POR SE 1/4, SEC 30, TWP 26N, RGE 5E, W.M.

FIRWOOD LANE
L.I.D. SUBDIVISION

LEGAL DESCRIPTION

LOTS 1 THROUGH 26, INCLUSIVE, BLOCK 3, ALSO LOTS 1 AND 2 AND THE NORTH 7.5 FEET OF LOT 3, AND THE NORTH 20 FEET OF LOT 21 AND ALL OF LOTS 22, 23 AND 24, BLOCK 18, WATERFRONT ADDITION TO KIRKLAND, ACCORDING TO THE PLAT THEREOF, RECORDED IN VOLUME 6 OF PLATS, PAGES 92 THROUGH 94, INCLUSIVE, IN KING COUNTY, WASHINGTON;

TOGETHER WITH THOSE PORTIONS OF STREETS AND ALLEYS VACATED BY ORDER ENTERED OCTOBER 3, 1987, UNDER KING COUNTY SUPERIOR COURT CAUSE NO. 87-2-11593-3, DESCRIBED AS FOLLOWS:

ALL OF NORTHEAST 122ND STREET (4TH STREET) LYING EAST OF THE PLAT OF CREEKSIDE, ACCORDING TO THE PLAT THEREOF, RECORDED IN VOLUME 130 OF PLATS, PAGES 43 THROUGH 45, INCLUSIVE, IN KING COUNTY, WASHINGTON, AND LYING WEST OF LOTS 24 AND 25, BLOCK 1, JUANITA PARKWAY DIVISION NO. 2, ACCORDING TO THE PLAT THEREOF, RECORDED IN VOLUME 67 OF PLATS, PAGES 56 THROUGH 58, INCLUSIVE, IN KING COUNTY, WASHINGTON;

ALSO THE EAST HALF OF 93RD PLACE NORTHEAST (KIRKLAND AVENUE), AND THE WEST HALF OF 94TH AVENUE NORTHEAST (MANCHESTER STREET), AND ALL ALLEYWAYS WITHIN BLOCKS 3 AND 18, WATERFRONT ADDITION TO KIRKLAND, ACCORDING TO THE PLAT THEREOF, RECORDED IN VOLUME 6 OF PLATS, PAGES 92 THROUGH 94, INCLUSIVE, IN KING COUNTY, WASHINGTON, LYING NORTH OF LOTS 20 AND 21, BLOCK 1, JUANITA PARKWAY DIVISION NO. 2, AND SOUTH OF A LINE LOCATED 30 FEET SOUTH OF AND PARALLEL WITH THE CENTERLINE OF NORTHEAST 124TH STREET.

(PER CHICAGO TITLE COMPANY OF WASHINGTON, ORDER NO. 0026279-06, DATED: OCTOBER 13, 2014)

SURVEY NOTES

INSTRUMENTATION FOR THIS SURVEY WAS A SOKKIA 530R TOTAL STATION.

PROCEDURES USED WERE FIELD TRAVERSE, MEETING OR EXCEEDING STANDARDS SET BY WAC 332-130-090

ALL UTILITIES SHOWN WERE DERIVED FROM PHYSICAL LOCATIONS ON THE GROUND SURFACE AT TIME OF SURVEY. CONTRACTOR TO VERIFY PRIOR TO ANY EXCAVATION.

THIS SURVEY HAS BEEN PREPARED FOR THE EXCLUSIVE USE OF PARTIES WHOSE NAMES APPEAR HEREON ONLY, AND DOES NOT EXTEND TO ANY UNNAMED THIRD PARTIES WITHOUT EXPRESS RECERTIFICATION BY THE LAND SURVEYOR.

BOUNDARY LINES SHOWN REPRESENT DEED LOCATIONS, OWNERSHIP LINES MAY VARY. NO GUARANTEE OF OWNERSHIP IS EXPRESSED OR IMPLIED.

DATUM

NAVD88
DESIGNATION: 51
DB ID: 46517
DESCRIPTION: CONCRETE MONUMENT IN CASE WITH BRASS PIN SET IN LEAD 0.75' BELOW SURFACE.
LOCATION: AT THE INTERSECTION OF NORTHEAST 124TH STREET AND 100TH AVENUE NORTHEAST.
ELEVATION: 77.82

BASIS OF BEARINGS

N87°43'44"W ALONG THE MONUMENTED CENTER LINE OF NORTHEAST 124TH STREET

REFERENCES

-WEST PROPERTY LINE SURVEY RECORDED IN VOLUME 120, PAGE(S) 135

-PLAT OF JUANITA PARKWAY DIVISION NO. 2 RECORDED IN VOLUME 67, PAGE(S) 56-58

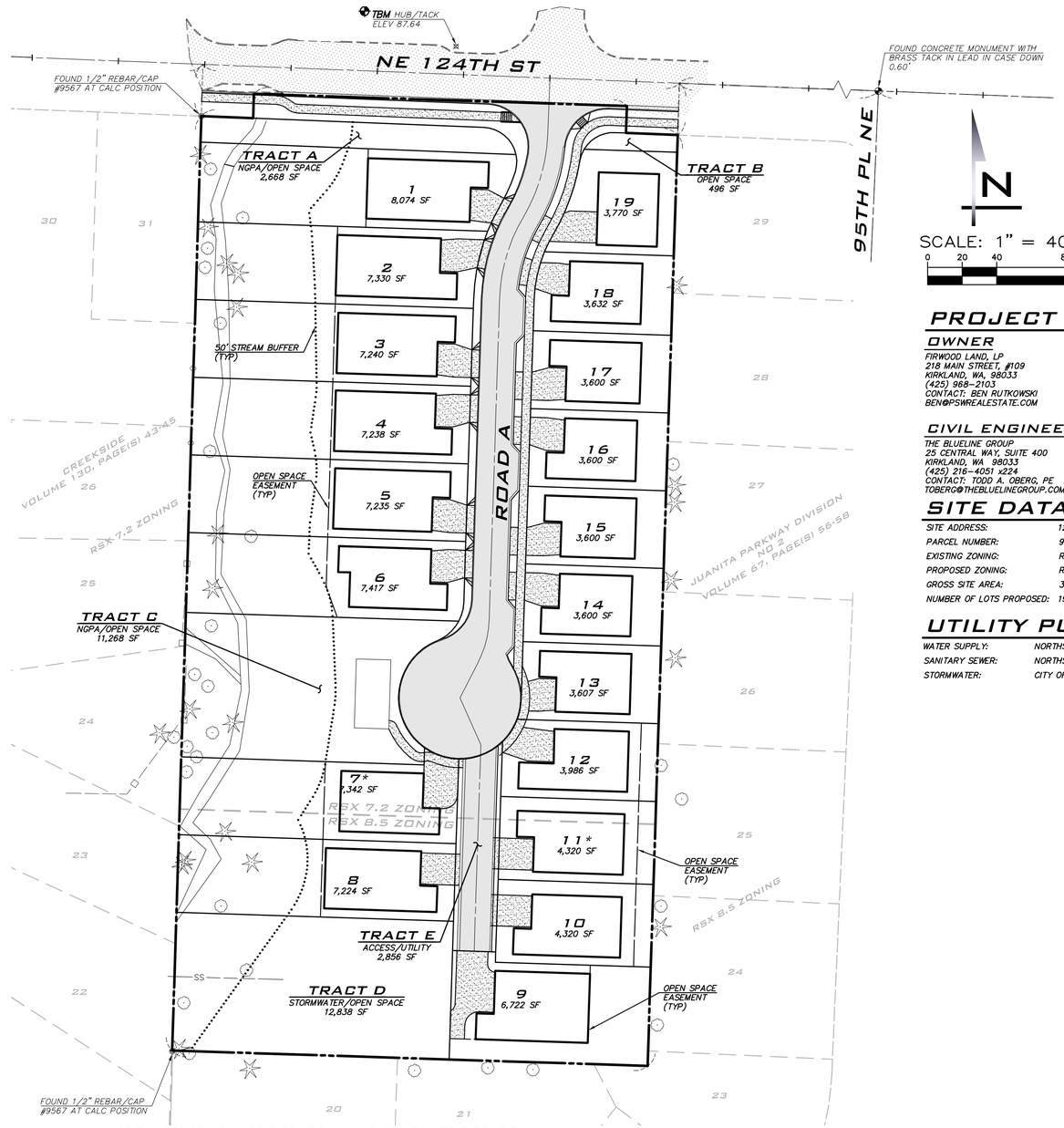
-PLAT OF CREEKSIDE RECORDED IN VOLUME 130, PAGE(S) 43-45

