

# PARTITION PLAT NO. 2018-109

BEING A REPLAT OF PARCEL 1 OF  
PARTITION PLAT 2015-083 IN THE  
NE1/4 AND SE1/4 SECTION 11,  
NW1/4 AND SW1/4  
SECTION 12, T.3S., R.1W.,  
WILLAMETTE MERIDIAN  
CITY OF WILSONVILLE,  
CLACKAMAS COUNTY, OREGON

SURVEYED JULY 11, 2018

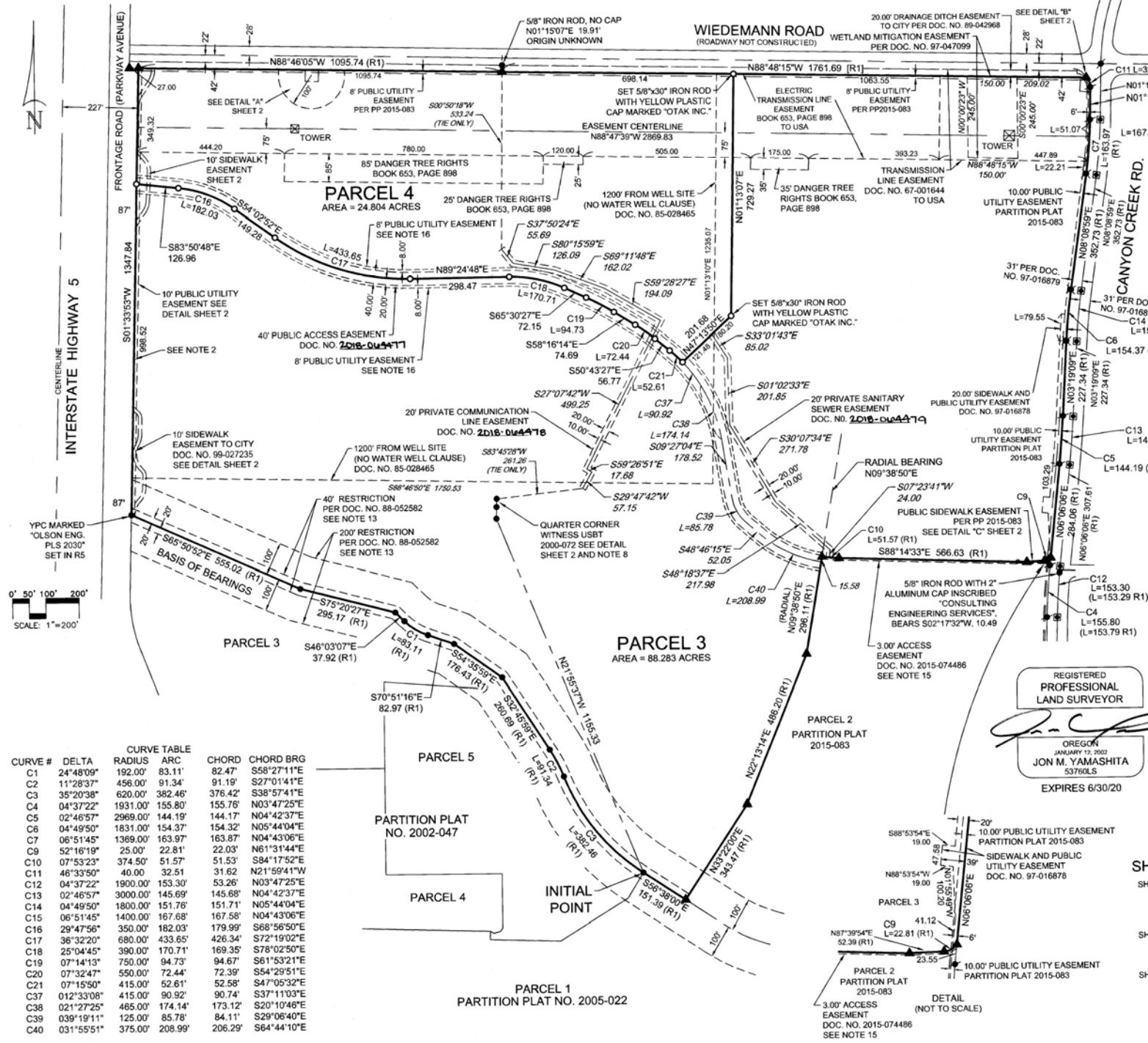
### LEGEND

- DENOTES 5/8" IRON ROD WITH YELLOW, PLASTIC CAP INSCRIBED "R. MEYER LS 1268" FOUND AND HELD FROM SN 22941 UNLESS OTHERWISE NOTED
- DENOTES 1-1/8" BRASS DISC INSCRIBED "DEA INC." FOUND AND HELD FROM SN 27725 UNLESS OTHERWISE NOTED
- ✱ DENOTES 5/8" IRON ROD WITH YELLOW, PLASTIC CAP INSCRIBED "DEA INC." FOUND AND HELD FROM SN 27725
- ⊗ DENOTES 5/8" IRON ROD WITH YELLOW, PLASTIC CAP INSCRIBED "DEA INC." FOUND AND HELD FROM MONUMENT BOX FOUND AND HELD FROM SN 27725
- ▲ DENOTES 5/8" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "OTAK INC." FOUND AND HELD FROM PARTITION PLAT 2015-083
- DENOTES 5/8" x 30" IRON ROD WITH A 2" ALUMINUM CAP MARKED "OTAK INC." UNLESS OTHERWISE NOTED. SET ON JULY 10, 2018
- YPC DENOTES YELLOW PLASTIC CAP
- DOC. NO. DENOTES DOCUMENT NUMBER, CLACKAMAS COUNTY DEED RECORDS
- CITY DENOTES CITY OF WILSONVILLE
- SN DENOTES PRIVATE SURVEY, CLACKAMAS COUNTY SURVEY RECORDS
- PP DENOTES PARTITION PLAT, CLACKAMAS COUNTY SURVEY RECORDS
- R1 DENOTES PP 2015-083

### SHEET INDEX

- SHEET 1 BOUNDARY EASEMENTS CURVE DATA LEGEND
- SHEET 2 EASEMENT DETAILS NARRATIVE CURVE DATA
- SHEET 3 DECLARATION ACKNOWLEDGMENT APPROVALS SURVEYOR'S CERTIFICATE NOTES AND PLAT RESTRICTIONS

808 SW 3rd Ave., Ste. 300  
Portland, Oregon 97204  
Phone: (503) 287-6825  
www.otak.com  
project: 1786



CURVE #	DELTA	RADIUS	ARC	CHORD	CHORD BRG
C1	24°48'09"	192.00'	83.11'	82.47'	S56°27'11"E
C2	11°28'37"	456.00'	91.34'	91.19'	S27°01'41"E
C3	35°20'38"	620.00'	382.46'	376.42'	S38°57'41"E
C4	04°37'22"	1931.00'	155.80'	155.76'	N03°47'25"E
C5	02°48'57"	2969.00'	144.19'	144.17'	N04°42'37"E
C6	04°49'50"	1831.00'	154.37'	154.32'	N05°44'04"E
C7	06°51'45"	1369.00'	163.97'	163.87'	N04°43'06"E
C8	52°16'19"	25.00'	22.81'	22.03'	N61°31'44"E
C9	07°53'23"	374.50'	51.57'	51.53'	S84°17'52"E
C10	46°33'50"	40.00'	32.51'	31.62'	N21°59'41"W
C11	04°37'22"	1900.00'	153.30'	153.26'	N03°47'25"E
C12	02°46'57"	3000.00'	145.69'	145.68'	N04°42'37"E
C13	04°49'50"	1800.00'	151.76'	151.71'	N05°44'04"E
C14	06°51'45"	1400.00'	167.68'	167.58'	N04°43'06"E
C15	29°47'56"	350.00'	182.03'	179.99'	S68°56'50"E
C16	36°32'20"	680.00'	433.65'	426.34'	S72°19'02"E
C17	25°04'45"	390.00'	170.71'	169.35'	S78°02'50"E
C18	07°14'13"	750.00'	94.73'	94.67'	S61°53'21"E
C19	20°32'47"	550.00'	72.44'	72.39'	S54°29'51"E
C20	07°15'50"	415.00'	52.61'	52.58'	S47°05'32"E
C21	012°33'08"	415.00'	90.92'	90.74'	S37°11'03"E
C22	021°27'25"	465.00'	174.14'	173.12'	S20°10'46"E
C23	039°19'11"	125.00'	85.78'	84.11'	S29°06'40"E
C24	031°55'51"	375.00'	208.99'	206.29'	S64°44'10"E

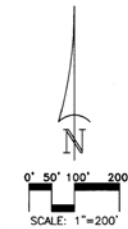
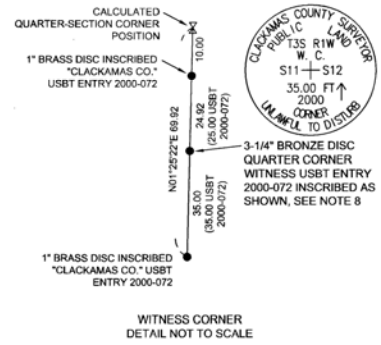
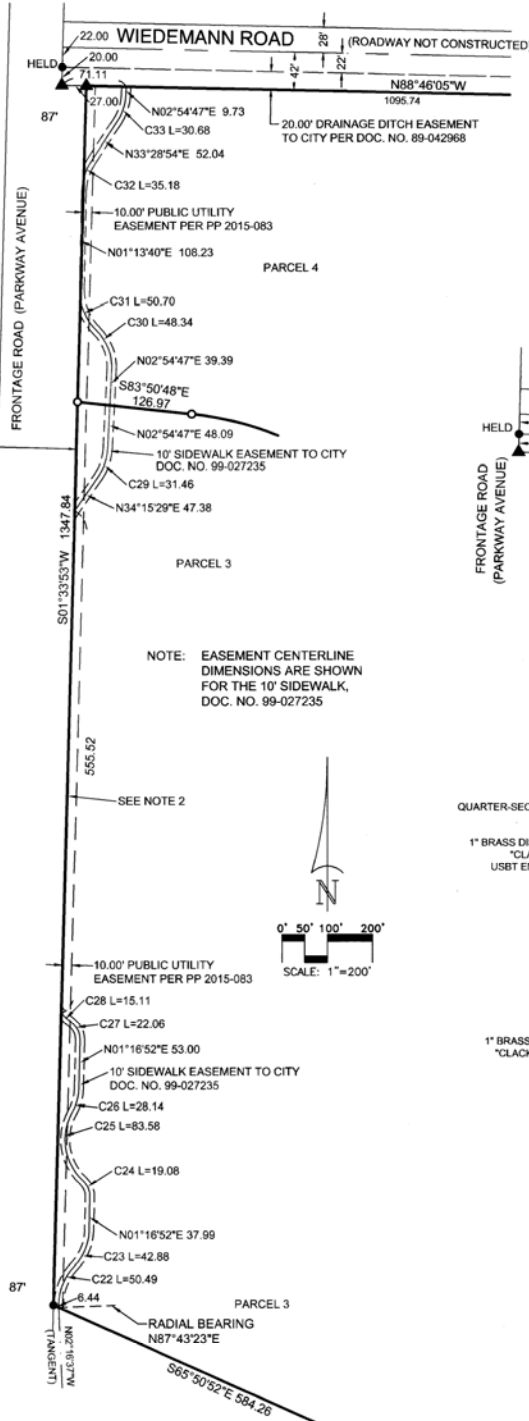
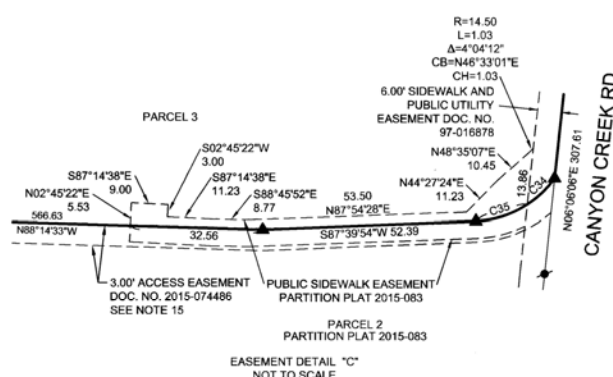
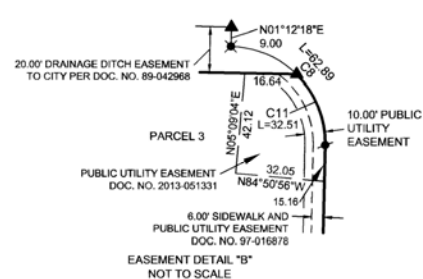
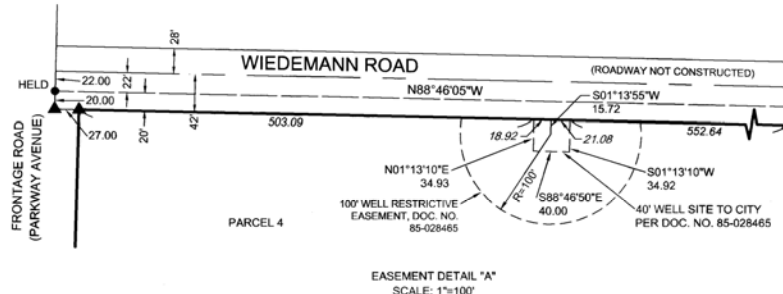
# PARTITION PLAT NO. 2018-109

BEING A REPLAT OF PARCEL 1 OF PARTITION PLAT 2015-083  
IN THE NE1/4 AND SE1/4 SECTION 11, NW1/4 AND SW1/4  
SECTION 12, T.3S., R.1W., WILLAMETTE MERIDIAN  
CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON

SURVEYED JULY 11, 2018

CURVE DATA

CURVE	DELTA	RADIUS	ARC	CHORD	CHORD BRG
C8	90°04'55"	40.00	62.89	56.61	N43°45'14"W
C11	48°33'50"	40.00	32.51	31.62	N21°59'41"W
C22	46°17'24"	62.50	50.49	49.13	N20°52'05"E
C23	42°43'55"	57.50	42.88	41.90	N22°38'50"E
C24	48°34'50"	22.50	19.08	18.51	N23°00'33"W
C25	70°37'07"	62.50	83.58	77.49	N08°59'25"W
C26	28°02'17"	57.50	28.14	27.86	N15°18'01"E
C27	56°10'08"	22.50	22.06	21.18	N26°48'12"W
C28	13°51'02"	62.50	15.11	15.07	N47°57'48"W
C29	31°22'42"	57.50	31.46	31.07	N18°33'08"E
C30	48°09'56"	57.50	48.34	46.93	N21°10'11"W
C31	46°28'49"	62.50	50.70	49.32	N22°00'45"W
C32	32°15'14"	62.50	35.18	34.72	N17°21'17"E
C33	30°34'07"	57.50	30.68	30.32	N18°11'51"E
C34	21°30'00"	25.00	9.38	9.33	S48°08'35"W
C35	30°46'19"	25.00	13.43	13.26	S72°16'45"W



- ### LEGEND
- DENOTES 5/8" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "R. MEYER LS 1268" FOUND AND HELD FROM SN 22941 UNLESS OTHERWISE NOTED
  - DENOTES 1-1/8" BRASS DISC INSCRIBED "DEA INC." FOUND AND HELD FROM SN 27725 UNLESS OTHERWISE NOTED
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  - ▲ DENOTES 5/8" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "OTAK INC." FOUND AND HELD FROM PARTITION PLAT 2015-083.
  - DENOTES 5/8" x 30" IRON ROD WITH YELLOW PLASTIC CAP INSCRIBED "OTAK INC." SET
  - YPC DENOTES YELLOW PLASTIC CAP
  - DOC. NO. DENOTES DOCUMENT NUMBER, CLACKAMAS COUNTY DEED RECORDS
  - CITY DENOTES CITY OF WILSONVILLE
  - SN DENOTES PRIVATE SURVEY, CLACKAMAS COUNTY SURVEY RECORDS

### NARRATIVE

FOR THE PURPOSE OF THIS SURVEY WAS TO CREATE TWO PARCELS FROM THAT TRACT OF LAND CONVEYED TO PARKWAY WOODS BUSINESS PARK LLC, A DELAWARE LIMITED LIABILITY COMPANY AND DESCRIBED IN THE STATUTORY SPECIAL WARRANTY DEED RECORDED DECEMBER 2, 2015, AS FEE NO. 2015-079603, CLACKAMAS COUNTY RECORDS, BEING PARCEL 1 OF PARTITION PLAT 2015-083. THE BASIS OF BEARINGS FOR THIS SURVEY (S65°50'52"E) IS THE SECOND MOST WESTERLY SOUTH LINE OF SAID PARCEL 1, PARTITION PLAT NO. 2015-083, HAVING THE SAME BASIS OF BEARING THEREIN, CLACKAMAS COUNTY PLAT RECORDS.

I HELD THE RECOVERED MONUMENTS AND RECORD DATA OR PARCEL 1 AS SHOWN ON PARTITION PLAT 2015-083 RECORDED AS DOCUMENT NO. 2015-074482, CLACKAMAS COUNTY PLAT RECORDS.

REGISTERED PROFESSIONAL LAND SURVEYOR  
  
 OREGON  
 JANUARY 12, 2002  
 JON M. YAMASHITA  
 53760LS  
 EXPIRES 6/30/20

**Otak**  
 808 SW 3rd Ave., Ste. 300  
 Portland, Oregon 97204  
 Phone: (503) 287-6825  
 www.otak.com  
 project: 17805

DECLARATION

KNOW ALL PERSONS BY THESE PRESENTS: THAT PARKWAY WOODS BUSINESS PARK, LLC, A DELAWARE LIMITED LIABILITY COMPANY DOES HEREBY MAKE, ESTABLISH AND DECLARE THE ANNEXED PARTITION PLAT AS DESCRIBED IN THE ACCOMPANYING SURVEYOR'S CERTIFICATE TO BE A TRUE AND CORRECT MAP AND PLAT THEREOF, WITH EASEMENTS AND RESTRICTIONS AS SHOWN OR NOTED, AND HAS CAUSED THE PARTITION TO BE PREPARED AND THE PROPERTY PARTITIONED IN ACCORDANCE WITH THE PROVISIONS OF CHAPTER 92.

BY: JVP  
NAME: James Paul  
TITLE: AUTHORIZED SIGNATORY  
PARKWAY WOODS BUSINESS PARK, LLC,  
A DELAWARE LIMITED LIABILITY COMPANY

ACKNOWLEDGMENT

STATE OF OREGON }  
COUNTY OF } SS

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON

September 10, 2018 BY

James Paul, AUTHORIZED SIGNER FOR  
PARKWAY WOODS BUSINESS PARK LLC, A DELAWARE LIMITED  
LIABILITY COMPANY, ON ITS BEHALF.

Sharon Loofburrow  
NOTARY SIGNATURE

Sharon Loofburrow  
NOTARY PUBLIC - OREGON

COMMISSION NUMBER 060621

MY COMMISSION EXPIRES 12-17-21

NOTES AND PLAT RESTRICTIONS

- 1. THIS PLAT IS SUBJECT TO THE CONDITIONS OF APPROVAL IN THE CITY OF WILSONVILLE DEVELOPMENT REVIEW BOARD CASE FILE NO.: AR16-0037.
- 2. THIS PLAT IS SUBJECT TO THE RELINQUISHMENT OF ACCESS PROVISIONS IN FAVOR OF THE STATE OF OREGON RESERVING ALL ACCESS RIGHTS BETWEEN THE DESCRIBED TRACT AND THE STATE HIGHWAY PER BOOK 449, PAGE 333, AND BOOK 454, PAGE 434, CLACKAMAS COUNTY DEED RECORDS.
- 3. PORTIONS OF THIS PLAT ARE SUBJECT TO A CITY OF WILSONVILLE ACCESS EASEMENT (BLANKET IN NATURE) FOR STORMWATER FACILITY MAINTENANCE AS DESCRIBED IN PARCEL III OF DOCUMENT NO. 2006-020409, CLACKAMAS COUNTY DEED RECORDS.
- 4. THE CITY OF WILSONVILLE SEWER EASEMENT DESCRIBED IN DOCUMENT NO. 73-004321 AND DOCUMENT NO. 73-011955, CLACKAMAS COUNTY DEED RECORDS IS NOT SHOWN HEREIN DUE TO THE RIGHT OF WAY DEDICATION OF PARTITION PLAT 2015-083 ALONG THE EASTERLY RIGHT OF WAY OF INTERSTATE HIGHWAY 5 FRONTAGE ROAD NOW COVERS THEM IN THEIR ENTIRETY.
- 5. THIS PLAT IS SUBJECT TO THE APPLICABLE CONDITIONS OF A SIDEWALK EASEMENT AGREEMENT RECORDED IN DOCUMENT NO. 2015-074483, CLACKAMAS COUNTY RECORDS.
- 6. THIS PLAT IS SUBJECT TO A CITY OF WILSONVILLE RIGHT OF ENTRY OVER ITS ENTIRETY FOR ACCESS TO THE STORMWATER FACILITIES EASEMENT LOCATED SOUTHEAST OF THIS PLAT FOR INSPECTION AND MAINTENANCE OF SAID FACILITIES THEREIN AS RECORDED IN DOCUMENT NO. 2015-074484, CLACKAMAS COUNTY DEED RECORDS.
- 7. THIS PLAT IS SUBJECT TO THE APPLICABLE CONDITIONS OF THE DECLARATION OF UTILITY, FIRE PROTECTION, COMMUNICATIONS, AND RECIPROCAL ACCESS EASEMENTS AS RECORDED IN DOCUMENT NO. 2015-074486, CLACKAMAS COUNTY DEED RECORDS, AND SUBJECT TO EASEMENTS PER ARTICLE (2.1) DECLARATION OF RECIPROCAL ACCESS EASEMENT, (3.1) DECLARATION OF UTILITY EASEMENT, (4.1) DECLARATION OF COMMUNICATIONS EASEMENT, (5) DECLARATION OF FIRE PROTECTION EASEMENT.
- 8. THE PUBLIC LAND SURVEY MONUMENT REFERENCE MONUMENTS (ACCESSORIES) NOTED HERE ON MUST BE PROTECTED AND PRESERVED AT ALL TIMES. THAT MONUMENT IS A 3" BRONZE DISC WITNESS CORNER TO THE QUARTER CORNER COMMON TO SECTIONS 11 AND 12 OF T.3S., R.1W., W.M. AS NOTED IN USBT RECORD 2000-072, ACCESS ONTO AND ACROSS PARCEL 3 FOR SURVEY PURPOSES SHALL BE ALLOWED AT ALL TIMES, PURSUANT TO ORS 672.047, PROVIDED THAT NOTICE IS GIVEN TO THE OWNERS OF RECORD OR OCCUPANTS.
- 9. PARCELS 3 AND 4 ARE SUBJECT TO A PUBLIC ACCESS EASEMENT AGREEMENT PER DOCUMENT NO. 2016-064477, CLACKAMAS COUNTY DEED RECORDS.
- 10. PARCELS 3 AND 4 ARE SUBJECT TO A PRIVATE COMMUNICATION LINE EASEMENT AS SHOWN ON THE PLAT.
- 11. PARCEL 3 IS SUBJECT TO A PRIVATE SANITARY SEWER EASEMENT AS SHOWN ON THE PLAT.
- 12. DOC. NO. 88-52581 CONTAINS MULTIPLE EASEMENTS CROSSING THE PROPERTY TO THE SOUTH AND TERMINATING AT THE SOUTHERLY BOUNDARY OF PARCEL 3.
- 13. DOC. NO. 88-52582 DEFINES THE 40' RESTRICTION (REFERRED TO WITHIN AS A "BUFFER STRIP") AS AN AREA THAT NEITHER PARTY SHALL REMOVE ANY TREE OR CONSTRUCT, INSTALL OR SUBSTANTIALLY ALTER ANY IMPROVEMENT WITHIN. IT FURTHER DEFINES THE 200' RESTRICTION (REFERRED TO WITHIN AS A "BUFFER ZONE") AS AN AREA WHERE IF EITHER PARTY DESIRES TO REMOVE ANY TREE, CONSTRUCT, INSTALL OR SUBSTANTIALLY ALTER ANY NEW OR EXISTING IMPROVEMENT THEY SHALL SUBMIT A WRITTEN PROPOSAL, INCLUDING PLANS AND SPECIFICATIONS TO BE APPROVED BY OTHER PARTY. SAID DOCUMENT DOES ALLOW FOR EACH PARTY TO REPAIR, MAINTAIN AND REPLACE ANY BELOW GROUND PIPES, CONDUITS, CULVERTS OR OTHER EXISTING UTILITY SYSTEMS OVER BOTH THE 40' AND 200' RESTRICTIONS, PROVIDED THE AREA IS KEPT NEAT AND ORDERLY AND THE SURFACE IS PROMPTLY RESTORED TO THE CONDITION EXISTING PRIOR TO THE EXCAVATION.
- 14. DOC. NO. 2015-074486 GRANTS BLANKET RECIPROCAL ACCESS, UTILITY AND COMMUNICATION EASEMENTS OVER ALL EXISTING AND FUTURE IMPROVEMENTS OF CORRESPONDING NATURE. SAID EASEMENTS AFFECT PARCELS 3 AND 4 CREATED HEREIN AND PARCEL 2 OF PARTITION PLAT 2015-083, CLACKAMAS COUNTY PLAT RECORDS.
- 15. ACCESS EASEMENT PER DOC. NO. 2015-074486 DECLARES A PERPETUAL, NON-EXCLUSIVE EASEMENT FOR FUTURE ACCESS TO PRINTER PARKWAY AND ALL OTHER ACCESS EASEMENT AREAS FROM PARCEL 3 HEREIN OVER THE AREA DEPICTED HEREON OVER PARCEL 2 OF PARTITION PLAT 2015-083, CLACKAMAS COUNTY PLAT RECORDS; IT FURTHER DECLARES ACCESS RIGHTS FROM SAID PARCEL 2 OVER AND NEWLY DEVELOPED ACCESS EASEMENT AREAS ON SAID PARCEL 3.
- 16. PARCELS 3 AND 4 ARE SUBJECT TO 8.00 FOOT WIDE PUBLIC UTILITY EASEMENTS AS SHOWN HEREIN.

SURVEYOR'S CERTIFICATE

I JON M. YAMASHITA, HEREBY SAY THAT I HAVE CORRECTLY SURVEYED PARCEL 1 OF THE ANNEXED PARTITION PLAT NO. 2015-083, BEING A REPLAT OF SAID PARCEL 1, LOCATED IN THE NORTHEAST AND SOUTHEAST ONE-QUARTERS OF SECTION 11 AND THE NORTHWEST AND SOUTHWEST ONE-QUARTERS OF SECTION 12, TOWNSHIP 3 SOUTH, RANGE 1 WEST, WILLAMETTE MERIDIAN, CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON, THAT AT THE INITIAL POINT OF SAID SURVEY I FOUND AND HELD A 5/8-INCH IRON ROD WITH A YELLOW PLASTIC CAP INSCRIBED "R. MEYER LS 1268", SAID POINT BEING THE MOST NORTHERLY CORNER OF ADJOINING PARCEL 1. PARTITION PLAT NO. 2005-022, CLACKAMAS COUNTY PLAT RECORDS; THENCE FROM SAID INITIAL POINT ALONG THE NORTHERLY BOUNDARY OF SAID PARTITION PLAT NO. 2005-022 SOUTH 56°38'00" EAST 151.39 FEET; THENCE LEAVING SAID NORTHERLY LINE NORTH 33°22'00" EAST 343.47 FEET; THENCE NORTH 22°13'14" EAST 486.20 FEET; THENCE ALONG A LINE THAT IS RADIAL TO THE FOLLOWING COURSE HEREIN, NORTH 09°38'50" EAST 296.11 FEET TO A POINT OF NON-TANGENT CURVATURE; THENCE 51.57 FEET ALONG A 374.50 FOOT RADIUS CURVE TO THE LEFT, SAID CURVE HAVING AN INTERNAL ANGLE OF 7°53'23" AND A CHORD BEARING SOUTH 84°17'52" EAST 51.53 FEET TO A POINT OF TANGENCY; THENCE SOUTH 88°14'33" EAST 586.83 FEET; THENCE NORTH 87°39'54" EAST 52.39 FEET TO A POINT OF CURVATURE; THENCE 22.81 FEET ALONG A 25.00 FOOT RADIUS CURVE TO THE LEFT, SAID CURVE HAVING AN INTERNAL ANGLE OF 52°16'19" AND A CHORD BEARING NORTH 61°31'44" EAST 22.03 FEET TO A POINT OF NON-TANGENCY ON THE WESTERLY RIGHT OF WAY OF CANYON CREEK ROAD AS DEDICATED IN DOCUMENT NO. 97-016879, CLACKAMAS COUNTY DEED RECORDS; THENCE ALONG SAID WEST RIGHT OF WAY LINE ALONG THE FOLLOWING EIGHT (8) COURSES: THENCE NORTH 06°05'06" EAST 284.06 FEET TO A POINT OF CURVATURE; THENCE 144.19 FEET ALONG A 2,969.00 FOOT RADIUS CURVE TO THE LEFT, SAID CURVE HAVING AN INTERNAL ANGLE OF 2°49'57" AND A CHORD BEARING NORTH 04°42'37" EAST 144.17 FEET TO A POINT OF TANGENCY; THENCE NORTH 03°19'09" EAST 227.34 FEET TO A POINT OF CURVATURE; THENCE 154.37 FEET ALONG A 1,831.00 FOOT RADIUS CURVE TO THE RIGHT, SAID CURVE HAVING AN INTERNAL ANGLE OF 4°49'50" AND A CHORD BEARING NORTH 05°44'04" EAST 154.32 FEET TO A POINT OF TANGENCY; THENCE NORTH 08°08'59" EAST 352.73 FEET TO A POINT OF CURVATURE; THENCE 163.97 FEET ALONG A 1,369.00 FOOT RADIUS CURVE TO THE LEFT, SAID CURVE HAVING AN INTERNAL ANGLE OF 6°51'45" AND A CHORD BEARING NORTH 04°43'06" EAST 163.87 FEET TO A POINT OF TANGENCY; THENCE NORTH 01°17'14" EAST 98.65 FEET TO A POINT OF CURVATURE; THENCE 32.51 FEET ALONG A 40.00 FOOT RADIUS CURVE TO THE LEFT, SAID CURVE HAVING AN INTERNAL ANGLE OF 46°33'50" AND A CHORD BEARING NORTH 21°59'41" WEST 31.62 FEET TO A POINT OF NON-TANGENCY; THENCE ALONG THE SOUTH RIGHT OF WAY LINE OF WIEDEMAN ROAD PER PARTITION PLAT 2015-083, CLACKAMAS COUNTY PLAT RECORDS, NORTH 88°48'15" WEST 1,761.69 FEET TO AN ANGLE POINT IN SAID SOUTH LINE; THENCE CONTINUING ALONG SAID SOUTH LINE NORTH 88°46'05" WEST 1,095.74 FEET TO THE EASTERLY RIGHT OF WAY LINE OF INTERSTATE HIGHWAY 5 AS PER PARTITION PLAT 2015-083, CLACKAMAS COUNTY PLAT RECORDS; THENCE ALONG SAID EASTERLY RIGHT OF WAY LINE SOUTH 01°33'53" WEST 1,347.84 FEET TO A POINT ON THE NORTH LINE OF ADJOINING PARCEL 3, PARTITION PLAT NO. 2002-047, CLACKAMAS COUNTY PLAT RECORDS; THENCE ALONG SAID NORTHERLY LINE OF SAID PARTITION PLAT NO. 2002-047 ALONG THE FOLLOWING TEN (10) COURSES: SOUTH 65°50'52" EAST 555.02 FEET; THENCE SOUTH 75°20'27" EAST 295.17 FEET; THENCE SOUTH 46°03'07" EAST 37.92 FEET TO A POINT OF CURVATURE; THENCE 83.11 FEET ALONG A 192.00 FOOT RADIUS CURVE TO THE LEFT, SAID CURVE HAVING AN INTERNAL ANGLE OF 24°48'09" AND A CHORD BEARING SOUTH 58°27'11" EAST 82.47 FEET TO A POINT OF TANGENCY; THENCE SOUTH 70°51'16" EAST 82.97 FEET; THENCE SOUTH 54°35'59" EAST 176.43 FEET; THENCE SOUTH 32°45'59" EAST 260.69 FEET TO A POINT OF CURVATURE; THENCE 91.34 FEET ALONG A 456.00 FOOT RADIUS CURVE TO THE RIGHT, SAID CURVE HAVING AN INTERNAL ANGLE OF 11°28'37" AND A CHORD BEARING SOUTH 27°01'40" EAST 91.19 FEET TO A POINT OF REVERSE CURVATURE; THENCE 382.46 FEET ALONG A 620.00 FOOT RADIUS CURVE TO THE LEFT, SAID CURVE HAVING AN INTERNAL ANGLE OF 35°20'38" AND A CHORD BEARING SOUTH 38°57'41" EAST 376.42 FEET TO THE INITIAL POINT.

CONTAINS 113.088 ACRES, MORE OR LESS.

Jon M. Yamashita  
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 53760

REGISTERED PROFESSIONAL LAND SURVEYOR  
OREGON  
JANUARY 12, 2002  
JON M. YAMASHITA  
53760LS  
EXPIRES 6/30/20

PARTITION PLAT NO. 2018-109

BEING A REPLAT OF PARCEL 1 OF PARTITION PLAT 2015-083 IN THE NE1/4 AND SE1/4 SECTION 11, NW1/4 AND SW1/4 SECTION 12, T.3S., R.1W., WILLAMETTE MERIDIAN CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON

SURVEYED JULY 11, 2018

APPROVALS

APPROVED THIS 13th DAY OF SEPT., 2018

BY C. K. Knapp  
CITY OF WILSONVILLE PLANNING DIRECTOR

APPROVED THIS 13th DAY OF Sept., 2018

BY Dygs Krambein  
CITY OF WILSONVILLE COMMUNITY DEVELOPMENT DIRECTOR

APPROVED THIS 19th DAY OF October, 2018

BY Chad R. Jeff  
CLACKAMAS COUNTY SURVEYOR

ALL TAXES, FEES, ASSESSMENTS OR OTHER CHARGES AS PROVIDED BY ORS 92.095 HAVE BEEN PAID THROUGH JUNE 30, 2019.

APPROVED THIS 18 DAY OF October, 2018

CLACKAMAS COUNTY ASSESSOR & TAX COLLECTOR

BY Nancy Reigel  
DEPUTY

STATE OF OREGON )  
COUNTY OF CLACKAMAS ) SS

I DO HEREBY CERTIFY THAT THE ATTACHED PARTITION PLAT WAS RECEIVED FOR RECORD ON THE 19th DAY OF October, 2018 AT 2:00 CLOCK P.M.

AS PARTITION PLAT NO. 2018-109

DOCUMENT NO. 2018-064476

SHERRY HALL, CLACKAMAS COUNTY CLERK

BY Jani M. Kelle  
DEPUTY

Otak  
808 SW 3rd Ave., Ste. 300  
Portland, Oregon 97204  
Phone: (503) 287-5825  
www.otak.com  
project: 1766



# Chicago Title Company

10151 SE Sunnyside Road, Suite 300  
Clackamas, Oregon 97015  
Phone: 503.786.3940 Fax: 866.892.3853  
E-mail: trios@ctt.com

## METROSCAN PROPERTY PROFILE

Clackamas (OR)

### OWNERSHIP INFORMATION

Owner	: Pwii Owner LLC	Parcel Number	: 01469459
CoOwner	:	Ref Parcel #	: 31W12 00591
Site Address	: *no Site Address*	T: 03S R: 01W S: 12 Q:	QQ:
Mail Address	: 222 SW Columbia St #700 Portland Or 97201		
Telephone	:		

### SALES INFORMATION

Transfer Date	: 04/14/2020	Document #	: 20 026807
Sale Price	: \$32,300,000	Deed Type	: Special Warranty
% Owned	: 100	Vesting Type	: Corporation
Prior Transfer Date	:	Prior Document #	:
Prior Sales Price	:		

### PROPERTY DESCRIPTION

Map Page Grid :  
 Census Tract : 239.02 Block: 1  
 Neighborhood : Area 05 Industrial Wilsonville  
 Subdivision/Plat:  
 Improvement :  
 Land Use : 300 Vacant,Industrial Land  
 Legal : PARTITION PLAT 2018-109 PT PARCEL 3  
 : SEE RELATED PROPERTIES 00581,  
 : 005111, 005111A1, 005111M1

### ASSESSMENT AND TAX INFORMATION

Mkt Land : \$99,267  
 Mkt Structure :  
 Mkt Total : \$99,267  
 %Improved :  
 AssdTotal : \$65,014  
 Mill Rate : 18.7288  
 Levy Code : 003027  
 19-20 Taxes : \$1,237.52  
 Millage Rate : 18.7288

### PROPERTY CHARACTERISTICS

Bedrooms	:	Building SF	:	BldgTotSqFt	:
Bathrooms	:	1st Floor SF	:	Lot Acres	: 1.26
Full Baths	:	Upper Finished SF	:	Lot SqFt	: 54,886
Half Baths	:	Finished SF	:	Garage SF	:
Fireplace	:	Above Ground SF	:	Year Built	:
Heat Type	:	Upper Total SF	:	School Dist	: 003
Floor Cover	:	UnFinUpperStorySF:	:	Foundation	:
Stories	:	Basement Fin SF	:	Roof Type	:
Int Finish	:	Basement Unfin SF	:	Roof Shape	:
Ext Finsh	:	Basement Total SF	:		

This title information has been furnished, without charge, in conformance with the guidelines approved by the State of Oregon Insurance Commissioner. The Insurance Division cautions intermediaries that this service is designed to benefit the ultimate insureds. Indiscriminate use only benefiting intermediaries will not be permitted. Said services may be discontinued. No liability is assumed for any errors in this report. Information is deemed reliable but not guaranteed.

AFTER RECORDING MAIL TO:

Q&E Industries, LLC  
1283 Linden Drive  
Boulder, CO 80304

SEND TAX STATEMENTS TO:

Q&E Industries, LLC  
1283 Linden Drive  
Boulder, CO 80304

Multnomah County Official Records  
E Murray, Deputy Clerk

2020-052613



\$92.00

05/05/2020 08:57:43 AM

DEED-DEED  
\$15.00 \$11.00 \$60.00 \$6.00

Pgs=3 Stn=68 ATJN

### STATUTORY WARRANTY DEED

**Eileen T. McKenna**, Grantor, conveys and warrants to **Q&E Industries, LLC**, a Colorado limited liability company, Grantee, the following described real property, free of encumbrances except covenants, conditions, restrictions, easements, and encumbrances of record as of the date hereof, situated in the County of Multnomah, State of Oregon:

See Exhibit A, attached hereto.

The true and actual consideration for this conveyance is \$0.

**BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301**

{00415275; 1}

- 1 -

AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

DATED this 15 day of April, 2020.

Eileen T. McKenna  
Eileen T. McKenna

STATE OF COLORADO     )  
  )  
COUNTY OF BROOMFIELD )

This instrument was acknowledged before me on this 15<sup>th</sup> day of April, 2020, by Eileen T. McKenna.

