TPZ.** EXCAVATION WITHIN THE TPZ SHALL BE AVOIDED IF ALTERNATIVES ARE AVAILABLE. IF EXCAVATION WITHIN THE TPZ IS UNAVOIDABLE, INCLUDING INSTALLATION OF A NEW STORM SEWER LATERAL AT LOT 3, THE PROJECT ARBORIST SHALL EVALUATE THE PROPOSED EXCAVATION TO DETERMINE METHODS TO MINIMIZE IMPACTS TO TREES. THIS CAN INCLUDE TUNNELING, HAND DIGGING OR OTHER APPROACHES. ALL CONSTRUCTION WITHIN THE TPZ SHALL BE UNDER THE ON-SITE TECHNICAL SUPERVISION OF THE PROJECT ARBORIST, IN COORDINATION WITH THE CITY ARBORIST.
- SURFACING.** WHERE SURFACING IS PROPOSED WITHIN THE TPZ, INCLUDING LOT 3 DRIVEWAY CONSTRUCTION ADJACENT TO TREE #2784, COORDINATE WITH THE PROJECT ARBORIST TO PROVIDE RECOMMENDATIONS FOR ADJUSTMENTS TO PROTECTION FENCING AND TO MONITOR CONSTRUCTION. AVOID EXCAVATION AND USE A MODIFIED PROFILE TO BUILD UP FROM EXISTING GRADE (FIGURE 1). THIS PROFILE INCLUDES A LAYER OF PERMEABLE GEOTEXTILE FABRIC ON THE GROUND SURFACE AND CRUSHED ROCK TO RAISE THE GRADE AS NEEDED. SURFACING MAY INCLUDE ASPHALT, CONCRETE, OR OTHER MATERIALS.
- QUALITY ASSURANCE.** THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE PROJECT ARBORIST AS NEEDED, IN A TIMELY MANNER, PRIOR TO CONSTRUCTION ACTIVITIES THAT COULD ENCROACH ON PROTECTED TREES. THE PROJECT ARBORIST SHOULD MONITOR CONSTRUCTION ACTIVITIES AND PROGRESS ON-CALL AND PROVIDE WRITTEN REPORTS TO THE DEVELOPER AND THE CITY FOLLOWING EACH SITE VISIT.

- FINAL REPORT.** AFTER THE PROJECT HAS BEEN COMPLETED, THE PROJECT ARBORIST SHALL PROVIDE A FINAL REPORT TO THE DEVELOPER AND THE CITY. THE FINAL REPORT SHALL INCLUDE CONCERNS ABOUT ANY TREES NEGATIVELY IMPACTED DURING CONSTRUCTION, AND DESCRIBE THE MEASURES NEEDED TO MAINTAIN AND PROTECT THE REMAINING TREES FOR A MINIMUM OF TWO YEARS AFTER PROJECT COMPLETION.



GENERAL TREE INVENTORY STATISTICS

TOTAL PROPERTY AREA	33,919 SQ FT = 0.78 AC
TOTAL TREE INVENTORY	44 EA
TOTAL OFFSITE TREES PROTECTED	11 EA
TOTAL TREES RETAINED (ONSITE)	10 EA
TOTAL TREES REMOVED (ONSITE)	23 EA
TOTAL TREE CALIPER INCHES (ONSITE)	510 INCHES
TOTAL CALIPER INCHES RETAINED (ONSITE)	223 INCHES
TOTAL CALIPER INCHES REMOVED (ONSITE)	287 INCHES

SIGNIFICANT TREE STATISTICS ONSITE

SIGNIFICANT TREE INVENTORY	1 EA
SIG. TREES RETAINED	1 EA
SIG. TREES REMOVED	0 EA
SIG. TREE CALIPER INCHES	67 INCHES
SIG. CALIPER INCHES RETAINED	67 INCHES
SIG. CALIPER INCHES REMOVED	0 INCHES
SIG. TREE CANOPY COVERAGE	1,810 SQ. FT.
SIG. TREE CANOPY RETAINED	1,810 SQ. FT.
SIG. TREE CANOPY REMOVED	0 SQ. FT.
TREE PRESERVATION AREA REQ'D (20% OF EXISTING CANOPY)	362 SQ. FT.
PRESERVATION AREA PROVIDED (100% OF EXISTING CANOPY)	1,810 SQ. FT.