LOT COVERAGE CALCULATIONS

LOT 1 AREA:	8,704 SF	LOT 11 AREA:	4,320 SF
MAX LOT COVERAGE:	2,700 SF	MAX LOT COVERAGE 50%:	2,160 SF
AREA WITHIN OPEN SPACE EASEMENT	4,459 SF	AREA WITHIN OPEN SPACE EASEMENT	480 SF
LOT 2 AREA:	7,330 SF	LOT 12 AREA:	3,435 SF
MAX LOT COVERAGE:	2,700 SF	MAX LOT COVERAGE 50%:	1,718 SF
AREA WITHIN OPEN SPACE EASEMENT	3,642 SF	AREA WITHIN OPEN SPACE EASEMENT	450 SF
LOT 3 AREA:	7,240 SF	LOT 13 AREA:	3,484 SF
MAX LOT COVERAGE:	2,650 SF	MAX LOT COVERAGE 50%:	1,742 SF
AREA WITHIN OPEN SPACE EASEMENT	3,640 SF		
LOT 4 AREA:	7,238 SF	LOT 14 AREA:	3,600 SF
MAX LOT COVERAGE:	2,650 SF	MAX LOT COVERAGE 50%:	1,800 SF
AREA WITHIN OPEN SPACE EASEMENT	3,638 SF	LOT 15 AREA:	3,600 SF
		MAX LOT COVERAGE 50%:	1,800 SF
LOT 5 AREA:	7,235 SF		
MAX LOT COVERAGE:	2,650 SF	LOT 16 AREA:	3,600 SF
AREA WITHIN OPEN SPACE EASEMENT	3,635 SF	MAX LOT COVERAGE 50%:	1,800 SF
LOT 6 AREA:	7,417 SF	LOT 17 AREA:	3,600 SF
MAX LOT COVERAGE:	2,600 SF	MAX LOT COVERAGE 50%:	1,800 SF
AREA WITHIN OPEN SPACE EASEMENT	3,791 SF		
LOT 7 AREA:	7,342 SF	LOT 18 AREA:	3,632 SF
MAX LOT COVERAGE:	2,650 SF	MAX LOT COVERAGE 50%:	1,816 SF
AREA WITHIN OPEN SPACE EASEMENT	3,754 SF		
LOT 8 AREA:	7,224SF	LOT 19 AREA:	3,770 SF
MAX LOT COVERAGE:	2,600 SF	MAX LOT COVERAGE 50%:	1,885 SF
AREA WITHIN OPEN SPACE EASEMENT	3,752 SF		
LOT 9 AREA:	6,722 SF		
MAX LOT COVERAGE 50%:	3,361 SF		
AREA WITHIN OPEN SPACE EASEMENT	2,972 SF		
LOT 10 AREA:	4,320 SF		
MAX LOT COVERAGE 50%:	2,160 SF		
AREA WITHIN OPEN SPACE EASEMENT	480 SF		

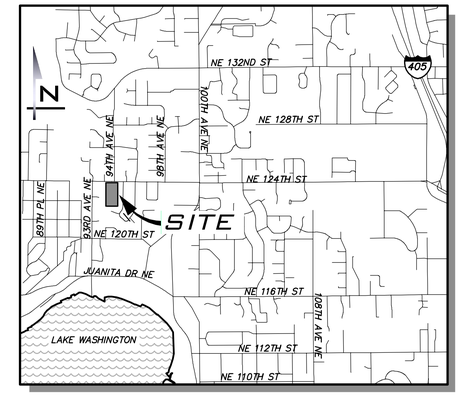
MAXIMUM DEVELOPMENT POTENTIAL

	RSX 7.2 ZONE		RSX 8.5 ZONE	
TOTAL SITE AREA:	110,361	SF	38,571	SF
SENSITIVE AREA (STREAM):	2,398	SF	461	SF
UNMODIFIED BUFFER AREA:	38,428	SF	10,795	SF
BUILDABLE AREA:	69,535	SF	27,315	SF
% SITE IN SENSITIVE AREA BUFFER:	34.82		27.99	
MINIMUM LOT SIZE PER LID CODE:	3,600	SF	4,250	SF
DEVELOPMENT FACTOR:	70%		80%	
MAXIMUM DEVELOPMENT POTENTIAL W/ 10% LID BONUS:	14.73	DU	4.65	DU



* LOT 7: 4,933 SF WITHIN ZONE RSX 7.2 – 2,409 SF WITHIN ZONE RSX 8.5
* LOT 11: 1,184 SF WITHIN ZONE RSX 7.2 – 3,136 SF WITHIN ZONE RSX 8.5

SCALE: 1" = 40'
0 20 40 80



VICINITY MAP

NOT TO SCALE

PROJECT TEAM

OWNER
FIRWOOD LAND, LP
218 MAIN STREET, #109
KIRKLAND, WA, 98033
(425) 968-2103
CONTACT: BEN RUTKOWSKI
BEN@PSWREALESTATE.COM

GEOTECHNICAL
EARTH SOLUTIONS NW, LLC
1805 136TH PL NE, SUITE 201
BELLEVUE, WA 98005
(425) 284-3300
CONTACT: RAY COGLAS
COGLAS@EARTHSOLUTIONSNW.COM

SURVEYOR
MEAD GILMAN ASSOCIATES
17625 130TH AVE N, #104
WOODINVILLE, WA 98072
(425) 486-1252
CONTACT: SHANE BARNES
SHANE@MEADGILMAN.COM

CIVIL ENGINEER
THE BLUELINE GROUP
25 CENTRAL WAY, SUITE 400
KIRKLAND, WA 98033
(425) 216-4051 x224
CONTACT: TODD A. OBERG, PE
TOBERG@THEBLUELINEGROUP.COM

ARBORIST
TREE SOLUTIONS, INC
2940 WESTLAKE AVE N, SUITE #200
SEATTLE, WA 98109
(206) 528-4670
CONTACT: CHRIS MADISON
CHRIS@TREESOLUTIONS.NET

SITE DATA

SITE ADDRESS:	12342 93RD LANE NE
PARCEL NUMBER:	9194100015
EXISTING ZONING:	RSX 7.2 & RSX 8.5
PROPOSED ZONING:	RSX 7.2 & RSX 8.5
GROSS SITE AREA:	3.4 ACRES
NUMBER OF LOTS PROPOSED:	19

UTILITY PURVEYORS

WATER SUPPLY:	NORTHSHORE UTILITY DISTRICT
SANITARY SEWER:	NORTHSHORE UTILITY DISTRICT
STORMWATER:	CITY OF KIRKLAND

SHEET INDEX

1	CV-01	COVER SHEET
2	PU-01	PRELIMINARY UTILITY PLAN
3	PR-01	PRELIMINARY PROFILES
4	TR-01	TREE RETENTION PLAN
5	TR-01	TREE RETENTION DETAILS
6	TR-01	TREE RETENTION DETAILS

UNDERGROUND UTILITY NOTE

UNDERGROUND UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION. THERE IS NO GUARANTEE THAT ALL UTILITY LINES ARE SHOWN, OR THAT THE LOCATION, SIZE AND MATERIAL IS ACCURATE. THE CONTRACTOR SHALL UNCOVER ALL INDICATED PIPING WHERE CROSSING, INTERFERENCES, OR CONNECTIONS OCCUR PRIOR TO TRENCHING OR EXCAVATION FOR ANY PIPE OR STRUCTURES, TO DETERMINE ACTUAL LOCATIONS, SIZE AND MATERIAL. THE CONTRACTOR SHALL MAKE THE APPROPRIATE PROVISION FOR PROTECTION OF SAID FACILITIES. THE CONTRACTOR SHALL NOTIFY ONE CALL AT 8-1-1 (WASHINGTON811.COM) AND ARRANGE FOR FIELD LOCATION OF EXISTING FACILITIES BEFORE CONSTRUCTION.

EXISTING STRUCTURES NOTE

ALL EXISTING STRUCTURES ONSITE TO BE REMOVED UNLESS OTHERWISE NOTED.

BUILDING FOOTPRINT

BUILDING FOOTPRINTS SHOWN ARE CONCEPTUAL AND SUBJECT TO CHANGE.