CLINTON P. CARLISLE  
NOTARY PUBLIC  
STATE OF COLORADO  
NOTARY ID 20154021757  
MY COMMISSION EXPIRES JUNE 03, 2023

[Signature]  
Notary Public for Colorado

### Exhibit A

Beginning at a point on the East line of SE 18<sup>th</sup> Avenue, 108 feet South of the intersection of the South line of SE Belmont Street with the East line of SE 18<sup>th</sup> Avenue; thence running East, parallel with SE Belmont Street and on the South line of a tract of land conveyed to Mary H. Gilman by Deed recorded in Book 403, Page 169, a distance of 103 feet, more or less, to the West line of a tract of land conveyed by Jennie M. Brown and husband to Etta C. Holbrook by Deed recorded in Book 389, Page 195; thence South, along the West line of said tract and the West line of a tract conveyed by Jennie M. Brown and husband to L.B. Phillips and wife by Deed in Book 295, Page 474, a distance of 92 feet, more or less, to the South line of Lot 8, Block 10, Central Addition to East Portland; thence West, along said South line of Lot 8, Block 10, Central Addition to East Portland, and a Westerly extension of said South line, 103 feet, more or less, to the East line of SE 18<sup>th</sup> Avenue; thence North, along the East line of SE 18<sup>th</sup> Avenue, 91.4 feet, more or less to the point of beginning, all within the corporate limits of the City of Portland, County of Multnomah, and State of Oregon.

{00415275; 1}

- 3 -

File No.: 20-104576

WFG Title 20-104576

<b>Grantor</b>
Isaac Brock 928 SE 18th Avenue Portland, OR 97214
<b>Grantee</b>
Eileen T. McKenna 1283 Linden Drive Boulder, CO 80304
<b>After recording return to</b>
Eileen T. McKenna 928 SE 18th Avenue Portland, OR 97214
<b>Until requested, all tax statements shall be sent to</b>
Eileen T. McKenna 928 SE 18th Avenue Portland, OR 97214 Tax Acct No(s): 1S1E02AB 20200, R326699

Multnomah County Official Records	<b>2020-024160</b>
E Murray, Deputy Clerk	02/28/2020 09:19:19 AM
DEED-DEED Pgs=3 Stn=70 ATKH	\$92.00
\$15.00 \$11.00 \$6.00 \$60.00	

Reserved for Recorder's Use

**STATUTORY WARRANTY DEED**

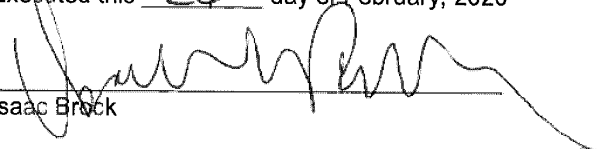
Isaac Brock, Grantor(s) convey and warrant to Eileen T. McKenna, Grantee(s), the real property described in the attached Exhibit A, free of encumbrances EXCEPT covenants, conditions, restrictions, easements, and encumbrances of record as of the date hereof.

The true consideration for this conveyance is **\$1,090,000.00**. (Here comply with requirements of ORS 93.030)

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009 AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

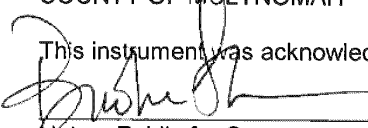


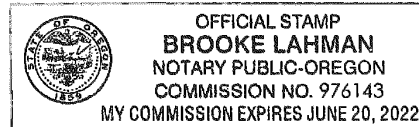
Executed this 26 day of February, 2020

  
Isaac Brock

STATE OF OREGON  
COUNTY OF MULTNOMAH

This instrument was acknowledged before me this 26 day of February, 2020 by Isaac Brock.

  
Notary Public for Oregon  
My Commission Expires: 6/20/22



**EXHIBIT "A"**  
**LEGAL DESCRIPTION**

Beginning at a point on the East line of SE 18th Avenue, 108 feet South of the intersection of the South line of SE Belmont Street with the East line of SE 18th Avenue; thence running East, parallel with SE Belmont Street and on the South line of a tract of land conveyed to Mary H. Gilman by Deed recorded in Book 403, Page 169, a distance of 103 feet, more or less, to the West line of a tract of land conveyed by Jennie M. Brown and husband to Etta C. Holbrook by Deed recorded in Book 389, Page 195; thence South, along the West line of said tract and the West line of a tract conveyed by Jennie M. Brown and husband to L.B. Phillips and wife by Deed in Book 295, Page 474, a distance of 92 feet, more or less, to the South line of Lot 8, Block 10, Central Addition to East Portland; thence West, along said South line of Lot 8, Block 10, Central Addition to East Portland, and a Westerly extension of said South line, 103 feet, more or less, to the East line of SE 18th Avenue; thence North, along the East line of SE 18th Avenue, 91.4 feet, more or less to the point of beginning, all within the corporate limits of the City of Portland, County of Multnomah and State of Oregon.



# Chicago Title Company

10151 SE Sunnyside Road, Suite 300  
Clackamas, Oregon 97015  
Phone: 503.786.3940 Fax: 866.892.3853  
E-mail: trios@ctt.com

## METROSCAN PROPERTY PROFILE

Clackamas (OR)

### OWNERSHIP INFORMATION

Owner	: Parkway Woods Business Park LLC	Parcel Number	: 05025755
CoOwner	:	Ref Parcel #	: 31W12 00581
Site Address	: 26440 SW Parkway Ave Wilsonville 97070	T: 03S R: 01W S: 12 Q: QQ:	
Mail Address	: 810 NW Marshall St #300 Portland Or 97209		
Telephone	:		

### SALES INFORMATION

Transfer Date	:	Document #	:
Sale Price	:	Deed Type	:
% Owned	: 100	Vesting Type	:
Prior Transfer Date	:	Prior Document #	:
Prior Sales Price	:		

### PROPERTY DESCRIPTION

Map Page Grid :  
 Census Tract : 244.00 Block: 1  
 Neighborhood : Primary Secondary Industrial  
 Subdivision/Plat:  
 Improvement :  
 Land Use : 300 Vacant,Industrial Land  
 Legal : PARTITION PLAT 2018-109 SEE RELATED  
 : PROPERTIES 00511, 00511A1, 00511M1,  
 : 00591

### ASSESSMENT AND TAX INFORMATION

Mkt Land : \$898,279  
 Mkt Structure :  
 Mkt Total : \$898,279  
 %Improved :  
 AssdTotal : \$898,279  
 Mill Rate : 18.7288  
 Levy Code : 003051  
 19-20 Taxes : \$16,188.69  
 Millage Rate : 18.7288

### PROPERTY CHARACTERISTICS

Bedrooms	:	Building SF	:	BldgTotSqFt	:
Bathrooms	:	1st Floor SF	:	Lot Acres	: 3.12
Full Baths	:	Upper Finished SF	:	Lot SqFt	: 135,907
Half Baths	:	Finished SF	:	Garage SF	:
Fireplace	:	Above Ground SF	:	Year Built	:
Heat Type	:	Upper Total SF	:	School Dist	: 003
Floor Cover	:	UnFinUpperStorySF:	:	Foundation	:
Stories	:	Basement Fin SF	:	Roof Type	:
Int Finish	:	Basement Unfin SF	:	Roof Shape	:
Ext Finsh	:	Basement Total SF	:		

This title information has been furnished, without charge, in conformance with the guidelines approved by the State of Oregon Insurance Commissioner. The Insurance Division cautions intermediaries that this service is designed to benefit the ultimate insureds. Indiscriminate use only benefiting intermediaries will not be permitted. Said services may be discontinued. No liability is assumed for any errors in this report. Information is deemed reliable but not guaranteed.

Clackamas County Official Records  
Sherry Hall, County Clerk

**2015-079603**

12/02/2015 01:11:16 PM

D-D                      Cnt=1 Stn=7 CONNIE  
\$30.00 \$16.00 \$10.00 \$22.00

**\$78.00**

After Recording Return to:

Parkway Woods Business Park, LLC  
c/o ScanlanKemperBard Companies  
810 NW Marshall Street, Suite 300  
Portland, OR 97209

Until a change is requested, tax  
Statements should be sent to:

Parkway Woods Business Park, LLC  
c/o ScanlanKemperBard Companies  
810 NW Marshall Street, Suite 300  
Portland, OR 97209

### STATUTORY SPECIAL WARRANTY DEED

XEROX CORPORATION, a New York corporation, Grantor, conveys and specially warrants to \_ Parkway Woods Business Park, LLC, a Delaware limited liability company, Grantee, the real property described on the attached Exhibit A (the "Property"), free of encumbrances created or suffered by the Grantor except those listed on Exhibit B..

The true consideration for this conveyance is \$32,700,000.00.

**BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009 AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009 AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.**

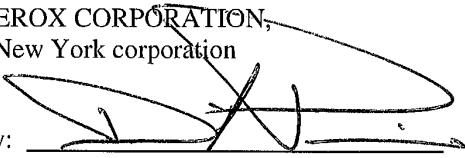
[signatures on following page]

{00456050;2}

LEGAL\_US\_W # 84103447.2 78001.00122

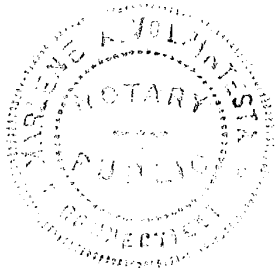
Dated this 2 day of December, 2015.

XEROX CORPORATION,  
a New York corporation

By:   
Name: David Pierson  
Its: Vice President Corporate Real Estate, Global  
Projects

STATE OF CONNECTICUT)  
County of Fairfield ) ss. *NORWALK*

The foregoing instrument was acknowledged before me on this 30th day of November, 2015, by David Pierson, in his capacity as Vice President of Corporate Real Estate, Global Projects of Xerox Corporation.



*Marlene A. Volpintesta*  
Notary Public for STATE OF CONNECTICUT  
My Commission Expires: 10/31/2019

*MARLENE A. VOLPINTESTA  
CONNECTICUT*

**Exhibit A to Statutory Special Warranty Deed**  
**Legal Description**

Parcel 1, Partition Plat No. 2015-083, Clackamas County and State of Oregon.

{00456050;2}

LEGAL\_US\_W # 84103447.2 78001.00122

**Exhibit B to Statutory Special Warranty Deed**  
**Permitted Exceptions**

The herein described premises are within the boundaries of and subject to the statutory powers, including the power of assessment, of the City of Wilsonville Urban Renewal/Neighborhood Development District .

Rights of the public in and to any portion of the herein described premises lying within the boundaries of the following streets, roads, or highways: Canyon Creek Road, Wiedmann Road, and Frontage Road (Parkway Avenue).

Relinquishment of Highway Access as contained in Deed, including the terms and conditions thereof:

Recorded: October 4, 1951  
Recording No.: Book 449, page 333

Limited access provisions contained in Deed to the State of Oregon, by and through its State Highway Commission recorded March 17, 1952 in Book 454, page 434, Deed Records, which provides that no right of easement or right of access to, from or across the State Highway other than expressly therein provided for shall attach to the abutting property.

Easement and the terms and conditions thereof:

Grantee: The United States of America  
Purpose: Power lines and appurtenances thereto  
Affects: Parcel 1  
Recorded: July 31, 1967  
Fee No.: Book 653, Page 898, County Mortgage Records

Easement, including the terms and conditions thereof:

Grantee: The United States of America  
Purpose: Power lines and appurtenances thereto  
Recorded: November 15, 1967  
Recording No.: 67001644

Easement created by instrument, including the terms and conditions thereof:

Favor of: City of Wilsonville, Oregon, its successors and/or assigns  
For: Sewer  
Recorded: February 13, 1973  
Recording No.: 73004321  
Affects: A 12 foot wide area

Easement created by instrument, including the terms and conditions thereof:

Favor of: City of Wilsonville, Oregon, its successors and/or assigns  
For: Sewer  
Recorded: April 20, 1973  
Recording No.: 73011953  
Affects: A 12 foot wide area

Easement created by instrument, including the terms and conditions thereof:

Favor of: City of Wilsonville, Oregon, its successors and/or assigns  
For: Sewer purposes  
Recorded: April 20, 1973  
Recording No.: 73011955  
Affects: A 12 foot wide area

Agreement, including the terms and conditions thereof:

By and Between: Tektronix, Inc., an Oregon corporation and City of Wilsonville, a municipal corporation  
Recorded: August 15, 1985  
Recording No.: 85028465  
Regarding: Agreement and Well Easement

Maintenance provisions with respect to sewer and electrical easement, including the terms and conditions thereof:

From: Tektronix, Inc., an Oregon corporation  
To: Mentor Graphics Corporation, an Oregon corporation  
Recorded: December 16, 1988  
Recording No.: 88052581

Agreement, including the terms and conditions thereof:

By and Between: Tektronix, Inc., an Oregon corporation and Mentor Graphics Corporation, an Oregon corporation  
Recorded: December 16, 1988  
Recording No.: 88052582  
Regarding: Buffer Zone

Easement, including the terms and conditions thereof as disclosed in Bargain and Sale Deed:

Grantee: City of Wilsonville, a municipal corporation of the State of Oregon  
Purpose: Public drainage  
Recorded: September 27, 1989  
Fee No.: 89042968

Easement, including the terms and conditions thereof:

Grantee: City of Wilsonville, a municipal corporation  
Purpose: Sidewalk and public utility  
Recorded: March 7, 1997  
Fee No.: 97016878

Easement, including the terms and conditions thereof:

Grantee: City of Wilsonville, a municipal corporation  
Purpose: Sidewalk  
Recorded: March 18, 1999  
Fee No.: 99027235

Stormwater Maintenance Covenant and Access Easement, including the terms and conditions thereof:

Between: Xerox Corporation, a New York corporation and the City of Wilsonville, a municipal corporation of the State of Oregon.  
Recorded: March 8, 2006  
Recording No.: 2006020409

Easement, including the terms and conditions thereof,

Granted to: City of Wilsonville  
Recorded: July 24, 2013  
Recording No.: 2013051331  
Purpose: electrical shield

Easement and the terms and conditions thereof:

Grantee: City of Wilsonville  
Purpose: Sidewalk easement  
Affects: As disclosed and delineated on Partition Plat 2015-083  
Recorded: November 5, 2015  
Fee No.: 2015074483



Stormwater Maintenance agreement and easement and the terms and conditions thereof:

Grantee: City of Wilsonville  
Purpose: Stormwater facilities  
Affects: Portions of lots 1 and 2, Partition Plat No. 2015-083  
Recorded: November 5, 2015  
Recording No.: 2015074484

Declaration of Utility, Fire Protection, Communications & Reciprocal Access Easements and the terms and conditions thereof:

Purpose: See recorded document for particulars  
Affects: Lots 1 & 2, Partition Plat 2015-083  
Recorded: November 5, 2015  
Recording No.: 2015074486

{00456050;2}

LEGAL\_US\_W # 84103447.2 78001.00122



# Chicago Title Company

10151 SE Sunnyside Road, Suite 300  
Clackamas, Oregon 97015  
Phone: 503.786.3940 Fax: 866.892.3853  
E-mail: trios@ctt.com

## METROSCAN PROPERTY PROFILE

Clackamas (OR)

### OWNERSHIP INFORMATION

Owner	: Parkway Woods LLC	Parcel Number	: 05030367
CoOwner	:	Ref Parcel #	: 31W12 00511
Site Address	: 26600 SW Parkway Ave Wilsonville 97070	T: 03S R: 01W S: 12 Q:	QQ:
Mail Address	: 2701 NW Vaughn St #323 Portland Or 97210		
Telephone	:		

### SALES INFORMATION

Transfer Date	: 06/28/2019	Document #	: 019-037132 Multi-Parcel
Sale Price	: \$24,086,113	Deed Type	: Warranty
% Owned	: 100	Vesting Type	: Corporation
Prior Transfer Date	:	Prior Document #	:
Prior Sales Price	:		

### PROPERTY DESCRIPTION

Map Page Grid :  
 Census Tract : 244.00 Block: 1  
 Neighborhood : Area 05 Industrial Wilsonville  
 Subdivision/Plat:  
 Improvement :  
 Land Use : 301 Ind,Industrial Land,Improved  
 Legal : PARTITION PLAT 2018-109 PT PARCEL 3  
 : SEE RELATED PROPERTIES 00581,  
 : 00591, 00511A1, 00511M1

### ASSESSMENT AND TAX INFORMATION

Mkt Land : \$20,250,785  
 Mkt Structure : \$9,611,040  
 Mkt Total : \$29,861,825  
 %Improved : 32  
 AssdTotal : \$24,176,680  
 Mill Rate : 18.7288  
 Levy Code : 003023  
 19-20 Taxes : \$460,195.85  
 Millage Rate : 18.7288

### PROPERTY CHARACTERISTICS

Bedrooms	:	Building SF	:	BldgTotSqFt	:
Bathrooms	:	1st Floor SF	:	Lot Acres	: 83.90
Full Baths	:	Upper Finished SF	:	Lot SqFt	: 3,654,684
Half Baths	:	Finished SF	:	Garage SF	:
Fireplace	:	Above Ground SF	:	Year Built	:
Heat Type	:	Upper Total SF	:	School Dist	: 003
Floor Cover	:	UnFinUpperStorySF:	:	Foundation	:
Stories	:	Basement Fin SF	:	Roof Type	:
Int Finish	:	Basement Unfin SF	:	Roof Shape	:
Ext Finsh	:	Basement Total SF	:		

This title information has been furnished, without charge, in conformance with the guidelines approved by the State of Oregon Insurance Commissioner. The Insurance Division cautions intermediaries that this service is designed to benefit the ultimate insureds. Indiscriminate use only benefiting intermediaries will not be permitted. Said services may be discontinued. No liability is assumed for any errors in this report. Information is deemed reliable but not guaranteed.

Clackamas County Official Records  
Sherry Hall, County Clerk

**2015-079603**

12/02/2015 01:11:16 PM

D-D                      Cnt=1 Stn=7 CONNIE  
\$30.00 \$16.00 \$10.00 \$22.00

**\$78.00**

After Recording Return to:

Parkway Woods Business Park, LLC  
c/o ScanlanKemperBard Companies  
810 NW Marshall Street, Suite 300  
Portland, OR 97209

Until a change is requested, tax  
Statements should be sent to:

Parkway Woods Business Park, LLC  
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810 NW Marshall Street, Suite 300  
Portland, OR 97209

### STATUTORY SPECIAL WARRANTY DEED

XEROX CORPORATION, a New York corporation, Grantor, conveys and specially warrants to \_  
Parkway Woods Business Park, LLC, a Delaware limited liability company, Grantee, the real property  
described on the attached Exhibit A (the "Property"), free of encumbrances created or suffered by the  
Grantor except those listed on Exhibit B..

The true consideration for this conveyance is \$32,700,000.00.

**BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009 AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009 AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.**

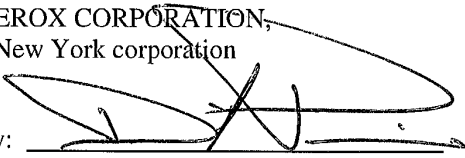
[signatures on following page]

{00456050;2}

LEGAL\_US\_W # 84103447.2 78001.00122

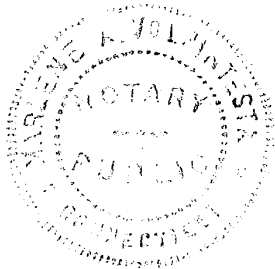
Dated this 2 day of December, 2015.

XEROX CORPORATION,  
a New York corporation

By:   
Name: David Pierson  
Its: Vice President Corporate Real Estate, Global  
Projects

STATE OF CONNECTICUT)  
County of Fairfield ) ss. *NORWALK*

The foregoing instrument was acknowledged before me on this 30th day of November, 2015, by David Pierson, in his capacity as Vice President of Corporate Real Estate, Global Projects of Xerox Corporation.



*Marlene A. Volpintesta*  
Notary Public for STATE OF CONNECTICUT  
My Commission Expires: 10/31/2019

*MARLENE A. VOLPINTESTA  
CONNECTICUT*

**Exhibit A to Statutory Special Warranty Deed**  
**Legal Description**

Parcel 1, Partition Plat No. 2015-083, Clackamas County and State of Oregon.

{00456050;2}

LEGAL\_US\_W # 84103447.2 78001.00122

**Exhibit B to Statutory Special Warranty Deed**  
**Permitted Exceptions**

The herein described premises are within the boundaries of and subject to the statutory powers, including the power of assessment, of the City of Wilsonville Urban Renewal/Neighborhood Development District .

Rights of the public in and to any portion of the herein described premises lying within the boundaries of the following streets, roads, or highways: Canyon Creek Road, Wiedmann Road, and Frontage Road (Parkway Avenue).

Relinquishment of Highway Access as contained in Deed, including the terms and conditions thereof:

Recorded: October 4, 1951  
Recording No.: Book 449, page 333

Limited access provisions contained in Deed to the State of Oregon, by and through its State Highway Commission recorded March 17, 1952 in Book 454, page 434, Deed Records, which provides that no right of easement or right of access to, from or across the State Highway other than expressly therein provided for shall attach to the abutting property.

Easement and the terms and conditions thereof:

Grantee: The United States of America  
Purpose: Power lines and appurtenances thereto  
Affects: Parcel 1  
Recorded: July 31, 1967  
Fee No.: Book 653, Page 898, County Mortgage Records

Easement, including the terms and conditions thereof:

Grantee: The United States of America  
Purpose: Power lines and appurtenances thereto  
Recorded: November 15, 1967  
Recording No.: 67001644

Easement created by instrument, including the terms and conditions thereof:

Favor of: City of Wilsonville, Oregon, its successors and/or assigns  
For: Sewer  
Recorded: February 13, 1973  
Recording No.: 73004321  
Affects: A 12 foot wide area

Easement created by instrument, including the terms and conditions thereof:

Favor of: City of Wilsonville, Oregon, its successors and/or assigns  
For: Sewer  
Recorded: April 20, 1973  
Recording No.: 73011953  
Affects: A 12 foot wide area

Easement created by instrument, including the terms and conditions thereof:

Favor of: City of Wilsonville, Oregon, its successors and/or assigns  
For: Sewer purposes  
Recorded: April 20, 1973  
Recording No.: 73011955  
Affects: A 12 foot wide area

Agreement, including the terms and conditions thereof:

By and Between: Tektronix, Inc., an Oregon corporation and City of Wilsonville, a municipal corporation  
Recorded: August 15, 1985  
Recording No.: 85028465  
Regarding: Agreement and Well Easement

Maintenance provisions with respect to sewer and electrical easement, including the terms and conditions thereof:

From: Tektronix, Inc., an Oregon corporation  
To: Mentor Graphics Corporation, an Oregon corporation  
Recorded: December 16, 1988  
Recording No.: 88052581

Agreement, including the terms and conditions thereof:

By and Between: Tektronix, Inc., an Oregon corporation and Mentor Graphics Corporation, an Oregon corporation  
Recorded: December 16, 1988  
Recording No.: 88052582  
Regarding: Buffer Zone

Easement, including the terms and conditions thereof as disclosed in Bargain and Sale Deed:

Grantee: City of Wilsonville, a municipal corporation of the State of Oregon  
Purpose: Public drainage  
Recorded: September 27, 1989  
Fee No.: 89042968

Easement, including the terms and conditions thereof:

Grantee: City of Wilsonville, a municipal corporation  
Purpose: Sidewalk and public utility  
Recorded: March 7, 1997  
Fee No.: 97016878

Easement, including the terms and conditions thereof:

Grantee: City of Wilsonville, a municipal corporation  
Purpose: Sidewalk  
Recorded: March 18, 1999  
Fee No.: 99027235

Stormwater Maintenance Covenant and Access Easement, including the terms and conditions thereof:

Between: Xerox Corporation, a New York corporation and the City of Wilsonville, a municipal corporation of the State of Oregon.  
Recorded: March 8, 2006  
Recording No.: 2006020409

Easement, including the terms and conditions thereof,

Granted to: City of Wilsonville  
Recorded: July 24, 2013  
Recording No.: 2013051331  
Purpose: electrical shield

Easement and the terms and conditions thereof:

Grantee: City of Wilsonville  
Purpose: Sidewalk easement  
Affects: As disclosed and delineated on Partition Plat 2015-083  
Recorded: November 5, 2015  
Fee No.: 2015074483

Stormwater Maintenance agreement and easement and the terms and conditions thereof:

Grantee: City of Wilsonville  
Purpose: Stormwater facilities  
Affects: Portions of lots 1 and 2, Partition Plat No. 2015-083  
Recorded: November 5, 2015  
Recording No.: 2015074484

Declaration of Utility, Fire Protection, Communications & Reciprocal Access Easements and the terms and conditions thereof:

Purpose: See recorded document for particulars  
Affects: Lots 1 & 2, Partition Plat 2015-083  
Recorded: November 5, 2015  
Recording No.: 2015074486

{00456050;2}

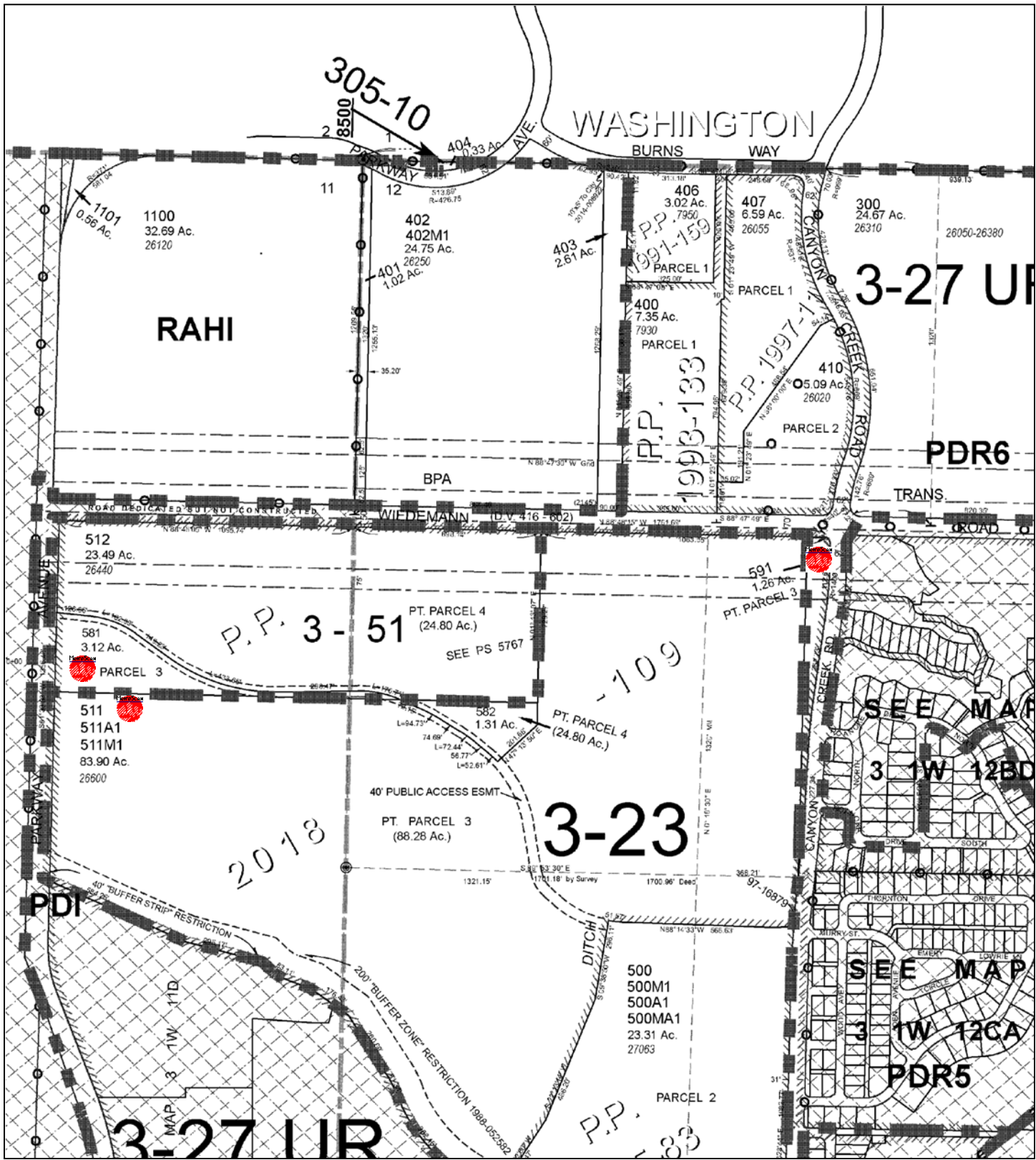
LEGAL\_US\_W # 84103447.2 78001.00122











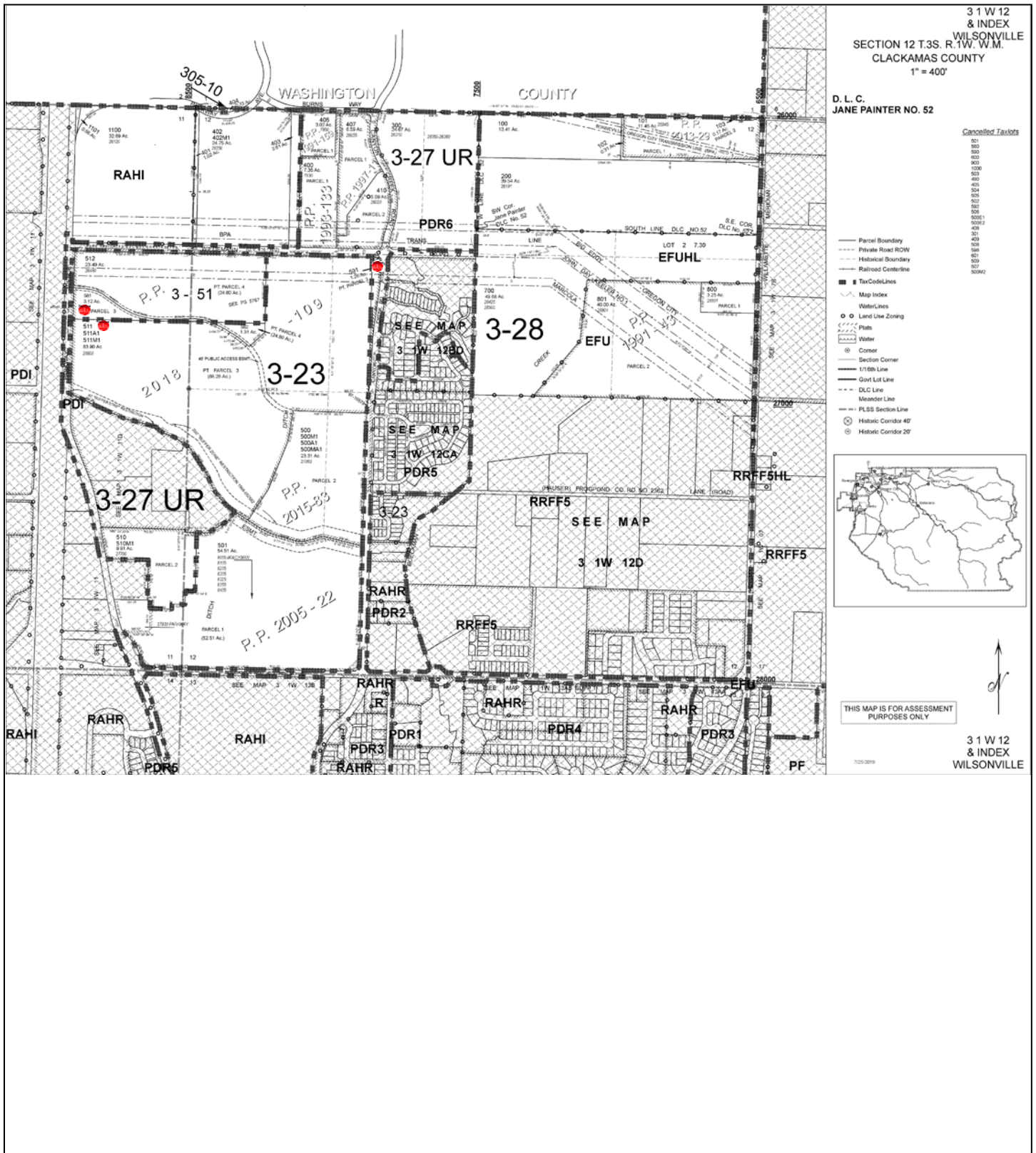
**Map No. 31W12 00591**



**CHICAGO TITLE COMPANY**  
 10151 S.E. SUNNYSIDE ROAD Suite 300  
 CLACKAMAS, OREGON 97015



*This map/plat is being furnished as an aid in locating the herein described Land in relation to adjoining streets, natural boundaries and other land, and is not a survey of the land depicted. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the Company does not insure dimensions, distances, location of easements, acreage or other matters shown thereon.*



# Map No. 31W12 00591

CHICAGO TITLE COMPANY  
 10151 S.E. SUNNYSIDE ROAD Suite 300  
 CLACKAMAS, OREGON 97015



*This map/plot is being furnished as an aid in locating the herein described Land in relation to adjoining streets, natural boundaries and other land, and is not a survey of the land depicted. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the Company does not insure dimensions, distances, location of easements, acreage or other matters shown thereon.*

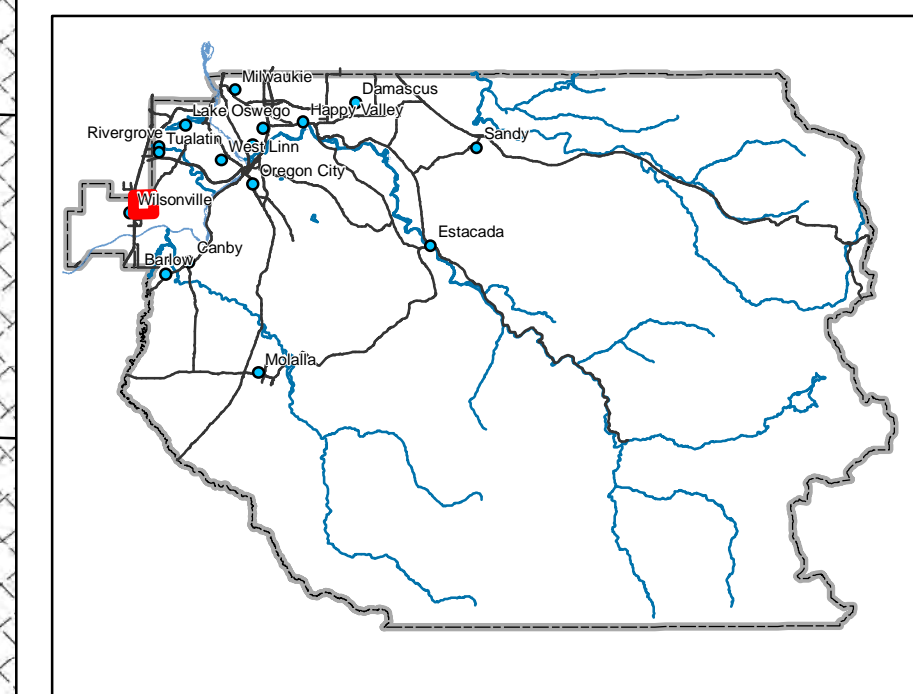
3 1 W 12  
& INDEX  
WILSONVILLE  
SECTION 12 T.3S. R.1W. W.M.  
CLACKAMAS COUNTY  
1" = 400'

D. L. C.  
JANE PAINTER NO. 52

Cancelled Taxlots

- 501
- 580
- 590
- 600
- 900
- 1000
- 503
- 490
- 405
- 504
- 505
- 502
- 596
- 506
- 500E1
- 500E2
- 408
- 301
- 409
- 508
- 588
- 601
- 509
- 507
- 500M2

- Parcel Boundary
- Private Road ROW
- Historical Boundary
- Railroad Centerline
- TaxCodeLines
- Map Index
- WaterLines
- Land Use Zoning
- Plats
- Water
- Corner
- Section Corner
- 1/16th Line
- Govt Lot Line
- DLC Line
- Meander Line
- PLSS Section Line
- Historic Corridor 40'
- Historic Corridor 20'

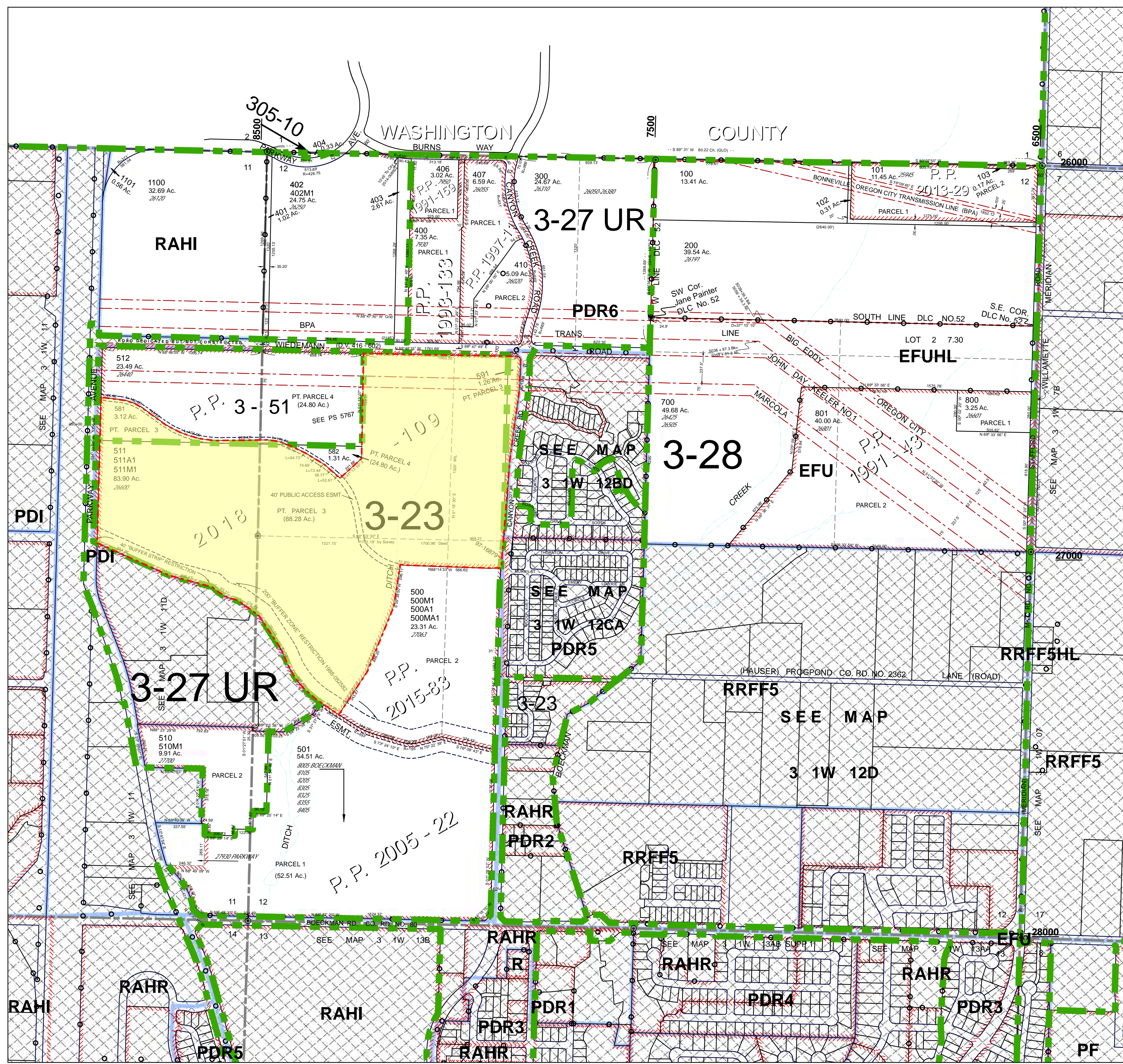


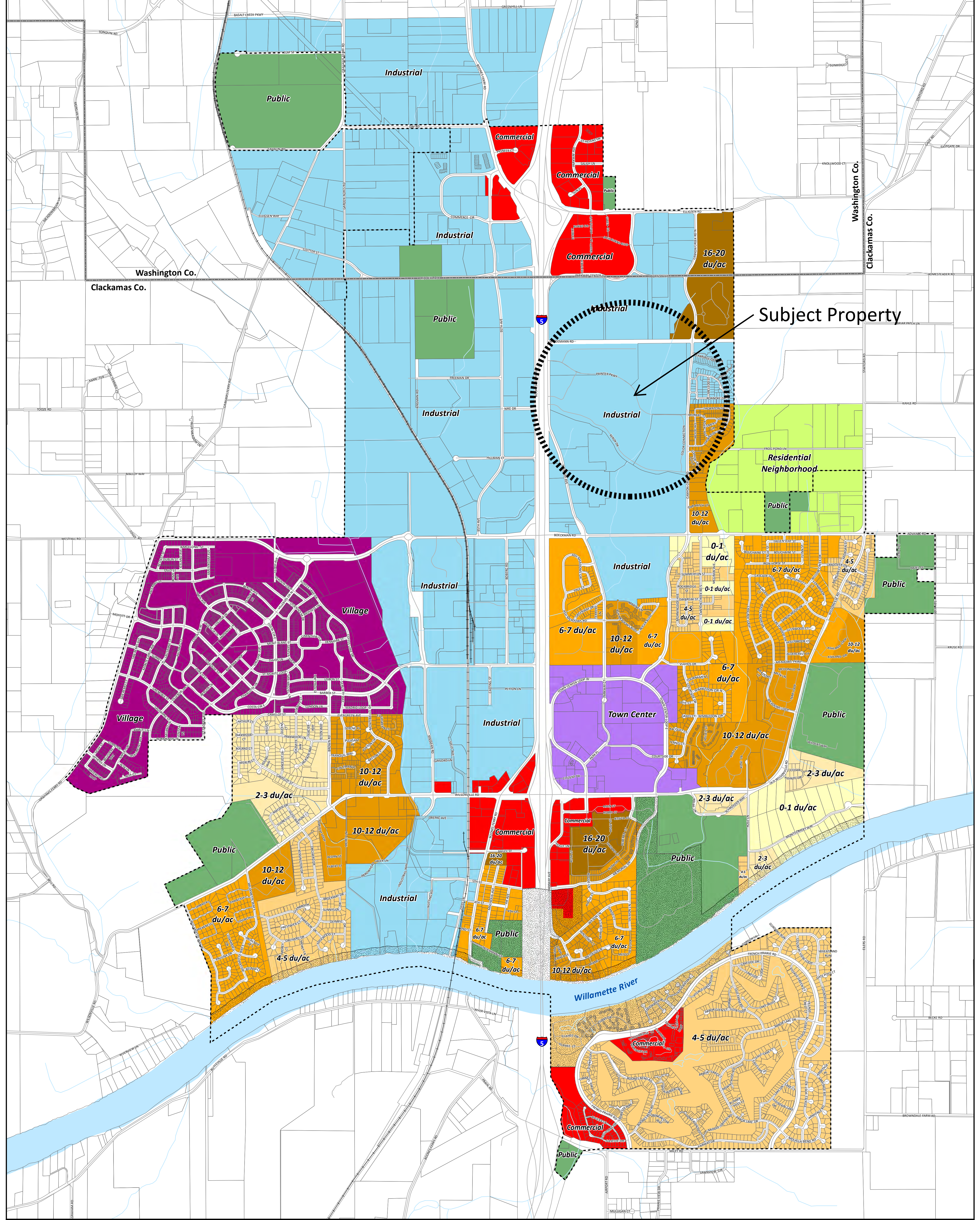
THIS MAP IS FOR ASSESSMENT  
PURPOSES ONLY



7/25/2019

3 1 W 12  
& INDEX  
WILSONVILLE





# Comprehensive Plan Map



0 0.5 Mile  
June 2019

## Land Use Designations

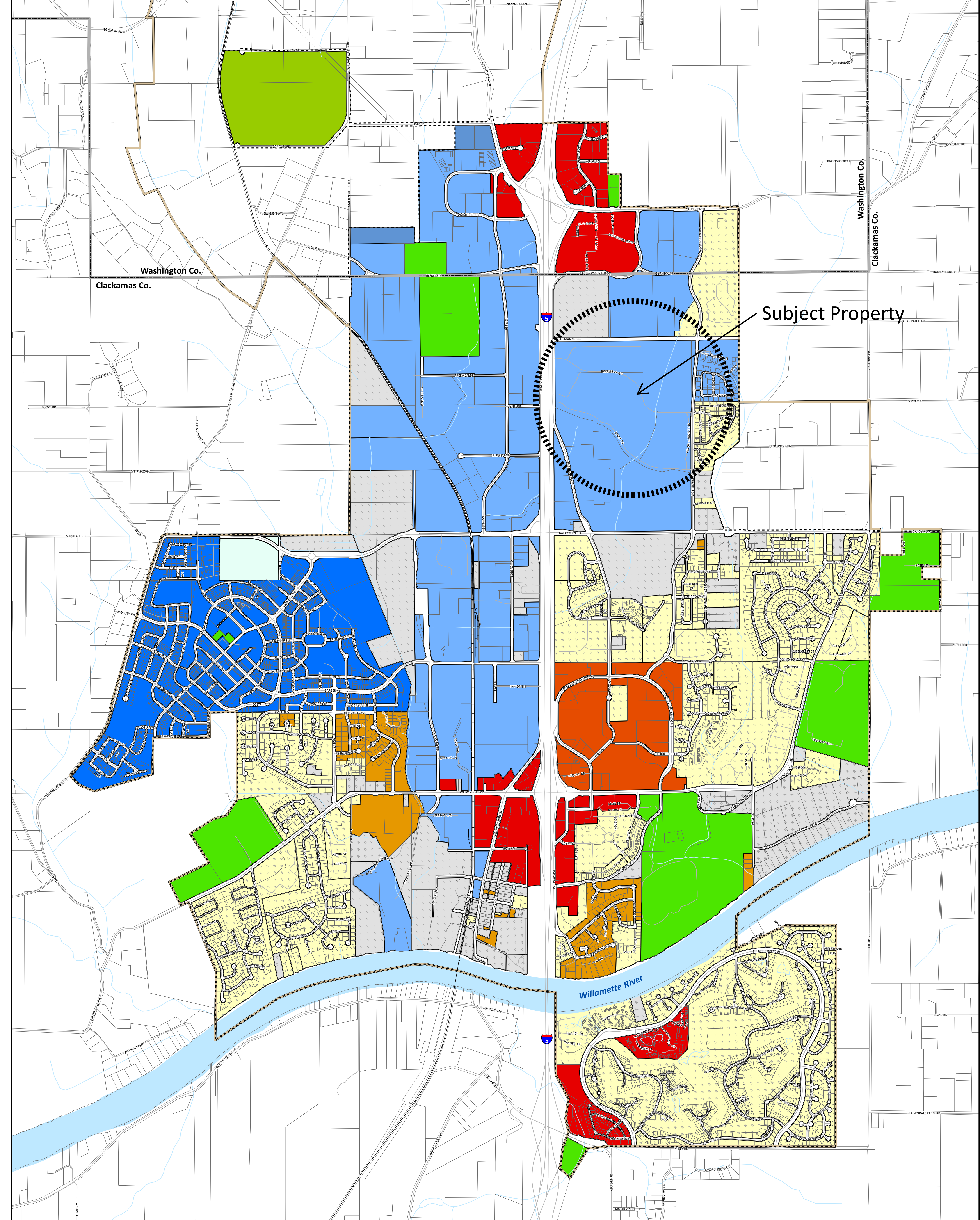
- Commercial
- Industrial
- Public
- Residential 0-1 dwelling units per acre
- Residential 2-3 dwelling units per acre
- Residential 4-5 dwelling units per acre
- Residential 6-7 dwelling units per acre
- Residential 10-12 dwelling units per acre
- Residential 16-20 dwelling units per acre
- Residential Neighborhood
- Town Center
- Village

- County Boundary
- City Boundary
- Urban Growth Boundary
- Taxlots
- Willamette River Greenway

This map is to be used in conjunction with written text provided in the Wilsonville Comprehensive Plan. When interpreting the intent of the Plan, the text supersedes the map in the event of a conflict.



Disclaimer: The City of Wilsonville makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. Data errors and omissions may exist in map and report. This map is not suitable for legal, engineering, or surveying purposes. Please contact the City of Wilsonville Planning Division to verify report information is complete and accurate.



# Zoning Map



0 0.5 Mile

June 5, 2017

## Zoning Designations

- Residential Agricultural Holding (RA-H)
- Residential (R)
- Planned Development Residential (PDR)
- Village (V)
- Planned Development Commercial (PDC)
- Planned Development Commercial Town Center (PDC-TC)
- Planned Development Industrial (PDI)
- PDI - Regionally Significant Industrial Area (PDI-RSIA)
- Public Facility (PF)
- Public Facility - Corrections (PF-C)
- Exclusive Farm Use (EFU)
- County Boundary
- City Boundary
- Urban Growth Boundary
- Taxlots

Note: Refer to individual overlay zone maps for overlay district boundaries

Disclaimer: The City of Wilsonville makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. Data errors and omissions may exist in map and report. This map is not suitable for legal, engineering, or surveying purposes. Please contact the City of Wilsonville Planning Division to verify report information is complete and accurate.



## Official Zoning Map

Mayor \_\_\_\_\_ Date \_\_\_\_\_  
 City Recorder \_\_\_\_\_ Date \_\_\_\_\_  
 Resolution Number: \_\_\_\_\_





29799 SW Town Center Loop East  
Wilsonville OR 97070  
Phone: 503.682.4960 Fax: 503.682.7025  
Web: [www.ci.wilsonville.or.us](http://www.ci.wilsonville.or.us)

Planning Division  
Pre-Application Meeting Request

File No. \_\_\_\_\_

Note: Pre-application meeting will not be scheduled until the Planning Division staff receives the required fee and plans

Property Owner:

Name: Matt Morvai, Vice President| Asset Mgt.

Company: Scanlan Kemper Bard

Mailing Address: 26600 SW Parkway Ave.

City, State, Zip: Wilsonville, OR 97070

Phone: 503.783.6260 Fax: \_\_\_\_\_

E-mail: mmorvai@skbcos.com

Authorized Representative:

Name: Brady Berry, PE

Company: Atwell, LLC

Mailing Address: 9755 SW Barnes Rd., Ste 150

City, State, Zip: Portland, OR 97225

Phone: 503.444.1391 Fax: \_\_\_\_\_

E-mail: bberry@atwell-group.com

Property Owner's Signature (Required):

Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_

Property Description

Property Address (if available): 26600 SW Parkway Ave., Wilsonville, OR 97070

Location Description (if address not available): Located on Parkway Avenue between SW Printer Drive & SW Xerox Dr.

Legal Description: T3S-R1W Map 31W12 Tax Lot(s) 00511 County:  Clackamas/  Washington

Project Type:

Residential  Commercial  Industrial  Other: \_\_\_\_\_

Project Description:

1. The project is to re-purpose the existing building to accommodate additional industrial uses within the existing structure. The pad sites will not be fully developed as part of this application and therefore a waiver from traffic study requirement is being requested.
2. The property will be prepared for an eventual partition plat for the parallelization of the property into three lots and a natural area tract. A tentative plat application is anticipated with the application package.
3. Parking will be expanded and reconfigured to accommodate the building modifications and for more efficient parking to support existing and proposed uses.
4. In order to accommodate the proposed re-development there will be significant existing tree removal and mitigation on site. A Tree Plan C application is anticipated with the application package. The dedication of the sensitive area tract in the NE corner of the property as part of the partition is intended to provide mitigation for the tree removal and the mechanism for this will be discussed.
5. Surface water improvements are envisioned as part of the site reconfiguration to current City standards.

Ent	Name	Acct No	Invoice	Date	Customer #	Reference	Amount	Disc.	Net
PKWP	Parkway Woods Bus	135-2000-00	FEE-0120	1/27/2020		Permit/SDC Fee	862.00	0.00	862.00

Payor: Parkway Woods Business Park, LLC      Date: 1/28/2020      Check No.: 002969      Check Amount: 862.00  
 Payee: City of Wilsonville

Retain this statement for your records

Ent	Name	Acct No	Invoice	Date	Customer #	Reference	Amount	Disc.	Net
PKWP	Parkway Woods Bus	135-2000-00	FEE-0120	1/27/2020		Permit/SDC Fee	862.00	0.00	862.00

Payor: Parkway Woods Business Park, LLC      Date: 1/28/2020      Check No.: 002969      Check Amount: 862.00  
 Payee: City of Wilsonville

Retain this statement for your records

THIS CHECK IS VOID WITHOUT A BLUE & GREEN BACKGROUND AND AN ARTIFICIAL WATERMARK ON THE BACK - HOLD AT AN ANGLE TO VIEW

Parkway Woods Business Park, LLC  
 222 SW Columbia St. Suite 700  
 Portland, OR 97201

KeyBank  
 1222 SW 6th Ave, Ste 200  
 Portland, OR 97204

24-201  
 1230

Date  
 1/28/2020

Check No.  
 002969

Check Amount  
 \$ 862.00

Eight Hundred Sixty Two AND 00/100 Dollars

Pay to the order of:

CITY OF WILSONVILLE  
 PO Box 5310  
 Portland, OR 97228

VOID IF NOT CASHED WITHIN 90 DAYS WITHIN DATE OF ISSUE

*[Signature]*

SIGNATURE HAS A COLORED BACKGROUND - BORDER CONTAINS MICROPRINTING

⑈002969⑈ ⑆12300201⑆ 379681089452⑈

Job No. 98728

Form 905-BG





Owner:  
**Scanlan  
Kemper  
Bard**

26000 S.W. Parkway Ave  
Wilsonville, Oregon 97170

Project:  
**Parkway Woods  
Improvement**

Wilsonville, Oregon 97170

Sheet Title:  
**Proposed Plan**

Revisions:

DATE: 10/22/2024  
DRAWN BY: JLD  
CHECKED BY: JLD  
DATE: 10/22/2024  
DRAWN BY: JLD  
CHECKED BY: JLD  
DATE: 10/22/2024  
DRAWN BY: JLD  
CHECKED BY: JLD

Date:  
Drawn by: JLD  
Checked by: JLD  
T.A. Number: 114142  
Sheet

A3







29799 SW Town Center Loop East  
Wilsonville OR 97070  
Phone: 503.682.4960 Fax: 503.682.7025  
Web: [www.ci.wilsonville.or.us](http://www.ci.wilsonville.or.us)

## Planning Division Pre-Application Meeting Request

File No. \_\_\_\_\_

Note: Pre-application meeting will not be scheduled until the Planning Division staff receives the required fee and plans

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Phone: 503.444.1391 Fax: \_\_\_\_\_

E-mail: bberry@atwell-group.com

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Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_

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5. Surface water improvements are envisioned as part of the site reconfiguration to current City standards.

## Kevin Apperson

---

**From:** Matt Morvai <mmorvai@skbcos.com>  
**Sent:** Wednesday, February 26, 2020 8:30 AM  
**To:** John Olivier; Dixon Hinderaker; Brian Hughes-Cromwick; Tom Howes; Brady Berry; Hal Kever; Tuan Q Luu; Chris McLaughlin; Kevin Apperson  
**Cc:** Corky Kendall; Randy Weston; Tom Bain; James V. Paul  
**Subject:** FW: pre-app follow-up information - 26600 SW Parkway Ave  
**Attachments:** Plan Set.docx; Reports and Other Documents.docx

MATT MORVAI | VICE PRESIDENT | ASSET MANAGEMENT



### SCANLANKEMPERBARD

26600 SW PARKWAY AVE, WILSONVILLE, OR 97070  
503.783.6260 DIRECT 916.834.3818 CELL

[MMORVAI@SKBCOS.COM](mailto:MMORVAI@SKBCOS.COM) [SKBCOS.COM](http://SKBCOS.COM) [VCARD](#)

---

**From:** Rybold, Kim <rybold@ci.wilsonville.or.us>  
**Sent:** Tuesday, February 25, 2020 1:43 PM  
**To:** bberry@atwell-group.com; Matt Morvai <mmorvai@skbcos.com>  
**Subject:** pre-app follow-up information - 26600 SW Parkway Ave

Good afternoon,  
Thank you for taking the time to discuss your project with us last week. I am writing to follow up with additional information as we discussed during the pre-application meeting. Please forward this information to other members of your project team as appropriate.

An audio recording of the meeting, along with the Engineering Division's pre-application meeting notes, can be found here: <https://app.box.com/s/qxck2naiwk6fs29no13x5njd34z9457b>

As you look at what you need to submit for land use review the following list will aid you in what to submit and what code criteria to respond to in your project narrative. If you have further questions of what a project narrative should look like or what to submit please don't hesitate to contact a planner and ask. You can access the City's Development Code in pdf and Microsoft Word document formats at <https://www.ci.wilsonville.or.us/planning/page/development-code>. Please keep in mind the burden to show compliance with applicable City standards falls on the applicant (see Wilsonville Code 4.014). For planned development proposals Wilsonville Code requires a professional design team including, but not limited to, a registered architect, a registered landscape architect, a certified planner or planner with extensive experience talking projects through public review processes, and a professional engineer. We have found it typically difficult for applicants to prepare a complete and satisfactory application without this full team of professionals.

As a reminder the land use review process is separate from and occurs prior to building and other construction permitting. We do allow for some concurrent review of building permits, but do not submit building permits prior to your land use application being complete and a public hearing being scheduled. Building permits cannot be issued until the land use decision is final after the conclusion of the local



appeal period. For more information on other steps in the development process subsequent to the land use review visit our [Development Process Guidelines page](#).

This email includes 5 sections:

1. [Land Use Review Steps](#)
2. [Anticipated/Potential Land Use Applications for Project](#)
3. [Submittal Requirements](#)
4. [Applicable Development Code Sections](#)
5. [Other Specific Concerns/Discussion Items for Project](#)

1. [Land Use Review Steps](#)

Land use review has a number of steps as follows:

Step 1. Submittal (see Section 3 and attached checklist for more details on submittal requirements): Applicant submits application including:

- Signed application form
- All land use application fees
- 3 paper copies, and 1 electronic copy in flattened pdf format on CD, DVD, flash drive, or via file storage site or email of the following:
  - o Project narrative (please include in MS Word document format in addition to pdf)
  - o Full size, and reduced (11X17 or smaller) set of plans related to land use review
  - o Reports such as arborist report, stormwater drainage report, traffic report

Step 2. Initial City Review "Completeness Review": The assigned Wilsonville planner reviews the application to determine if all materials required to review the application are submitted. We call this step "completeness review." It concludes with a determination of whether the submitted application package is "complete" or "incomplete." The applicant will be notified by letter about the determination. If the determination is "incomplete" the letter includes the specific items needed to make the application "complete." If application is "complete" the next step is Step 6.

Step 3. Indication of Intention for Incomplete Applications: If the application is "incomplete" the applicant either indicates whether they intend to submit the items identified in the "incompleteness letter." This is done by signing and returning a page enclosed with the "incompleteness letter." If the applicant refuses to submit additional materials the application will proceed to step 6, noting that failure to provide sufficient information can be grounds for denying an application.

Step 4. Applicant Prepares Additional Request Materials and Resubmits Application: If the application is "incomplete" and the applicant intends to address the items identified in the "incompleteness letter" the applicant prepares the identified items. Once the applicant prepares all the items they resubmit the application as identified in Step 1. Occasionally if the additional materials are minor the previous submittal package can be supplemented or pages switched out. In most cases complete new copies of the entire submittal package will be submitted.

Step 5. City Reviews Resubmitted Package "2nd Completeness Review." The assigned Wilsonville planner reviews the revised application to determine if all materials required to review the application are submitted. A determination of "complete" or "incomplete" will again occur with the corresponding letter being sent to the applicant.

Step 6. Hearing Scheduled, City Staff Prepares Report, Public Notice and Comment Period. Once the application is "complete" the project is scheduled for a hearing before one of two Development Review Board panels. The hearing is typically scheduled 30-45 days from when the application is deemed "complete." Twenty days prior to the hearing the Assigned Planner sends out a Public Hearing Notice soliciting comments from the public. The Assigned Planner also solicits comments and conditions of approval from various City Departments and Divisions as well as partner agencies and service providers such as TVF&R, NW Natural, and Republic Services (franchise waste collector). One week prior to the hearing a Staff Report is published for public review.

Step 7. Public Hearing. Development Review Board (DRB) public hearings are typically 6:30 p.m. on the 2nd and 4th Monday of the month at Wilsonville City Hall. The public hearing typically follows the following format:

- The Assigned Planner presents their report to the DRB often with support from Engineering and Natural Resource staff and answers the Board's questions. The staff presentation typically thoroughly describes the project including layout, design, and impacts.
- The applicant is given the opportunity to present. The applicant can say as little as they want, but the DRB typically prefers some description and explanation of the motivation behind and goals of the project adding color to staff's description of the project. The DRB can ask questions of the applicant.
- Others in attendance can testify, the DRB can ask questions of them.
- The applicant gets an opportunity to rebut any testimony
- After all testimony and questioning the DRB chair closes the Public Hearing.
- A DRB member makes a motion
- DRB discussion and deliberation
- DRB decision

Step 8. Notice of Decision and Appeal Period. Typically the next day a Notice of Decision is sent by the City. In most cases this includes a form accepting the conditions of approval the applicant must sign and return. The Notice of Decision includes notification of the 14-day appeal period from the date the decision is mailed.

Step 9. If the appeal period lapses with no appeal and the form accepting conditions of approval is signed and returned, construction permits consistent the DRB approval can then be processed and issued.

## 2. Anticipated/Potential Land Use Applications for Project

- Stage II Final Plan Revision
- Site Design Review
- Master Sign Plan
- Type C Tree Removal and Protection Plan
- Tentative Plat Partition (can be submitted at a later date for administrative review)
- SROZ Map Verification (possible, pending further coordination with the City's Natural Resources Manager)

## 3. Submittal Requirements (can use as a checklist)

We have tried to make this as complete as possible, and may not include everything required.

The submittal package needs to include:

1. An [application form](#) signed by the property owner
2. All applicable planning application fees
3. A project narrative Including the following sections (paper copy, pdf, and ms word):
  - a. Summary of Proposal (1-2 pages typically) including key numbers (i.e. acreage, square feet of buildings, number of units, etc.)
  - b. Background Information (1-2 pages typically)
  - c. Discussion of key issues or discussion items (1-2 pages), include discussion of any neighborhood outreach
  - d. Response Findings to Code Criteria (numerous pages), in the following basic format:
    - Code Criteria Reference and Language
    - Response (from applicant): The written response needs to be specific and clear. It needs to go beyond saying a criteria is met to clearly and specifically explaining how it is met. As an example, if the criteria is "Parking standards shown in Table A shall be met," the response should state, "the proposal provides 52 parking spaces, 2 more than the 50 parking spaces required. See parking layout on the site plan, Exhibit B2" not something unspecific like "the proposal provides sufficient parking".
4. Plan set including the information in the attached "Plan Set Submittal Checklist": (you can use the sheet reference field to write in a reference to where the information is).

5. Other reports and documents (traffic report, arborist report, etc.). Include in notebook or packet with narrative. A checklist of requirement documents is attached as "Reports and Other Documents Checklist".

4. Applicable Development Code Sections

These are the applicable code sections to consider in preparing your narrative and designing your site. For the most part it does not include code sections related to procedures. The code can be accessed online by following [this link](#).

**Industrial Development Standards and Industrial Zoning**

- Planned Development Residential (PDI) Zones and Industrial Standards: Sections 4.117 and 4.135

**Planned Development Standards and Regulations for all Planned Development (PD) Zones**

- Standards applying to all Planned Development (PD) Zones: Section 4.118
- Planned Development Regulations: Section 4.140

**Overlay Zones**

- Significant Resource Overlay Zone (SROZ) Ordinance: Section 4.139 through 4.139.11

**General Development Regulations and Standards**

- On-Site Pedestrian Access and Circulation: Section 4.154
- Parking, Loading, and Bicycle Parking: Section 4.155
- Protection of Natural and Other Features: Section 4.171
- Public Safety and Crime Prevention: 4.175
- Landscaping, Screening, and Buffering: Section 4.176
- Street Improvement Standards: Section 4.177
- Mixed Solid Waste and Recycling: Section 4.179
- Outdoor Lighting: Sections 4.199 through 4.199.60
- Underground Utilities: Sections 4.300 through 4.320

**Site Design Review (Detailed Review of Architecture, Landscaping, Signs and other Design Elements)**

- Site Design Review: Sections 4.400 through 4.450

**Signs**

- Signs: Sections 4.156.01 through 4.156.11

**Tree Removal**

- Tree Preservation and Protection: Sections 4.600 through 4.640.20

**Definitions of Terms**

- Definitions of Terms: Section 4.001

5. Other Specific Concerns/Discussion Items for Project

Concurrent Review of Applications: As was noted during the pre-application meeting, applications are typically submitted as one package and go through the steps of land use review concurrently. If

the applicant chooses to pursue the tentative partition plat at a later date, this would be reviewed as Class II administrative review.

SROZ Map Verification: At the pre-application meeting, staff noted that it would be beneficial to examine the existing SROZ boundary and if any modifications are warranted based on existing site conditions. As you refine your plans for this site, please coordinate with Kerry Rappold ([rappold@ci.wilsonville.or.us](mailto:rappold@ci.wilsonville.or.us), 503-570-1570), the City's Natural Resources Manager, to determine what information is needed to make this determination.

Type C Tree Removal Plan: As discussed at the pre-application meeting, the City's Tree Code notes that tree preservation and conservation as a design principle shall be equal in concern and importance to other design principles. Preservation and conservation of wooded areas and trees shall be given careful consideration when there are feasible and reasonable location alternatives and design options on-site for proposed buildings, structures or other site improvements. As you review your arborist report and refine your site plan, it will be critical to ensure that your project narrative and site plan addresses these Code criteria adequately.

Please contact me if you have any further questions about this information.

Thank you,

**Kimberly Rybold, AICP**  
Senior Planner  
City of Wilsonville

503.570.1583  
[rybold@ci.wilsonville.or.us](mailto:rybold@ci.wilsonville.or.us)  
[www.ci.wilsonville.or.us](http://www.ci.wilsonville.or.us)



29799 SW Town Center Loop East, Wilsonville, OR 97070

*Disclosure Notice: Messages to and from this e-mail address may be subject to the Oregon Public Records Law.*

**External Email: Do not click any links or open any attachments unless you trust the sender and know the content is safe.**

General			Reference
	Proof the property affected is in the exclusive ownership of the application or the applicant has the consent of all individuals or partners in ownership of affected property	4.035 (.04)	
	Legal description of affected property (map and taxlot, address if available)	4.035 (.04)	
	Correspondence showing coordination with franchise garbage hauler of adequate trash and recycling storage area for planned containers and access for collection.	4.179 (.07)	
Stage II Final Plan			Reference
	Traffic Report/Waiver	4.140 (.09)	
	Soils and Drainage Report		
	Draft copies of legal documents including easements, dedications, CC&R's.	4.140 (.09)	
Site Design Review			Reference
	Color board displaying specifications as to type, color, and texture of exterior surfaces of proposed structures.		
	Outdoor Lighting (as applicable)	4.199.50 (.01)	
	All conformance methods	4.199.50 (.01)	
	For each luminaire type all of the following:	4.199.50 (.01)	
	Drawings, cut sheets or other documents containing:	4.199.50 (.01)	
	Luminaire description	4.199.50 (.01)	
	Mounting method	4.199.50 (.01)	
	Mounting height	4.199.50 (.01)	
	Lamp type and manufacturer	4.199.50 (.01)	
	Lamp watts	4.199.50 (.01)	
	Ballast	4.199.50 (.01)	
	Optical system/distribution	4.199.50 (.01)	
	Accessories such as shields	4.199.50 (.01)	
	Calculations demonstrating compliance with Oregon Energy Efficiency Specialty Code, Exterior Lighting	4.199.50 (.01)	
Tree Plan			
	Arborist Report	4.610.40 (.02)	

General, Including Site Plan		WC	Sheet Reference
	1. On-site and immediately adjacent features:		
	a. Streets	4.035(.04)	
	b. Private drives	4.035(.04)	
	c. Sidewalks and pathways	4.035(.04)	
	d. Off-street parking, including location and dimensions of each space	4.035(.04)	
	e. Loading areas, including location and dimensions of each berth	4.035(.04)	
	f. Direction of traffic flow into and out of off-street parking and loading areas	4.035(.04)	
	g. Turning and maneuvering areas	4.035(.04)	
	h. Garbage and recycling storage areas	4.035(.04) 4.179 (.01)	
	i. Power lines	4.035(.04)	
	j. Utility services, including sanitary sewer, water, and storm drainage	4.035(.04)	
	k. Location and dimension of all structures, primary and accessory	4.035(.04)	
	l. Utilization of structures	4.035(.04)	
	m. Tabulation of land area, in square feet, devoted to various uses such as building area (gross and net rentable), parking and paving coverage, landscaped area coverage.	4.035(.04)	
	n. Major existing landscape features including trees to be saved	4.035(.04)	
	2. Off-site features		
	a. Distance of subject property to any structures on adjacent properties	4.035(.04)	
	b. Location and uses of streets, private drives, and driveways on adjacent properties.	4.035(.04)	
	3. Grading Plan	4.035(.04)	
	a. Existing and proposed contours and other topographic information sufficient to determine direction and percentage of slopes and drainage patterns. Additional topographic information needed for environmentally sensitive areas (See WC 4.035 (.04) A. 6. f.)	4.035(.04)	
Stage II Final Plan			Sheet Reference
	1. Preliminary building elevations (not needed if building elevations are being submitted and reviewed concurrently for Site Design Review)	4.140(.09)	

	2. Preliminary landscaping plans (not needed if detailed landscape plans are being submitted and reviewed concurrently for Site Design Review)	4.140(.09)	
	3. General type and location of signs (not needed if sign plan/permit is being submitted and reviewed concurrently)	4.140(.09)	
Site Design Review			Sheet Reference
	1. Location and design of fences, walls	4.440(.01)	
	2. Landscape Plan		
	a. Location and design of landscape areas	4.440(.01)	
	b. Number and placement of trees and plant materials		
	c. The variety of trees and plant materials listed by scientific and common name	4.440 (.01) 4.176 (.09)	
	d. The size of trees and plant materials	4.440(.01)	
	e. Information, including condition, size and variety, of trees or other plant material being retained on the site	4.440(.01) 4.176 (.09)	
	f. Indication of water consumption categories (high, moderate, low, and interim or unique) See WC 4.176 (.09) A.-D.	4.440(.01) 4.176 (.09)	
	3. Tree survey showing all trees 4" or greater in caliper. Large area of trees being undisturbed only need the perimeter of the area shown.	4.440(.01)	
	4. Architectural drawings and sketches of all building and structures		
	a. Floor plans	4.440(.01)	
	b. All elevations of proposed structures and other improvements	4.440(.01)	
	c. Details of outdoor site furnishings (benches, outdoor tables, garbage cans, lighting, etc.)	4.440(.01)	
	5. Sign Plan, drawn to scale, showing the location, size, design, material, color and methods of illumination of all exterior signs	4.440(.01)	
	6. Outdoor Lighting (as applicable):		
	a. All conformance methods:		
	i. Site lighting plan		
	ii. Intended lighting by type and location		
	iii. Aiming angles for adjustable luminaires		
Sign Plan			Sheet Reference
	1. Sign drawings or descriptions of all materials, sign area and dimensions used to calculate areas,	4.156.02(.05)	

	lighting methods, and other details sufficient to judge the full scale of the signs and related improvements;		
	2. Documentation of the lengths of building or tenant space facades used in calculating maximum allowed sign area;	4.156.02(.05)	
	3. Drawings of all building facades on which signs are proposed indicating the areas of the facades on which signs will be allowed;	4.156.02(.05)	
Tree Plan			Sheet Reference
	1. Topographical information (same as provided on other sheets)	4.610.40(.02)	
	2. Shape and dimensions of the property	4.610.40(.02)	
	3. Location of existing and proposed structures or improvements	4.610.40(.02)	
	4. Location of each tree 6" or greater d.b.h. likely to be impacted	4.610.40(.02)	
	5. Spread and canopy of each tree (may be by numerical reference to list in arborist report)	4.610.40(.02)	
	6. Common and botanical name of each tree	4.610.40(.02)	
	7. Description of health and condition of each tree	4.610.40(.02)	
	8. Approximate location and name of any other trees on property	4.610.40(.02)	
	9. Where a stand of 20 or more contiguous trees exist on a site and the applicant does not propose to remove any of those trees, the required tree survey may be simplified to accurately show only the perimeter area of that stand of trees, including its drip line.	4.610.40(.02)	
	10. Show all Oregon white oak, native yews, and any species listed by either the state or federal government as rare or endangered.	4.610.40(.02)	
	11. Location and dimension of existing and proposed easements	4.610.40(.02)	
	12. Setbacks required by existing zoning requirements	4.610.40(.02)	
	13. Grade changes proposed that may impact trees	4.610.40(.02)	
	14. Tree Protection Plan	4.610.40(.02)	
Tentative Partition Plat			Sheet Reference
	1. Name of Subdivision (as applicable)	4.210(.01)	
	2. Date, north point and scale of drawing	4.210(.01)	
	3. Location by Section, Township, and Range	4.210(.01)	



4. Legal road access	4.210(.01)	
5. Vicinity map showing relationship to nearest major highway or street	4.210(.01)	
6. Dimensions of all lots or parcels, edge dimensions and area	4.210(.01)	
7. Minimum lot size	4.210(.01)	
8. Average lot size	4.210(.01)	
9. Proposed lot and block numbers	4.210(.01)	
10. Gross acreage in plat	4.210(.01)	
11. Proposed uses of the property	4.210(.01)	
12. Information on improvements including streets, private drives, sidewalks, lighting, tree planting	4.210(.01)	
13. Information on times improvements will be made and completed.	4.210(.01)	
14. Location, type, sizes, and general condition of all existing trees	4.210(.01)	
15. Location of existing and proposed Utilities such as electrical, gas, telephone, on and abutting the tract	4.210(.01)	
a. Domestic water	4.210(.01)	
b. Irrigation water service	4.210(.01)	
c. Sanitary sewer	4.210(.01)	
d. Stormwater drainage and sewer	4.210(.01)	
e. Electrical	4.210(.01)	
f. Gas	4.210(.01)	
g. Telephone	4.210(.01)	
h. Etc.	4.210(.01)	
16. Easement information, including approximate width, location, and purpose of all existing and proposed easement on, and known easements abutting the tract.	4.210(.01)	
17. Outline of deed restrictions, if any.	4.210(.01)	
18. Indication of areas subject to flooding consistent with Flood Plain Regulations (WC 4.172)	4.210(.01)	
19. Outline of areas in the SROZ (Significant Resource Overlay Zone)	4.210(.01)	
20. Outline of wetlands	4.210(.01)	



29799 SW Town Center Loop E  
Wilsonville, Oregon 97070  
(503) 682-1011  
(503) 682-1015 Fax Administration  
(503) 682-7025 Fax Community Development

July 7, 2016

Natsumi Shakhman  
Scanlan Kemper Bard  
810 NW Marshall Street, Suite 300  
Portland OR 97209

Re: Case File AR16-0037

Dear Ms. Shakhman:

Enclosed you will find the Administrative Review and Decision on your request for the partition of the Parkway Woods property. Please be advised that the decision is not final and effective until the appeal period, as spelled out on the attached Notice of Decision page, has passed. Enclosed is a sign-off sheet accepting Conditions of Approval for you to sign and return. Please call us if you have any questions.

Sincerely,

Shelley White  
Administrative Assistant

cc via email:

Li Alligood, AICP  
OTAK, Inc.

Dirk Otis  
Stratus Real Estate Developers



July 7, 2016

## **Notice of Administrative Decision**

**Project Name:** 2-Parcel Partition 26440 and 26600 SW Parkway Avenue

**Case File No.:** AR16-0037

**Applicant/Owner:** Natsumi Shakhman, Scanlan Kemper Bard

### **Applicant's**

**Representative:** Li Alligood AICP, OTAK Inc.

**Location:** 26440 and 26600 SW Parkway Avenue

**Request:** Class II Administrative Review of a Tentative Partition Plat to divide a 113-acre industrial property into 2 parcels.

On July 7, 2016 an administrative decision was rendered, granting approval with conditions on the above-referenced applications:

The written decision is on file in the planning division. A copy of the applications, all documents and evidence submitted by or on behalf of the applicant and applicable criteria are available for inspection at no cost and will be provided at \$.25 per page at the Wilsonville Planning Division, 29799 SW Town Center Loop E., Wilsonville OR, 97070.

Section 4.022(.01) of the Wilsonville Code provides that this decision may be appealed by any person who is entitled to written notice or who is adversely aggrieved. Appeal is processed under Wilsonville Code 4.022.

Note: Any appeal must be filed with the City Recorder within fourteen (14) calendar days of the notice of the decision. The notice of appeal shall be in writing and indicate the specific issue(s) being appealed and the reason(s) therefore. Should you require further information, please contact Daniel Pauly AICP, Associate Planner, with the City Planning Division at 503-682-4960. Last day to appeal: 4:00 P.M. on July 21, 2016.

For more information, contact the Wilsonville Planning Division at 503-682-4960

Exhibit A1  
Staff Report  
Wilsonville Planning Division  
Administrative Review and Decision

**Date of Report:** July 7, 2016

**Application Nos.:** AR16-0037 Tentative Partition Plat Parkway Woods-2016

**Request/Approval:** The Planning Director is reviewing a Tentative Partition Plat to divide a 113-acre industrial property into 2 parcels.

**Location:** Between Parkway Avenue and Canyon Creek Road North at Printer Parkway The property is specifically known as Tax Lots 511 and 581, Section 12, Township 3 South, Range 1 West, Willamette Meridian, City of Wilsonville, Clackamas County, Oregon

**Owner/Applicant:** Natsumi Shakhman  
Scanlan Kemper Bard

**Applicant's**

**Representative:** Li Alligood, AICP  
OTAK, Inc.

**Comprehensive Plan Designation:** Industrial

**Zone Map Classification:** PDI (Planned Development Industrial)

**Staff Reviewers:** Daniel Pauly AICP, Associate Planner  
Steve Adams PE, Development Engineering Manager

**Action Taken:** Approval with conditions of the requested Land Partition.

**Applicable Review Criteria:**

<u>Development Code:</u>	
Section 4.008	Application Procedures-In General
Section 4.009	Who May Initiate Application
Section 4.010	How to Apply
Section 4.011	How Applications are Processed
Section 4.014	Burden of Proof
Section 4.031	Authority of the Development Review Board
Subsection 4.035 (.04)	Site Development Permit Application
Subsection 4.035 (.05)	Complete Submittal Requirement
Section 4.110	Zones
Section 4.118	Standards Applying to Planned Development Zones
Section 4.135	Planned Development Industrial Zone

Sections 4.139.00 through 4.139.11	Significant Resource Overlay Zone (SROZ)
Section 4.140	Planned Development Regulations
Sections 4.200 through 4.220	Land Partitions

## Vicinity Map



## Master Exhibit List:

The following exhibits are hereby entered into the public record by the Development Review Board as confirmation of its consideration of the application as submitted. This is the exhibit list that includes exhibits for Planning Case File AR16-0037.