BLUELINE
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SCALE: AS NOTED
PROJECT MANAGER: TODD A. OBERG, PE
PROJECT ENGINEER: DENÉ KUZARO
DESIGNER: LEE TOMKINS
ISSUE DATE: 6/30/2015

NO	DATE	BY	REVISIONS

COVER SHEET
FIRWOOD LANE
PRELIMINARY PLAT / IDP
PARCEL #9194100015
CITY OF KIRKLAND, WASHINGTON

TODD A. OBERG, STATE OF WASHINGTON, 37408, REGISTERED PROFESSIONAL ENGINEER
6/29/2015

JOB NUMBER: 14-266
SHEET NAME: CV-01
SHT 1 OF 6

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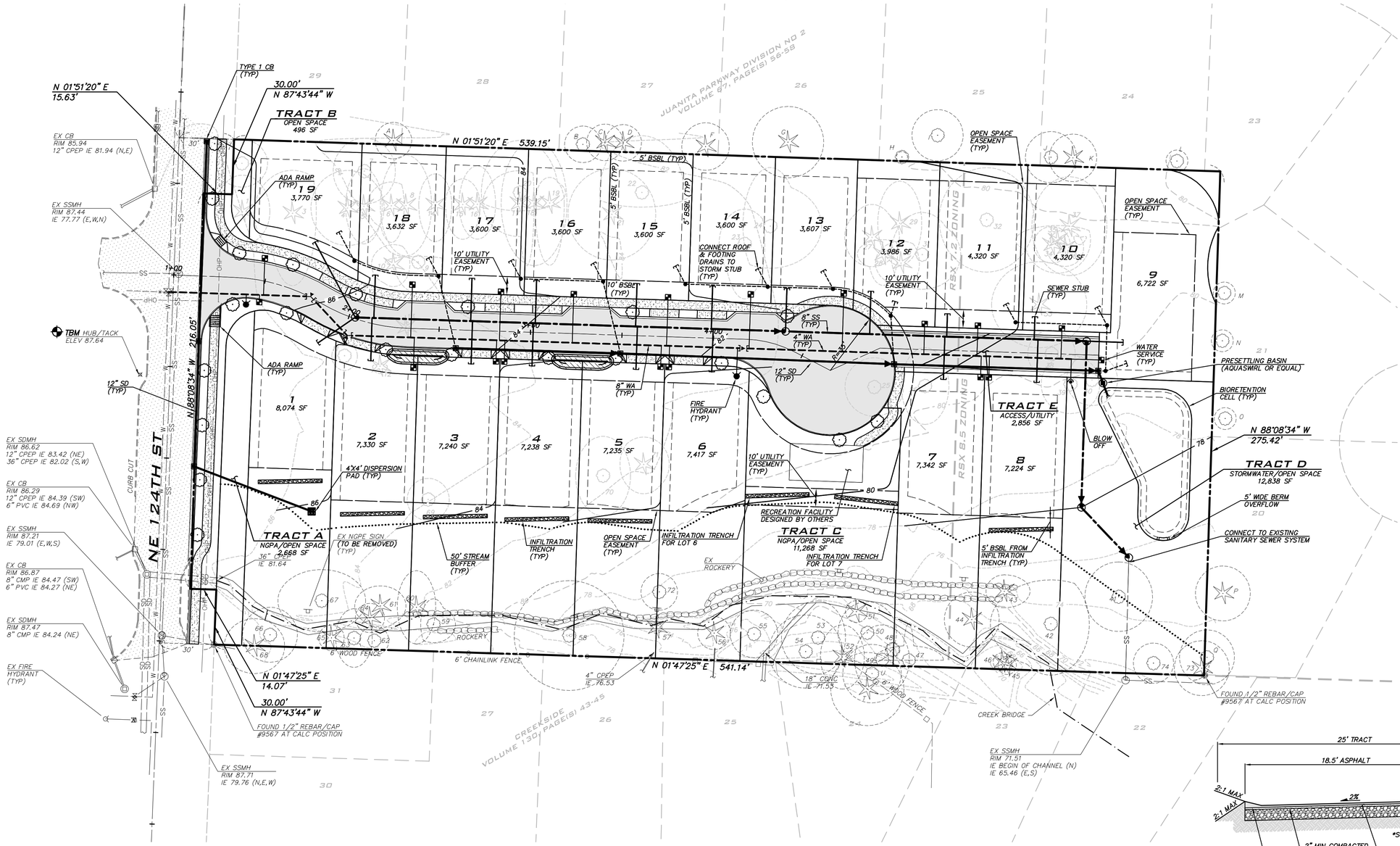

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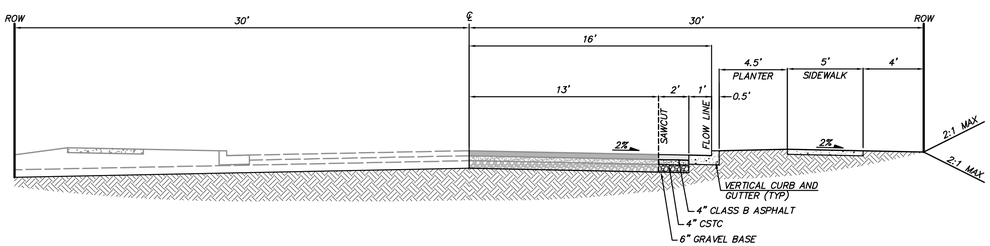
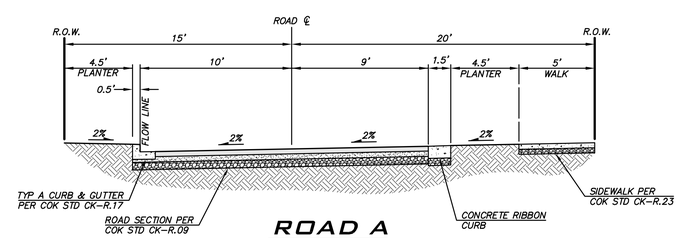


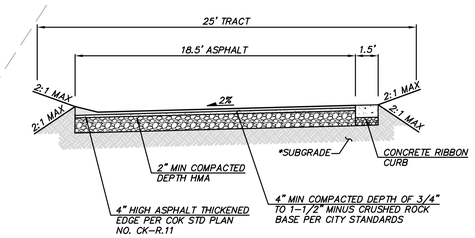
NE 124TH STREET

SCALE: 1" = 5'



ROAD A

SCALE: 1" = 5'



TRACT E

SCALE: 1" = 5'

*SUBGRADE TO BE PREPARED PER GEOTECHNICAL RECOMMENDATIONS.

GRADING QUANTITIES

CUT: 1,000 CY

FILL: 1,100 CY

NET 100 CY FILL

*GRADING QUANTITIES ARE PRELIMINARY AND CONCEPTUAL, AND SHALL NOT BE USED FOR CONTRACTUAL PURPOSES

UNDERGROUND UTILITY NOTE

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BLUELINE
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SCALE: AS NOTED

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PROJECT ENGINEER: DENÉ KUZARO

DESIGNER: LEE TOMKINS

ISSUE DATE: 6/30/2015

NO	DATE	BY	REVISIONS

PRELIMINARY UTILITY & GRADING PLAN

FIRWOOD LANE

PRELIMINARY PLAT / IDP

PARCEL #9194100015

CITY OF KIRKLAND, WASHINGTON

TODD A. OBERG — STATE OF WASHINGTON — 37408 — REGISTERED PROFESSIONAL ENGINEER

6/29/2015

JOB NUMBER: 14-266

SHEET NAME: PU-01

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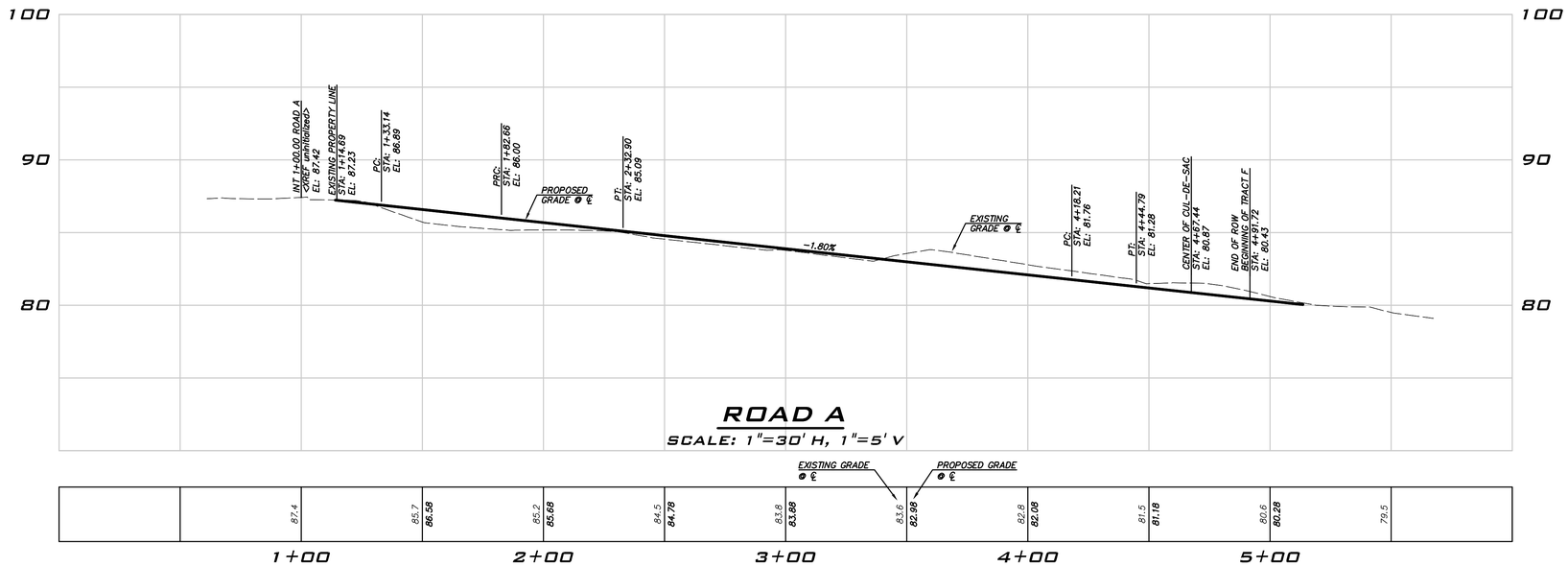