### Planning Staff Materials

**A1.** Staff report and findings (this document)

### Materials from Applicant

**B1.** Applicant's Narrative and Submitted Materials

**B2.** Drawings

Existing Conditions

Proposed Partition Plat

Overall Site Plan

Development Review Team Correspondence and Engineering Staff Materials

Engineering Division

C1. Public Works Plan Submittal Requirements and Other Engineering Requirements

**Procedural Statements and Background Information:**

1. The statutory 120-day time limit applies to this application. The application was received on June 1, 2016. On June 13, 2016 the application was deemed complete. The City must render a final decision for the request, including any appeals, by October 11, 2016.
2. Surrounding land uses are as follows:

Compass Direction	Zone:	Existing Use:
North:	PDI/RA-H	Industrial/Vacant
East:	PDI/PDR-5	Canyon Creek Road North/Single-family residential
South:	PDI	Industrial
West:	--	Parkway Avenue, Interstate 5

3. Previous Planning Approvals:  
74RZ03 Zone Change from RA-1 to Industrial-Tektronix  
74DR08 Tektronix  
77DR02 Tektronix Addition  
78DR05 Tektronix-Site development and architectural plans  
79DR35 Tektronix-Building 83 for materials storage and handling  
80DR22 Final site plan for Building 83  
88AR40 Divide Tektronix campus into 2 Parcels  
AR15-0031 Xerox Campus Partition
4. The applicant has complied with Sections 4.013-4.031 of the Wilsonville Code, said sections pertaining to review procedures and submittal requirements. The required public notices have been sent and all proper notification procedures have been satisfied.

## Findings:

NOTE: Pursuant to Section 4.014 the burden of proving that the necessary findings of fact can be made for approval of any land use or development application rests with the applicant in the case.

### General Information

#### Application Procedures-In General

Section 4.008

**Review Criteria:** This section lists general application procedures applicable to a number of types of land use applications and also lists unique features of Wilsonville's development review process.

**Finding:** These criteria are met.

**Details of Finding:** The application is being processed in accordance with the applicable general procedures of this Section.

#### Initiating Application

Section 4.009

**Review Criterion:** "Except for a Specific Area Plan (SAP), applications involving specific sites may be filed only by the owner of the subject property, by a unit of government that is in the process of acquiring the property, or by an agent who has been authorized by the owner, in writing, to apply."

**Finding:** This criterion is satisfied.

**Details of Finding:** The application has been submitted on behalf of the property owner, and is signed by an authorized representative.

#### Pre-Application Conference

Subsection 4.010 (.02)

**Review Criteria:** This section lists the pre-application process

**Finding:** These criteria are satisfied.

**Details of Finding:** A pre-application conferences were held on February 28, 2016 (PA16-0001) in accordance with this subsection.

#### Lien Payment before Approval

Subsection 4.011 (.02) B.

**Review Criterion:** "City Council Resolution No. 796 precludes the approval of any development application without the prior payment of all applicable City liens for the subject property. Applicants shall be encouraged to contact the City Finance Department to verify that there are no outstanding liens. If the Planning Director is advised of outstanding liens while an application is under consideration, the Director shall advise the applicant that payments must be made current or the existence of liens will necessitate denial of the application."

**Finding:** This criterion is satisfied.

**Details of Finding:** No applicable liens exist for the subject property. The application can thus move forward.

General Submission Requirements  
Subsection 4.035 (.04) A.

**Review Criteria:** "An application for a Site Development Permit shall consist of the materials specified as follows, plus any other materials required by this Code." Listed 1. through 6. j.

**Finding:** These criteria are satisfied.

**Details of Finding:** The applicant has provided all of the applicable general submission requirements contained in this subsection.

Zoning-Generally  
Section 4.110

**Review Criteria:** "The use of any building or premises or the construction of any development shall be in conformity with the regulations set forth in this Code for each Zoning District in which it is located, except as provided in Sections 4.189 through 4.192." "The General Regulations listed in Sections 4.150 through 4.199 shall apply to all zones unless the text indicates otherwise."

**Finding:** These criteria are satisfied.

**Details of Finding:** This proposed development is in conformity with the applicable zoning district and general development regulations listed in Sections 4.150 through 4.199 have been applied in accordance with this Section.

**Request: AR16-0037 Tentative Partition Plat**

**Land Division Authorization**

Plat Review Authority  
Subsection 4.202 (.01) through (.03)

- Review Criteria:** "Pursuant to ORS Chapter 92, plans and plats must be approved by the Planning Director or Development Review Board (Board), as specified in Sections 4.030 and 4.031, before a plat for any land division may be filed in the county recording office for any land within the boundaries of the City, except that the Planning Director shall have authority to approve a final plat that is found to be substantially consistent with the tentative plat approved by the Board.

The Development Review Board and Planning Director shall be given all the powers and duties with respect to procedures and action on tentative and final plans, plats and maps of land divisions specified in Oregon Revised Statutes and by this Code.

Approval by the Development Review Board or Planning Director of divisions of land within the boundaries of the City, other than statutory subdivisions, is hereby required by virtue of the authority granted to the City in ORS 92."

**Finding:** These criteria are satisfied.

**Explanation of Finding:** The tentative partition plat is being reviewed by the Planning



Director according to this subsection. The final plat will be reviewed by the Planning Division under the authority of the Planning Director to ensure compliance with the tentative partition plat.

#### Legally Lot Requirement

Subsection 4.202 (.04) A.

- Review Criterion:** "No person shall sell any lot or parcel in any condominium, subdivision, or land partition until a final condominium, subdivision or partition plat has been approved by the Planning Director as set forth in this Code and properly recorded with the appropriate county."

**Finding:** This criterion is satisfied.

**Explanation of Finding:** It is understood that no parcels will be sold or transferred until the final plat has been approved by the Planning Director and recorded.

#### Undersized Lots Prohibited

Subsection 4.202 (.04) B.

- Review Criterion:** "It shall be a violation of this Code to divide a tract of land into a parcel smaller than the lot size required in the Zoning Sections of this Code unless specifically approved by the Development Review Board or City Council. No conveyance of any portion of a lot, for other than a public use, shall leave a structure on the remainder of the lot with less than the minimum lot size, width, depth, frontage, yard or setback requirements, unless specifically authorized through the Variance procedures of Section 4.196 or the waiver provisions of the Planned Development procedures of Section 4.118."

**Finding:** This criterion is satisfied.

**Explanation of Finding:** No parcels will be divided into a size smaller than allowed by the Planned Development Industrial (PDI) Zone designation.

### Plat Application Procedure

#### Pre-Application Conference

Subsection 4.210 (.01)

- Review Criterion:** "Prior to submission of a tentative condominium, partition, or subdivision plat, a person proposing to divide land in the City shall contact the Planning Department to arrange a pre-application conference as set forth in Section 4.010."

**Finding:** This criterion is satisfied.

**Explanation of Finding:** A pre-application conferences were held on February 28, 2016 (PA16-0001) in accordance with this subsection.

#### Tentative Plat Preparation

Subsection 4.210 (.01) A.

- Review Criterion:** "The applicant shall cause to be prepared a tentative plat, together with improvement plans and other supplementary material as specified in this Section. The Tentative Plat shall be prepared by an Oregon licensed professional land surveyor or

engineer. An affidavit of the services of such surveyor or engineer shall be furnished as part of the submittal.”

**Finding:** This criterion is satisfied.

**Explanation of Finding:** The applicant’s Exhibit B2 includes a preliminary partition plat prepared in accordance with this subsection.

#### Tentative Plat Submission

Subsection 4.210 (.01) B.

6. **Review Criteria:** “The design and layout of this plan plat shall meet the guidelines and requirements set forth in this Code. The Tentative Plat shall be submitted to the Planning Department with the following information:” Listed 1. through 26.

**Finding:** These criteria are satisfied.

**Explanation of Finding:** The tentative partition plat has been submitted with the required information.

#### Phases to Be Shown

Subsection 4.210 (.01) D.

7. **Review Criteria:** “Where the applicant intends to develop the land in phases, the schedule of such phasing shall be presented for review at the time of the tentative plat. In acting on an application for tentative plat approval, the Planning Director or Development Review Board may set time limits for the completion of the phasing schedule which, if not met, shall result in an expiration of the tentative plat approval.”

**Finding:** These criteria will be satisfied by Condition of Approval PF 7

**Explanation of Finding:** No phasing for development or improvements to the subject property has been submitted. Due to this uncertainty the City is unsure how improvement responsibilities for different property owners will be handled. Condition of Approval PF 7 ensures appropriate phasing of improvements, including to Parkway Avenue and Printer Parkway, by requiring the property owner to enter into a development agreement with the City establishing the phasing of improvements.

#### Remainder Tracts

Subsection 4.210 (.01) E.

8. **Review Criteria:** “Remainder tracts to be shown as lots or parcels. Tentative plats shall clearly show all affected property as part of the application for land division. All remainder tracts, regardless of size, shall be shown and counted among the parcels or lots of the division.”

**Finding:** These criteria are satisfied.

**Explanation of Finding:** All affected property has been incorporated into the tentative partition plat.

## Street Requirements for Land Divisions

### Adjoining Streets Relationship

Subsection 4.236 (.02)

9. **Review Criteria:** A land division shall provide for the continuation of the principal streets existing in the adjoining area, or of their proper projection when adjoining property is not developed, and shall be of a width not less than the minimum requirements for streets set forth in these regulations. Where, in the opinion of the Planning Director or Development Review Board, topographic conditions make such continuation or conformity impractical, an exception may be made. In cases where the Board or Planning Commission has adopted a plan or plat of a neighborhood or area of which the proposed land division is a part, the subdivision shall conform to such adopted neighborhood or area plan. Where the plat submitted covers only a part of the applicant's tract, a sketch of the prospective future street system of the unsubmitted part shall be furnished and the street system of the part submitted shall be considered in the light of adjustments and connections with the street system of the part not submitted. At any time when an applicant proposes a land division and the Comprehensive Plan would allow for the proposed lots to be further divided, the city may require an arrangement of lots and streets such as to permit a later resubdivision in conformity to the street plans and other requirements specified in these regulations.

**Finding:** These criteria are satisfied.

**Explanation of Finding:** No streets are required or proposed related to the subject partition.

## General Land Division Requirements- Easements

### Utility Line Easements

Subsection 4.237 (.02) A.

10. **Review Criteria:** Utility lines. Easements for sanitary or storm sewers, drainage, water mains, electrical lines or other public utilities shall be dedicated wherever necessary. Easements shall be provided consistent with the City's Public Works Standards, as specified by the City Engineer or Planning Director. All of the public utility lines within and adjacent to the site shall be installed within the public right-of-way or easement; with underground services extending to the private parcel constructed in conformance to the City's Public Works Standards. All franchise utilities shall be installed within a public utility easement. All utilities shall have appropriate easements for construction and maintenance purposes.

**Finding:** These criteria are satisfied.

**Explanation of Finding:** All public utilities will be in the right-of-way or utility easements. Where necessary utility easements are being created on the plat.

Water Course Easements  
Subsection 4.237 (.02) B.

11. **Review Criteria:** "Water courses. Where a land division is traversed by a water course, drainage way, channel or stream, there shall be provided a storm water easement or drainage right-of-way conforming substantially with the lines of the water course, and such further width as will be adequate for the purposes of conveying storm water and allowing for maintenance of the facility or channel. Streets or parkways parallel to water courses may be required."

**Finding:** These criteria are satisfied.

**Explanation of Finding:** No water course easements have been identified to be recorded with the requested partition.

### General Land Division Requirements- Lot Size and Shape

Lot Size and Shape Appropriate  
Subsection 4.237 (.05)

12. **Review Criteria:** "The lot size, width, shape and orientation shall be appropriate for the location of the land division and for the type of development and use contemplated. Lots shall meet the requirements of the zone where they are located."

**Finding:** These criteria are satisfied.

**Explanation of Finding:** Proposed lot sizes, widths, shapes and orientations are appropriate for existing development with potential for additional development meeting standards for the PDI zone.

Lot Size and Shape Meet Zoning Requirements  
Subsection 4.237 (.05)

13. **Review Criteria:** "Lots shall meet the requirements of the zone where they are located."

**Finding:** These criteria are satisfied.

**Explanation of Finding:** Proposed parcels meet the requirements of the PDI zone, where there is no minimum lot size.

On-Site Sewage Disposal  
Subsection 4.237 (.05) A.

14. **Review Criteria:** "In areas that are not served by public sewer, an on-site sewage disposal permit is required from the City. If the soil structure is adverse to on-site sewage disposal, no development shall be permitted until sewer service can be provided."

**Finding:** These criteria are satisfied.

**Explanation of Finding:** The properties are served by public sewer.

Appropriate Commercial and Industrial Lots  
Subsection 4.237 (.05) B.

15. **Review Criteria:** "Where property is zoned or deeded for business or industrial use, other lot widths and areas may be permitted at the discretion of the Development Review Board. Depth and width of properties reserved or laid out for commercial and industrial purposes shall be adequate to provide for the off-street service and parking facilities required by the type of use and development contemplated."  
**Finding:** These criteria are satisfied.  
**Explanation of Finding:** Each parcel retains required parking associated with the buildings on the parcels.

Lot Size and Width for Planned Developments  
Subsection 4.237 (.05) C.

16. **Review Criteria:** "In approving an application for a Planned Development, the Development Review Board may waive the requirements of this section and lot size, shape, and density shall conform to the Planned Development conditions of approval."  
**Finding:** These criteria are satisfied.  
**Explanation of Finding:** No waivers are proposed with the land division.

### General Land Division Requirements- Access

Minimum Street Frontage  
Subsection 4.237 (.06)

17. **Review Criteria:** "The division of land shall be such that each lot shall have a minimum frontage on a street or private drive, as specified in the standards of the relative zoning districts. This minimum frontage requirement shall apply with the following exceptions:"  
**Finding:** These criteria are satisfied.  
**Explanation of Finding:** No lot frontage requirement is established for the PDI Zone.

### General Land Division Requirements- Other

Through Lots  
Subsection 4.237 (.07)

18. **Review Criteria:** "Through lots shall be avoided except where essential to provide separation of residential development from major traffic arteries or adjacent non-residential activity or to overcome specific disadvantages of topography and orientation."  
**Finding:** These criteria are satisfied.  
**Explanation of Finding:** The existing parcel is a through lot, and one of the proposed parcels remains a through lot. There is no avoidance as the condition exists and is appropriate for a large industrial campus with preserved natural area.

## Lot Side Lines

### Subsection 4.237 (.08)

19. **Review Criteria:** "The side lines of lots, as far as practicable for the purpose of the proposed development, shall run at right angles to the street or tract with a private drive upon which the lots face."

**Finding:** These criteria are satisfied.

**Explanation of Finding:** The new parcel line primarily follow SW Printer Parkway, a private drive. The new side parcel line not along SW Printer Parkway is at a 90 degree angle to SW Printer Parkway and then bends to form a 90 degree angle with the undeveloped Wiedemann Road right-of-way to the north.

## Large Lot Divisions

### Subsection 4.237 (.09)

20. **Review Criteria:** "In dividing tracts which at some future time are likely to be re-divided, the location of lot lines and other details of the layout shall be such that re-division may readily take place without violating the requirements of these regulations and without interfering with the orderly development of streets. Restriction of buildings within future street locations shall be made a matter of record if the Development Review Board considers it necessary."

**Finding:** These criteria are satisfied.

**Explanation of Finding:** No future divisions of the proposed parcels are known at this time, but would be allowed. The proposed parcel layout would enable further division of the parcels in the future.

## Land for Public Purposes

### Subsection 4.237 (.12)

21. **Review Criterion:** "The Planning Director or Development Review Board may require property to be reserved for public acquisition, or irrevocably offered for dedication, for a specified period of time."

**Finding:** This criterion is satisfied.

**Explanation of Finding:** No property reservation is recommended as described in this subsection.

## Corner Lots

### Subsection 4.237 (.13)

22. **Review Criterion:** "Lots on street intersections shall have a corner radius of not less than ten (10) feet."

**Finding:** This criterion is satisfied.

**Explanation of Finding:** The proposed partition created two new lot corners at Parkway Avenue and Printer Parkway. The radius is not less than 10 feet.

## **Lots of Record**

Defining Lots of Record  
Section 4.250

23. **Review Criteria:** "All lots of record that have been legally created prior to the adoption of this ordinance shall be considered to be legal lots. Tax lots created by the County Assessor are not necessarily legal lots of record."

**Finding:** These criteria are satisfied.

**Explanation of Finding:** The existing parcel is a lot of record, and the resulting parcels will be of record.

## **Conclusion and Conditions of Approval:**

Staff has reviewed the Applicant's analysis of compliance with the applicable criteria. The Staff report adopts the applicant's responses as Findings of Fact except as noted in the Findings. Based on the Findings of Fact and information included in this Staff Report, and information received from a duly advertised public hearing, Staff recommends that the Development Review Board approve the proposed application (AR16-0037) with the following conditions:

### **Planning Division Conditions:**

- PD 1.** The applicant/owner shall:
- a. Assure that the parcels not be sold or conveyed until such as time as the final plat is recorded with Clackamas County.
  - b. Submit an application for Final Plat review and approval on the Planning Division Site Development Application and Permit form. The Applicant/Owner shall also provide materials for review by the City's Planning Division in accordance with Section 4.220 of City's Development Code. Prepare the Final Plat in substantial accord with the Tentative Partition Plat as approved by this action and as amended by these conditions, except as may be subsequently altered by minor revisions approved by the Planning Director
  - c. Illustrate existing and proposed easements on the Final Plat.

*The following Conditions of Approval are provided by the Engineering, Natural Resources, or Building Divisions of the City's Community Development Department or Tualatin Valley Fire and Rescue, all of which have authority over development approval. A number of these Conditions of Approval are not related to land use regulations under the authority of the Development Review Board or Planning Director. Only those Conditions of Approval related to criteria in Chapter 4 of Wilsonville Code and the Comprehensive Plan, including but not limited to those related to traffic level of service, site vision clearance, recording of plats, and concurrency, are subject to the Land Use review and appeal process defined in Wilsonville Code and Oregon Revised Statutes and Administrative Rules. Other Conditions of Approval are based on City Code chapters other than Chapter 4, state law, federal law, or other agency rules and regulations. Questions or requests about the applicability, appeal, exemption or non-compliance*

*related to these other Conditions of Approval should be directed to the City Department, Division, or non-City agency with authority over the relevant portion of the development approval.*

**Engineering Division Findings and Conditions:**

<b>Standard Comments</b>	
<b>PF 1.</b>	For any new public easements created with the project the Applicant shall be required to produce the specific survey exhibits establishing the easement and shall provide the City with the appropriate Easement document (on City approved forms).
<b>PF 2.</b>	Subdivision or Partition Plats:  Paper copies of all proposed subdivision/partition plats shall be provided to the City for review. Once the subdivision/partition plat is approved, applicant shall have the documents recorded at the appropriate County office. Once recording is completed by the County, the applicant shall be required to provide the City with a 3 mil Mylar copy of the recorded subdivision/partition plat.
<b>PF 3.</b>	Subdivision or Partition Plats:  All newly created easements shown on a subdivision or partition plat shall also be accompanied by the City's appropriate Easement document (on City approved forms) with accompanying survey exhibits that shall be recorded immediately after the subdivision or partition plat.
<b>Specific Comments</b>	
<b>PF 4.</b>	The City understands that the current application for land partition includes no plans for additional development of the property.
<b>PF 5.</b>	In the 2013 Transportation Systems Plan Parkway Avenue is identified as a Minor Arterial. Presently there exist a 67-ft right-of-way adjacent to the property, sufficient to accommodate future full street improvements. No further dedication is required.
<b>PF 6.</b>	In the 2013 Transportation Systems Plan Weidemann Road is identified as a Collector. Presently there exist a 42-ft half-street right-of-way adjacent to the property, sufficient to accommodate future full street improvements, should they occur. No further dedication is required.
<b>PF 7.</b>	A minor amendment to the 2013 Transportation System Plan, Ordinance 789, was adopted by Council on June 6, 2016 but not in affect at the time of this application for partition has added Printer Parkway as a Collector level roadway. To clarify future requirements and responsibilities for street improvements tied to future development both the Applicant, ScanlonKemperBard and the purchaser of the partitioned parcel shall enter into a development agreement with the City of Wilsonville.
<b>PF 8.</b>	Applicant shall provide the City with a public access easement on Printer Parkway for vehicle, bicycle and pedestrian ingress and egress.
<b>PF 9.</b>	Applicant shall be required to install a water meter and extend a domestic water line



to Building 83 and pay all applicable City fees.

**PF 10.** Presently the site is served via a private roadway system and a private fire protection water line system. It is recommended that owners of the proposed three parcels enter into reciprocal easements for joint use and maintenance of these private systems.

Case File #: AR16-0037

Approved:



7/7/16

Daniel Pauly, Associate Planner for  
Chris Neamtzu, Planning Director

Date

Section 4.022(.01) of the Wilsonville Code provides that this decision may be appealed by the Applicant and party entitled to notice or adversely affected or aggrieved or called up for review by the Development Review Board. The notice of appeal shall indicate the nature of the action or interpretation that is being appealed or called up. The appeal shall regard a determination of the appropriateness of the action or interpretation of the Code requirements involved in the decision.

*Note: The decision of the Planning Director may be appealed by an affected party or by three (3) Board members in accordance with Section 4.017 except that the review shall be of the record supplemented by oral commentary relevant to the record presented on behalf of the Applicant and the Planning Director. Any appeal must be filed with the City Recorder within fourteen (14) calendar days of the notice of the decision. The notice of appeal shall be in writing and indicate the specific issue(s) being appealed and the reason(s) therefore. Should you require further information, please contact Daniel Pauly AICP, Associate Planner, with the City Planning Division at 503-682-4960. Last day to appeal: **4:00 P.M. on July 21, 2016.***

For more information, contact the Wilsonville Planning Division at 503-682-4960.

Sign-off accepting Conditions of Approval

Case File # **AR16-0037**

Project Name: Parkway Woods Partition-2016

*The Planning Director's Decision and Conditions of Approval have been received and accepted by:*

---

Signature

---

Title

---

Date

---

Signature

---

Title

---

Date

*This decision is not effective unless this form is signed and returned to the planning office as required by WC Section 4.140(.09)(L).*

*Adherence to Approved Plan and Modification Thereof: The Applicant shall agree in writing to be bound, for her/himself and her/his successors in interest, by the conditions prescribed for approval of a development.*

Please sign and return to:

Shelley White  
Planning Administrative Assistant  
City of Wilsonville  
29799 SW Town Center Loop E  
Wilsonville OR 97070

---

**Parkway Woods (Xerox Campus) Partition**  
City of Wilsonville, Oregon

---

Request for  
Preliminary Partition Plat Approval

Prepared for  
Scanlan Kemper Bard

Prepared by  
Otak, Inc.



HanmiGlobal Partner

June 1, 2016  
*Otak Project No. 17606*



BY: \_\_\_\_\_

City of Wilsonville  
Exhibit B1 AR16-0037

## INVOLVED PROPERTIES

**SUBJECT PROPERTY:** Parcel 1 of Partition Plat No. 2015-083 (Clackamas County Map Number 31W12 Tax Lots 00581 and 00511). Addressed as 26440, 26950, 27000, and 27400 SW Parkway Ave.

**ZONING:** PDI Planned Development Industrial

## PROJECT TEAM

**APPLICANT/  
OWNER:** Scanlan Kemper Bard  
810 NW Marshall Street, Suite 300  
Portland, OR 97209

Contact: Natsumi Shakhman  
50.552.3564  
nshakhman@skbcos.com

**APPLICANT'S  
REPRESENTATIVE:** Otak, Inc.  
800 SW Third Avenue, Suite 300  
Portland, OR 970204

Contact: Li Alligood, AICP  
503.415.2384  
Li.Alligood@otak.com

**ENGINEER:** Otak, Inc.  
800 SW Third Avenue, Suite 300  
Portland, OR 970204

Contact: Mike Peebles, PE  
503.415.2379  
Mike.Peebles@otak.com

**SURVEYOR:** Otak, Inc.  
800 SW Third Avenue, Suite 300  
Portland, OR 970204

Contact: Jon Yamashita, PLS  
503.415.2379  
Jon.Yamashita@otak.com

# TABLE OF CONTENTS

	Page
I. Request .....	1
II. Project Description.....	1
III. Compliance with Applicable Approval Criteria.....	1
A. Section 4.210 Application Procedure .....	1
B. Section 4.135 PDI Zone.....	7
IV. Appendix	
A. A list of the names and addresses of the owners of all properties within 250 feet of the subject property, printed on self-adhesive mailing labels	
B. Completed “Liens and Assessments” form	
D. Recommendation for waiver of traffic impact study	
IV. Exhibits	
1. Overall Site - Existing Conditions	
2. Proposed Partition Plat	
3. Overall Site – Proposed 2-lot Partition Plat (2016)	

**Note:** All exhibit plan sheets are also separately bound in a larger format and included with this submittal.

## I. Request

The applicant is requesting approval of a preliminary plan to partition the subject site into two (2) parcels. This request is subject to Type II Minor Partition Tentative Plat review.

## II. Project Description

### Existing Conditions

The subject property is 113.0 acres in area. It is Parcel 1 of Partition Plat 2015-083, which was recorded on November 5, 2015. See Sheet 1 Overall Site – Existing Conditions. The applicant acquired the property in December 2015.

The property is zoned PDI Planned Development Industrial. The property is a portion of the Xerox Corporation’s Wilsonville campus and includes several industrial/office buildings within a campus setting which includes several private roads, parking areas, walking paths, and wooded areas.

### Proposal

The applicant proposes to divide the existing 113-acre site into two (2) parcels, separated along the centerline of Printer Parkway, a private road that extends from Parkway Avenue on the west to Canyon Creek Road on the east. Proposed Parcel 1 is located to the south of Printer Parkway and contains two existing buildings (“Building 60” and “Building 61”), which are physically connected. The proposed Parcel 2 is 88 acres in size. Proposed Parcel 1 is located to the north of Printer Parkway and contains one (1) existing building (“Building 83”). The proposed Parcel 2 is 25 acres in size. The southeast corner of proposed Parcel 2 is within the mapped SROZ area. No new development is proposed on either site. See Sheet 2 Proposed Partition Plat and Sheet 3 Overall Site – Proposed 2-lot Partition Plat (2016).

## III. Compliance with Applicable Approval Criteria

The proposal complies with the following relevant standards of the Wilsonville Planning and Land Development Code as follows:

### Section 4.210 Application Procedure

*(.01) Pre-application conference. Prior to submission of a tentative condominium, partition, or subdivision plat, a person proposing to divide land in the City shall contact the Planning Department to arrange a pre-application conference as set forth in Section 4.010.*

**Response:** A pre-application conference was held on January 29, 2016.

A. *Preparation of Tentative Plat.* The Planning Staff shall provide information regarding procedures and general information having a direct influence on the proposed development, such as elements of the Comprehensive Plan, existing and proposed streets, road and public utilities. The applicant shall cause to be prepared a tentative plat, together with improvement plans and other supplementary material as specified in this Section. The Tentative Plat shall be prepared by an Oregon licensed professional land surveyor or engineer. An affidavit of the services of each surveyor or engineer shall be furnished as part of the submittal.

**Response:** A tentative partition plat has been prepared under the direction of Jon Yamashita, PLS, an Oregon licensed professional land surveyor, as required. Project Team listing on page ii of this application narrative includes a listing of the services provided by each primary team member. This criterion is met.

B. *Tentative Plat Submission.* The purpose of the Tentative Plat is to present a study of the proposed subdivision to the Planning Department and Development Review Board and to receive approval recommendations for revisions before preparation of a final Plat. The design and layout of this plan plat shall meet the guidelines and requirements set forth in this Code. The Tentative Plat shall be submitted to the Planning Department with the following information:

1. *Site development application form completed and signed by the owner of the land or a letter of authorization signed by the owner. A preliminary title report or other proof of ownership is to be included with the application form.*
2. *Application fees as established by resolution of the City Council.*

**Response:** A copy of the signed application form is included in this application package. The application fee of \$656 has been submitted with the application materials. This criterion is met.

3. *Ten (10) copies and one (1) sepia or suitable reproducible tracing of the Tentative Plat shall be submitted with the application. Paper size shall be eighteen inch (18") by twenty-four inch (24"), or such other size as may be specified by the City Engineer.*

**Response:** Ten (10) large format copies of the Tentative Partition Plat and supporting plans have been provided with this submittal.

4. *Name of the subdivision. No subdivision shall duplicate or resemble the name of any other subdivision in Clackamas or Washington County. Names may be checked through the county offices.*

**Response:** The requested land division is not a subdivision and no name will be assigned. The proposed partition will be named Partition Plat No. 2016 – \_\_\_\_\_ with a number assigned by the Clackamas County Surveyor's office upon recording.

5. *Names, address, and telephone numbers of the owners and applicants, and engineer or surveyor.*

**Response:** The names, addresses, and telephone numbers of the owner, applicant, engineer, and surveyor are listed on page ii of this application narrative.

6. *Date, north point and scale drawing.*
7. *Location of the subject property by Section, Township, and Range.*
8. *Legal road access to subject property shall be indicated as City, County, or other public roads.*
9. *Vicinity map showing the relationship to the nearest major highway or street.*
10. *Lots: Dimensions of all lots, minimum lot size, average lot size, and proposed lot and block numbers.*
11. *Gross acreage in proposed plat.*

**Response:** The above information is provided on Sheets 1-3.

12. *Proposed uses of the property, including sites, if any, for multi-family dwellings, shopping centers, churches, industries, parks, and playgrounds or other public or semi-public uses.*

**Response:** Both parcels are intended for continued industrial use.

13. *Improvements: Statement of the improvements to be made or installed including streets, sidewalks, lighting, tree planting, and times such improvements are to be made or completed.*

**Response:** No further improvements to either parcel are proposed at this time. Future redevelopment may occur at a later date, but any such redevelopment will be discussed with the City of Wilsonville in advance of that work, and necessary development review approvals will be sought from the City.

14. *Trees. Locations, types, sizes, and general conditions of all existing trees, as required in Section 4.600.*

**Response:** The proposed partition will not impact or require removal of any trees.

15. *Utilities such as electrical, gas, telephone, on and abutting the tract.*

**Response:** Sheet 1 Existing Conditions shows the location of existing significant utility lines and the locations of the overhead power line towers



located on the northern portion of the site. The tentative partition plat illustrates all existing and proposed utility easements. No new utilities will be constructed in relation to the proposed partitioning of the subject property.

16. *Easements: Approximate width, location, and purpose of all existing and proposed easements on, and known easements abutting the tract.*
17. *Deed Restrictions: Outline of proposed deed restrictions, if any.*
18. *Written Statement: Information which is not practical to be shown on the maps may be shown in separate statements accompanying the Tentative Plat.*
19. *If the subdivision is to be a "Planned Development," a copy of the proposed Home Owners Association By-Laws must be submitted at the time of submission of the application. The Tentative Plat shall be considered as the Stage I Preliminary Plan. The proposed By-Laws must address the maintenance of any parks, common areas, or facilities.*

**Response:** Sheets 1 and 2 show the approximate width, location, and purpose of all existing easements.

No deed restrictions are proposed at this time. If necessary, shared access agreements, parking agreements, and maintenance agreements between the parcels can be shared with the City during the review of the final partition plat.

20. *Any plat bordering a stream or river shall indicate areas subject to flooding and shall comply with the provisions of Section 4.172.*

**Response:** The area of the proposed partition does not include any streams, rivers, or other areas subject to flooding. Sheet 3 illustrates areas of wetlands on the site.

21. *Proposed use or treatment of any property designated as open space by the City of Wilsonville.*

**Response:** No portion of the subject property has been designated for open space use by the City of Wilsonville's Park and Recreation Master Plan.

22. *A list of the names and addresses of the owners of all properties within 250 feet of the subject property, printed on self-adhesive mailing labels. The list shall be taken from the latest available property ownership records of the Assessor's Office of the affected county.*

**Response:** The required mailing list is included as Appendix A. The list of nearby property owners was prepared by the applicant's title company, Stewart Title, on May 27, 2016.

23. *A completed "liens and assessments" form, provided by the City Finance Department.*

**Response:** A Liens and Assessments Form completed by the City of Wilsonville Finance Department has been submitted with this application and is included as Appendix B. There are currently no liens or assessments against the affected parcels.

24. *Locations of all areas designated as a Significant Resource Overlay Zone by the City, as well as any wetlands shall be shown on the tentative plat.*

**Response:** The southeast corner of the existing Building 83 and the southeast corner of proposed Parcel 1 are located within the SROZ. The SROZ is shown on the partition plat.

25. *Locations of all existing and proposed utilities, including but not limited to domestic water, sanitary sewer, storm drainage, streets, and any private utilities crossing or intended to serve the site. Any plans to phase the construction or use of utilities shall be indicated.*

**Response:** Sheets 1 and 2 include the locations of all existing and proposed utilities.

26. *A traffic study, prepared under contract with the City, shall be submitted as part of the tentative plat application process, unless specifically waived by the Community Development Director.*

**Response:** The Community Development Director has stated that a traffic impact study is not required for this application. See Appendix C.

*C. Action on proposed tentative plat:*

1. *Consideration of tentative subdivision plat. The Development Review Board shall consider the tentative plat and the reports of City staff and other agencies at a regular Board meeting no more than ninety (90) days after tentative plat application has been accepted as complete by the City. Final action on the proposed tentative plat shall occur within the time limits specified in Section 4.013. The tentative plat shall be approved if the Development Review Board determines that the tentative plat conforms in all respects to the requirements of this Code.*

**Response:** The proposed tentative minor land partition plat application will be reviewed by the Planning Director rather than by the Development Review Board.

2. *Consideration of tentative partition plat. The Planning Director shall review and consider any proposed land partition plat through the procedures for Administrative Reviews specified in Section 4.030 and 4.035.*

**Response:** This application for a two (2) parcel minor land partition will be reviewed by the Planning Director and staff as an administrative review.

3. *The Board shall, by resolution, adopt its decision, together with findings and a list of all Conditions of Approval or required changes to be reflected on the Final Plat*

**Response:** The final partition plat submittal will address any conditions of approval adopted in the review of this tentative partition plat.

4. *Board may limit content of deed restrictions. In order to promote local, regional, and state interests in affordable housing, the Board may limit the content that will be accepted within proposed deed restrictions or covenants. In adopting conditions of approval for a residential subdivision or condominium development, the Board may prohibit such things as mandatory minimum construction costs, minimum unit sizes, prohibitions or manufactures housing, etc.*

**Response:** The applicant recognizes the authority of the City of Wilsonville to limit the content of deed restrictions or covenants.

5. *Effect of Approval. After approval of a tentative plat, the applicant may proceed with final surveying, improvement construction, and preparation of the final plat. Approval shall be effective for a period of two (2) years, and if the final plat is not submitted to the Planning Department within such time, the tentative plat shall be submitted again and the entire procedure shall be repeated for consideration of any changes conditions which may exist. Except, however, the Development Review Board may grant a time extension, as provided in Section 4.023.*

**Response:** After approval of the tentative plat, a final partition plat will be prepared and submitted to the Planning Department within 2 years of approval, unless an extension to that time period is requested and approved.

- D. *Land division phases to be shown. Where the applicant intends to develop the land in phases, the schedule for such phasing shall be presented for review at the time of the tentative plat. In acting on an application for tentative plat approval, the Planning Director or Development Review Board may set time limits for the completion of the phasing schedule which, if not met, shall result in an expiration of the tentative plat approval.*

**Response:** No phasing of the minor land partition is proposed.

E. *Remainder tracts to be shown as lots or parcels. Tentative plats shall clearly show all effected property as part of the application for land division. All remainder tracts, regardless of size, shall be shown and counted among the parcels or lots of the division.*

**Response:** The tentative partition plat will not create any remainder tracts. .

F. *Replats subject to same procedures as new plats. Proposals to replat any previously platted land shall be subject to the same standards and procedures as a new application for tentative plat approval. Except, however, that a replat that proposes the same number of lots or parcels as the originally recorded land division, and that is determined by the Planning Director to create no significant adverse impacts on adjacent properties beyond that of the original division, may be reviewed through Class II Administrative Review procedures.*

**Response:** The proposed minor land partition will not be a replat. Therefore, this section is not applicable.

#### Section 4.135 PDI- Planned Development Industrial Zone

The subject site is located within the PDI Zone and these standards are applicable.

*(.01) Purpose: The purpose of the PDI zone is to provide opportunities for a variety of industrial operations and associated uses.*

*(.02) The PDI Zone shall be governed by Section 4.140, Planned Development Regulations, and as otherwise set forth in this Code.*

*(.03) Uses that are typically permitted:...*

*(.04) Block and access standards: The PDI zone shall be subject to the same block and access standards as the PDC zone, Section 4.131(.02) and (.03).*

*(.05) Performance Standards. ...*

**Response:** No changes to the existing industrial uses on the site are proposed. Proposed Parcels 1 and 2 will have approximately 942 feet and 300 feet of public street frontage and along SW Parkway Avenue, respectively. The proposed partition does not include any development or structures. These standards are met.

*(.06) Other Standards:*

*A. Minimum Individual Lot Size: No limit save and except as shall be consistent with the other provisions of this Code (e.g., landscaping, parking, etc.).*

**Response:** There is no minimum lot size in the PDI Zone. The proposed lots are 88 and 25 acres in size. This standard is met.

*B. Maximum Lot Coverage: No limit save and except as shall be consistent with the other provisions of this Code (e.g., landscaping, parking, etc.).*

**Response:** There is no maximum lot coverage in the PDI Zone. No modifications to the existing site improvements or uses are proposed. This standard is met.

C. *Front Yard Setback: Thirty (30) feet. Structures on corner or through lots shall observe the minimum front yard setback on both streets. Setbacks shall also be maintained from the planned rights-of-way shown on any adopted City street plan.*

D. *Rear and Side Yard Setback: Thirty (30) feet. Structures on corner or through lots shall observe the minimum rear and side yard setbacks on both streets. Setbacks shall also be maintained from the planned rights-of-way shown on any adopted City street plan.*

**Response:** The existing buildings will retain front, rear, and side yard setbacks of more than 30 feet. Building 83 is located 35 feet from the proposed eastern property line of Parcel 2. No site modifications are proposed to Buildings 60 and 61 on proposed Parcel 1. These standards are met.

E. *No setback is required when side or rear yards abut on a railroad siding.*

**Response:** There is no railroad siding adjacent to or within the proposed parcel. This standard is not applicable.

F. *Corner Vision: Corner lots shall have no sight obstruction to exceed the vision clearance standards of Section 4.177.*

**Response:** No corner lots are proposed. This standard is not applicable.

G. *Off-Street Parking and Loading: As provided in Section 4.155.*

**Response:** No change in parking is proposed in relation to the proposed partitioning of the subject site.

H. *Signs: As provided in Sections 4.156.01 through 4.156.11.*

**Response:** No change in signage is proposed related to the proposed partitioning. These standards are not applicable.

#### **Section 4.177 Street Improvement Standards**

**Response:** Necessary right-of-way dedication was provided through Partition Plat 2015-083. This dedication included 13.5 feet to SW Weidemann Road and 27 feet to SW Parkway Avenue. No dead end streets are proposed, and clear vision will be maintained. These standards are met.

## IV. Conclusion

This Compliance Report demonstrates compliance with the applicable requirements of the City of Wilsonville Planning & Land Development Ordinance for the requested Minor Land Partition Tentative Plat for the Xerox Parkway Woods development. Therefore, the applicant respectfully requests approval of this application.

*Appendix A*



**Hanmi**Global Partner

*Appendix B*



**Hanmi**Global Partner





CERTIFICATION OF ASSESSMENTS AND LIENS

"It is the policy of the City of Wilsonville that no permits of any kind shall either be issued or application processed for any applicant who owes or for any property for which there is any payment which is past due owing to the City of Wilsonville until such time as said sums owed are paid." (Resolution #796)

Project/Property Address: 26440, 26950, 27000, and 27400 SW Parkway Ave

Aka Tax Lot(s) 00581 and 00511 on Map(s) 31W12

Applicant: Natsumi Shakhman, Scanlan Kemper Bard

Address: 810 NW Marshall Street, Suite 300  
Portland, OR 97209

Property Owner: Same

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

In reference to the above, the City of Wilsonville records show that the following amount is due to the City:

Principal Amnt Due \$ 0  Current  Non-Current

Comments: No liens at this time

Dated: 5/19/16

Finance Department: Katlin Cook

(This certification shall be null and void 120 days following the Finance Department date of signature)

*Appendix C*



**Hanmi**Global Partner



Community Development  
29799 SW Town Center Loop East  
Wilsonville, OR 97070  
Phone 503-682-4960  
Fax 503-682-7025  
TDD 503-682-0843  
Web [www.ci.wilsonville.or.us](http://www.ci.wilsonville.or.us)

May 24, 2016

Attn: Li Alligood  
Otak, Inc.  
800 SW Third Avenue, Suite 300  
Portland, OR 97204

RE: *Parkway Woods Partition*  
*Tax Lots 31W12 00581, 31W12 00511*  
*Request for Waiver of Traffic Study*

Dear Ms. Alligood,

This letter is in response to your request for approval of a waiver of the requirement for a traffic impact study (Study) in association with a proposed partition of Tax Lots 00581 and 00511, Map 31W12.

In communications between yourself and City staff it is understood that no development or change of use is proposed with the partition. As such it is anticipated that this partition will have no PM Peak Hour impact on Wilsonville's transportation infrastructure.

Based on the above findings, a recommendation to waive the Study will be forwarded to the Development Review Board (DRB). Irrespective of the Staff recommendation to waive the analysis, the DRB may determine that a Study is necessary to make a recommendation or decision concerning the proposed project. A copy of this letter is being forwarded to the Planning Division and will be entered into the land partition application.

Sincerely,

A handwritten signature in cursive script that reads "Nancy Kraushaar".

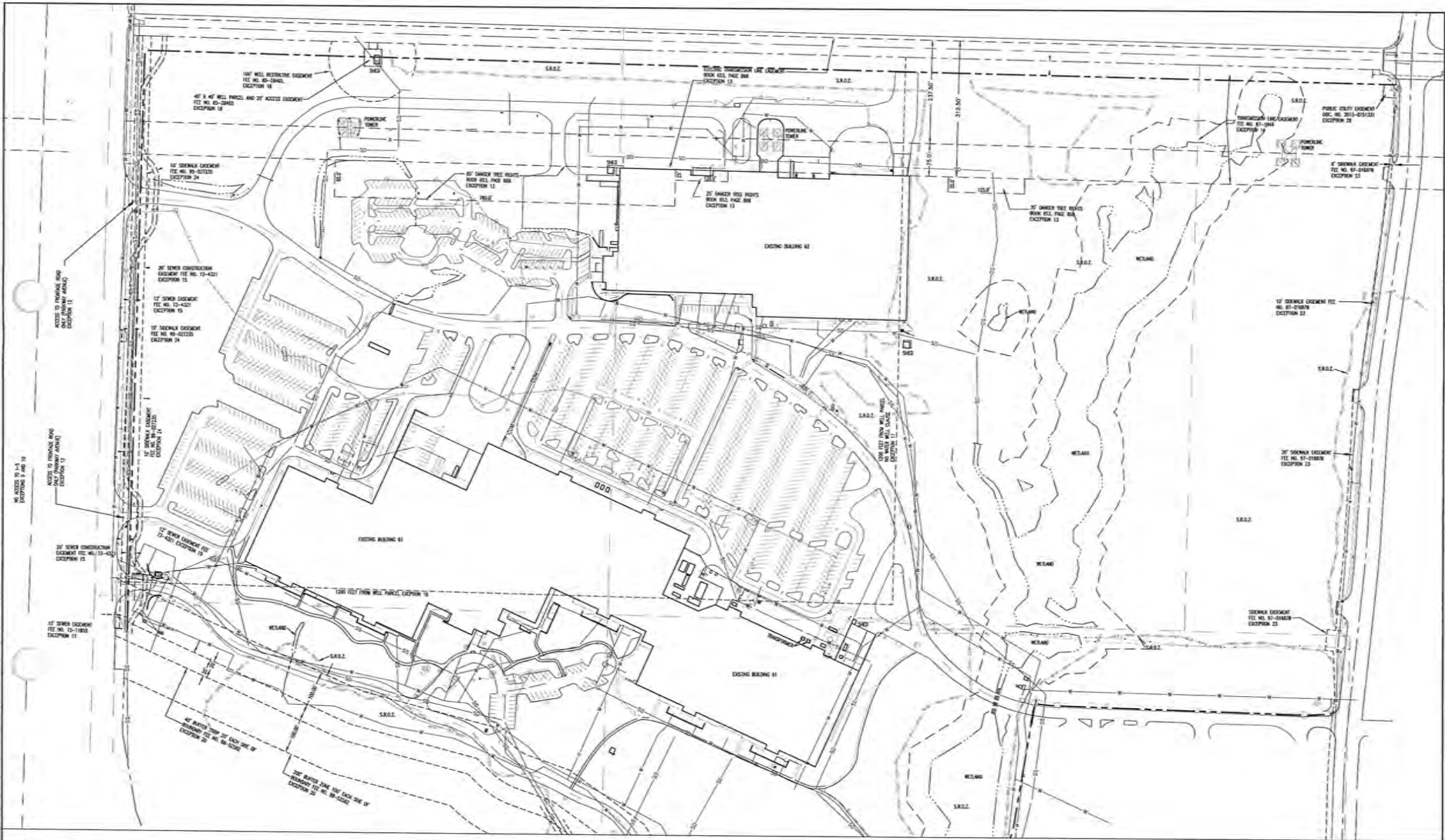
Nancy Kraushaar, P.E.  
Community Development Director

cc: Chris Neamtzu, Planning Director  
Steve Adams, Development Engineer Manager

*Exhibits*



**Hanmi**Global Partner



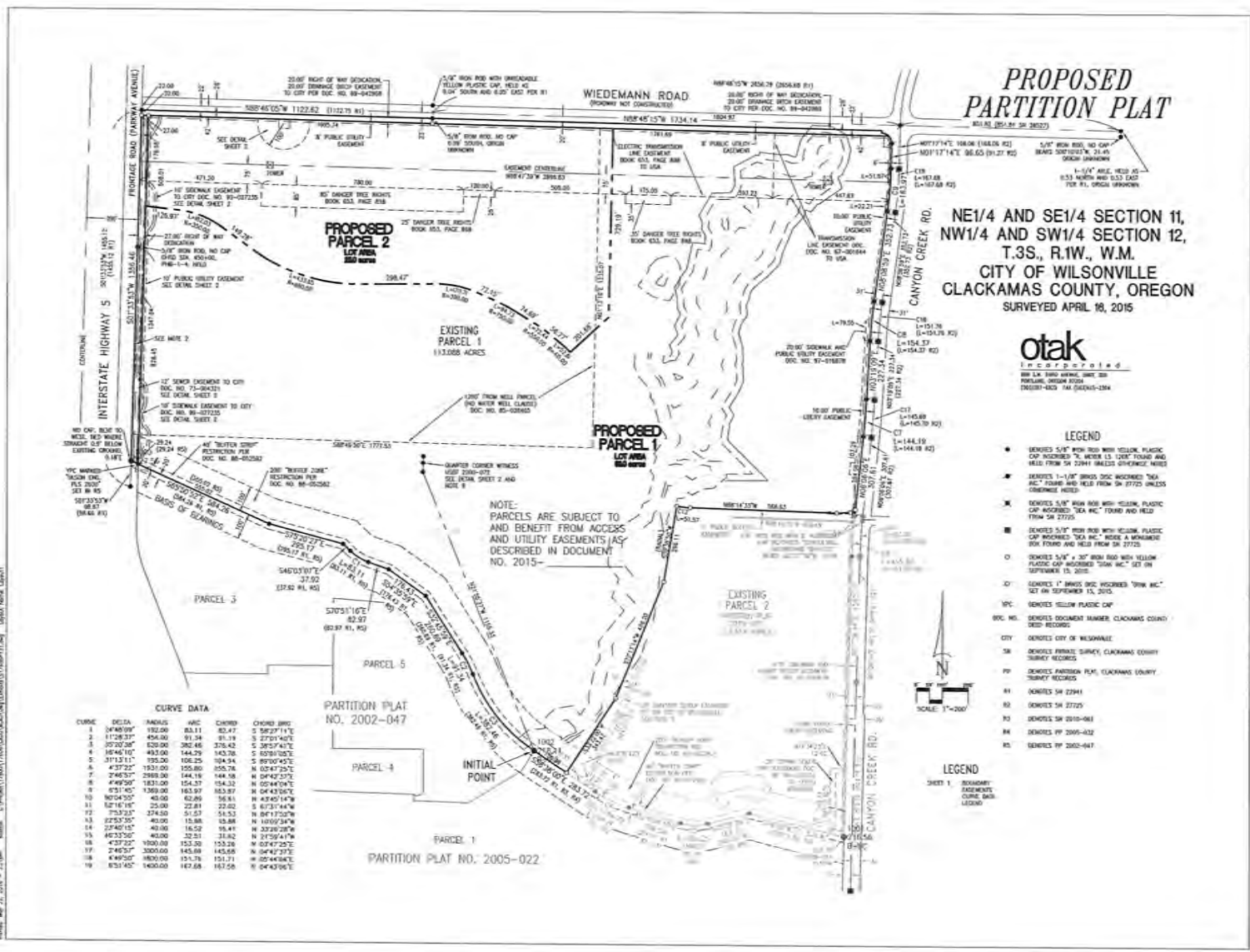
Parkway Woods  
Wilsonville, Oregon

Overall Site - Existing Conditions Analysis  
January 29, 2016



City of Wilsonville  
Exhibit B2 AR16-0037

ECET  
JUN 01 2016  
BY: .....



# PROPOSED PARTITION PLAT

NE 1/4 AND SE 1/4 SECTION 11,  
NW 1/4 AND SW 1/4 SECTION 12,  
T.3S., R.1W., W.M.  
CITY OF WILSONVILLE  
CLACKAMAS COUNTY, OREGON  
SURVEYED APRIL 10, 2015



## LEGEND

- DENOTES 5/8" IRON ROD WITH YELLOW PLASTIC CAP INCORPORATED TO BEHIND 12" TOWER AND HELD FROM SH 22941 UNLESS OTHERWISE NOTED
- ★ DENOTES 1-1/8" BRASS DISC INCORPORATED TO BEHIND 12" TOWER AND HELD FROM SH 27725 UNLESS OTHERWISE NOTED
- ✱ DENOTES 5/8" IRON ROD WITH YELLOW PLASTIC CAP INCORPORATED TO BEHIND 12" TOWER AND HELD FROM SH 27725
- DENOTES 5/8" IRON ROD WITH YELLOW PLASTIC CAP INCORPORATED TO BEHIND 12" TOWER AND HELD FROM SH 27725
- DENOTES 5/8" x 30" IRON ROD WITH YELLOW PLASTIC CAP INCORPORATED TO BEHIND 12" TOWER AND HELD FROM SH 27725
- DENOTES 1" BRASS DISC INCORPORATED TO BEHIND 12" TOWER AND HELD FROM SH 27725
- WPC DENOTES YELLOW PLASTIC CAP
- WIC DENOTES YELLOW PLASTIC CAP INCORPORATED TO BEHIND 12" TOWER AND HELD FROM SH 27725
- CITY DENOTES CITY OF WILSONVILLE
- SH DENOTES PRIVATE SURVEY, CLACKAMAS COUNTY SURVEY RECORDS
- PP DENOTES PARTITION PLAT, CLACKAMAS COUNTY SURVEY RECORDS
- R1 DENOTES SH 22941
- R2 DENOTES SH 27725
- R3 DENOTES SH 2010-063
- R4 DENOTES PP 2005-012
- R5 DENOTES PP 2002-047



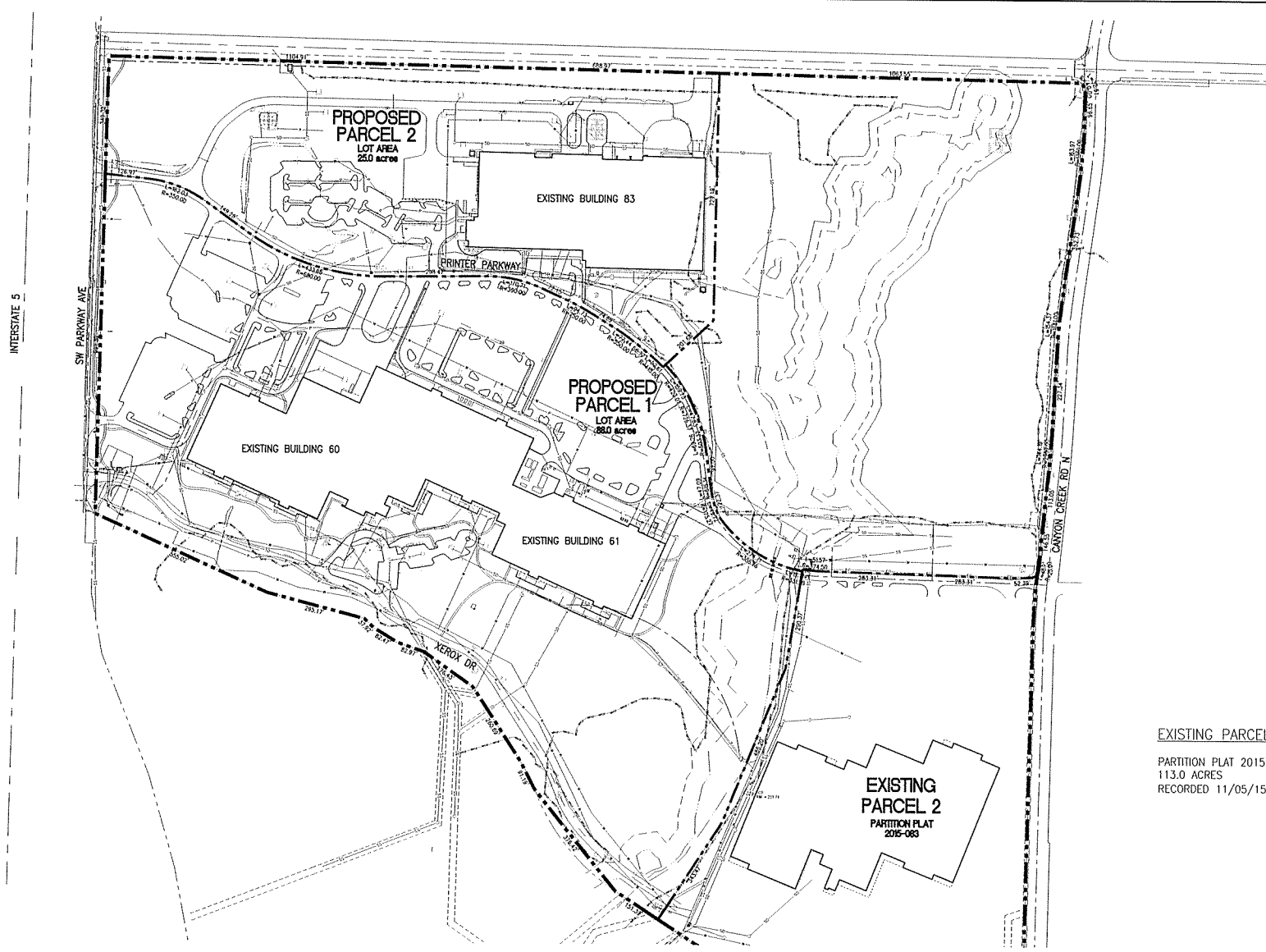
## LEGEND

SHEET 1 - BOUNDARY EASEMENTS CURVE DATA LEGEND

CURVE	DEG.A	RADIUS	ARC	CHORD	CHORD BEG.	CHORD END
1	34°48'09"	192.00	83.11	83.47	S 58°27'11"E	
2	11°28'20"	454.00	91.34	91.19	S 27°01'40"E	
3	35°20'20"	629.00	286.46	278.42	S 30°51'47"E	
4	16°46'10"	493.00	144.29	143.76	S 89°07'02"E	
5	11°13'11"	395.00	106.25	104.94	S 89°07'45"E	
6	4°37'21"	1931.00	155.80	155.78	N 03°47'25"E	
7	2°46'25"	2089.00	144.18	144.16	N 04°42'27"E	
8	4°49'20"	1831.00	154.17	154.33	N 05°44'04"E	
9	0°51'40"	1369.00	163.97	164.11	N 04°43'05"E	
10	10°24'52"	69.00	62.89	58.61	N 42°02'14"W	
11	52°16'16"	25.00	22.81	22.62	S 67°37'44"W	
12	7°32'51"	274.00	51.57	51.53	N 01°17'02"W	
13	12°23'25"	40.00	15.88	15.88	N 10°09'34"W	
14	2°24'01"	40.00	16.62	16.47	N 33°29'29"W	
15	16°23'20"	40.00	32.51	31.82	N 27°38'41"W	
16	4°37'20"	700.00	153.50	153.28	N 03°47'25"E	
17	2°46'21"	3000.00	145.89	145.88	N 04°42'27"E	
18	4°49'20"	1800.00	151.78	151.71	N 05°44'04"E	
19	0°51'40"	1400.00	162.68	162.58	N 04°43'05"E	

Vertical: Mar 25, 2016 - 11:11 AM Location: L:\Projects\115594\115594\_GW\GIS\City\GIS\115594\_P1.dwg User: BROWN, LARRY

ACCEPTED JUN 01 2016 BY: \_\_\_\_\_



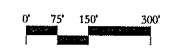
EXISTING PARCEL 1  
 PARTITION PLAT 2015-083  
 113.0 ACRES  
 RECORDED 11/05/15

EXISTING  
 PARCEL 2  
 PARTITION PLAT  
 2016-083



Parkway Woods  
 Wislonsville, Oregon

Overall Site - Proposed 2-lot Partition Plat (2016)



**EXHIBIT C1  
PLANNING DIVISION  
STAFF REPORT**

**PARKWAY WOODS TENTATIVE LAND PARTITION**

**DEVELOPMENT REVIEW BOARD PANEL '\_\_\_'  
QUASI JUDICIAL HEARING**

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**Public Hearing Date:**

**Date of Report:**

**Application Numbers:**

**Request A: AR16-0037 Tentative Land Partition**

**Property**

**Owners/Applicants:**

**PD = Planning Division conditions**

**BD – Building Division Conditions**

**PF = Engineering Conditions.**

**NR = Natural Resources Conditions**

**TR = SMART/Transit Conditions**

**FD = Tualatin Valley Fire and Rescue Conditions**



<b>Standard Comments:</b>	
<b>PFA 1.</b>	For any new public easements created with the project the Applicant shall be required to produce the specific survey exhibits establishing the easement and shall provide the City with the appropriate Easement document (on City approved forms).
<b>PFA 2.</b>	Subdivision or Partition Plats:  Paper copies of all proposed subdivision/partition plats shall be provided to the City for review. Once the subdivision/partition plat is approved, applicant shall have the documents recorded at the appropriate County office. Once recording is completed by the County, the applicant shall be required to provide the City with a 3 mil Mylar copy of the recorded subdivision/partition plat.
<b>PFA 3.</b>	Subdivision or Partition Plats:  All newly created easements shown on a subdivision or partition plat shall also be accompanied by the City's appropriate Easement document (on City approved forms) with accompanying survey exhibits that shall be recorded immediately after the subdivision or partition plat.
<b>Specific Comments:</b>	
<b>PFA 4.</b>	The City understands that the current application for land partition includes no plans for additional development of the property.
<b>PFA 5.</b>	In the 2013 Transportation Systems Plan Parkway Avenue is identified as a Minor Arterial. Presently there exist a 67-ft right-of-way adjacent to the property, sufficient to accommodate future full street improvements,. No further dedication is required.
<b>PFA 6.</b>	In the 2013 Transportation Systems Plan Weidemann Road is identified as a Collector. Presently there exist a 42-ft half-street right-of-way adjacent to the property, sufficient to accommodate future full street improvements, should they occur. No further dedication is required.
<b>PFA 7.</b>	A minor amendment to the 2013 Transportation System Plan, Ordinance 789, was adopted by Council on June 6, 2016 but not in affect at the time of this application for partition has added Printer Parkway as a Collector level roadway. To clarify future requirements and responsibilities for street improvements tied to future development both the Applicant, ScanlonKemperBard and the

	purchaser of the partitioned parcel shall enter into a development agreement with the City of Wilsonville.
<b>PFA 8.</b>	Applicant shall provide the City with a public access easement on Printer Parkway for vehicle, bicycle and pedestrian ingress and egress.
<b>PFA 9.</b>	Applicant shall be required to install a water meter and extend a domestic water line to Building 83 and pay all applicable City fees.
<b>PFA 10.</b>	Presently the site is served via a private roadway system and a private fire protection water line system. It is recommended that owners of the proposed three parcels enter into reciprocal easements for joint use and maintenance of these private systems.

**RESOLUTION NO. 2731**

**A RESOLUTION OF THE CITY OF WILSONVILLE TO ACCEPT A LAND DONATION OF APPROXIMATELY 31 FORESTED ACRES IN THE PARKWAY WOODS BUSINESS PARK.**

WHEREAS, the real estate investment company of ScanlanKemperBard (SKB), as owner of approximately 31-acres of wooded land, zoned as a Significant Resource Overlay Zone (SROZ), and located in the corner of the Parkway Woods Business Park (“Resource Land”), has offered to donate the Resource Land to the City of Wilsonville; and

WHEREAS, Wilsonville recognizes this Resource Land to be a significant urban forested area whose acquisition by Wilsonville would help to protect this important natural resource area, including the wildlife living within the Resource Land; and

WHEREAS, the Resource Land would be a natural resource that could be enjoyed by the Wilsonville community, with nature trails to be developed by the City, once the City takes ownership; and


WHEREAS, the Resource Land is located in close proximity to Canyon Creek Park, providing the City with an opportunity to link the Resource Land to this existing City park; and

WHEREAS, the dedication of the Resource Land will help to ensure its preservation, protection and enjoyment by the City of Wilsonville citizens for many years to come.

NOW, THEREFORE, THE CITY OF WILSONVILLE RESOLVES AS FOLLOWS:

1. Upon completion of a partition of the Resource Land by SKB from its adjoining holdings, the City will accept ownership of the Resource Land from SKB.
2. This Resolution becomes effective upon adoption but transfer for the Resource Land will not take effect until the partition is completed and can be deeded to the City, free and clear of any unacceptable encumbrances, as a legal transferable parcel.

ADOPTED by the Wilsonville City Council at a regular meeting thereof this 15<sup>th</sup> day of April 2019, and filed with the Wilsonville City Recorder this date.

  
\_\_\_\_\_  
Tim Knapp, Mayor

ATTEST:

  
\_\_\_\_\_  
Kimberly Veliz, City Recorder

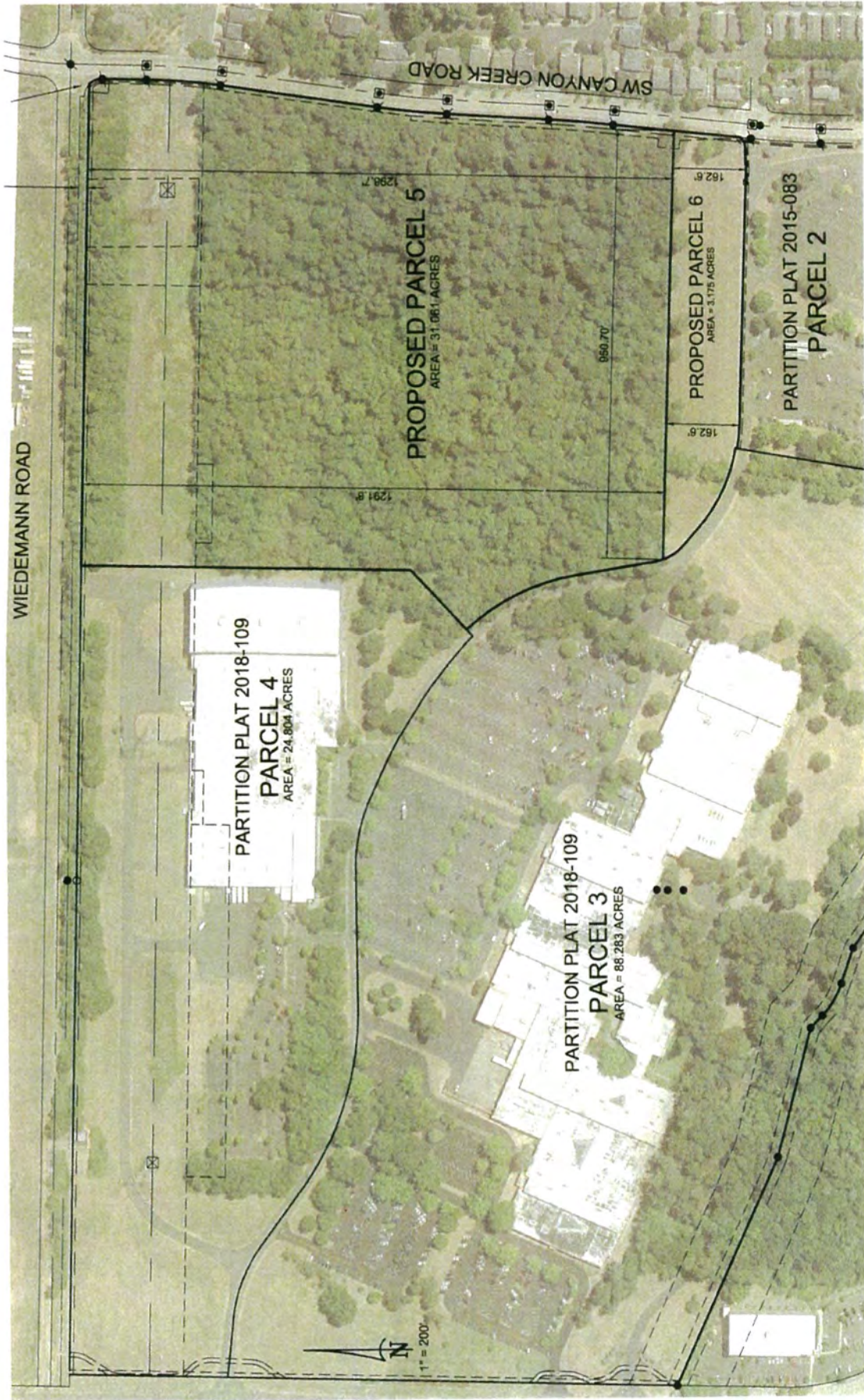
SUMMARY OF VOTES:

Mayor Knapp	Yes
Council President Akervall	Yes
Councilor Stevens	Yes
Councilor Lehan	Yes
Councilor West	Yes

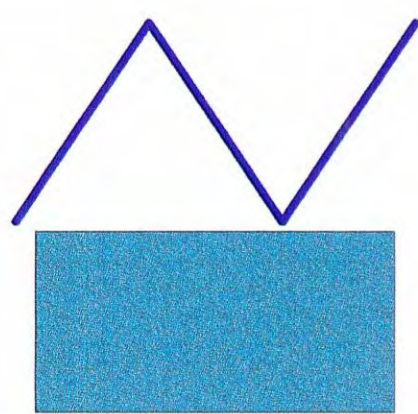
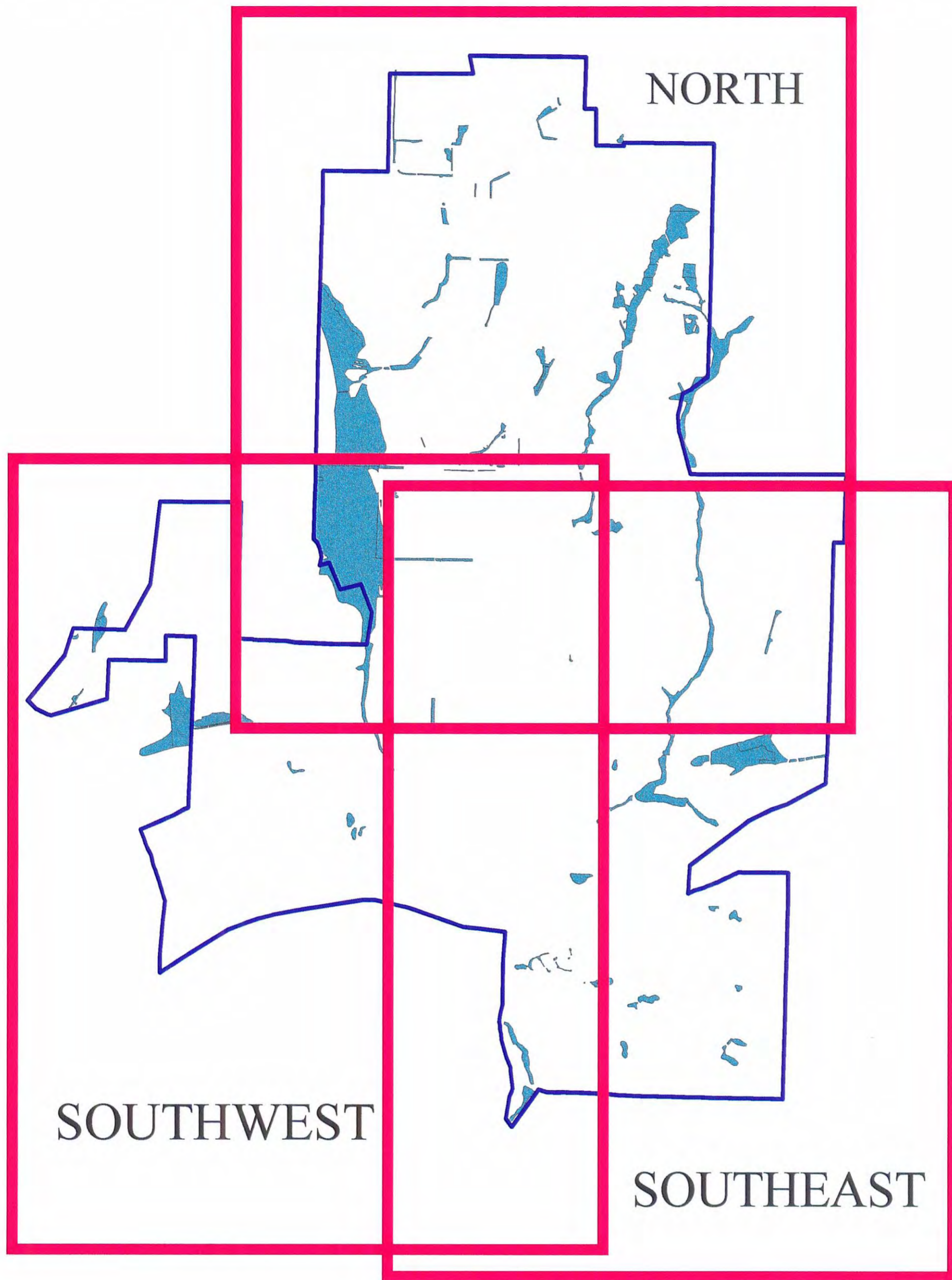
Exhibit:

A. Map of Resource Parcel

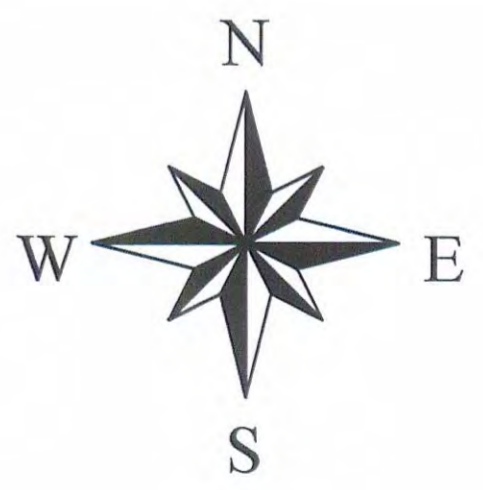
EXHIBIT A



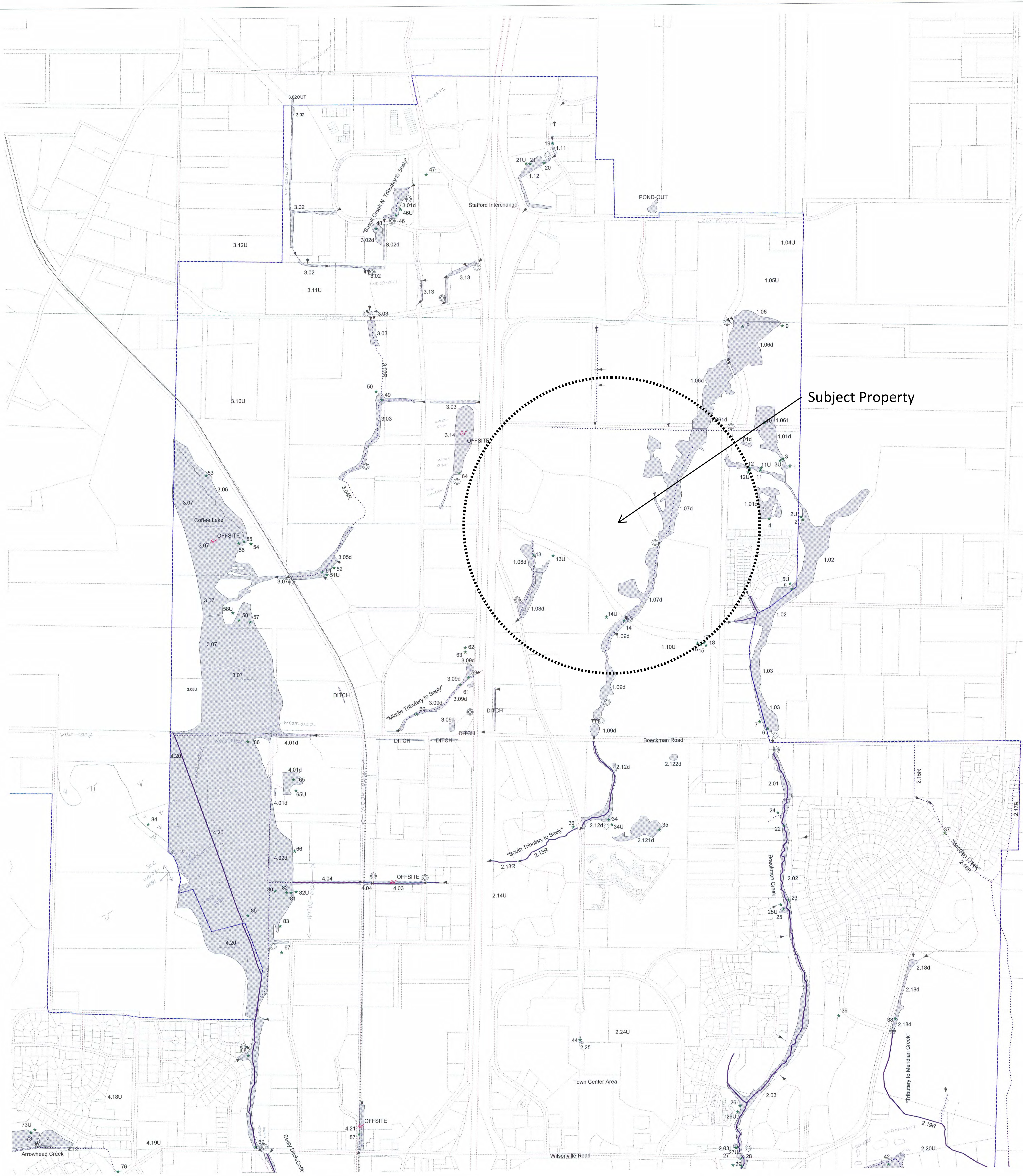
# City of Wilsonville Local Wetlands and Riparian Corridor Inventory Index



**City Limits**  
**Wetland Boundaries**



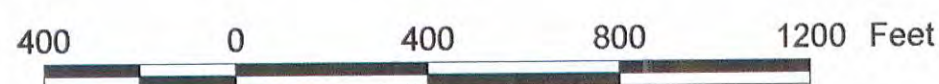
Map prepared by the City of Wilsonville  
Planning Division - February 4, 1999  
Scale 1"= 2000'



Subject Property

**LEGEND**

- WETLANDS
  - TAX LOTS
  - STREAMS
  - INTERMITTENT PERENNIAL
  - UGB
  - CULVERT LOCATIONS
  - RAILROAD
  - STREETS
  - CLACKAMAS/WASHINGTON COUNTY LINE
  - VIEWPOINTS
  - WETLANDS MAPPED OFF-SITE
  - SAMPLE PLOT LOCATIONS
- 1.01 - WETLAND SITE ID  
 6.03d - DELINEATED WETLAND SITE ID  
 4.15R - RIPARIAN SITE ID  
 1.04U - UPLAND SITE ID  
 \* 95 - SAMPLE PLOT ID



Map Scale: 1 inch = 400 feet



Information shown on this map is for planning purposes only and all wetland boundaries are approximate. In all cases, actual field conditions determine wetland boundaries. There may be unmapped wetlands subject to regulation within the study area.