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BLUELINE
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SCALE: AS NOTED
PROJECT MANAGER: TODD A. OBERG, PE
PROJECT ENGINEER: DENÉ KUZARO
DESIGNER: LEE TOMKINS
ISSUE DATE: 6/30/2015

NO	DATE	BY	REVISIONS

PRELIMINARY PROFILES
FIRWOOD LANE
PRELIMINARY PLAT / IDP
PARCEL #9194100015
CITY OF KIRKLAND, WASHINGTON

TODD A. OBERG
STATE OF WASHINGTON
37408
REGISTERED PROFESSIONAL ENGINEER
6/29/2015

JOB NUMBER: 14-266
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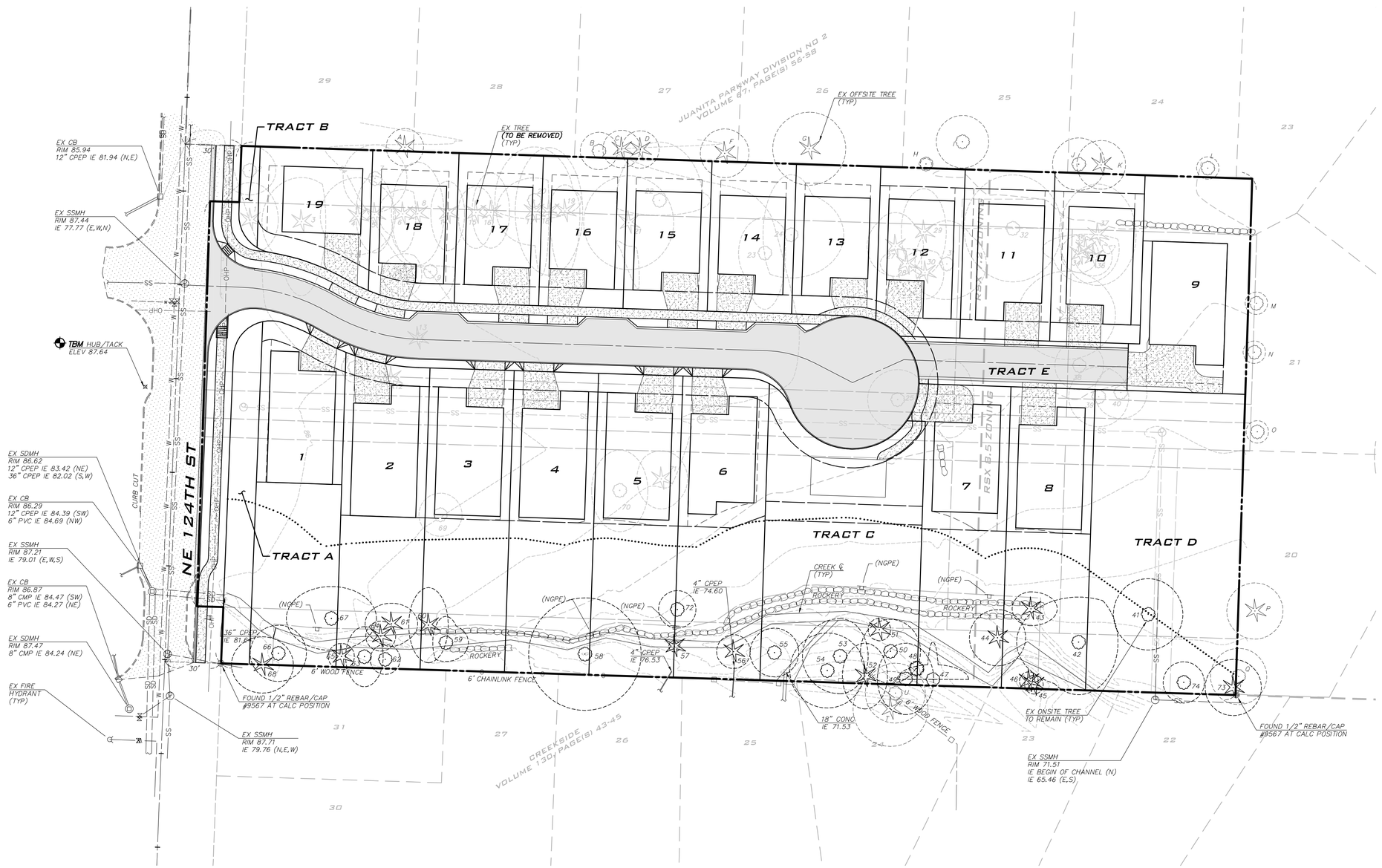

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SCALE: 1" = 30'

0 15 30 60

TREE LEGEND

- # EXISTING CONIFEROUS TREE TO REMAIN
- # EXISTING DECIDUOUS TREE TO REMAIN
- DRIPLINE (TYP)
- # EXISTING CONIFEROUS TREE TO BE REMOVED
- # EXISTING DECIDUOUS TREE TO BE REMOVED
- A EXISTING OFFSITE CONIFEROUS TREE TO REMAIN
- A EXISTING OFFSITE DECIDUOUS TREE TO REMAIN

TREE RETENTION CALCULATIONS:

REQUIRED TREE CREDITS = $\frac{30 \text{ CREDITS}}{\text{ACRES}}$ 30 CR x 3.49 AC = 104.8 CREDITS

PROPOSED TREE CREDITS TO BE RETAINED* = 140 CREDITS

*PROPOSED TREE CREDITS RETAINED CALCULATED FOR THE SITE AS A WHOLE. CLUSTERING OF LOTS FOR LOW IMPACT DEVELOPMENT PREVENTS TREE CREDITS TO BE CALCULATED ON A LOT BY LOT BASIS. TREES RETAINED ARE LOCATED WITHIN CRITICAL AREA BUFFER, WHICH IS LISTED AS THE FIRST PRIORITY PER KZC 95.33.3.A.

UNDERGROUND UTILITY NOTE

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PROJECT MANAGER: TODD A. OBERG, PE
PROJECT ENGINEER: DENÉ KUZARO
DESIGNER: LEE TOMKINS
ISSUE DATE: 6/30/2015

NO	DATE	BY	REVISIONS

TREE RETENTION PLAN

FIRWOOD LANE
PRELIMINARY PLAT / IDP
PARCEL #9194100015
CITY OF KIRKLAND, WASHINGTON

TODD A. OBERG
STATE OF WASHINGTON
37408
REGISTERED PROFESSIONAL ENGINEER

6/29/2015

JOB NUMBER: 14-266
SHEET NAME: TR-01
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Tree Solutions Inc
Consulting Arborists

Table of Trees
12342 93rd Lane NE
Kirkland, WA

Date of Inventory: 05.07.2015
Table Prepared: 05.11.2015
Table Revised: 05.19.2015