Fishman Environmental Services  
 Consultants in ecology and natural resource management



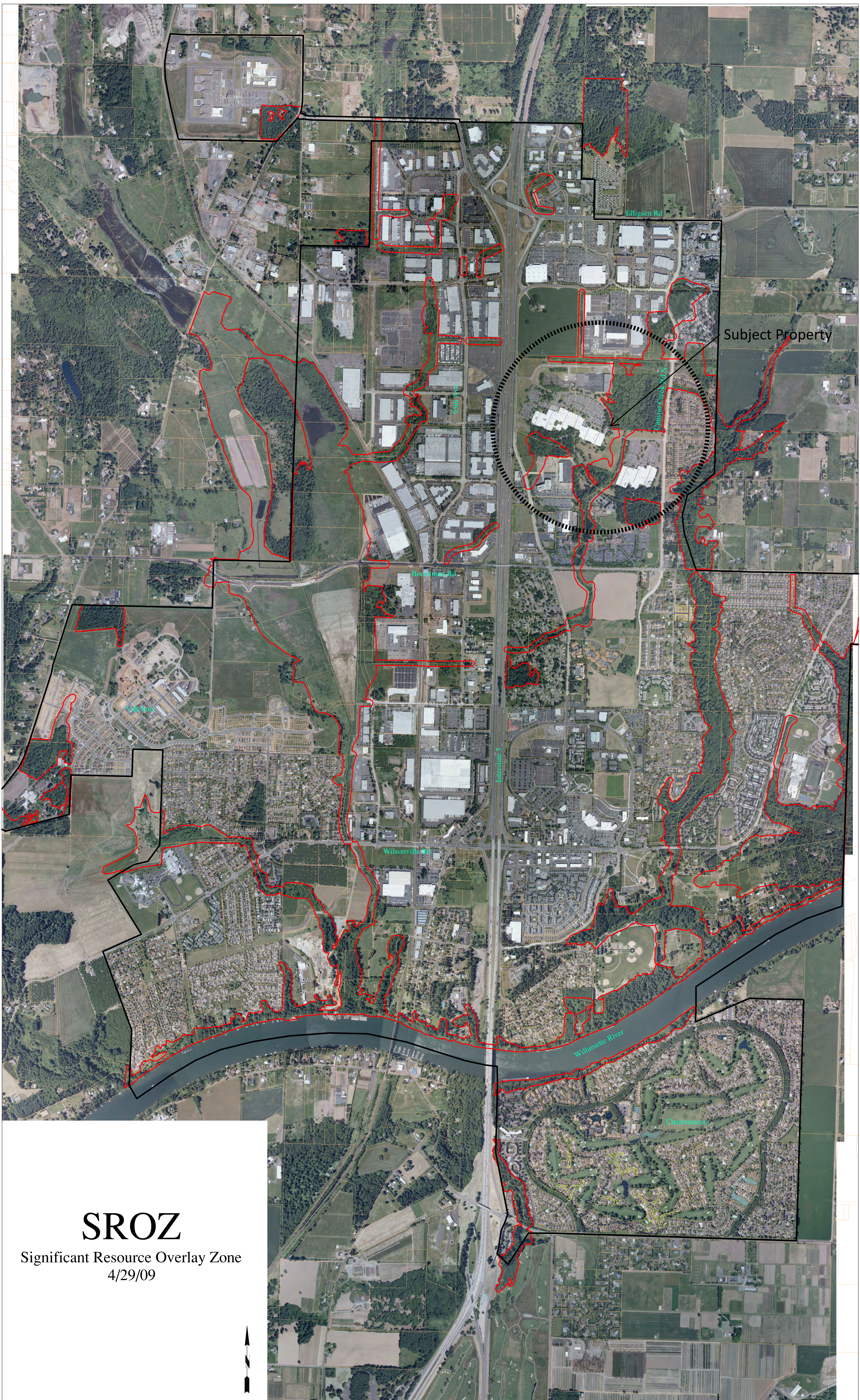
434 NW Sixth Avenue, Suite 304  
 Portland, OR 97209  
 (503) 224-0333



30000 SW Town Center Loop E  
 Wilsonville, OR 97070  
 (503) 682-4960

**CITY OF WILSONVILLE  
 LOCAL WETLANDS  
 AND  
 RIPARIAN CORRIDOR INVENTORY  
 NORTH**

Draft Map prepared 4/93; revised 12/97  
 Aerial Photography, July 9, 1996  
 Data Sources: Digital Orthophotography,  
 Spencer B. Gross, Roads, Taxlots, Rail, Streets,  
 UGB - Metro RLIS Database.  
 Map Projection Oregon State Plane North Zone  
 Datum: NAD 83. Units = International Feet



Subject Property

Elligsen Rd

Canover Creek Rd

Bowman Rd

Wilsonville Rd

Interstate 5

Willamette River

Clatskanie

# SROZ

Significant Resource Overlay Zone

4/29/09





# Wetland Delineation of Parkway Woods in Wilsonville, Oregon

(Township 3 South, Range 1 West, Section 12, Portion of Tax lots 500  
and 581)

**Prepared for**

**Matt Morvai, Vice President, Asset Management**

**PWII Owner, LLC**

222 SW Columbia St. STE#700

Portland, Oregon 97201

**Prepared by**

Carlee Michelson, Joe Thompson,  
Amy Hawkins, and John Van Staveren

**Pacific Habitat Services, Inc.**

Wilsonville, Oregon 97070

(503) 570-0800

(503) 570-0855 FAX

PHS Project Number: 6940

**May 29, 2020**



# TABLE OF CONTENTS

	<u>Page</u>
<b>I. INTRODUCTION.....</b>	<b>1</b>
<b>II. RESULTS AND DISCUSSION .....</b>	<b>1</b>
A. Landscape Setting and Land Use.....	1
B. Site Alterations.....	2
C. Precipitation Data and Analysis.....	2
D. Methods .....	2
E. Description of All Wetlands and Other Non-Wetland Waters .....	3
F. Deviation from LWI or NWI .....	5
G. Mapping Method.....	5
H. Additional Information .....	6
I. Results and Conclusions .....	6
J. Disclaimer.....	6
<b>III. REFERENCES.....</b>	<b>7</b>
<b>APPENDIX A: Figures</b>	
Figure 1: Vicinity Map (USGS)	
Figure 2: Tax Lot Map	
Figure 3: Local Wetland Inventory Map	
Figure 4: Soil Survey Map	
Figure 5: Aerial Photo	
Figure 6: Potentially Jurisdictional Wetland (Wetland Delineation Map)	
<b>APPENDIX B: Wetland Delineation Data Sheets</b>	
<b>APPENDIX C: Site photos (ground level)</b>	
<b>APPENDIX D: Wetland Definitions and Methodology (Client only)</b>	

## **I. INTRODUCTION**

Pacific Habitat Services, Inc. (PHS) conducted a wetland delineation for the Parkway Woods development site in Wilsonville, Oregon (Township 3 South, Range 1 West, Section 12, Portion of Tax lots 500 and 581). This report presents the results of PHS's wetland delineation within the study area. Figures, including a map depicting the location of wetlands within the study area, are located in Appendix A. Data sheets documenting on-site conditions are in Appendix B. Ground-level photos of the site are located in Appendix C. A discussion of the wetland delineation methodology, provided for the client, is in Appendix D.

## **II. RESULTS AND DISCUSSION**

### **A. Landscape Setting and Land Use**

The study area is located east of I-5, north of Xerox Drive, and south of Printer Parkway, in Wilsonville, Oregon. The site is bounded to the west by I-5, and to the east, north and south by existing development and open space. Adjacent land use is primarily commercial but undeveloped forest and grassy areas function as open space amenities to adjoining development.

The study area consists of gently rolling topography in the undeveloped areas, with elevations generally sloping from northwest to southeast. The highest elevations exist along the west end, at 244 feet, also extending to 242 along SW Printer Parkway. The lowest elevation in the eastern portion of the study area. The lowest surveyed elevation is 228 feet, though it is evident that elevations continue to drop down to the south flowing tributary to Coffee Lake Creek, which is located very near the eastern limits of the study area.

The pervious portions of the study area generally consist of mowed lawn grasses and mixed canopy forest, portions of which have been managed for the use of Xerox employees, including walking/running trails and Frisbee golf courses.

The lawn areas consist of facultative grasses and weedy forbs that are regularly mowed. A densely forested area south of the existing building is dominated by Oregon white oak (*Quercus garryana*, UPL), Douglas fir (*Pseudotsuga menziesii*, FACU), and cherry (*Prunus* sp.). This area has been cleared of any understory species for the Frisbee golf course.

Southwest Parkway Avenue, which is located just west of the site does include roadside ditches but these ditches lie beyond the western limits of the study area.

## B. Site Alterations

Historical photos of the study area dating to 1981 confirm that site conditions have changed little over the past 40 years. Older photos, between 1952 and 1970, reveal a patchwork of forested and farmed areas. The two remaining forested areas along the southern site boundary are part of the forested areas observable in 1952.

No recent fill material or deposits were observed within the study area.

## C. Precipitation Data and Analysis

The delineation was conducted on April 1, 2020. Recorded precipitation was 0.08 inch; precipitation for the prior two weeks totaled 1.19 inches (NRCS, 2020). Precipitation for the month of March totaled 2.43 inches, which is 58% of normal for the period of record. Precipitation for the water year to date (October 1, 2019 through March 31, 2020) totaled 11.76 inches, which is 43% of normal for the period of record.

WETS tables were unavailable for nearby stations within Clackamas County or within Washington County at the time of this report preparation. However, data from the Portland airport was available. Table 2 shows the average monthly precipitation in Portland for the three months prior to the April site visit, as well as the upper and lower values considered within normal ranges for the period of record (NRCS WETS table for Portland 1998-2020).

**Table 1. Comparison of average and observed monthly precipitation prior to the April 2020 delineation field work.**

Month	Average*	30% chance will have		Observed Precipitation**	Percent of Normal
		Less than	More than		
January 2020	5.08	3.72	5.98	7.58	150
February 2020	3.64	2.34	4.38	1.55	43
March 2020	4.20	3.12	4.92	2.43	58

\*Average Monthly Rainfall (NRCS WETS Table for Portland airport)

\*\*Recorded monthly rainfall (NRCS) for Portland, 2020

Recorded precipitation for January was well over normal levels, but February and March were below average for the area. The precipitation fluctuations preceding the delineation are not expected to have affected the wetland boundary given that the delineation also relied on the presence of hydric soil indicators, a dominance of hydrophytic vegetation, as well as topographic and geomorphic position to define the wetland boundaries.

## D. Methods

PHS delineated the limits of the wetlands on the site based on the presence of wetland hydrology, hydric soils, and hydrophytic vegetation, in accordance with the Routine On-site Determination, as described in the *Corps of Engineers Wetland Delineation Manual, Wetlands Research Program Technical Report Y-87-1* (“The 1987 Manual”) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region*. PHS delineated the limits of the Ordinary High-Water Mark (OHWM) on site in

accordance with *Corps of Engineers Guide to Ordinary High Water Mark (OHWM) Delineation for Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the United States*. PHS conducted the wetland delineation within the study area on April 1, 2020.

The entire study area was investigated for the presence of wetlands or other waters. Two wetlands were delineated within the study area; the OHWM of an unnamed tributary to Coffee Lake Creek was also delineated. Wetlands A and B were delineated based on topographic changes and changes from observed hydric soils to soils where no hydric indicators were observed. The presence/absence of saturation or a water table within the upper 12 inches of the soil profile was also used to determine the wetland boundaries, as well as the presence of hydrophytic species.

The OHWM of a tributary to Coffee Lake Creek was delineated based on a topographic break in slope, as well as changes in vegetation and sediment characteristics.

The vegetation throughout the project area generally consists of facultative grasses and weedy forbs that are regularly mowed, with scattered trees and a forested area located south of the existing building. PHS did not record additional data in areas that are topographically higher than the wetlands (other than data needed to verify the wetland/upland boundary); however, several excavations were evaluated across the entire site to determine if wetlands were present. Sample points 14, 16 and 17 are located upslope in the eastern and northwestern portions of the site. These sample points are representative of the mowed, grassy upland areas maintained and supplemented by irrigation. The upland areas do not exhibit surface indicators of wetlands (i.e. ponded surface water, geomorphic position, or stunted/stressed vegetation, FACW or wetter vegetation, etc.) or other waters. Sample points 13 and 15 represent wetland areas in these grassy irrigated lawns, which contained abundant oxidized rhizospheres.

## **E. Description of all Wetlands and Other Non-Wetland Waters**

### **Wetland A**

Wetland A is a linear swale located in the southwestern portion of the study area. Wetland A is 713 square feet (0.01 acres) in size. The Cowardin classification of Wetland A is palustrine emergent, seasonally flooded/saturated (PEME); the HGM classification is Slope.

Dominant vegetation within Wetland A is characterized by sample points 2 and 3 and includes snowberry (*Symphoricarpos albus*, FACU), slough sedge (*Carex obnupta*, OBL), and Siberian spring beauty (*Claytonia sibirica*, FAC). Soils within Wetland A meet the hydric soil criteria for Depleted Matrix (F3) and Redox Dark Surface (F6) and are therefore considered hydric.

The adjacent upland is characterized by sample points 1 and 4, which are dominated by Oregon ash (*Fraxinus latifolia*, FACW), rose (*Rosa* sp., FAC), and slough sedge. The upland lacked hydrology and contains some mapped NRCS hydric soils that appear relict. Due to a lack of chroma (faint/non-distinct redoximorphic features) the soils did not meet hydric criteria. More details are described in the data sheets.

The primary source of hydrology within Wetland A appears to be from a partially buried culvert, located at the north end of the wetland beneath an existing sidewalk and building, with inputs

from seasonal precipitation, stormwater runoff from impervious surfaces and overland flow. Surface hydrology was present within Wetland A during the site visit. Wetland A continues through a culvert under Xerox Drive and remains daylighted as it continues off site to the south into a heavily forested area adjacent to other development.

### **Wetland B**

Wetland B is located in the forested southeastern portion of the study area. Wetland B is 7,692 square feet (0.18 acres) in size. The Cowardin classification of Wetland B is palustrine forested, seasonally flooded/saturated (PFOE); the HGM classification is Slope. The wetland is forested in the southeastern corner, north of Xerox Drive with a floodplain/hydrologic connection to the seasonal tributary of Coffee Lake Creek.

Dominant vegetation includes Oregon ash, English hawthorn (*Crataegus monogyna*, FAC), red osier dogwood (*Cornus alba*, FACW), snowberry, bluegrass, slough sedge, common camas (*Camassia quamash*, FACW), woodland buttercup (*Ranunculus uncinatus*, FAC), and shining crane's bill (*Geranium lucidum*, UPL). Soils within Wetland B meet the hydric soil criteria for Redox Dark Surface (F6) and are therefore considered hydric. The forested upland is dominated by Oregon white oak (*Quercus garryana*, FACU), Douglas fir, Oregon ash, twin berry (*Oemleria cerasiformis*, FACU), snowberry, sweetbrier rose (*Rosa rubiginosa*, UPL), vine maple (*Acer circinatum*, FAC), shining crane's bill, slough sedge, sword fern (*Polystichum munitum*, FACU), fringecup (*Tellima grandiflora*, FACU), and bedstraw (*Galium aparine*, FACU).

The primary source of hydrology within Wetland B appears to be from groundwater, with inputs from seasonal precipitation and overflow from the adjacent tributary. Although other evidence of sustained surface water, a high-water table and saturation were each absent at the time of the delineation, oxidized rhizospheres were observed suggesting hydrology is present within Wetland B adequate to support a dominant hydrophytic plant community. Wetland B is truncated to the south by Xerox Drive.

### **Wetland C**

Wetland C is located in the forested southeastern portion of the study area, beginning north of Wetland B. Wetland C is 142,439 square feet (3.27 acres) in size. The Cowardin classification of Wetland C is palustrine emergent, seasonally flooded/saturated (PEME); the HGM classification is Slope. The wetland is characterized by managed lawn area due north of Wetland B. This wetland is bisected by a paved pedestrian path in the mowed lawn area, which is provided seasonal irrigation and mowed regularly.

Both the wetland and adjoining upland include field meadow foxtail (*Alopecurus pratensis*, FAC), sweet vernal grass (*Anthoxanthum odoratum*, FACU) and an unknown bluegrass (*Poa sp.*, (FAC)). Sweet vernal grass is more abundant in upland areas and field meadow foxtail is more abundant in the wetland areas. Soils within Wetland C meet the hydric soil criteria for Redox Dark Surface (F6) and Depleted Matrix (F3) and are therefore considered hydric. Evidence of hydrology was documented through oxidized rhizospheres, saturation visible in aerial imagery and FAC-neutral test. It is noted that aerial imagery suggesting wetness signatures is in large part likely due to irrigation.

The primary source of hydrology within Wetland C appears to be from overland flow (irrigation supported), with inputs from seasonal precipitation and possibly potential overflow from the adjacent tributary. The tributary is below the wetland however, and within a well-defined channel. It is unlikely that flooding reaches the majority of Wetland C from riverine overflow. Although surface water, a high-water table and saturation were absent, oxidized rhizospheres were observed, suggesting that sufficient hydrology is present within Wetland B to support a dominant hydrophytic plant community.

### **Tributary to Coffee Lake Creek**

The tributary to Coffee Lake Creek (7,884 square feet/0.18 acre) flows south through the eastern portion of the study area. The Cowardin class is riverine, intermittent, streambed, seasonally flooded (R4SBC); the HGM class is Riverine. The creek averages 2 to 4 feet wide throughout the project area.

Riparian vegetation consists of a native forest-shrub mix. Dominant species include Oregon ash, willow (*Salix* sp.), sword fern, English ivy (*Hedera helix*, FACU) and a few Oregon white oak. The upland and wetland areas adjacent to this reach of the tributary are mostly managed and mowed, apart from the forested portion of Wetland B described above.

Within the study area the tributary is low gradient with moderate, seasonal flow, and the banks are stable. Areas surrounding the tributary begin to immediately slope upward away from the channel with the exception of some flatter areas in the vicinity of Wetland B, where slopes flatten out and seasonal overflow from the tributary likely saturates Wetland B.

## **F. Deviation from LWI or NWI**

The Local Wetland Inventory (LWI) maps a linear wetland (108.d) and an intermittent channel (107.d) that coincide with PHS' delineation of Wetland A. The LWI also maps a larger wetland and an intermittent channel that coincide with PHS' delineation of Wetland B and the unnamed tributary to Coffee Lake Creek. There were no wetlands mapped at the location of Wetland C, however, which is likely due to the formation of this wetland occurring unnaturally due to lawn irrigation and pedestrian foot traffic. The LWI is otherwise consistent with PHS' delineation within the study area.

## **G. Mapping Method**

PHS flagged the limits of the wetlands and creek within the study area with blue pin flags; lime green tape was used for sample point locations. Chase, Jones & Associates, Inc. then performed a professional land survey of the delineated boundaries. The accuracy of the survey and sample points 1-8 is sub-centimeter. The remaining sample points (9-17) were placed on the map using GPS and surveyed flags; the accuracy of these data points is +/- 3 feet.

## **H. Additional Information**

The tributary to Coffee Lake Creek is not mapped as essential salmonid habitat (ESH). Streamnet does not map salmonids within the tributary or downstream in Coffee Lake Creek. Coffee Lake Creek is a direct tributary to the Willamette River. Spring and fall Chinook salmon, as well as summer and winter steelhead are mapped within the Willamette River, approximately four miles south of the study area.

## **I. Results and Conclusions**

PHS delineated Wetlands A, B and C, as well as the tributary to Coffee Lake Creek within the study area. The total area of wetland within the study area boundary is 150,844 square feet (3.46 acres), as summarized in Section E above. Other waters within the study area associated with the tributary total 7,884 square feet/0.18 acres)

## **J. Required Disclaimer**

This report documents the investigation, best professional judgment and conclusions of the investigators. It is correct and complete to the best of our knowledge. It should be considered a Preliminary Jurisdictional Determination of wetlands and other waters and used at your own risk unless it has been reviewed and approved in writing by the Oregon Department of State Lands in accordance with OAR 141-090-0005 through 141-090-0055.



### III. REFERENCES

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[http://rsgisias.crrel.usace.army.mil/nwpl\\_static/data/DOC/lists\\_2016/States/pdf/OR\\_2016v1.pdf](http://rsgisias.crrel.usace.army.mil/nwpl_static/data/DOC/lists_2016/States/pdf/OR_2016v1.pdf)

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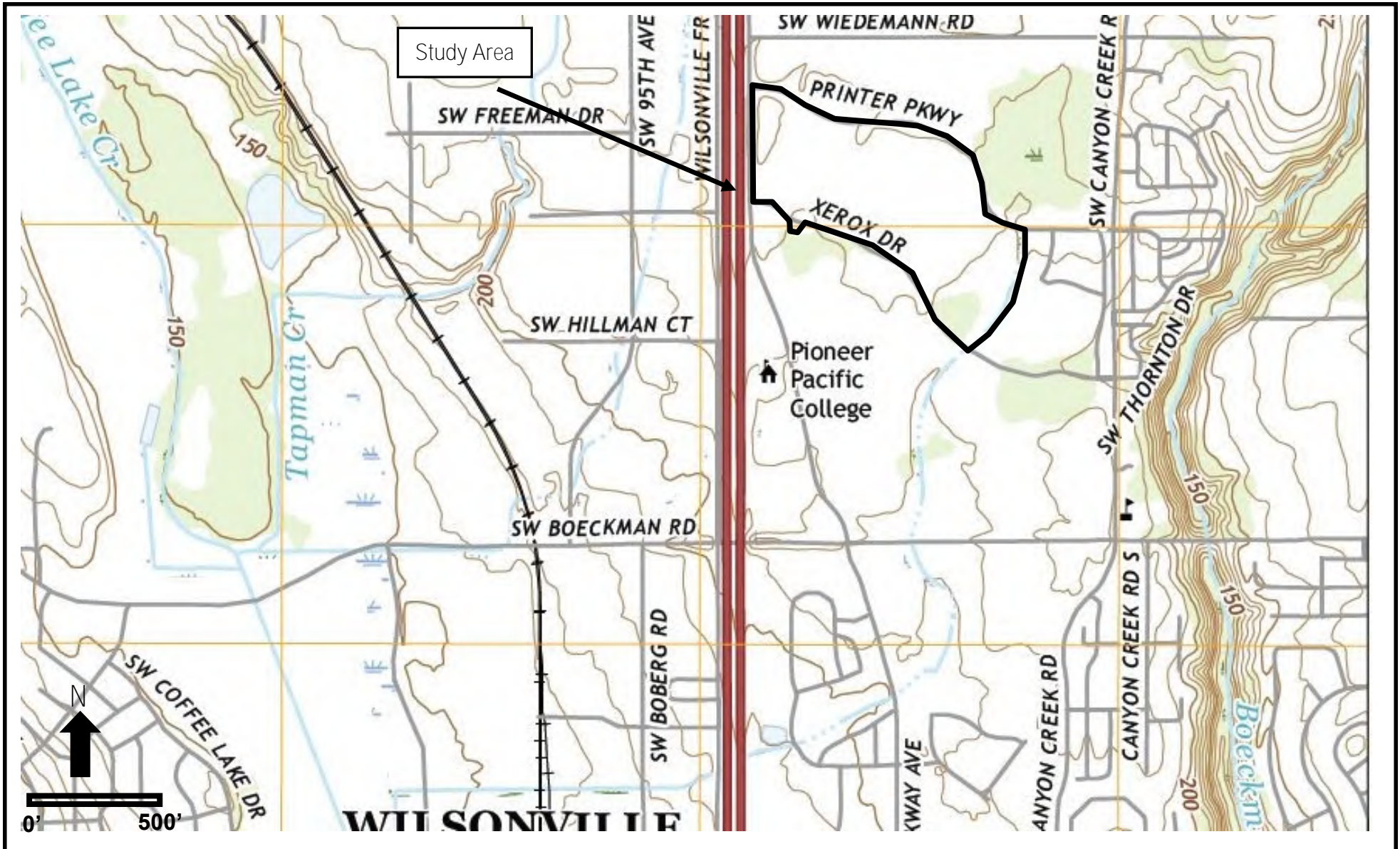
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<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>

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# Appendix A

## Figures





Study Area

SW WIEDEMANN RD

PRINTER PKWY

XEROX DR

Pioneer Pacific College

SW HILLMAN CT

SW BOECKMAN RD

SW COFFEE LAKE DR

SW BOBERG RD

KWAY AVE

ANYON CREEK RD

CANYON CREEK RD S

SW THORNTON DR

SW CANYON CREEK R

WILSONVILLE

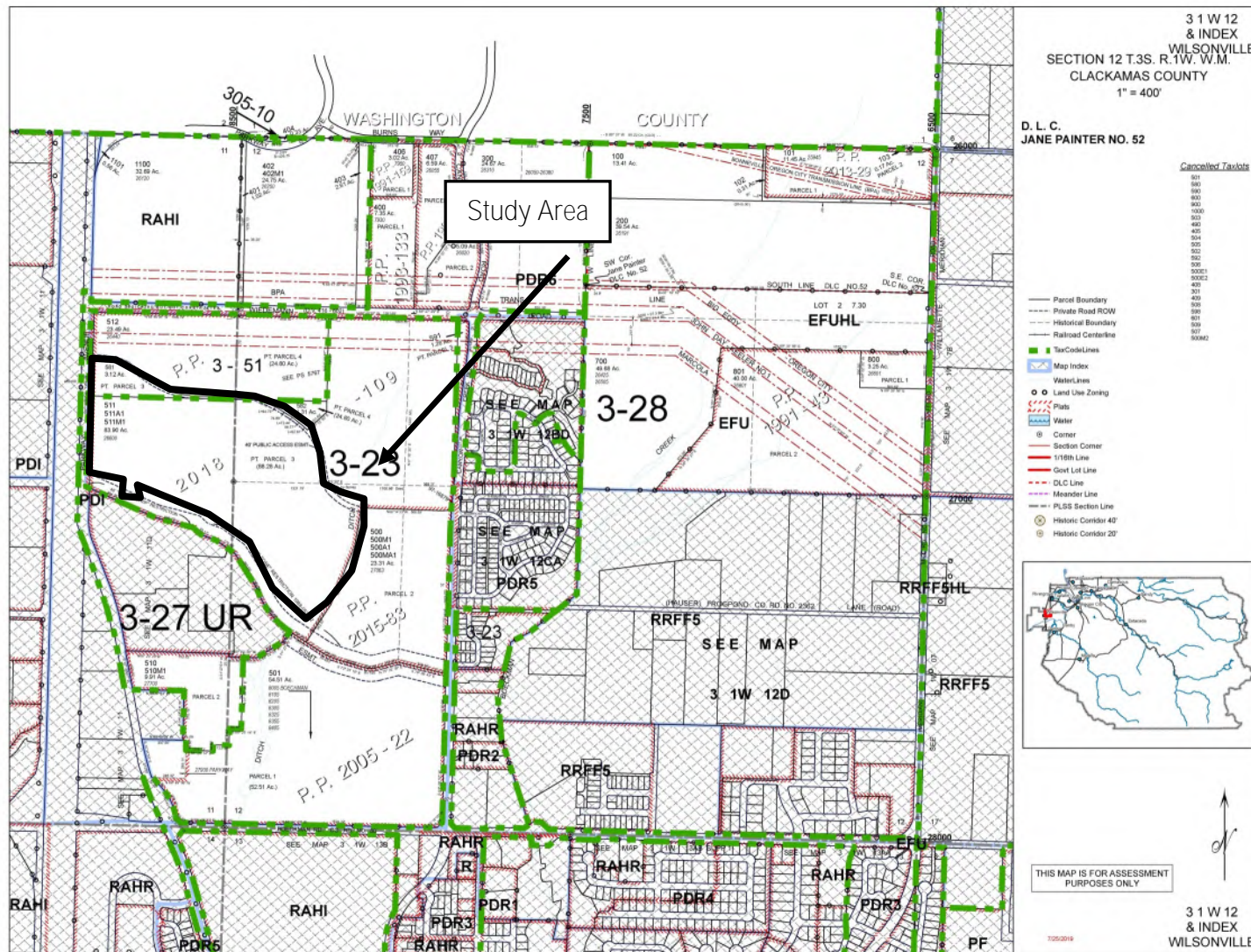
#6940  
4/2/2020



Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

General Location and Topography  
Parkway Woods - Wilsonville, Oregon  
United States Geological Survey (USGS) Sherwood, Oregon 7.5 quadrangle, 2017  
(viewer.nationalmap.gov/basic)

FIGURE  
1



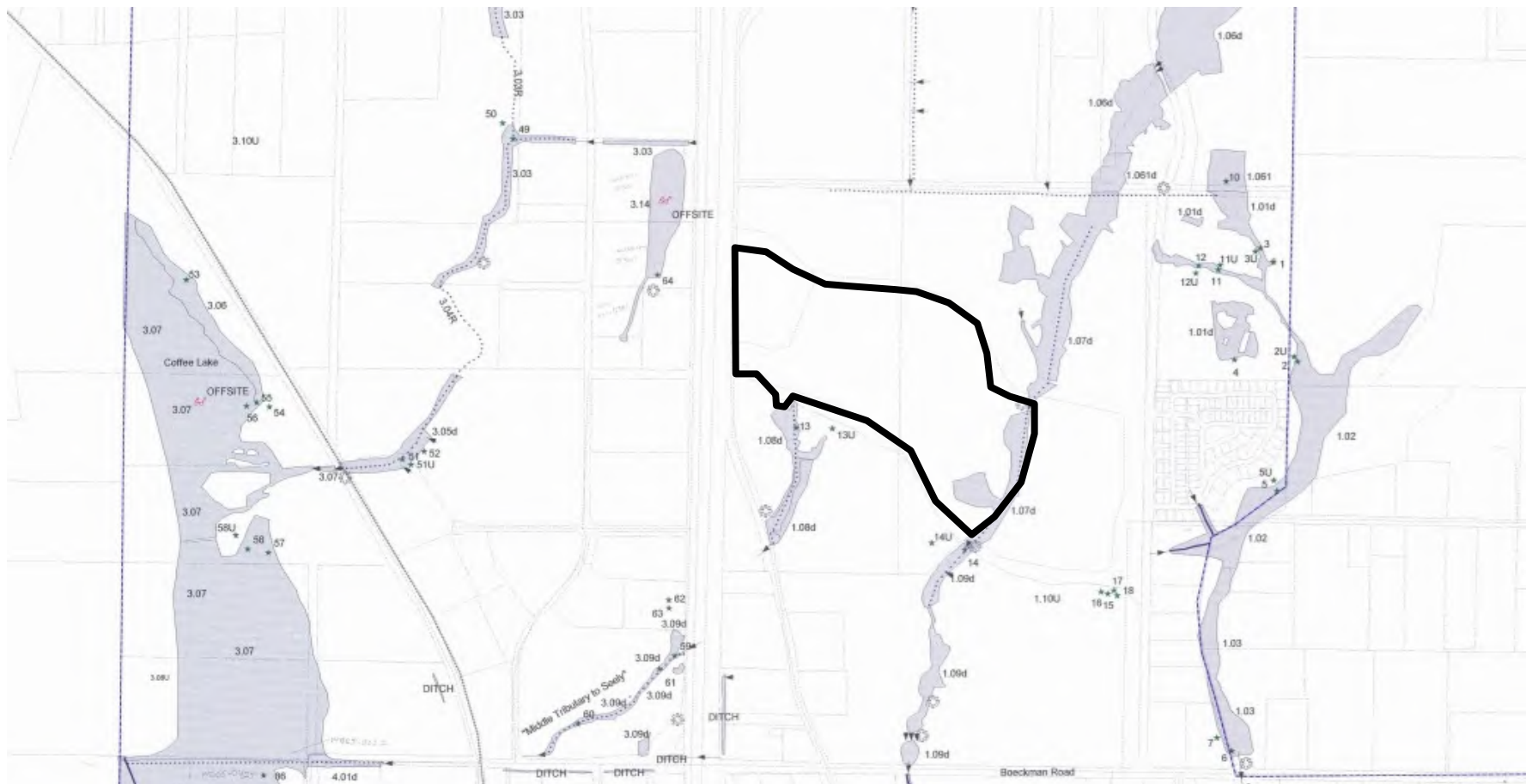
#6940  
4/2/2020



Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

Tax Lot Map  
Parkway Woods - Wilsonville, Oregon  
The Oregon Map (ormap.net)

FIGURE  
2A



<p><b>LEGEND</b></p> <ul style="list-style-type: none"> <li>WETLANDS</li> <li>TAX LOTS</li> <li>STREAMS</li> <li>INTERMITTENT</li> <li>PERENNIAL</li> <li>UGB</li> <li>CULVERT LOCATIONS</li> <li>RAILROAD</li> <li>STREETS</li> <li>CLACKAMAS/WASHINGTON COUNTY LINE</li> <li>VIEWPOINTS</li> <li>WETLANDS MAPPED OFF-SITE</li> <li>SAMPLE PLOT LOCATIONS</li> </ul>		<ul style="list-style-type: none"> <li>1.01 - WETLAND SITE ID</li> <li>6.03d - DELINEATED WETLAND SITE ID</li> <li>4.15R - RIPARIAN SITE ID</li> <li>1.04U - UPLAND SITE ID</li> <li>+ 95 - SAMPLE PLOT ID</li> </ul>	<p>400 0 400 800 1200 Feet</p> <p><b>Map Scale: 1 inch = 400 feet</b></p>		<p>Fishman Environmental Services Conservation Strategy and Natural Resource Management</p> <p>434 NW Sixth Avenue, Suite 304 Portland, OR 97209 (503) 224-0330</p> <p><b>CITY OF WILSONVILLE</b> in OREGON</p> <p>30000 SW Town Center Loop E Wilsonville, OR 97070 (503) 682-4960</p>	<p><b>CITY OF WILSONVILLE LOCAL WETLANDS AND RIPARIAN CORRIDOR INVENTORY NORTH</b></p> <p><small>Draft Map prepared 4/02, revised 12/97 Aerial Photography, July 8, 1999 Data Sources: Digital Orthophotography, Spencer S. Greig, Roads, Tracks, Rail, Streets, UGB - Metro-RLS Database Map Projection: Oregon State Plane North Zone Datum: NAD 83, Units = International Feet</small></p>
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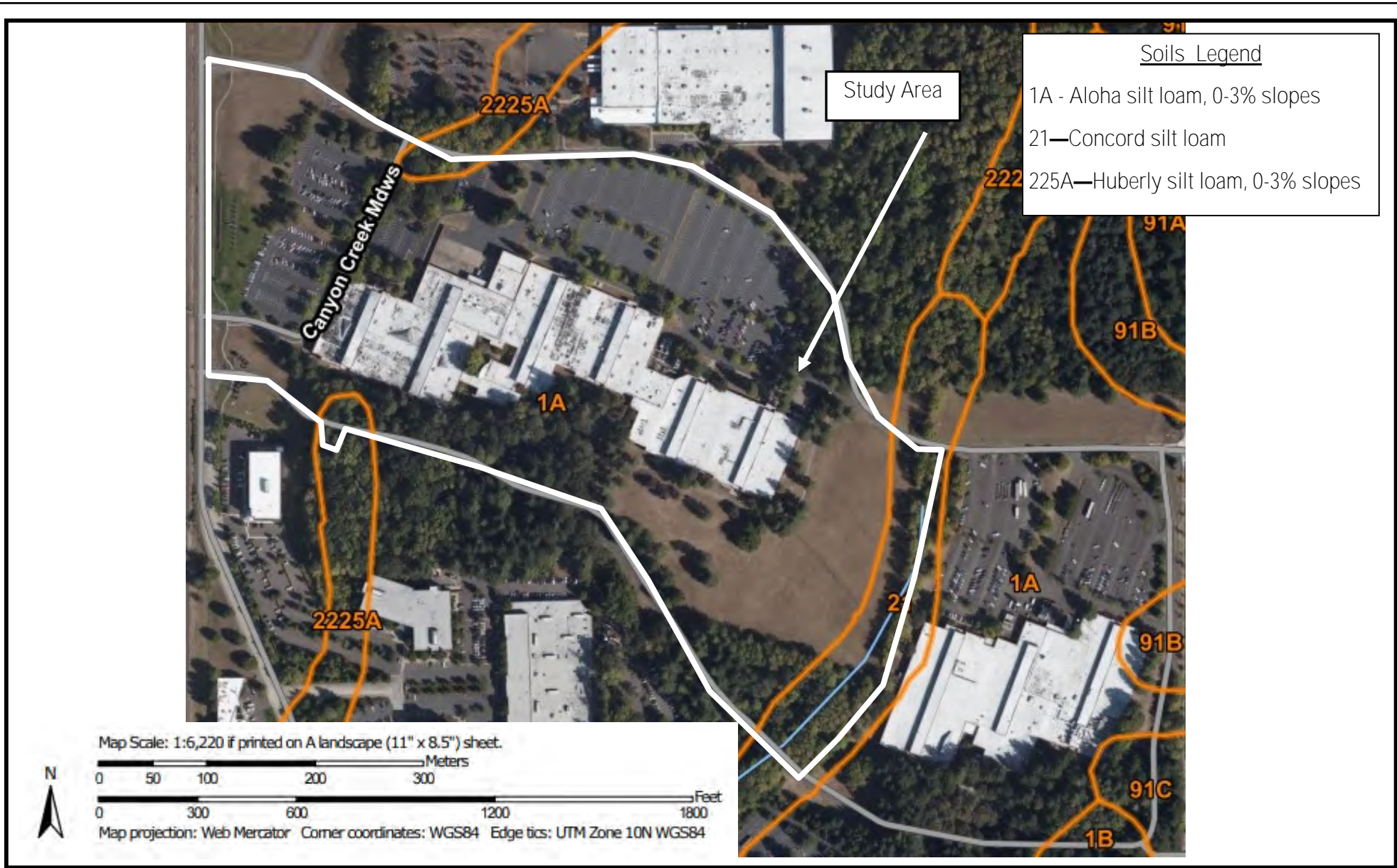
#6940  
4/2/2020



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Wilsonville, OR 97070

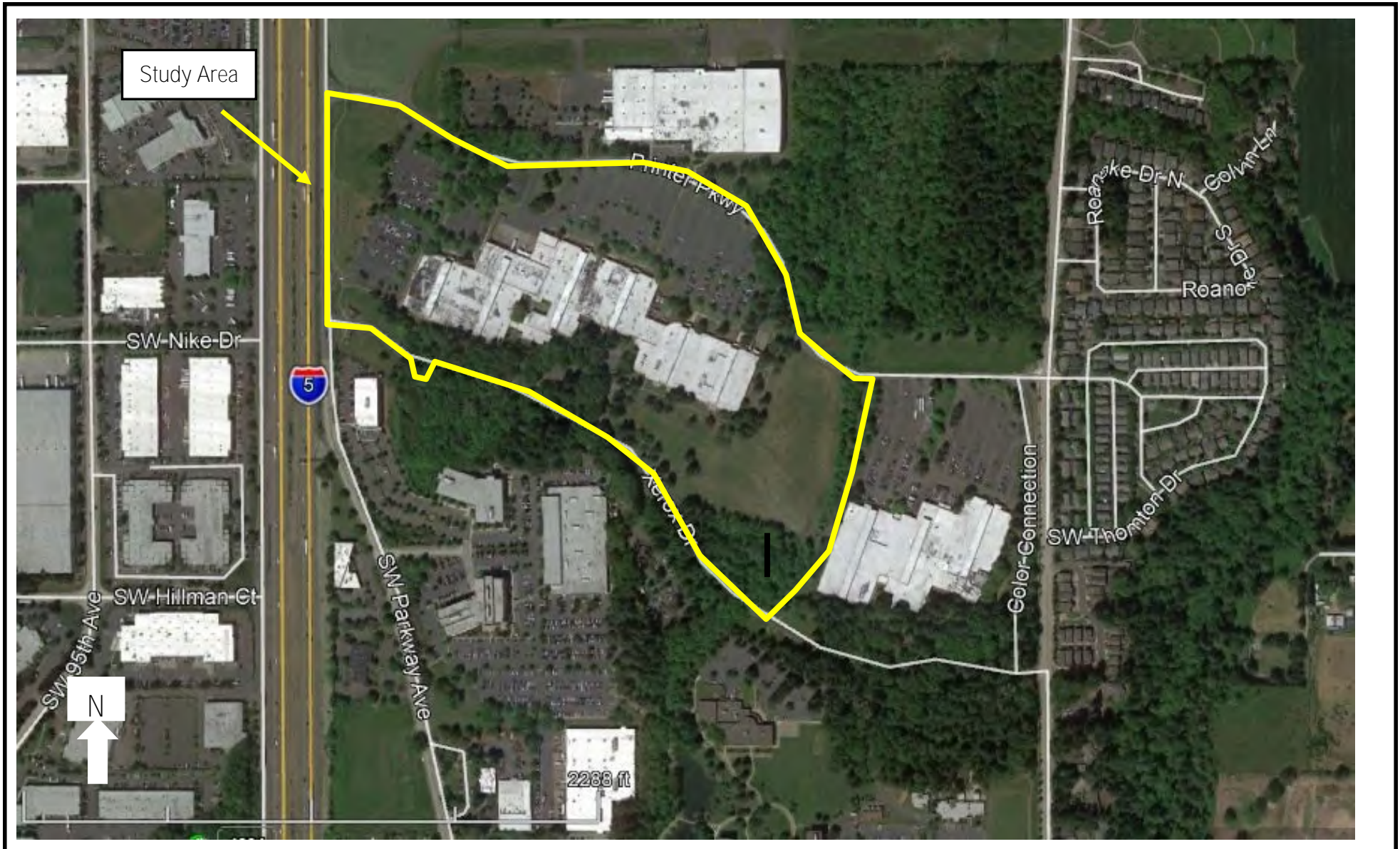
LWI  
Parkway Woods - Wilsonville, Oregon  
Fishman Environmental Services, 1999

FIGURE  
3



Soils  
Parkway Woods - Wilsonville, Oregon  
Natural Resources Conservation Services, Web Soil Survey, 2019  
(websoilsurvey.sc.egov.usda.gov)

FIGURE  
4



Study Area

#6940  
4/2/2020

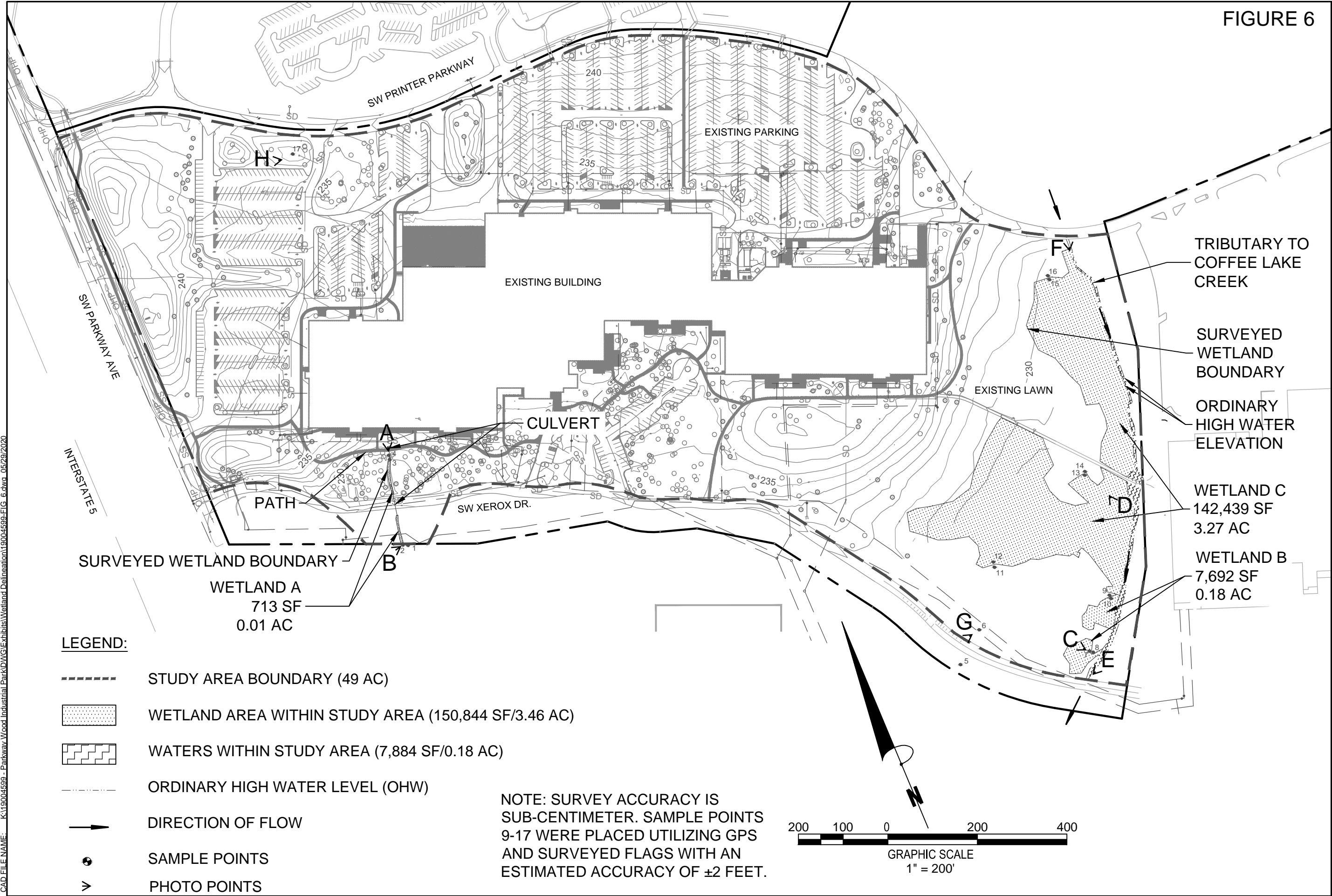


Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070



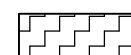



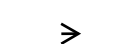
Aerial Photo  
Parkway Woods - Wilsonville, Oregon  
GoogleEarth, 2019

FIGURE  
5

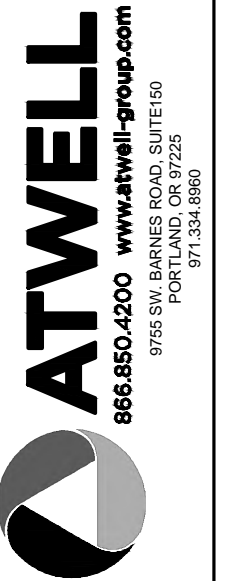
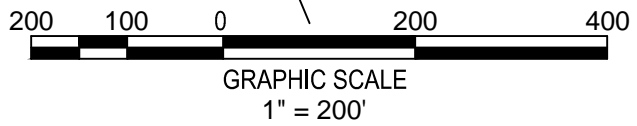
FIGURE 6



**LEGEND:**

-  STUDY AREA BOUNDARY (49 AC)
-  WETLAND AREA WITHIN STUDY AREA (150,844 SF/3.46 AC)
-  WATERS WITHIN STUDY AREA (7,884 SF/0.18 AC)
-  ORDINARY HIGH WATER LEVEL (OHW)
-  DIRECTION OF FLOW
-  SAMPLE POINTS
-  PHOTO POINTS

NOTE: SURVEY ACCURACY IS SUB-CENTIMETER. SAMPLE POINTS 9-17 WERE PLACED UTILIZING GPS AND SURVEYED FLAGS WITH AN ESTIMATED ACCURACY OF ±2 FEET.



PARKWAY WOODS BUSINESS PARK  
WILSONVILLE, OREGON  
**EXISTING CONDITIONS**

JOB #	19004599
DATE	5/29/2020
SCALE	AS SHOWN
DRAWN	BLB
SHT	1 OF 1

CAD FILE NAME: K:\19004599 - Parkway Wood Industrial Park\DWG\3.Exhibits\Wetland Delineation\19004599-FIG. 6.dwg 05/29/2020



# Appendix B

## Wetland Determination Data Sheets



WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 1  
 Investigator(s): JT/CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): <5%  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	<b>Is Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks:					

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (plot size: <u>30</u> )				<b>Dominance Test worksheet:</b>
1 <u><i>Fraxinus latifolia</i></u>	<u>100</u>	<u>X</u>	<u>FACW</u>	Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A)
2 _____				Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3 _____				Percent of Dominant Species That are OBL, FACW, or FAC: <u>75%</u> (A/B)
4 _____				<b>Prevalence Index Worksheet:</b>
5 _____	<u>100</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (plot size: <u>15</u> )				OBL Species _____ x 1 = <u>0</u>
1 <u><i>Rosa sp.</i></u>	<u>20</u>	<u>X</u>	<u>(FAC)</u>	FACW species _____ x 2 = <u>0</u>
2 <u><i>Ilex sp.</i></u>	<u>5</u>		<u>(FAC)</u>	FAC Species _____ x 3 = <u>0</u>
3 <u><i>Rubus armeniacus</i></u>	<u>2</u>		<u>FAC</u>	FACU Species _____ x 4 = <u>0</u>
4 _____				UPL Species _____ x 5 = <u>0</u>
5 _____				Column Totals <u>0</u> (A) <u>0</u> (B)
	<u>27</u>	= Total Cover		Prevalence Index =B/A = <u>#DIV/0!</u>
<b>Herb Stratum</b> (plot size: <u>5</u> )				<b>Hydrophytic Vegetation Indicators:</b>
1 <u><i>Carex obnupta</i></u>	<u>30</u>	<u>X</u>	<u>OBL</u>	_____ 1- Rapid Test for Hydrophytic Vegetation
2 <u>Unidentified grass</u>	<u>5</u>		<u>(FAC)</u>	<u>X</u> 2- Dominance Test is >50%
3 _____				_____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup>
4 _____				_____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet)
5 _____				_____ 5- Wetland Non-Vascular Plants <sup>1</sup>
6 _____				_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
7 _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8 _____				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
	<u>35</u>	= Total Cover		
<b>Woody Vine Stratum</b> (plot size: <u>15</u> )				
1 <u><i>Hedera helix</i></u>	<u>40</u>	<u>X</u>	<u>FACU</u>	
2 _____				
	<u>40</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>65</u>				
Remarks:				

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<b>0-6</b>	<b>10YR 3/1</b>	<b>100</b>					<b>Silty Clay Loam</b>	
<b>6-16</b>	<b>10YR 3/1</b>	<b>90</b>	<b>10YR 3/3</b>	<b>10</b>	<b>C</b>	<b>M</b>	<b>Silty Clay Loam</b>	<b>Large</b>

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)** **Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:  
**Redox is faint (non-distinct), and therefore does not meet Redox Dark Surface (F6) criteria. Soils appear relict. This area has mapped NRCS hydric soils, possibly an old swale that was altered by development several decades ago and lost hydrology from the controlled conveyance of storm infrastructure.**

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input checked="" type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**  
 Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): >16  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): >16

**Wetland Hydrology Present?**  
 Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 2  
 Investigator(s): JT/CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): None Slope (%): <5%  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	<b>Is Sampled Area within a Wetland?</b>	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks:					

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (plot size: _____)				<b>Dominance Test worksheet:</b>	
1 _____	_____	_____	_____	Number of Dominant Species	
2 _____	_____	_____	_____	That are OBL, FACW, or FAC: <u>3</u> (A)	
3 _____	_____	_____	_____	Total Number of Dominant	
4 _____	_____	_____	_____	Species Across All Strata: <u>5</u> (B)	
	<u>0</u>	= Total Cover		Percent of Dominant Species	
<b>Sapling/Shrub Stratum</b> (plot size: <u>15</u> )				That are OBL, FACW, or FAC: <u>60%</u> (A/B)	
1 <u><i>Symphoricarpos albus</i></u>	<u>10</u>	<u>X</u>	<u>FACU</u>	<b>Prevalence Index Worksheet:</b>	
2 _____	_____	_____	_____		Total % Cover of _____ Multiply by: _____
3 _____	_____	_____	_____		OBL Species _____ x 1 = <u>0</u>
4 _____	_____	_____	_____		FACW species _____ x 2 = <u>0</u>
5 _____	_____	_____	_____		FAC Species _____ x 3 = <u>0</u>
	<u>10</u>	= Total Cover		FACU Species _____ x 4 = <u>0</u>	
<b>Herb Stratum</b> (plot size: <u>5</u> )				UPL Species _____ x 5 = <u>0</u>	
1 <u><i>Carex obnupta</i></u>	<u>10</u>	<u>X</u>	<u>OBL</u>	Column Totals <u>0</u> (A) <u>0</u> (B)	
2 <u><i>Claytonia sibirica</i></u>	<u>10</u>	<u>X</u>	<u>FAC</u>	Prevalence Index =B/A = <u>#DIV/0!</u>	
3 <u><i>Galium aparine</i></u>	<u>5</u>	_____	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b>	
4 <u><i>Ranunculus repens</i></u>	<u>10</u>	<u>X</u>	<u>FAC</u>		_____ 1- Rapid Test for Hydrophytic Vegetation
5 _____	_____	_____	_____		<u>X</u> 2- Dominance Test is >50%
6 _____	_____	_____	_____		_____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup>
7 _____	_____	_____	_____		_____ 4-Morphological Adaptations <sup>1</sup> (provide supporting
8 _____	_____	_____	_____	_____ 5- Wetland Non-Vascular Plants <sup>1</sup>	
	<u>35</u>	= Total Cover		_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
<b>Woody Vine Stratum</b> (plot size: <u>15</u> )				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1 <u><i>Hedera helix</i></u>	<u>40</u>	<u>X</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____	
2 _____	_____	_____	_____		
	<u>40</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>65</u>					
Remarks:					

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<b>0-2</b>	<b>10YR 4/1</b>	<b>100</b>					<b>Silty Clay Loam</b>	
<b>2-12</b>	<b>1YR 4/1</b>	<b>90</b>	<b>10YR 4/6</b>	<b>10</b>	<b>C</b>	<b>M</b>	<b>Silty Clay Loam</b>	<b>Medium</b>

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)** **Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present? Yes  No**

Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**  
 Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): Surface  
 Saturation Present? Yes  No  Depth (inches): Surface  
 (includes capillary fringe)

**Wetland Hydrology Present? Yes  No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: \_\_\_\_\_

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 3  
 Investigator(s): JT/CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): None Slope (%): <5%  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation X Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) N  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	<b>Is Sampled Area within a Wetland?</b>	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks:					

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	
<u>Tree Stratum</u> (plot size: _____)				<b>Dominance Test worksheet:</b>
1 _____				Number of Dominant Species _____
2 _____				That are OBL, FACW, or FAC: _____ (A)
3 _____				Total Number of Dominant Species Across All Strata: _____ (B)
4 _____				Percent of Dominant Species That are OBL, FACW, or FAC: <u>#DIV/0!</u> (A/B)
<u>0</u> = Total Cover				<b>Prevalence Index Worksheet:</b>
<u>Sapling/Shrub Stratum</u> (plot size: _____)				Total % Cover of _____ Multiply by: _____
1 _____				OBL Species _____ x 1 = <u>0</u>
2 _____				FACW species _____ x 2 = <u>0</u>
3 _____				FAC Species _____ x 3 = <u>0</u>
4 _____				FACU Species _____ x 4 = <u>0</u>
5 _____				UPL Species _____ x 5 = <u>0</u>
<u>0</u> = Total Cover				Column Totals <u>0</u> (A) <u>0</u> (B)
<u>Herb Stratum</u> (plot size: _____)				Prevalence Index =B/A = <u>#DIV/0!</u>
1 _____				<b>Hydrophytic Vegetation Indicators:</b>
2 _____				_____ 1- Rapid Test for Hydrophytic Vegetation
3 _____				_____ 2- Dominance Test is >50%
4 _____				_____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup>
5 _____				_____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet)
6 _____				_____ 5- Wetland Non-Vascular Plants <sup>1</sup>
7 _____				<u>X</u> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
8 _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u>0</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
<u>Woody Vine Stratum</u> (plot size: _____)				
1 _____				
2 _____				
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>100</u>				

Remarks:  
**Vegetation cleared for landscaping**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-2	10YR 3/1	50					Muck	Mixed matrix
0-2	10YR 4/1	50					Silty Clay Loam	Mixed matrix
2-10	10YR 3/2	90	10YR 4/2	10	D	M	Silty Clay Loam	Large
10-13	10YR 4/1	80	10YR 2.5/1	10	C	M	Silty Clay Loam	Large
10-13			7.5YR 5/8	10	C	M	Silty Clay Loam	Large

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

soils were observed as being saturated for at least two weeks during the early growing season.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one required; check all that apply)**

**Secondary Indicators (2 or more required)**

<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): 6  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): Surface

**Wetland Hydrology Present?**

Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 4  
 Investigator(s): JT/CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): None Slope (%): <5%  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation X Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) N  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	<b>Is Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks:					

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (plot size: <u>30</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That are OBL, FACW, or FAC: <u>33%</u> (A/B)
1	<u>50</u>	<u>X</u>	<u>FACU</u>	
2	<u>10</u>		<u>(FAC)</u>	
3				
4				
	<u>60</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (plot size: _____)				<b>Prevalence Index Worksheet:</b> Total % Cover of _____ Multiply by: OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) <u>0</u> (B)  Prevalence Index =B/A = <u>#DIV/0!</u>
1				
2				
3				
4				
5				
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (plot size: <u>5</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ 1- Rapid Test for Hydrophytic Vegetation _____ 2- Dominance Test is >50% _____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup> _____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet) _____ 5- Wetland Non-Vascular Plants <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
1	<u>5</u>	<u>X</u>	<u>FACU</u>	
2	<u>5</u>	<u>X</u>	<u>FAC</u>	
3				
4				
5				
6				
7				
8				
	<u>10</u>	= Total Cover		
<b>Woody Vine Stratum</b> (plot size: _____)				
1				
2				
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>90</u>				

Remarks:  
**Area is cleared of groundcover, but trees are representative of conditions.**



**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<u>0-7</u>	<u>10YR 3/1</u>	<u>100</u>					<u>Silty Clay Loam</u>	
<u>7-14</u>	<u>10YR 3/1</u>	<u>95</u>	<u>10YR 3/6</u>	<u>5</u>	<u>C</u>	<u>M</u>	<u>Silty Clay Loam</u>	<u>Medium</u>

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)** **Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:  
**Soils appear relict. This area has mapped NRCS hydric soils, possibly an old swale that was altered by development several decades ago and lost hydrology from the controlled conveyance of storm infrastructure.**

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**  
 Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): >14  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): 0-2;>14

**Wetland Hydrology Present?**  
 Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
**Saturation at surface only and not associated with high ground water table.**

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 5  
 Investigator(s): JT/CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Borrow Pit Local relief (concave, convex, none): None Slope (%): <5%  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			

Remarks:

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
<b>Tree Stratum</b> (plot size: _____)				Number of Dominant Species	
1	_____	_____	_____	That are OBL, FACW, or FAC: _____ (A)	
2	_____	_____	_____	Total Number of Dominant Species Across All Strata: _____ (B)	
3	_____	_____	_____	Percent of Dominant Species That are OBL, FACW, or FAC: <u>#DIV/0!</u> (A/B)	
4	_____	_____	_____	<b>Prevalence Index Worksheet:</b>	
5	_____	_____	_____	Total % Cover of _____ Multiply by:	
	<u>0</u>	= Total Cover		OBL Species _____ x 1 = <u>0</u>	
<b>Sapling/Shrub Stratum</b> (plot size: _____)				FACW species _____ x 2 = <u>0</u>	
1	_____	_____	_____	FAC Species _____ x 3 = <u>0</u>	
2	_____	_____	_____	FACU Species _____ x 4 = <u>0</u>	
3	_____	_____	_____	UPL Species _____ x 5 = <u>0</u>	
4	_____	_____	_____	Column Totals <u>0</u> (A) <u>0</u> (B)	
5	_____	_____	_____	Prevalence Index =B/A = <u>#DIV/0!</u>	
	<u>0</u>	= Total Cover		<b>Hydrophytic Vegetation Indicators:</b>	
<b>Herb Stratum</b> (plot size: _____)				_____ 1- Rapid Test for Hydrophytic Vegetation	
1	_____	_____	_____	_____ 2- Dominance Test is >50%	
2	_____	_____	_____	_____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup>	
3	_____	_____	_____	_____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet)	
4	_____	_____	_____	_____ 5- Wetland Non-Vascular Plants <sup>1</sup>	
5	_____	_____	_____	_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
6	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
7	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b>	
8	_____	_____	_____	Yes _____ No <u>X</u>	
	<u>0</u>	= Total Cover			
<b>Woody Vine Stratum</b> (plot size: _____)					
1	_____	_____	_____		
2	_____	_____	_____		
	<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>0</u>					

Remarks:  
**Ground covered by leaf litter and/or duff. Adjacent vegetation includes ponderosa pine, cherry, Oregon oak, Himalayan blackberry and swordfern. No vegetation in borrow pit.**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-7	10YR 4/1	100					Silty Clay Loam	
7-12	10YR 4/1	95	7.5YR 4/6	5	C	M	Silty Clay Loam	Large
12-16	10YR 4/1	10	5YR 4/6	30	C	M	Silty Clay Loam	Large
12-16			10YR 4/6	40	C	M	Silty Clay Loam	Large

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one required; check all that apply)**

**Secondary Indicators (2 or more required)**

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): >16  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): >16

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**This sparse vegetation is not caused by natural conditions indicating that the hydrology meets B8, but rather an extracation of soil from a borrow pit some time ago.**

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 6  
 Investigator(s): JT/CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): <5%  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks:					

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<b>Tree Stratum</b> (plot size: <u>30</u> )				Number of Dominant Species
1 <u><i>Pseudotsuga menziesii</i></u>	<u>50</u>	<u>X</u>	<u>FACU</u>	That are OBL, FACW, or FAC: <u>2</u> (A)
2 <u><i>Quercus garryana</i></u>	<u>20</u>	<u>X</u>	<u>FACU</u>	
3 <u><i>Crataegus monogyna</i></u>	<u>10</u>		<u>FAC</u>	Total Number of Dominant Species Across All Strata: <u>8</u> (B)
4 <u><i>Populus balsamifera</i></u>	<u>5</u>		<u>FAC</u>	Percent of Dominant Species That are OBL, FACW, or FAC: <u>25%</u> (A/B)
	<u>85</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (plot size: <u>15</u> )				<b>Prevalence Index Worksheet:</b>
1 <u><i>Symphoricarpos albus</i></u>	<u>10</u>	<u>X</u>	<u>FACU</u>	Total % Cover of _____ Multiply by: _____
2 <u><i>Rosa rubiginosa</i></u>	<u>10</u>	<u>X</u>	<u>UPL</u>	OBL Species _____ x 1 = <u>0</u>
3 <u><i>Acer circinatum</i></u>	<u>10</u>	<u>X</u>	<u>FAC</u>	FACW species _____ x 2 = <u>0</u>
4 <u><i>Corylus cornuta</i></u>	<u>5</u>		<u>FACU</u>	FAC Species _____ x 3 = <u>0</u>
5 _____				FACU Species _____ x 4 = <u>0</u>
	<u>35</u>	= Total Cover		UPL Species _____ x 5 = <u>0</u>
<b>Herb Stratum</b> (plot size: <u>5</u> )				Column Totals <u>0</u> (A) <u>0</u> (B)
1 <u><i>Carex obnupta</i></u>	<u>5</u>	<u>X</u>	<u>OBL</u>	Prevalence Index =B/A = <u>#DIV/0!</u>
2 <u><i>Polystichum munitum</i></u>	<u>5</u>	<u>X</u>	<u>FACU</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
	<u>10</u>	= Total Cover		
<b>Woody Vine Stratum</b> (plot size: <u>15</u> )				<b>Hydrophytic Vegetation Indicators:</b>
1 <u><i>Hedera helix</i></u>	<u>10</u>	<u>X</u>	<u>FACU</u>	_____ 1- Rapid Test for Hydrophytic Vegetation
2 _____				_____ 2- Dominance Test is >50%
	<u>10</u>	= Total Cover		_____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup>
% Bare Ground in Herb Stratum <u>90</u>				_____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet)
Remarks:				_____ 5- Wetland Non-Vascular Plants <sup>1</sup>
<b>This pit is representative of the majority of upland forested area in the southeast corner of the site.</b>				_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<b>0-6</b>	<b>10YR 3/2</b>	<b>99</b>	<b>10YR 4/3</b>	<b>1</b>	<b>C</b>	<b>M</b>	<b>Silty Clay Loam</b>	<b>Fine</b>
<b>6-16</b>	<b>10YR 3/2</b>	<b>95</b>	<b>10YR 4/6</b>	<b>5</b>	<b>C</b>	<b>M</b>	<b>Silty Clay Loam</b>	<b>Fine</b>

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)** **Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:  
**Some water likely accumulates from precipitation due to geomorphic position that induces hydric soils, but no other indicators support wetland.**

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**  
 Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): >16  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): 0-2;>16

**Wetland Hydrology Present?**  
 Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
**Saturation at the surface only and not associated with high ground water table.**

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 7  
 Investigator(s): JT/CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): <5%  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	Is Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks:					

**VEGETATION - Use scientific names of plants.**

Tree Stratum (plot size: <u>30</u> )	absolute % cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Fraxinus latifolia</u>	<u>100</u>	<u>X</u>	<u>FACW</u>	
2 _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species That are OBL, FACW, or FAC: <u>60%</u> (A/B)
4 _____	_____	_____	_____	Prevalence Index Worksheet:
5 _____	<u>100</u>	= Total Cover		
Sapling/Shrub Stratum (plot size: <u>15</u> )				OBL Species <u>90</u> x 1 = <u>90</u>
1 <u>Symphoricarpos albus</u>	<u>20</u>	<u>X</u>	<u>FACU</u>	FACW species <u>110</u> x 2 = <u>220</u>
2 <u>Fraxinus latifolia</u>	<u>10</u>	<u>X</u>	<u>FACW</u>	FAC Species <u>5</u> x 3 = <u>15</u>
3 <u>Toxicodendron diversilobum</u>	<u>1</u>	_____	<u>FAC</u>	FACU Species <u>25</u> x 4 = <u>100</u>
4 _____	_____	_____	_____	UPL Species <u>30</u> x 5 = <u>150</u>
5 _____	_____	_____	_____	Column Totals <u>260</u> (A) <u>575</u> (B)
	<u>31</u>	= Total Cover		Prevalence Index =B/A = <u>2.21</u>
Herb Stratum (plot size: <u>5</u> )				Hydrophytic Vegetation Indicators:
1 <u>Carex obnupta</u>	<u>90</u>	<u>X</u>	<u>OBL</u>	
2 <u>Geranium lucidum</u>	<u>30</u>	<u>X</u>	<u>UPL</u>	<u>X</u> 2- Dominance Test is >50%
3 <u>Galium aparine</u>	<u>5</u>	_____	<u>FACU</u>	<u>X</u> 3-Prevalence Index is ≤ 3.0 <sup>1</sup>
4 <u>Claytonia sibirica</u>	<u>3</u>	_____	<u>FAC</u>	4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet)
5 <u>Trillium sp.</u>	<u>2</u>	_____	<u>(FAC)</u>	5- Wetland Non-Vascular Plants <sup>1</sup>
6 _____	_____	_____	_____	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
7 _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8 _____	_____	_____	_____	
	<u>130</u>	= Total Cover		
Woody Vine Stratum (plot size: _____)				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				

Remarks:  
**Rubus ursinus <1% in shrub layer.**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR 3/1	88	7.5YR 3/3	10	C	M	Silty Clay Loam	Large
0-12			7.5YR 3/3	2	C	PL	Silty Clay Loam	ORs

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)** **Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input checked="" type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**  
 Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): >12  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): >12

**Wetland Hydrology Present?** Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: \_\_\_\_\_

Remarks: \_\_\_\_\_

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 8  
 Investigator(s): JT/CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Berm Local relief (concave, convex, none): None Slope (%): <5%  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks:					

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
<b>Tree Stratum</b> (plot size: <u>30</u> )				Number of Dominant Species	
1 <u>Quercus garryana</u>	<u>70</u>	<u>X</u>	<u>FACU</u>	That are OBL, FACW, or FAC: <u>0</u> (A)	
2 _____				Total Number of Dominant Species Across All Strata: <u>4</u> (B)	
3 _____				Percent of Dominant Species	
4 _____				That are OBL, FACW, or FAC: <u>0%</u> (A/B)	
	<u>70</u>	= Total Cover		<b>Prevalence Index Worksheet:</b>	
<b>Sapling/Shrub Stratum</b> (plot size: <u>15</u> )				Total % Cover of _____ Multiply by: _____	
1 <u>Symphoricarpos albus</u>	<u>50</u>	<u>X</u>	<u>FACU</u>	OBL Species _____ x 1 = <u>0</u>	
2 <u>Crataegus monogyna</u>	<u>10</u>		<u>FAC</u>	FACW species _____ x 2 = <u>0</u>	
3 <u>Amelanchier alnifolia</u>	<u>10</u>		<u>FACU</u>	FAC Species _____ x 3 = <u>0</u>	
4 <u>Acer circinatum</u>	<u>5</u>		<u>FAC</u>	FACU Species _____ x 4 = <u>0</u>	
5 _____				UPL Species _____ x 5 = <u>0</u>	
	<u>75</u>	= Total Cover		Column Totals <u>0</u> (A)	<u>0</u> (B)
<b>Herb Stratum</b> (plot size: <u>5</u> )				Prevalence Index =B/A = <u>#DIV/0!</u>	
1 <u>Geranium lucidum</u>	<u>40</u>	<u>X</u>	<u>UPL</u>	<b>Hydrophytic Vegetation Indicators:</b>	
2 <u>Galium aparine</u>	<u>20</u>	<u>X</u>	<u>FACU</u>	_____ 1- Rapid Test for Hydrophytic Vegetation	
3 <u>Camassia quamash</u>	<u>10</u>		<u>FACW</u>	_____ 2- Dominance Test is >50%	
4 <u>Nemophila parviflora</u>	<u>10</u>		<u>UPL</u>	_____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup>	
5 _____				_____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet)	
6 _____				_____ 5- Wetland Non-Vascular Plants <sup>1</sup>	
7 _____				_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
8 _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	<u>80</u>	= Total Cover		<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>	
<b>Woody Vine Stratum</b> (plot size: _____)					
1 _____					
2 _____					
	<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>20</u>					
Remarks:					



**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-8	10YR 3/1	99	10YR 3/3	1	C	M	Silty Clay Loam	Fine
8-14	10YR 3/1	95	10YR 3/6	5	C	M	Silty Clay Loam	Fine

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)** **Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

**Hydric Soil Present? Yes  No**

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes  No  Depth (inches): >14

Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): 0-1; 14

**Wetland Hydrology Present? Yes  No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**Saturation in upper horizon not associated with high water table.**

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 9  
 Investigator(s): CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Convex Slope (%): <1  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks:					

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
<u>Tree Stratum</u> (plot size: <u>30</u> )				Number of Dominant Species	
1 <u>Fraxinus latifolia</u>	<u>80</u>	<u>X</u>	<u>FACW</u>	That are OBL, FACW, or FAC: <u>4</u> (A)	
2 <u>Quercus garryana</u>	<u>10</u>		<u>FACU</u>	Total Number of Dominant Species Across All Strata: <u>8</u> (B)	
3 <u>Acer macrophyllum</u>	<u>10</u>		<u>FACU</u>	Percent of Dominant Species That are OBL, FACW, or FAC: <u>50%</u> (A/B)	
4 _____				Prevalence Index Worksheet:	
	<u>100</u>	= Total Cover		Total % Cover of _____ Multiply by: _____	
<u>Sapling/Shrub Stratum</u> (plot size: <u>15</u> )				OBL Species _____ x 1 = <u>0</u>	
1 <u>Symphoricarpos albus</u>	<u>50</u>	<u>X</u>	<u>FACU</u>	FACW species _____ x 2 = <u>0</u>	
2 <u>Crataegus monogyna</u>	<u>20</u>	<u>X</u>	<u>FAC</u>	FAC Species _____ x 3 = <u>0</u>	
3 <u>Oemleria cerasiformis</u>	<u>20</u>	<u>X</u>	<u>FACU</u>	FACU Species _____ x 4 = <u>0</u>	
4 <u>Amelanchier alnifolia</u>	<u>10</u>		<u>FACU</u>	UPL Species _____ x 5 = <u>0</u>	
5 <u>Rubus ursinus</u>	<u>5</u>		<u>FACU</u>	Column Totals <u>0</u> (A) <u>0</u> (B)	
	<u>105</u>	= Total Cover		Prevalence Index =B/A = <u>#DIV/0!</u>	
<u>Herb Stratum</u> (plot size: <u>5</u> )				<b>Hydrophytic Vegetation Indicators:</b>	
1 <u>Claytonia sibirica</u>	<u>20</u>	<u>X</u>	<u>FAC</u>	_____ 1- Rapid Test for Hydrophytic Vegetation	
2 <u>Galium aparine</u>	<u>10</u>	<u>X</u>	<u>FACU</u>	_____ 2- Dominance Test is >50%	
3 <u>Tellima grandiflora</u>	<u>10</u>	<u>X</u>	<u>FACU</u>	_____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup>	
4 <u>Viola glabella</u>	<u>5</u>		<u>FACW</u>	_____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet)	
5 _____				_____ 5- Wetland Non-Vascular Plants <sup>1</sup>	
6 _____				_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
7 _____				_____	
8 _____				_____	
	<u>45</u>	= Total Cover		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<u>Woody Vine Stratum</u> (plot size: <u>15</u> )				<b>Hydrophytic Vegetation Present?</b>	
1 <u>Toxicodendron diversilobum</u>	<u>10</u>	<u>X</u>	<u>FAC</u>	Yes _____ No <u>X</u>	
2 _____					
	<u>10</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>55</u>					
Remarks:					

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<b>0-7</b>	<b>10YR 3/1</b>	<b>100</b>					<b>Silt Loam</b>	
<b>7-16</b>	<b>10YR 3/1</b>	<b>95</b>	<b>10YR 3/4</b>	<b>5</b>	<b>C</b>	<b>M</b>	<b>Silty Clay Loam</b>	<b>Fine</b>

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)** **Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> Fac-Neutral Test (D5)
	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
	<input type="checkbox"/> Frost-Heave Hummocks (D7)

**Field Observations:**  
 Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): >16  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): 0-1;>16

**Wetland Hydrology Present?**  
 Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: \_\_\_\_\_

Remarks: **Saturation not associated with high water table**

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 10  
 Investigator(s): CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Convex Slope (%): <1  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	<b>Is Sampled Area within a Wetland?</b>	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks:					

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (plot size: <u>30</u> )				
1 <u>Fraxinus latifolia</u>	<u>90</u>	<u>X</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That are OBL, FACW, or FAC: <u>100%</u> (A/B)
2 _____				
3 _____				
4 _____				
	<u>90</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (plot size: <u>15</u> )				
1 <u>Crataegus monogyna</u>	<u>20</u>	<u>X</u>	<u>FAC</u>	<b>Prevalence Index Worksheet:</b> Total % Cover of _____ Multiply by: OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) <u>0</u> (B)  Prevalence Index =B/A = <u>#DIV/0!</u>
2 <u>Symphoricarpos albus</u>	<u>5</u>		<u>FACU</u>	
3 <u>Frangula purshiana</u>	<u>5</u>		<u>FAC</u>	
4 <u>Fraxinus latifolia</u>	<u>5</u>		<u>FACW</u>	
5 _____				
	<u>35</u>	= Total Cover		
<b>Herb Stratum</b> (plot size: <u>5</u> )				
1 <u>Camassia quamash</u>	<u>90</u>	<u>X</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> _____ <u>X</u> 1- Rapid Test for Hydrophytic Vegetation _____ 2- Dominance Test is >50% _____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup> _____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet) _____ 5- Wetland Non-Vascular Plants <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
2 <u>Claytonia sibirica</u>	<u>10</u>		<u>FAC</u>	
3 <u>Frangula purshiana</u>	<u>5</u>		<u>FAC</u>	
4 <u>Ranunculus uncinatus</u>	<u>1</u>		<u>FAC</u>	
5 _____				
6 _____				
7 _____				
8 _____				
	<u>106</u>	= Total Cover		
<b>Woody Vine Stratum</b> (plot size: <u>15</u> )				
1 _____				
2 _____				
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				

Remarks:

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	10YR 3/1	100					Silty Clay Loam	
5-12	10YR 3/1	95	10YR 3/4	5	C	M	Silty Clay Loam	Fine

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)** **Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

**Field Observations:**  
 Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): >12  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): 0-5;>12

**Wetland Hydrology Present?**  
 Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  
 \_\_\_\_\_

Remarks:  
**More saturation in this pit at the surface. Water likely accumulates more here due to geomorphic position.**

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 11  
 Investigator(s): CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Berm Local relief (concave, convex, none): Convex Slope (%): 1  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation X Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) N  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks:					

**VEGETATION - Use scientific names of plants.**

Tree Stratum	absolute % cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
Tree Stratum (plot size: <u>30</u> )				Number of Dominant Species	
1 <u>Fraxinus latifolia</u>	<u>70</u>	<u>X</u>	<u>FACW</u>	That are OBL, FACW, or FAC: <u>2</u> (A)	
2 <u>Quercus garryana</u>	<u>20</u>	<u>X</u>	<u>FACU</u>	Total Number of Dominant Species Across All Strata: <u>9</u> (B)	
3 _____				Percent of Dominant Species	
4 _____				That are OBL, FACW, or FAC: <u>22%</u> (A/B)	
	<u>90</u>	= Total Cover		Prevalence Index Worksheet:	
Sapling/Shrub Stratum (plot size: <u>15</u> )				Total % Cover of _____ Multiply by: _____	
1 <u>Symphoricarpos albus</u>	<u>40</u>	<u>X</u>	<u>FACU</u>	OBL Species _____ x 1 = <u>0</u>	
2 <u>Rubus ursinus</u>	<u>20</u>	<u>X</u>	<u>FACU</u>	FACW species _____ x 2 = <u>0</u>	
3 <u>Corylus cornuta</u>	<u>20</u>	<u>X</u>	<u>FACU</u>	FAC Species _____ x 3 = <u>0</u>	
4 <u>Cornus alba</u>	<u>10</u>		<u>FACW</u>	FACU Species _____ x 4 = <u>0</u>	
5 _____				UPL Species _____ x 5 = <u>0</u>	
	<u>90</u>	= Total Cover		Column Totals <u>0</u> (A) <u>0</u> (B)	
Herb Stratum (plot size: <u>5</u> )				Prevalence Index =B/A = <u>#DIV/0!</u>	
1 <u>Jacobaea vulgaris</u>	<u>10</u>	<u>X</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators:	
2 <u>Galium aparine</u>	<u>10</u>	<u>X</u>	<u>FACU</u>	_____ 1- Rapid Test for Hydrophytic Vegetation	
3 _____				_____ 2- Dominance Test is >50%	
4 _____				_____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup>	
5 _____				_____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet)	
6 _____				_____ 5- Wetland Non-Vascular Plants <sup>1</sup>	
7 _____				_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
8 _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	<u>20</u>	= Total Cover		Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	
Woody Vine Stratum (plot size: <u>15</u> )					
1 <u>Hedera helix</u>	<u>10</u>	<u>X</u>	<u>FACU</u>		
2 <u>Toxicodendron diversilobum</u>	<u>10</u>	<u>X</u>	<u>FAC</u>		
	<u>20</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>80</u>					
Remarks:					

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<b>0-9</b>	<b>10YR 3/2</b>	<b>100</b>					<b>Silty Clay Loam</b>	
<b>9-11</b>	<b>10YR 3/2</b>	<b>98</b>	<b>10YR 3/4</b>	<b>2</b>	<b>C</b>	<b>M</b>	<b>Silty Clay Loam</b>	<b>Fine</b>
<b>11-17</b>	<b>10YR 4/1</b>	<b>95</b>	<b>10YR 4/6</b>	<b>5</b>	<b>C</b>	<b>M</b>	<b>Silty Clay Loam</b>	<b>Fine</b>

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**This is still a loamy soil, so the applicability of A11 is a stretch, however it does meet this criteria.**

**HYDROLOGY**

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one required; check all that apply)**

**Secondary Indicators (2 or more required)**

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): >17  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): 0-1;16

**Wetland Hydrology Present?**

Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**Saturation not associated with high water table**

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 12  
 Investigator(s): CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 1  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation X Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) N  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is Sampled Area within a Wetland?	Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes <u>X</u> No _____		
Remarks:			

**VEGETATION - Use scientific names of plants.**

Tree Stratum (plot size: <u>30</u> )	absolute % cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That are OBL, FACW, or FAC: <u>75%</u> (A/B)
1 <u>Fraxinus latifolia</u>	<u>60</u>	<u>X</u>	<u>FACW</u>	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
	<u>60</u>	= Total Cover		
Sapling/Shrub Stratum (plot size: <u>15</u> )	absolute % cover	Dominant Species?	Indicator Status	<b>Prevalence Index Worksheet:</b> Total % Cover of _____ Multiply by: OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) <u>0</u> (B)  Prevalence Index =B/A = <u>#DIV/0!</u>
1 <u>Cornus alba</u>	<u>60</u>	<u>X</u>	<u>FACW</u>	
2 <u>Rubus ursinus</u>	<u>10</u>	_____	<u>FACU</u>	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
	<u>70</u>	= Total Cover		
Herb Stratum (plot size: <u>5</u> )	absolute % cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> _____ 1- Rapid Test for Hydrophytic Vegetation <u>X</u> 2- Dominance Test is >50% _____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup> _____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet) _____ 5- Wetland Non-Vascular Plants <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1 <u>Poa sp</u>	<u>20</u>	<u>X</u>	<u>(FAC)</u>	
2 <u>Galium aparine</u>	<u>5</u>	<u>X</u>	<u>FACU</u>	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
	<u>25</u>	= Total Cover		
Woody Vine Stratum (plot size: _____)	absolute % cover	Dominant Species?	Indicator Status	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>75</u>				
Remarks:				



**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<b>0-6</b>	<b>10YR 3/2</b>	<b>100</b>					<b>Silty Clay Loam</b>	
<b>6-10</b>	<b>10YR 3/2</b>	<b>95</b>	<b>10YR 3/4</b>	<b>5</b>	<b>C</b>	<b>M</b>	<b>Silty Clay Loam</b>	<b>Fine</b>
<b>10-16</b>	<b>10YR 4/2</b>	<b>90</b>	<b>5YR 5/8</b>	<b>10</b>	<b>C</b>	<b>M</b>	<b>Silty Clay Loam</b>	<b>Fine</b>