Tree ID	Scientific Name	Common Name	DSH (inches)	Health Condition	Structural Condition	Limits of Disturbance	Drip line Radius (feet) North	East	South	West	Viable	Proposed Action	Credits	Notes
1	*Pseudotsuga menziesii*	Douglas-fir	37.1	Good	Good	10	15	20	15	18	Yes	Remove	-	*Phaelaus schweinitzii* fruiting body found near the base. Recommend additional testing if retained. History of utility purnign to North. Grove tree.
2	*Prunus* sp.	Cherry	9*	Good	Good	8	14	13	14	13	Yes	Remove	-	*Multiple stemmed tree: 5.4, 4, 3.9, 4.5. Fruiting variety.
3	*Pseudotsuga menziesii*	Douglas-fir	45	Good	Good	15	21	23.5	13	39.5	Yes	Remove	-	Crown raised. Grove tree.
4	*Pseudotsuga menziesii*	Douglas-fir	29.2	Good	Good	11	20	20.5	15.5	20	Yes	Remove	-	Galls on lower branches in canopy. Few hangers in canopy. Grove tree.
5	*Pseudotsuga menziesii*	Douglas-fir	27.4	Good	Good	9	10	20.5	10	20	Yes	Remove	-	Closed wound on west side. Grove tree.
6	*Pseudotsuga menziesii*	Douglas-fir	24.5	Good	Good	8	13	13	7	20	Yes	Remove	-	Grove tree.
7	*Alnus rubra*	Red alder	12.8	Good	Fair	9	17	18	13	12	Yes	Remove	-	Wound on southern side. Good wound wood development. Bow form due to phototropic lean. Past top failure. Grove tree.
8	*Pseudotsuga menziesii*	Douglas-fir	40.4	Good	Good	12	14	27.5	13	25	Yes	Remove	-	English Ivy (*Hedera helix*) on trunk. Possible top failure. Grove tree.
9	*Betula pendula*	European birch	10.5	Good	Fair	8	18	3	13	17	No	Remove	-	Suppressed tree. Heavy English ivy growth on trunk. Grove tree.
10	*Pseudotsuga menziesii*	Douglas-fir	8.4	Good	Poor	7	12	11	9	12	Yes	Remove	-	Topped. Near foundation of 12336. Root damage to east. 2 feet from base. Grove tree.
11	*Ilex aquifolium*	English holly	11.8*	Good	Good	4	7	7	7	8	No	Remove	-	*Multiple stemmed tree: 5.9, 7.1, 7.4. Shares canopy with nearby large shrubs.
12	*Abies nordmaniana*	Caucasian fir	6.1	Good	Fair	2	4	1	4	4	Yes	Remove	-	Planted too close tobuilding. Clearance pruned.
13	*Ilex aquifolium*	English holly	9.8*	Fair	Poor	1	0	3	3	3	No	Remove	-	Topped heavily. Close to home.
14	*Pseudotsuga menziesii*	Douglas-fir	13.1	Good	Good	8	9	17	9	20	Yes	Remove	-	Suppressed. Grove tree.
15	*Pseudotsuga menziesii*	Douglas-fir	24.2	Good	Good	8	9.5	14	9.5	19	Yes	Remove	-	Crown raised. Grove tree.
16	*Pseudotsuga menziesii*	Douglas-fir	33.1	Good	Good	9	10	21	10	19	Yes	Remove	-	Crown raised. Grove tree.
17	*Pseudotsuga menziesii*	Douglas-fir	29.5	Good	Fair	12	20	18	8	34	Yes	Remove	-	Co-dominant top. Crown raised. Grove tree.
18	*Pseudotsuga menziesii*	Douglas-fir	36	Good	Good	14	12	32	18	34	Yes	Remove	-	Crown raised. Grove tree. Nearby evidence of recent branch failure.

Tree Solutions Inc
Consulting Arborists

Table of Trees
12342 93rd Lane NE
Kirkland, WA

Date of Inventory: 05.07.2015
Table Prepared: 05.11.2015
Table Revised: 05.19.2015

Tree ID	Scientific Name	Common Name	DSH (inches)	Health Condition	Structural Condition	Limits of Disturbance	Drip line Radius (feet) North	East	South	West	Viable	Proposed Action	Credits	Notes
19	*Pseudotsuga menziesii*	Douglas-fir	18	Good	Fair	10	8	14	8	34	Yes	Remove	-	Suppressed top. Grove tree.
20	*Acer macrophyllum*	Bigleaf maple	33.3	Good	Fair	13	21	28.5	25	10	Yes	Remove	-	Measurement taken from below union. Few large dead woody parts in canopy. Basal wound with *Kretzschmaria deusta*. Asymmetrical canopy to east.
21	*Pseudotsuga menziesii*	Douglas-fir	53.6	Good	Good	14	24	25	21	23.5	Yes	Remove	-	Large basal flare. Recommend basal testing if retained. Vigorous epicormic growth. Grove tree.
22	*Acer macrophyllum*	Bigleaf maple	32.3*	Good	Fair	13	23	31	27	8	Yes	Remove	-	*Multi stemmed tree: 17.7, 17.2, 16.9, 12.2. Shares canopy with 21. Medium dead wood parts in canopy. Narrow angle of attachment on middle stem. Asymmetrical canopy. Grove tree.
23	*Acer macrophyllum*	Bigleaf maple	28.4*	Good	Good	11	14	19	11	30	Yes	Remove	-	*Multi stemmed tree: 17, 22.8. Board nailed above union- could obstruct in future. Soil compaction around base of tree.
24	*Acer macrophyllum*	Bigleaf maple	31.6	Good	Fair	15	15	32	28	23	Yes	Remove	-	Minor wound on base. Multipl branch attachments at same union. Soil compaction at base.
25	*Betula pendula*	European birch	14	Fair	Good	8	16	16	10	14	Yes	Remove	-	Old vandalism wounds. Dead top, possibly bronze birch borer.
26	*Betula pendula*	European birch	14.1	Fair	Poor	12	13	21	21	22	Yes	Remove	-	Old topped form. Top dieback, possibly bronze birch borer.
27	*Pseudotsuga menziesii*	Douglas-fir	29	Good	Good	9	13	18	15	16	Yes	Remove	-	Old trunk wound closed on west side. Slight bow to north. Grove tree.
28	*Pseudotsuga menziesii*	Douglas-fir	19.9	Good	Fair	7	14	8	8	17	Yes	Remove	-	Slight bow to north. Slightly suppressed. Grove tree.
29	*Pseudotsuga menziesii*	Douglas-fir	31	Good	Fair	8	12	23	10	9	Yes	Remove	-	Torsional crack on east side. Grove tree.
30	*Pseudotsuga menziesii*	Douglas-fir	26.1	Fair	Good	8	14	12	10	14	Yes	Remove	-	Deformed branching. Grove tree.
31	*Acer macrophyllum*	Bigleaf maple	28	Fair	Fair	12	17	23	21	19	Yes	Remove	-	Multiple wounds- good response growth. Fungal fruiting bodies. Grove tree.
32	*Acer macrophyllum*	Bigleaf maple	45.1	Fair	Fair	16	26	28.5	27	23	Yes	Remove	-	*Kretzschmaria* seen. Numerous basal wounds. Targets currently located under tree to east. Grove tree.
33	*Tsuga heterophylla*	Western hemlock	23.6	Good	Fair	14	26	23.5	22	24	Yes	Remove	-	Co-dominant top. Narrow angle of attachment. English ivy on trunk. Crown raised. Grove tree.
34	*Thuja plicata*	Wester red cedar	10.6*	Good	Fair	6	10	10	10	10	Yes	Remove	-	*Multi stemmed tree: 6.4, 5.9, 4, 4.5. Topped in past.
35	*Pseudotsuga menziesii*	Douglas-fir	24.1	Good	Good	10	23	8	18	18	Yes	Remove	-	Grove tree.

Tree Solutions Inc
Consulting Arborists

Table of Trees
12342 93rd Lane NE
Kirkland, WA

Date of Inventory: 05.07.2015
Table Prepared: 05.11.2015
Table Revised: 05.19.2015

Tree ID	Scientific Name	Common Name	DSH (inches)	Health Condition	Structural Condition	Limits of Disturbance	Drip line Radius (feet) North	East	South	West	Viable	Proposed Action	Credits	Notes
36	*Thuja plicata*	Western red cedar	11.5*	Good	Fair	6	10	10	10	10	Yes	Remove	-	*Multi stemmed tree: 7.6, 8.7.
37	*Pseudotsuga menziesii*	Douglas-fir	34.7	Good	Fair	12	20.5	27	20	15	Yes	Remove	-	Crack on north side of trunk- sealed. Crack on south side- sealed. Pole installed on southeast side of trunk. Grove tree.
38	*Acer palmatum*	Japanese maple	8.5	Good	Good	8	13	13	13	13	Yes	Remove	-	Specimen tree. Measured below union.
39	*Prunus cerasifera* 'Thundercloud'	Purple leaf plum	12.3	Good	Fair	10	16	16	16	16	Yes	Remove	-	Measured below union. Reverting sprouts arising from base.
40	*Acer palmatum*	Japanese maple	10.4*	Good	Good	8	14	14	14	14	Yes	Remove	-	*Multiple stemmed tree: 4.6, 3.6, 5.7, 4.9, 4.1. Some crossing branches. Specimen tree.
41	*Prunus emarginata*	Bitter cherry	17.4*	Good	Fair	10	17	15	18.5	19	Yes	Retain	4	*Multiple stemmed tree: 12.8, 11.8. Large wound on northern trunk. Multiple flush cut wounds from crown raising.
42	*Acer macrophyllum*	Bigleaf maple	40.4*	Good	Good	16	33	24	21	28	Yes	Retain	16	*Multiple stemmed tree: 26.6, 30.4. Hanger in canopy. Past failure seen in canopy. *Kretzschmaria* seen in union. Grove tree.
43	*Chamaecyparis lawsoniana*	Lawson-cypress	12*	Good	Good	6	10	9	14	9	Yes	Retain	2	*Multiple stemmed tree: 11.3, 4.2. Grove tree.
44	*Chamaecyparis lawsoniana*	Lawson-cypress	14.7*	Good	Fair	9	15	15	15	15	Yes	Retain	3	*Multiple stemmed tree: 13.5, 3.5, 4.7. Creek 5 feet to west.
45	*Thuja plicata*	Western redcedar	9.1	Good	Fair	3	5	5	5	5	Yes	Retain	1	Co-dominant top. Shares canopy with 46.
46	*Thuja plicata*	Western redcedar	10.4	Good	Fair	3	5	5	5	5	Yes	Retain	1	Root obstruction to north. Old damn/retaining wall. Shares canopy with 45.
47	*Alnus rubra*	Red alder	11	Poor	Poor	6	3	20	19	0	Yes	Retain	1	Heavy English ivy infestation. Lean to east. Grove tree.
48	*Alnus rubra*	Red alder	6.9	Fair	Poor	2	4	4	4	4	Yes	Retain	1	Large wound on southern trunk. Poor wound response. Grove tree.
49	*Alnus rubra*	Red alder	12.5	Fair	Poor	7	15	19	10	3	Yes	Retain	2	Suppressed. Heavy English ivy coverage on trunk. Grove tree.
50	*Alnus rubra*	Red alder	10.8	Good	Good	8	16	17	9	10	Yes	Retain	1	
51	*Thuja plicata*	Western redcedar	7.3*	Good	Good	4	6	6	6	6	Yes	Retain	1	*Multiple stemmed tree: 5.8, 3.3, 2.9. Co-dominant union at the base. Narrow angle of attachment. Grove tree.
52	*Pseudotsuga menziesii*	Douglas-fir	30.5	Good	Good	9	12	17.5	12	17.5	Yes	Retain	11	Lots of English ivy on trunk. Grove tree.
53	*Acer macrophyllum*	Bigleaf maple	34.7*	Good	Fair	11	20	20	15	20	Yes	Retain	13	*Multi stemmed truck: 26, 23. Covered with English ivy. *Kretzschmaria* seen. Co-dominant form. Grove tree.

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54	*Populus nigra* 'Italica'	Lombardy poplar	45	Good	Fair	12	20	20	20	20	Yes	Retain	18	Covered with English ivy. Grove tree.
55	*Populus nigra* 'Italica'	Lombardy poplar	42.4*	Good	Good	8	13	13	13	13	Yes	Retain	17	*Multi stemmed tree: 29, 31. Tree tag at the base. Heavy Himalayan blackberry (*Rubus bifrons*) surrounding base.
56	*Thuja plicata*	Western redcedar	8	Good	Good	5	9	9	9	9	Yes	Retain	1	Base located near creek.
57	*Thuja occidentalis*	White cedar	9*	Fair	Good	2	3	3	3	3	Yes	Retain	1	*Multi stem tree: 6.2, 6.6.
58	*Alnus rubra*	Red alder	31.8	Good	Good	17	27	25	30	30	Yes	Retain	11	Large thinning cuts on west side of tree.
59	*Salix scouleriana*	Scouler's willow	9.7	Good	Good	6	7	14	12	10	Yes	Retain	1	Base located in rockery. Grove tree.
60	*Pinus contorta* var. *contorta*	Shore pine	16.6	Fair	Good	8	10.5	20	9	17	Yes	Retain	4	Somewhat shaded to west.
61	*Pinus pungens*	Colorado spruce	11.7	Good	Good	7	14	11	12	12	Yes	Retain	1	Lots of lower branch dieback- shaded. Grove tree.
62	*Salix scouleriana*	Scouler's willow	8	Good	Good	5	8	8	8	8	Yes	Retain	1	Base next to creek. Grove tree.
63	*Salix scouleriana*	Scouler's willow	11.6*	Good	Fair	7	9	9	10	16	Yes	Retain	1	*Multiple stemmed tree: 9.6, 6.6. Co-dominant form. Adjacent to creek. Narrow angle of attachment with included bark. Grove tree.
64	*Salix scouleriana*	Scouler's willow	9.1*	Good	Fair	5	8	8	8	8	Yes	Retain	1	*Multiple stemmed creek: 5.5, 7.3. Some included bark in union. Narrow angle of attachment. Grove tree.
65	*Thuja plicata*	Western redcedar	6.3	Good	Good	4	7	7	7	7	Yes	Retain	1	Grove tree.
66	*Acer rubrum*	Red maple	18.2*	Fair	Poor	9	15	15	15	15	Yes	Retain	5	*Multi stemmed tree: 5.1, 6.4, 12.4, 7.7, 4, 6.1. Tip dieback in caopy. Few dead stems. *Ganodema applanatum* and *Kretzschmaria deusta* at base.
67	*Populus trichocarpa*	Black cottonwood	21	Good	Fair	11	18	16	24	17	Yes	Retain	6	Measured below union. Co-dominant form. Some English ivy on trunk.
68	*Thuja plicata*	Western redcedar	19.6	Good	Good	8	16.5	15	9	14.5	Yes	Retain	5	Shared tree. Clearance pruned to west for neighboring driveway.
69	*Prunus cerasifera* 'Thundercloud'	Purple leaf plum	10.3	Good	Fair	7	11.5	11.5	11.5	11.5	Yes	Remove	-	Co-dominant form with narrow angle of attachment. Included bark in union.
70	*Prunus cerasifera* 'Thundercloud'	Purple leaf plum	17.5*	Good	Good	11	15	21.5	15	22	Yes	Remove	-	*Multi stemmed tree: 10.6, 7.7, 11.6. Heavily pruned. Good response growth. Large crown.
71	*Thuja plicata*	Western redcedar	25.2	Good	Good	9	13	16	14	15	Yes	Remove	-	Trunk swelling. Candidate for testing if retained.

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SCALE: AS NOTED
PROJECT MANAGER: TODD A. OBERG, PE
PROJECT ENGINEER: DENE KUZARO
DESIGNER: LEE TOMKINS
ISSUE DATE: 6/30/2015

NO	DATE	BY	REVISIONS

TREE RETENTION DETAILS

FIRWOOD LANE
PRELIMINARY PLAT / IDP
PARCEL #9194100015
CITY OF KIRKLAND, WASHINGTON

TODD A. OBERG
STATE OF WASHINGTON
37408
REGISTERED PROFESSIONAL ENGINEER
6/29/2015

JOB NUMBER: 14-266
SHEET NAME: TR-02
SHT 5 OF 6

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Tree Solutions Inc
Consulting Arborists

Table of Trees
12342 93rd Lane NE
Kirkland, WA

Date of Inventory: 05.07.2015
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72	*Sorbus aucuparia*	European mountain-ash	15.5*	Good	Poor	6	10	10	10	10	Yes	Retain	3	*Multi stemmed tree: 7.8, 7.5, 7.5, 8.2. Some trunks crossed, one starting to get girdled by two others.
73	*Pseudotsuga menziesii*	Douglas-fir	16	Good	Good		15				Yes	Retain	4	
74	*Prunus emarginata*	Bitter cherry	12.1*	Good	Good			11			Yes	Retain	2	*Multi stemmed tree: 7, 7, 7. Suppressed/shaded out. Adjacent to fence.
											Total Tree Credits:		140	

Tree on Neighboring Properties with Canopies Overhanging Subject Property
(Diameters are estimated. Driplines taken fence/boundary to outer extent of canopy)

Tree ID	Scientific Name	Common Name	DSH (inches)	Health Condition	Structural Condition	Limits of Disturbance	North	East	South	West	Viable	Proposed Action	Credits	Notes
A	*Thuja plicata*	Western redcedar	10.5	Good	Good				10		Yes	Retain	-	Shared tree.
B	*Cornus nutallii*	Pacific dogwood	16	Fair	Fair				10		Yes	Retain	-	*Multi stemmed tree: 8, 8, 8, 8. Tree base 10.5 feet from fence. Grove tree.
C	*Prunus cerasifera* 'Thundercloud'	Purple leaf plum	12	Good	Fair				10		Yes	Retain	-	Tree 8 feet to fence. Grove tree.
D	*Pseudotsuga menziesii*	Douglas-fir	14	Good	Good				10		Yes	Retain	-	Tree 4 feet past fence to east. Grove tree.
E	*Pseudotsuga menziesii*	Douglas-fir	14	Good	Good				10		Yes	Retain	-	Tree 4 feet past fence to east. Grove tree.
F	*Pseudotsuga menziesii*	Douglas-fir	29	Good	Good				13		Yes	Retain	-	Clearance pruned. Critical root zone likely past drip line. Grove tree.
G	*Pseudotsuga menziesii*	Douglas-fir	26	Good	Good				19.5		Yes	Retain	-	Tree house plank atached to trunk.
H	*Populus nigra* 'Italica'	Lombardy poplar	16	Good	Good				3		Yes	Retain	-	Located 1 foot from fence. Crown raised.
I	*Quercus palustris*	Pin oak	28	Good	Good				14		Yes	Retain	-	27 foot drip line to trunk.
J	*Prunus emarginata*	Bitter cherry	17*	Fair	Poor				14		Yes	Retain	-	*Multi stemmed tree: 12, 12. 5 feet from fence.
K	*Thuja plicata*	Western redcedar	18	Good	Good				13		Yes	Retain	-	4 feet from fence.
L	*Malus domestica*	Apple	7	Good	Good				6		Yes	Retain	-	4 feet from fence.
M	*Quercus palustris*	Pin oak	8	Good	Good		6				Yes	Retain	-	3 feet from fence.

Tree Solutions, Inc.
2940 Westlake Ave. N (Suite #200) Seattle, WA 98109

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www.treesolutions.net
206-528-4670

Tree Solutions Inc
Consulting Arborists

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12342 93rd Lane NE
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N	*Quercus palustris*	Pin oak	8	Good	Good		6				Yes	Retain	-	3 feet from fence.
O	*Juglans regia*	English walnut	8	Good	Good		6				Yes	Retain	-	3 feet from fence.
P	*Pseudotsuga menziesii*	Douglas-fir	26	Good	Good		15				Yes	Retain	-	Heavy English ivy infestation.
Q	*Acer macrophyllum*	Bigleaf maple	25	Good	Good		15				Yes	Retain	-	
T	*Pseudotsuga menziesii*	Douglas-fir	32	Good	Good			20			Yes	Retain	-	4.5 feet west of fence. Old English ivy on trunk.
U	*Acer macrophyllum*	Bigleaf maple	7	Fair	Fair			16			Yes	Retain	-	Heavy English ivy on trunk.

Tree Solutions, Inc.
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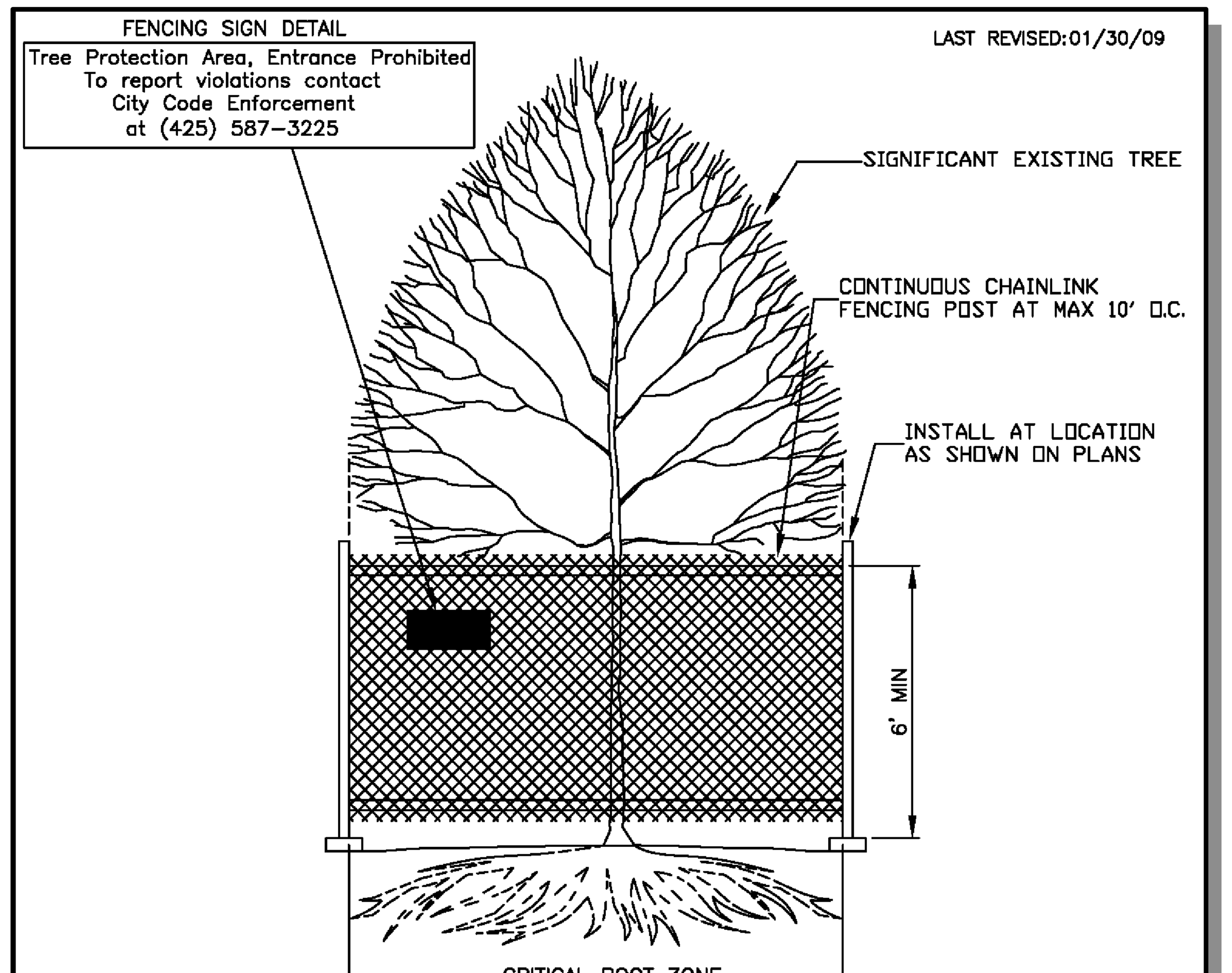
FENCING SIGN DETAIL

LAST REVISED:01/30/09



NOTES

1. MINIMUM SIX (6) FOOT HIGH TEMPORARY CHAINLINK FENCE SHALL BE PLACED AT THE CRITICAL ROOT ZONE OR DESIGNATED LIMIT OF DISTURBANCE OF THE TREE TO BE SAVED. FENCE SHALL COMPLETELY ENCIRCLE TREE(S). INSTALL FENCE POSTS USING PIER BLOCK ONLY. AVOID POST OR STAKES INTO MAJOR ROOTS. MODIFICATIONS TO FENCING MATERIAL AND LOCATION MUST BE APPROVED BY PLANNING OFFICIAL.
2. TREATMENT OF ROOTS EXPOSED DURING CONSTRUCTION: FOR ROOTS OVER ONE (1) INCH DIAMETER DAMAGED DURING CONSTRUCTION, MAKE A CLEAN STRAIGHT CUT TO REMOVE DAMAGED PORTION OF ROOT. ALL EXPOSED ROOTS SHALL BE TEMPORARILY COVERED WITH DAMP BURLAP TO PREVENT DRYING, AND COVERED WITH SOIL AS SOON AS POSSIBLE.
3. NO STOCKPILING OF MATERIALS, VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MACHINERY SHALL BE ALLOWED WITHIN THE LIMIT OF THE FENCING. FENCING SHALL NOT BE MOVED OR REMOVED UNLESS APPROVED BY THE CITY PLANNING OFFICIAL. WORK WITHIN PROTECTION FENCE SHALL BE DONE MANUALLY UNDER THE SUPERVISION OF THE ON-SITE ARBORIST AND WITH PRIOR APPROVAL BY THE CITY PLANNING OFFICIAL.
4. FENCING SIGNAGE AS DETAILED ABOVE MUST BE POSTED EVERY FIFTEEN (15) FEET ALONG THE FENCE. SIGN TO BE MINIMUM 11"X17", AND MADE OF WEATHERPROOF MATERIAL.

CITY OF KIRKLAND
PLAN NO. CK-R.49
CITY OF KIRKLAND WASHINGTON
TREE PROTECTION

TREE PROTECTION MEASURES

1. TREE PROTECTION FENCES WILL NEED TO BE PLACED AROUND EACH TREE OR GROUP OF TREES TO BE RETAINED.
   A. TREE PROTECTION FENCES ARE TO BE PLACED ACCORDING TO CITY STANDARD PLAN NO. CK-R.49 AND AS NOTED IN THE TREE INVENTORY/CONDITIONS SPREADSHEET, COLUMN 6 – LIMITS OF DISTURBANCE (SEE ARBORIST REPORT DATED 6/14/12).
   B. TREE PROTECTION FENCES MUST BE INSPECTED PRIOR TO THE BEGINNING OF ANY CONSTRUCTION WORK/ACTIVITIES.
   C. NOTHING MUST BE PARKED OR STORED WITHIN THE TREE PROTECTION FENCES––NO EQUIPMENT, VEHICLES, SOIL, DEBRIS, OR CONSTRUCTION SUPPLIES OF ANY SORTS.
2. CEMENT TRUCKS MUST NOT BE ALLOWED TO DEPOSIT WASTE OR WASH OUT MATERIALS FROM THEIR TRUCKS WITHIN THE TREE PROTECTION FENCES.
3. THE TREE PROTECTION FENCES NEED TO BE CLEARLY MARKED WITH THE FOLLOWING OR SIMILAR TEXT IN FOUR INCH OR LARGER LETTERS:

   TREE PROTECTION AREA, ENTRANCE PROHIBITED
   TO REPORT VIOLATIONS CONTACT
   CITY CODE ENFORCEMENT AT
   425-587-3225

4. THE AREA WITHIN THE TREE PROTECTION FENCING MUST BE COVERED WITH WOOD CHIPS, HOG FUEL, OR SIMILAR MATERIALS TO A DEPTH OF 8 TO 10 INCHES. THE MATERIALS SHOULD BE PLACED PRIOR TO BEGINNING CONSTRUCTION AND REMAIN UNTIL THE TREE PROTECTION FENCING IS TAKEN DOWN.
5. WHEN EXCAVATION OCCURS NEAR TREES THAT ARE SCHEDULED FOR RETENTION, THE FOLLOWING PROCEDURE MUST BE FOLLOWED TO PROTECT THE LONG TERM SURVIVABILITY OF THE TREE:
   A. AN INTERNATIONAL SOCIETY OF ARBORICULTURE, (ISA) CERTIFIED ARBORIST MUST BE WORKING WITH ALL EQUIPMENT OPERATOR.
      I. THE CERTIFIED ARBORIST SHOULD BE OUTFITTED WITH A SHOVEL, HAND PRUNERS, A PAIR OF LOPPERS, A HANDSAW, AND A POWER SAW (A "SAWSALL" IS RECOMMENDED).
   B. THE HOE MUST BE PLACED TO "COMB" THE MATERIAL DIRECTLY AWAY FROM THE TRUNK AS OPPOSED TO CUTTING ACROSS THE ROOTS.
      I. COMBING IS THE GRADUAL EXCAVATION OF THE GROUND COVER PLANTS AND SOIL IN DEPTHS THAT ONLY EXTEND AS DEEP AS THE TINES OF THE HOE.
   C. WHEN ANY ROOTS OF ONE INCH DIAMETER OR GREATER, OF THE TREE TO BE RETAINED, IS STRUCK BY THE EQUIPMENT, THE CERTIFIED ARBORIST SHOULD STOP THE EQUIPMENT OPERATOR.
   D. THE CERTIFIED ARBORIST SHOULD THEN EXCAVATE AROUND THE TREE ROOT BY HAND/SHOVEL AND CLEANLY CUT THE TREE ROOT.
      I. THE CERTIFIED ARBORIST SHOULD THEN INSTRUCT THE EQUIPMENT OPERATOR TO CONTINUE.
6. PUTTING UTILITIES UNDER THE ROOT ZONE:
   A. BORING UNDER THE ROOT SYSTEMS OF TREES (AND OTHER VEGETATION) SHALL BE DONE UNDER THE SUPERVISION OF AN ISA CERTIFIED ARBORIST. THIS IS TO BE ACCOMPLISHED BY EXCAVATING A LIMITED TRENCH OR PIT ON EACH SIDE OF THE CRITICAL ROOT ZONE OF THE TREE AND THEN HAND DIGGING OR PUSHING THE PIPE THROUGH THE SOIL UNDER THE TREE. THE CLOSEST PIT WALLS SHALL BE A MINIMUM OF 7 FEET FROM THE CENTER OF THE TREE AND SHALL BE SUFFICIENT DEPTH TO LAY THE PIPE AT THE GRADE AS SHOWN ON THE PLAN AND PROFILE.
   B. TUNNELING UNDER THE ROOTS OF TREES SHALL BE DONE UNDER THE SUPERVISION OF AN ISA CERTIFIED ARBORIST IN AN OPEN TRENCH BY CAREFULLY EXCAVATING AND HAND DIGGING AROUND AREAS WHERE LARGE ROOTS ARE EXPOSED. NO ROOTS 1 INCH IN DIAMETER OR LARGER SHALL BE CUT.
   C. THE CONTRACTOR SHALL VERIFY THE VERTICAL AND HORIZONTAL LOCATION OF EXISTING UTILITIES TO AVOID CONFLICTS AND MAINTAIN MINIMUM CLEARANCES; ADJUSTMENT SHALL BE MADE TO THE GRADE OF THE NEW UTILITY AS REQUIRED.
7. WATERING:
   A. THE TREES WILL REQUIRE SIGNIFICANT WATERING THROUGHOUT THE SUMMER AND EARLY FALL IN ORDER TO SURVIVE LONG-TERM. AN EASY AND ECONOMICAL WATERING CAN BE DONE USING SOAKER HOSES PLACED THREE FEET FROM THE TRUNK OF THE TREE AND SPIRALED AROUND THE TREE. ONE 75-FOOT SOAKER HOSE PER TREE IS ADEQUATE. IT IS BEST TO PLACE THE SOAKERS USING LANDSCAPE STAPLES, (AVAILABLE FROM HD FOWLER IN BELLEVUE FOR PENNIES APIECE) THEN COVER THE AREA WITH TWO TO THREE INCHES COMPOSED MATERIALS. THE COMPOSTED MATERIAL WILL ACT AS A MULCH TO MINIMIZE EVAPORATION AND WILL ALSO STIMULATE THE MICROBIAL ACTIVITY OF THE SOIL WHICH IS ANOTHER BENEFIT TO THE HEALTH OF THE TREE.
   B. WATER THE TREE TO A DEPTH OF 18 TO 20 INCHES. I RECOMMENDED LEAVING THE WATER ON THE SOAKER HOSES FOR SIX TO EIGHT HOURS AND THEN DIGGING DOWN TO DETERMINE HOW DEEP YOUR WATER IS PENETRATING. THEN ADJUST ACCORDINGLY. IT MAY TAKE A GOOD TWO DAYS OF WATERING TO REACH THE PROPER DEPTH.
   C. ONCE THE WATER REACHES THE PROPER DEPTH, TURN OFF THE HOSES FOR FOUR WEEKS AND THEN WATER AGAIN. WATER MORE OFTEN WHEN TEMPERATURES INCREASE––EVERY THREE WEEKS WHEN TEMPERATURES EXCEED 80 DEGREES AND EVERY TWO WEEKS WHEN TEMPERATURES EXCEED 90 DEGREES. THIS DRYING OUT OF THE SOIL IN BETWEEN WATERING IS IMPORTANT TO PREVENT SOIL PATHOGENS FROM ATTACKING THE TREES.

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SCALE: AS NOTED
PROJECT MANAGER: TODD A. OBERG, PE
PROJECT ENGINEER: DENÉ KUZARO
DESIGNER: LEE TOMKINS
ISSUE DATE: 6/30/2015

NO	DATE	BY	REVISIONS

TREE RETENTION DETAILS
FIRWOOD LANE
PRELIMINARY PLAT / IDP
PARCEL #9194100015
CITY OF KIRKLAND, WASHINGTON

6/29/2015

JOB NUMBER: 14-266
SHEET NAME: TR-03
SHT 6 OF 6

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