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one required; check all that apply)**

**Secondary Indicators (2 or more required)**

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input checked="" type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input checked="" type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): >16  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): 0-1;>16

**Wetland Hydrology Present?**

Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**Standing water was visible on last visit. Likely saturated longer than 2 weeks during growing season. Also, ash is thicker here and adequately supported by this hydroperiod. Both vegetation and hydric soils are present to support this. We are entering the lawn area, so the OR's are becoming more apparent nearby.**

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 13  
 Investigator(s): CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): None Slope (%): 3  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation X Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) N  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	<b>Is Sampled Area within a Wetland?</b>	Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes <u>X</u> No _____		
Remarks:			

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
<b>Tree Stratum</b> (plot size: _____)				Number of Dominant Species	
1	_____	_____	_____	That are OBL, FACW, or FAC: <u>2</u> (A)	
2	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)	
3	_____	_____	_____	Percent of Dominant Species	
4	_____	_____	_____	That are OBL, FACW, or FAC: <u>67%</u> (A/B)	
	<u>0</u>	= Total Cover		<b>Prevalence Index Worksheet:</b>	
<b>Sapling/Shrub Stratum</b> (plot size: _____)				Total % Cover of _____ Multiply by: _____	
1	_____	_____	_____	OBL Species _____ x 1 = <u>0</u>	
2	_____	_____	_____	FACW species _____ x 2 = <u>0</u>	
3	_____	_____	_____	FAC Species _____ x 3 = <u>0</u>	
4	_____	_____	_____	FACU Species _____ x 4 = <u>0</u>	
5	_____	_____	_____	UPL Species _____ x 5 = <u>0</u>	
	<u>0</u>	= Total Cover		Column Totals <u>0</u> (A) <u>0</u> (B)	
<b>Herb Stratum</b> (plot size: <u>5</u> )				Prevalence Index =B/A = <u>#DIV/0!</u>	
1	<u>40</u>	<u>X</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b>	
2	<u>20</u>	<u>X</u>	<u>FACU</u>	_____ 1- Rapid Test for Hydrophytic Vegetation	
3	<u>20</u>	<u>X</u>	<u>(FAC)</u>	<u>X</u> 2- Dominance Test is >50%	
4	<u>10</u>	_____	<u>FACU</u>	_____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup>	
5	<u>10</u>	_____	<u>FACU</u>	_____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet)	
6	<u>5</u>	_____	<u>(FAC)</u>	_____ 5- Wetland Non-Vascular Plants <sup>1</sup>	
7	<u>5</u>	_____	<u>FAC</u>	_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
8	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
	<u>110</u>	= Total Cover		<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____	
<b>Woody Vine Stratum</b> (plot size: _____)					
1	_____	_____	_____		
2	_____	_____	_____		
	<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>0</u>					

Remarks:  
**Vegetation consists of a mowed lawn with no surrounding trees. Because of the level of disturbance to vegetation, more focus was applied to soils and hydrology.**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-1	10YR 3/2	100					Silty Clay Loam	Fine
1-4	10YR 3/2	95	10YR 3/6	5	C	PL	Silty Clay Loam	ORs
4-9	10YR 3/2	90	10YR 3/6	2	C	PL	Silty Clay Loam	ORs
4-9			10YR 3/6	8	C	M	Silty Clay Loam	Fine
9-14	10YR 4/2	90	10YR 5/6	10	C	M	Silty Clay Loam	Fine

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one required; check all that apply)**

**Secondary Indicators (2 or more required)**

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input checked="" type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): >14  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): 0-2;>14

**Wetland Hydrology Present?**

Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

**High water table was present approximately 2 weeks ago at about 9 inches in this vicinity.**

Remarks:

**Surface saturation is not currently associated with a high water table.**

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 14  
 Investigator(s): CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex Slope (%): 3  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation X Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) N  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	<b>Is Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks:					

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (plot size: _____)				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That are OBL, FACW, or FAC: <u>0%</u> (A/B)
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (plot size: _____)				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (plot size: <u>5</u> )				<b>Prevalence Index Worksheet:</b> Total % Cover of _____ Multiply by: _____ OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) <u>0</u> (B)  Prevalence Index =B/A = <u>#DIV/0!</u>
1 <u>Anthoxanthum odoratum</u>	<u>60</u>	<u>X</u>	<u>FACU</u>	
2 <u>Alopecurus pratensis</u>	<u>20</u>		<u>FAC</u>	
3 <u>Geranium molle</u>	<u>10</u>		<u>(FAC)</u>	
4 <u>Trifolium repens</u>	<u>10</u>		<u>FAC</u>	
5 <u>Poa sp</u>	<u>10</u>		<u>(FAC)</u>	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
	<u>110</u>	= Total Cover		
<b>Woody Vine Stratum</b> (plot size: _____)				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				

**Hydrophytic Vegetation Indicators:**

\_\_\_\_\_ 1- Rapid Test for Hydrophytic Vegetation  
 \_\_\_\_\_ 2- Dominance Test is >50%  
 \_\_\_\_\_ 3-Prevalence Index is ≤ 3.0<sup>1</sup>  
 \_\_\_\_\_ 4-Morphological Adaptations<sup>1</sup> (provide supporting data in Remarks or on a separate sheet)  
 \_\_\_\_\_ 5- Wetland Non-Vascular Plants<sup>1</sup>  
 \_\_\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes \_\_\_\_\_ No X

Remarks:  
**Vegetation consists of a mowed lawn with no surrounding trees. Because of the level of disturbance to vegetation, more focus was applied to soils and hydrology.**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<b>0-9</b>	<b>10YR 3/2</b>	<b>100</b>					<b>Silty Clay Loam</b>	
<b>9-14</b>	<b>10YR 3/2</b>	<b>95</b>	<b>10YR 3/6</b>	<b>5</b>	<b>C</b>	<b>M</b>	<b>Silty Clay Loam</b>	<b>Fine</b>

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)** **Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

**Hydric Soil Present? Yes \_\_\_\_\_ No X**

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> Fac-Neutral Test (D5)
	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
	<input type="checkbox"/> Frost-Heave Hummocks (D7)

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No X      Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No X      Depth (inches): >14

Saturation Present? Yes X No \_\_\_\_\_      Depth (inches): 0-1;>14

(includes capillary fringe)

**Wetland Hydrology Present?**  
Yes \_\_\_\_\_ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
**Saturation not associated with high water table.**

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 15  
 Investigator(s): CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): None Slope (%): 2  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation X Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) N  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	<b>Is Sampled Area within a Wetland?</b>	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks:					

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (plot size: _____)				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That are OBL, FACW, or FAC: <u>67%</u> (A/B)
1				
2				
3				
4				
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (plot size: _____)				
1				
2				
3				
4				
5				
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (plot size: <u>5</u> )				<b>Prevalence Index Worksheet:</b> Total % Cover of _____ Multiply by: _____ OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) <u>0</u> (B)  Prevalence Index =B/A = <u>#DIV/0!</u>
1	<u>Poa sp</u>	<u>50</u>	<u>X</u> (FAC)	
2	<u>Alopecurus pratensis</u>	<u>30</u>	<u>X</u> FAC	
3	<u>Anthoxanthum odoratum</u>	<u>20</u>	<u>X</u> FACU	
4				
5				
6				
7				
8				
	<u>100</u>	= Total Cover		
<b>Woody Vine Stratum</b> (plot size: _____)				
1				
2				
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				
<b>Hydrophytic Vegetation Indicators:</b> _____ 1- Rapid Test for Hydrophytic Vegetation <u>X</u> 2- Dominance Test is >50% _____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup> _____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet) _____ 5- Wetland Non-Vascular Plants <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____				

Remarks:  
**Vegetation consists of a mowed lawn with no surrounding trees. Because of the level of disturbance to vegetation, more focus was applied to soils and hydrology.**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR3/1	98	10YR 3/4	2	C	PL	Silty Clay Loam	ORs
4-10	10YR 3/1	95	10YR 3/4	5	C	M	Silty Clay Loam	Fine
10-16	10YR 4/1	90	10YR 3/6	10	C	M	Silty Clay Loam	Fine

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one required; check all that apply)**

**Secondary Indicators (2 or more required)**

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): >16  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): 0-2;>16

**Wetland Hydrology Present?**

Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**Saturation not associated with high water table.**

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 16  
 Investigator(s): CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): None Slope (%): 3  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation X Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) N  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	<b>Is Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks:					

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (plot size: _____)				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That are OBL, FACW, or FAC: <u>67%</u> (A/B)
1	_____	_____	_____	
2	_____	_____	_____	
3	_____	_____	_____	
4	_____	_____	_____	
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (plot size: _____)				
1	_____	_____	_____	
2	_____	_____	_____	
3	_____	_____	_____	
4	_____	_____	_____	
5	_____	_____	_____	
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (plot size: <u>5</u> )				
1	<u>Poa sp</u>	<u>40</u>	<u>X</u> (FAC)	
2	<u>Anthoxanthum odoratum</u>	<u>30</u>	<u>X</u> FACU	
3	<u>Alopecurus pratensis</u>	<u>20</u>	<u>X</u> FAC	
4	<u>Holcus lanatus</u>	<u>5</u>	FAC	
5	<u>Hypochaeris radicata</u>	<u>5</u>	FACU	
6	_____	_____	_____	
7	_____	_____	_____	
8	_____	_____	_____	
	<u>100</u>	= Total Cover		
<b>Woody Vine Stratum</b> (plot size: _____)				
1	_____	_____	_____	
2	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				
<b>Prevalence Index Worksheet:</b> Total % Cover of _____ Multiply by: OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) <u>0</u> (B)  Prevalence Index =B/A = <u>#DIV/0!</u>				
<b>Hydrophytic Vegetation Indicators:</b> _____ 1- Rapid Test for Hydrophytic Vegetation <u>X</u> 2- Dominance Test is >50% _____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup> _____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet) _____ 5- Wetland Non-Vascular Plants <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)				
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____				

Remarks:  
**Vegetation consists of a mowed lawn with no surrounding trees. Because of the level of disturbance to vegetation, more focus was applied to soils and hydrology.**



Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Table with columns: Depth (Inches), Matrix (Color (moist), %), Redox Features (Color (moist), %, Type, Loc), Texture, Remarks. Rows include 0-10 and 10-14 depth intervals with matrix 10YR 3/1 and 10YR 3/2, and redox features 10YR 3/3 and 10YR 3/4.

1Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

2Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils3:

Table listing various soil indicators such as Histosol (A1), Sandy Redox (S5), 2 cm Muck (A10), etc., with checkboxes for presence/absence.

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: \_\_\_\_\_
Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

Table listing primary indicators (Surface Water, High Water Table, Saturation, etc.) and secondary indicators (Water stained Leaves, Drainage Patterns, etc.) with checkboxes.

Field Observations:

Surface Water Present? Yes \_\_\_\_\_ No X
Water Table Present? Yes \_\_\_\_\_ No X
Saturation Present? Yes X No \_\_\_\_\_
Depth (inches): >14
Depth (inches): 0-1;>14

Wetland Hydrology Present?
Yes \_\_\_\_\_ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Saturation not associated with high water table.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 17  
 Investigator(s): CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 3  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation X Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) N  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	Is Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks:					

**VEGETATION - Use scientific names of plants.**

Tree Stratum	absolute % cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
Tree Stratum (plot size: <u>30</u> )				Number of Dominant Species	
1 <u>Quercus garryana</u>	<u>20</u>	<u>X</u>	<u>FACU</u>	That are OBL, FACW, or FAC: <u>2</u> (A)	
2 <u>Fraxinus latifolia</u>	<u>10</u>	<u>X</u>	<u>FACW</u>	Total Number of Dominant Species Across All Strata: <u>3</u> (B)	
3 _____	_____	_____	_____	Percent of Dominant Species That are OBL, FACW, or FAC: <u>67%</u> (A/B)	
4 _____	_____	_____	_____	Prevalence Index Worksheet:	
	<u>30</u>	= Total Cover		Total % Cover of _____ Multiply by: _____	
Sapling/Shrub Stratum (plot size: _____)				OBL Species _____ x 1 = <u>0</u>	
1 _____	_____	_____	_____	FACW species _____ x 2 = <u>0</u>	
2 _____	_____	_____	_____	FAC Species _____ x 3 = <u>0</u>	
3 _____	_____	_____	_____	FACU Species _____ x 4 = <u>0</u>	
4 _____	_____	_____	_____	UPL Species _____ x 5 = <u>0</u>	
5 _____	_____	_____	_____	Column Totals <u>0</u> (A) <u>0</u> (B)	
	<u>0</u>	= Total Cover		Prevalence Index =B/A = <u>#DIV/0!</u>	
Herb Stratum (plot size: <u>5</u> )				Hydrophytic Vegetation Indicators:	
1 <u>Poa sp</u>	<u>70</u>	<u>X</u>	<u>(FAC)</u>	1- Rapid Test for Hydrophytic Vegetation	
2 <u>Trifolium repens</u>	<u>10</u>	_____	<u>FAC</u>	<u>X</u> 2- Dominance Test is >50%	
3 <u>Anthoxanthum odoratum</u>	<u>10</u>	_____	<u>FACU</u>	3-Prevalence Index is ≤ 3.0 <sup>1</sup>	
4 <u>Stellaria media</u>	<u>5</u>	_____	<u>FACU</u>	4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet)	
5 <u>Hypochaeris radicata</u>	<u>5</u>	_____	<u>FACU</u>	5- Wetland Non-Vascular Plants <sup>1</sup>	
6 _____	_____	_____	_____	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
7 _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8 _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
	<u>100</u>	= Total Cover			
Woody Vine Stratum (plot size: _____)					
1 _____	_____	_____	_____		
2 _____	_____	_____	_____		
	<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>0</u>					

Remarks: **Vegetation is disturbed, mowed lawn.**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-10	10YR 3/2	78	10YR 3/4	2	C	M	Silty Clay Loam	Fine
10-14	2.5YR 4/1	15	10YR 5/6	1	C	M	Silty Clay Loam	Fine
10-14	2.5Y 5/2	30	10YR 5/6	1	C	M	Silty Clay Loam	Fine
10-14	10YR 3/2	50	10YR 5/6	3	C	M	Silty Clay Loam	Fine

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No **X**

Remarks:

**Soil has a mixed matrix and is located near a storm drain inlet at the bottom of swale; likely a storm feature.**

**HYDROLOGY**

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one required; check all that apply)**

**Secondary Indicators (2 or more required)**

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No **X** Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No **X** Depth (inches): **>14**  
 Saturation Present? (includes capillary fringe) Yes **X** No \_\_\_\_\_ Depth (inches): **0-1;>14**

**Wetland Hydrology Present?**

Yes \_\_\_\_\_ No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**Saturation not associated with high water table.**

# Appendix C

## Site Photos





Photo A:  
Looking south at Wetland A and  
Sample Points 3 and 4.



Photo B:  
Looking northeast at Wetland A  
and Sample Point 2 with Sample  
Point 1 in the background.

Project #6940  
Date 4/22/20



Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

Photo documentation  
Parkway Woods—Wilsonville, OR  
Photos taken April 1, 2020



Photo C:  
Looking southeast at Wetland B  
and Sample Points 7 and 8.



Photo D:  
Looking northwest at Wetland C  
in a managed lawn area.

Project #6940  
Date 4/22/20



Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

Photo documentation  
Parkway Woods—Wilsonville, OR  
Photos taken April 1, 2020



Photo E:

Looking southwest at the tributary to Coffee Lake Creek, where it enters a culvert under Xerox Drive.

Photo F

Looking south at the tributary to Coffee Lake Creek where it enters the study area through a culvert under Printer Parkway.



Project #6940

Date 4/22/20



Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

Photo documentation

Parkway Woods—Wilsonville, OR

Photos taken April 1, 2020



Photo G:

Looking northeast at Sample Point 6 in an upland forested area north of Xerox Drive.

Photo H:

Looking east at Sample Point 17 in an upland area near an existing storm drain in the northwest study area.



Project #6940  
Date 4/22/20



Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

Photo documentation  
Parkway Woods—Wilsonville, OR  
Photos taken April 23, 2020



# Appendix D

## Wetland Definitions and Methodology



# **WATERS OF THE STATE AND WETLAND DEFINITION AND CRITERIA**

## **Regulatory Jurisdiction**

Wetlands and water resources in Oregon are regulated by the Oregon Department of State Lands (DSL) under the Removal-Fill Law (ORS 196.800-196.990) and by the U.S. Army Corps of Engineers (COE) through Section 404 of the Clean Water Act.

The primary source documents for wetland delineations within Oregon is the *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (U.S. Army Corps of Engineers, 2010), which are required by both DSL and COE.

## **Waters of This State and Wetland Definition**

Waters of This State are defined as “all natural waterways, tidal and non-tidal bays, intermittent streams, constantly flowing streams, lakes, wetlands, that portion of the Pacific Ocean that is in the boundaries of this state, all other navigable and non-navigable bodies of water in this state and those portions of the ocean shore, as defined in ORS 390.605, where removal or fill activities are regulated under a state-assumed permit program as provided in 33 U.S.C. 1344(g) of the Federal Water Pollution Control Act, as amended.” (DSL 2014)

Wetlands are defined as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (DSL 2014).

## **Wetland Criteria**

Based on the above definition, three major factors characterize a wetland: hydrology, substrate, and biota.

### **Wetland Hydrology**

Wetland hydrology is related to duration of saturation, frequency of saturation, and critical depth of saturation. The 1987 manual defines wetland hydrology as inundation or saturation within a major portion of the root zone (usually above 12 inches), typically for at least 12.5% of the growing season. The wetland hydrology criterion can be met, however, if saturation within the major portion of the root zone is present for only 5% of the growing season, depending on other evidence.

The growing season is defined as the portion of the year when soil temperatures at 12.0 inches below the soil surface are higher than biological zero (41 degrees Fahrenheit, 5 degrees Celsius), but also allows approximation from frost free days, based on air temperature. The growing season for any given site or location is determined from US Natural Resources Conservation Service, (formerly Soil Conservation Service) data and information.

Wetland hydrologic indicators include the following: visual observation of inundation or saturation, watermarks, drift lines, sediment deposits, and/or oxidized rhizospheres with living roots. Oxidized rhizospheres are defined as yellowish-red zones around the roots and rhizomes of some plants that grow in frequently saturated soils. Other indicators of hydrology, including algal mats or crust, iron deposits, surface soil cracks, sparsely vegetated concave surface, salt crust, aquatic invertebrates, hydrogen sulfide odor, reduced iron, iron reduction in tilled soils, and stunted or stressed plants can also be used to determine the presence of wetland hydrology.

### Wetland Substrate (Soils)

Most wetlands are characterized by hydric soils. Hydric soils are those that are ponded, flooded, or saturated for long enough during the growing season to develop anaerobic conditions. Periodic saturation of soils causes alternation of reduced and oxidized conditions, which leads to the formation of redoximorphic features (gleying and mottling). Mineral hydric soils will be either gleyed or will have bright mottles and/or low matrix chroma. The redoximorphic feature known as gley is a result of greatly reduced soil conditions, which result in a characteristic grayish, bluish or greenish soil color. The term mottling is used to describe areas of contrasting color within a soil matrix. The soil matrix is the portion of the soil layer that has the predominant color. Soils that have brightly colored mottles and a low matrix chroma are indicative of a fluctuating water table.

Hydric soil indicators include: organic content of greater than 50% by volume, and/or presence of redoximorphic features and dark soil matrix, as determined by the use of a Munsell Soil Color Chart. This chart establishes the chroma, value and hue of soils based on comparison with color chips. Mineral hydric soil must meet one of the 16 definitions for hydric soil indicators, or be classified as a “problem soil” in the Regional Supplement.

### Wetland Biota (Vegetation)

Wetland biota is defined as hydrophytic vegetation. A hydrophyte is a plant species that is capable of growing in substrates that are periodically deficient in oxygen as a result of saturated soil conditions. The U.S. Fish and Wildlife Service, in the *National List of Plant Species that Occur in Wetlands*, has established five basic groups of vegetation based on their frequency of occurrence in wetlands. These categories, referred to as the "wetland indicator status", are as follows: obligate wetland plants (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and obligate upland (UPL). Table 1 gives a definition of the plant indicator codes.

**Table 1. Description of Wetland Plant Indicator Status Codes**

Indicator Code	Status
OBL	Obligate wetland. Estimated to occur almost exclusively in wetlands (>99%)
FACW	Facultative wetland. Estimated to occur 67-99% of the time in wetlands.
FAC	Facultative. Occur equally in wetlands and non-wetlands (34-66%).
FACU	Facultative upland. Usually occur in non-wetlands (67-99%).
UPL	Obligate upland. Estimated to occur almost exclusively in non-wetlands (>99%). If a species is not assigned to one of the four groups described above it is assumed to be obligate upland.
NI	Has not yet received a wetland indicator status, but is probably not obligate upland.

Observations of hydrology, soils, and vegetation, were made using the "Routine On-site" delineation method as defined in the 1987 manual and the Regional Supplement for areas that were not currently in agricultural production. One-foot diameter soil pits were excavated to 20 inches and soil profiles were examined for hydric soil and wetland hydrology field indicators. In addition, a visual absolute-cover estimate of the dominant species of the plant community was performed using soil pit locations as a center of reference. Dominant plant species are based on estimates of absolute cover for herbaceous, and shrub species within a 5 foot radius of the sample point, and basal area cover for tree and woody vine species within a 30 foot radius of the sample point. Plant species in each vegetative layer, which are estimated at less than 20% of the total cover, are not considered to be dominant. The wetland indicator status is then used to determine if there is an overall dominance (greater than 50%) of wetland or upland plant species. If less than 50% of the dominant species are hydrophytic, then the prevalence index may be used to determine if the subdominant species are hydrophytic. If the prevalence index is less than or equal to 3, hydrophytic vegetation criterion is met.

During data collection, the soil profiles were examined for hydric soil and wetland hydrology field indicators. Plant species and cover were recorded. Data was recorded on standard data sheets, which contain the information specified in the 1987 Corps Manual and the Regional Supplement.

# **Significant Resource Impact Report for the Parkway Woods Property Wilsonville, Clackamas County, Oregon**

(Township 3 South, Range 1 West, Section 12,  
Portion of Tax lots 500 and 581)

**Prepared for**

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PHS Project Number: 6940

**July 7, 2020**



# TABLE OF CONTENTS

Page

**INTRODUCTION.....1**

**CITY DEVELOPMENT CODE.....1**

Section 4.139.06 Significant Resource Impact Report (SRIR) And Review Criteria .....1

Section 4.139.06 Mitigation Standards.....16

Section 4.139.10 Development Review Board (DRB) Process.....17

Section 4.139.11 Special Provisions.....17

**ATTACHMENT A: Figures**

Figure 1: Vicinity Map (USGS)

Figure 2: Tax Lot Map

Figure 3: Soil Survey Map

Figure 4: Proposed site plan, SROZ Buffers and Wetland Delineation boundaries

Figure 4A: Proposed site overview with future City Open Space dedication area

Figure 4B: Cross-Section Details

Figure 5: Aerial Photo with Title 3 Metro boundaries

Figure 6: Local Wetland Inventory Map

Figure 7: Aerial Photo with Title 13 Metro boundaries

**ATTACHMENT B: Tree Report**

**ATTACHMENT C: OFWAM Summary Sheets**

**ATTACHMENT D: Wetland Delineation Report**

## 1.0 INTRODUCTION

Pacific Habitat Services, Inc. (PHS) has prepared this Significant Resource Impact Report (SRIR) for the adjustment of a wetland boundary mapped on the City of Wilsonville's Significant Resources Overlay Zone for the Parkway Woods Property (Figures 1 and 2, all Figures are in Appendix A). The format follows the pertinent sections of the City of Wilsonville's Planning and Land Development Ordinance for a Standard SRIR (Section 4.139.05-06). For ease of review by the City, key portions of the ordinance language are included (italicized), followed by specific responses to the requirements.

As this SRIR is written to demonstrate a mapping error was made in the creation of the Significant Resource Overlay Zone Map, this application is filed pursuant to Section 4.139.06(.02)(D)(1).

## 2.0 CITY DEVELOPMENT CODE

### SECTION 4.139.06 SIGNIFICANT RESOURCE IMPACT REPORT (SRIR) AND REVIEW CRITERIA

*(.02) Application Requirements for a Standard SRIR. The following requirements must be prepared and submitted as part of the SRIR evaluation for any development not included in paragraph A above:*

*A. A Site Development Permit Application must be submitted in compliance with the Planning and Land Development Ordinance.*

A Site Development Permit Application is being submitted for this project in compliance with the Planning and Land Development Ordinance.

*B. The SRIR shall be conducted and prepared by a natural resource professional knowledgeable and qualified to complete such a report.*

The SRIR was prepared by Pacific Habitat Services, Inc. (PHS). PHS provides a wide range of services to the public and private sector, ranging from natural resource assessments, to environmental design and construction. PHS offers professional expertise in the disciplines of wetland science, wildlife biology, hydrology, soil science, environmental toxicology, botany, and environmental planning.

*C. The qualifications of the person or persons preparing each element of the analysis shall be included with the SRIR.*

Carlee Michelson is a Natural Resource Specialist with Pacific Habitat Services, Inc. and has been a permanent member of the staff since 2017. Prior, Carlee has over 9 years of experience in field research, agricultural technology, and greenhouse/wet laboratory biotech research studies.

*D. The SRIR shall include the following:*

- 1. Physical Analysis. The analysis shall include, at a minimum:*
  - a. Soil types;*

The US Department of Agriculture, Natural Resource Conservation Service (NRCS; formerly the Soil Conservation Service, or SCS) has mapped three soil units within the site. Two of these soils are hydric by the NRCS. Figure 3 summarizes mapped locations of the soils within the site.

Soils excavated during the delineation across the study area mainly included silty clay loams ranging from dark surface (10YR 3/1-3/2) to depleted matrices (10YR 4/1-4/2), respectively.

*b. Geology;*

The site is located along the eastern edge of Interstate 5 (I-5), approximately 2 miles north of the Willamette River. Mapped outcrops of surface deposits include mostly Coarse Missoula Flood deposits (Qfc), which are described by USGS as bouldery, cobbly, sandy gravel fans deposited by Missoula Floods as they spilled into the northern Willamette Valley through the Oregon City and Rock Creek gaps. Crudely stratified, commonly with south-dipping forests. Commonly capped by several meters of sandy silt, especially south of Willamette River. Drillers' logs indicate that thickness locally exceeds 30 meters.

The present site was largely shaped by glacial outburst floods at the end of the last ice age (and perhaps earlier ice ages as well). The north-south Tonkin channel was scoured by the largest of the outburst floods breaching the basalt barrier between the Tualatin Valley to the north and the Willamette Valley to the south. Remnants of coarse sediments from smaller and later outbursts are seen along both edges of Coffee Lake to the southwest.

Natural drainage from the site to Coffee Lake is limited by the low gradients to the west and by the relatively low permeability of clays. Wetland A has been ditched but becomes easily choked by sediment from stormwater flow and growth of thick understory vegetation south of the study area.

Elevations in the site range from approximately 225 feet National Geodetic Vertical Datum (NGVD) in the southeastern portion, to approximately 240 feet NGVD on the northwestern edge of the property.

*c. Hydrology of the site;*

The primary source of hydrology within Wetland A appears to be from a partially buried culvert, located at the north end of the wetland beneath an existing sidewalk and building, with inputs from seasonal precipitation, stormwater runoff from impervious surfaces and overland flow. Surface hydrology was present within Wetland A during the site visit. Wetland A continues through a culvert under Xerox Drive and remains daylighted as it continues off site to the south into a heavily forested area adjacent to other industrial development.

The primary source of hydrology within Wetland B appears to be from groundwater, with inputs from seasonal precipitation and overflow from the adjacent tributary. Although surface water, a high-water table and saturation were absent at the time of the delineation, oxidized rhizospheres were observed indicating hydrology is present within Wetland B adequate to support a dominant hydrophytic plant community. Wetland B is truncated to the south by Xerox Drive.

The primary source of hydrology within Wetland C appears to be from overland flow (irrigation supported), with inputs from seasonal precipitation and possibly potential overflow from the adjacent tributary. The tributary is below the wetland, however, and within a well-defined channel. It is unlikely that flooding reaches the majority of Wetland C from riverine overflow. Although surface water, a high-water table and saturation were absent, oxidized rhizospheres were observed indicating hydrology is present within Wetland C.



Within the study area the tributary to Coffee Lake Creek is low gradient with moderate, seasonal flow, and the banks are stable. Areas surrounding the tributary begin to immediately slope upward away from the channel with the exception of some flatter areas as the location of Wetland B. Hydrology inputs are sourced from the north, where seasonal precipitation, groundwater and runoff from surrounding uplands accumulates at the channel source.

According to Oregon Explorer interactive web mapping service, and the local FEMA flood insurance rate mapping (FIRM), no 100-year floodplain is mapped within the study area.

***d. Outline of any existing features including, but not limited to, structures, decks, areas previously disturbed, and existing utility locations;***

The site is currently developed and is bordered by development on all sides with an undeveloped forested area to the northeast. This undeveloped area is a planned nature trail designated to the City of Wilsonville in a future application. Utility locations are shown on Figure 4 (Site Plan) prepared by Atwell, LLC with the survey provided by Chase, Jones & Associates, Inc.

***e. Location of any wetlands or water bodies on the site and the location of the stream centerline and top-of-bank.***

Figure 4 depicts the location of jurisdictional wetlands within the proposed project area. The Ordinary High Water (OHW) line coincided with the top of bank, so both are interchangeable with adjacent slopes less than 25%. As the Safe Harbor boundary and SROZ were determined by the edge of the delineated feature, each side of the creek was surveyed instead of a centerline for better accuracy (see Figure 4). The wetland delineation conducted by PHS has not yet received concurrence from the Oregon Department of State Lands (DSL), due to the recent date of submittal.

***f. Within the area proposed to be disturbed, the location, size and species of all trees that are more than six (6) inches DBH. Trees outside the area proposed to be disturbed may be individually shown or shown as drip line with an indication of species type or types;***

Appendix B includes the locations, diameter at breast height (dbh) and species of all site trees. A comprehensive tree survey was conducted for the project area in 2020. The inventory includes virtually all site trees and any proposed development activities; these trees have been depicted by an outside drip line.

***g. A property survey together with topography shown by contour lines prepared at two-foot vertical intervals. Five-foot vertical intervals may be allowed for steep sloped areas. An Oregon Registered Land Surveyor or Civil Engineer shall prepare the survey.***

Figure 4 and 4A show current topography with 1-foot contour lines as surveyed by Chase, Jones & Associates, Inc. A cross-section was applied to several areas adjacent to the creek to display slope variation and gradients far below 25%.

***h. The location of the SROZ and Impact Area boundaries;***

Figure 4 shows the location of the City applied SROZ and Impact Area boundaries within the project area. The refined boundary is based upon a wetland delineation conducted by PHS and in review with DSL, which differs somewhat from the City's existing SROZ boundary. While the existing boundaries were based on a wetland determination drawn onto aerial photographs with

limited ground truthing in 1998, the new boundaries are based on field documented, flagged and surveyed jurisdictional wetland boundaries conducted in 2020. This is the reason for the submittal of this SRIR and request for map verification.

The delineation methodology followed the 1987 *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1*, and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* which is recognized by both the DSL and the US Army Corps of Engineers.

- i. A minimum of three slope cross-section measurements transecting the site, equally spaced at no more than 100-foot increments. The measurements should be made perpendicular to the stream;*

Slope cross-sections of the site are shown on Figure 4 and 4A and included in Figure 4B, which includes more than three measurements less than 100-foot increments. The measurements were made perpendicular to the tributary.

- j. A map that delineates the Metro UGMFP Title 3 Water Quality Resource Area boundary (using Metro Title 3 field observed standards);*

Figure 5 depicts the UGMFP Title 3 land mapped based on drainage areas upslope and riparian corridors. As described in section (.02)(h) above, however, field investigations (including a formal wetland delineation) have refined these boundaries. Title 3 applies to: (1) Development in Water Quality Resource and Flood Management Areas and (2) Development which may cause temporary or permanent erosion on any property within the Metro Boundary<sup>1</sup>. With the proposed riparian plantings along the Title 3 land (Tributary to Coffee Lake Creek), Metros Water Quality performance standards will be met by: (A) Providing a vegetated corridor to separate Protected Water Features from development; (B) Maintaining or reducing stream temperatures; (C) Maintaining natural stream corridors; (D) Minimizing erosion, nutrient and pollutant loading into water; (E) Filtering, infiltration and natural water purification; and (F) Stabilizing slopes to prevent landslides contributing to sedimentation of water features.

- k. A map that delineates the Goal 5 safe harbor boundary (using the standards found within the Oregon Administrative Rule OAR 660-23(1996));*

Although a Goal 5 safe harbor boundary has been applied to the tributary, this feature is not a fish bearing stream (there are at least 6 fish passage barriers along this creek between the southern study area and Coffee Lake). According to OAR 660-23-0090(5), safe harbor buffers are applied to the following criteria: (a) Along all streams with average annual stream flow greater than 1,000 cubic feet per second (cfs) the riparian corridor boundary shall be 75 feet upland from the top of each bank. (b) Along all lakes, and fish-bearing streams with average annual stream flow less than 1,000 cfs, the riparian corridor boundary shall be 50 feet from the top of bank. (c) Where the riparian corridor includes all or portions of a significant wetland as set out in OAR 660-023-0100, the standard distance to the riparian corridor boundary shall be measured from, and include, the upland edge of the wetland. (d) In areas where the top of each bank is not clearly defined, or where the predominant terrain consists of steep cliffs, local governments shall apply OAR 660-023-0030 rather than apply the safe harbor provisions of this section.

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<sup>1</sup> Metro Urban Code 3.07.320

- l. The existing site significant resource conditions shall be determined and identified by a natural resource professional; and*

A resource assessment was conducted by PHS at the site in 2020, which confirmed that the project area includes a locally significant wetland (LSW), designated as a portion of 1.08d or feature SD-MT-E (southern portion of Wetland A), and a portion of 1.07d or feature SD-ST-E (Wetland B and Tributary to Coffee Lake Creek) in the City of Wilsonville's Local Wetland Inventory (LWI) (Figure 6).

The on-site channel, an unnamed tributary to Coffee Lake Creek (Seely Ditch), is currently delineated within the existing SROZ boundary, and although it does not meet all of the criteria of the Goal 5 Safe Harbor requirements, the applicant has proposed to have a 50-foot buffer that will be revegetated with locally native vegetation. A 50-foot buffer will remain around the southern forested portion of Wetland A and Wetland B, where the area was previously mapped as significant in the Local Wetland Inventory (1998).

The LWI for Wilsonville assessed these wetland groups for the following significance criteria:

- 1) Wetlands that score the highest rank for any of the four ecological functions addressed by OFWAM or equivalent: Diverse wildlife habitat, intact fish habitat, intact water quality, or intact hydrologic control.
- 2) Wetlands that are rated in the second highest functional category for water quality, and that occur within ¼ mile of a water quality-limited stream listed by DEQ.
- 3) Contain one or more rare/uncommon wetland plant communities in Oregon.
- 4) Inhabited by any species listed by the federal or state government as a sensitive, threatened, or endangered species in Oregon.
- 5) Wetland rates in the second highest functional category for fish habitat and has a surface water connection to a stream segment that is mapped by ODFW as habitat for "indigenous anadromous salmonids".
- 6) Optional criterion: Wetland represents a locally unique plant community.
- 7) Optional criterion: Wetland rates in highest category for education potential and there is documented use for educational purposes by a school or organization.

### **Summary of overall significance findings by Fishman Environmental Services in 1998:**

**Wetland A- (south):** forested portion (LWI: 1.08d, SD-MT-E) rated high in diverse wildlife habitat.

**Wetland B, C and Tributary to Coffee Lake Creek:** (LWI: 1.07d, SD-ST-E) rated high in wildlife habitat, water quality function and hydrologic control.

In situations where OFWAM assessments were conducted for wetlands in riparian areas, this assessment superseded the Goal 5 Safe Harbor assessment. In all cases for Wilsonville assessments, it was noted in the LWI report that most of the streams in Wilsonville are not observed or documented as "fish-bearing", which is a requirement for Goal 5 safe harbor protection.

While these features, as described above referencing the Tributary to Coffee Lake Creek (onsite) are not generally protected under Goal 5 safe harbor buffers, it was still deemed (based on professional opinion) to be significant and protected with a buffer of 25-50 feet. The assessment concluded that all perennial streams are deemed locally significant, and that all intermittent streams that have locally significant wetlands upstream of the riparian segment be considered locally significant as well. For this reason, it is evident that the standard OFWAM significance results were not achieved, nor were the Goal 5 safe harbor criteria, but that the professional opinion of Fishman Environmental Services (FES) was utilized, in several instances, to determine local significance.

**Summary of localized significance findings by PHS in 2020 (all OFWAM field sheets are in Appendix C):**

**Significant Wetlands**

Wetland A (south) came in as significant through an OFWAM assessment and rated highest in locally designated moderate hydrologic control (dense vegetation allows for continued soil moisture, nutrient cycling), water quality (dense vegetation allows for infiltration, temperature control and improved water quality to wetlands downslope), and wildlife habitat (Forested canopy with moderate understory and herbaceous vegetation provides habitat for some wildlife species, with the exception of fish and larger mammals due to proximity to existing development). This portion of the wetland was previously rated significant by FES. PHS agrees with FES on this significance rating which applies a 50-foot buffer.

Wetland B and Tributary to Coffee Lake Creek came in as significant through an OFWAM assessment and rated highest in hydrologic control (dense vegetation allows for continued soil moisture, nutrient cycling). This portion of the wetland was previously rated significant by FES. PHS agrees with FES on this significance rating which applies a 50-foot buffer.

The two locally significant wetlands are comprised of mostly native canopy cover consisting of Oregon white oak (*Quercus garryana*, UPL), Douglas fir (*Pseudotsuga menziesii*, FACU), Oregon ash (*Fraxinus latifolia*, FACW) and cherry (*Prunus* sp.). The understory includes a mixture of native and non-native species, including English hawthorn (*Crataegus monogyna*, FAC), red osier dogwood (*Cornus alba*, FACW), snowberry (*Symphoricarpos albus*, FACU), slough sedge (*Carex obnupta*, OBL), Siberian spring beauty (*Claytonia sibirica*, FAC), common camas (*Camassia quamash*, FACW), woodland buttercup (*Ranunculus uncinatus*, FAC), and shining crane's bill (*Geranium lucidum*, UPL).

**Non-Significant Wetlands**

Wetland A (north) came in as non-significant through an OFWAM assessment and displays degraded functions and values. This wetland was not part of the FES mapping in 1998 and is mapped as a wetland because it resides in hydric NRCS soils, met hydrology and (disturbed) vegetation conditions. The OFWAM assessment met automatic exclusion because: the wetland was created for the purpose of controlling, storing, or maintaining stormwater and is a ditch without a free and open connection to natural waters of the state due to a mostly blocked culvert under Xerox Drive. This wetland is non-vegetated within the ditch due to regular clearing and surrounded by Oregon white oak and will not require a local protective buffer around the wetland boundary but will be considered jurisdictional at the State and Federal level.

Wetland C came in as non-significant through an OFWAM assessment which displays degraded functions and values. A portion of this wetland was part of the FES mapping in 1998 (adjacent to the tributary) but the recently delineated boundary has extended west encompassing a large acreage of manicured lawn. It is believed that most of this wetland is artificially created by irrigation and due to the upslope nature of the wetland, is not primarily fed by groundwater or overflow from the adjacent tributary. Hydrologic control is degraded due to a lack of diverse vegetation, which consists of mowed perennial grass with a shallow root system. For this reason, retention, filtration, and overall water quality contributions are low. There is poor wildlife habitat due to a lack of vegetative cover, diversity, and proximity to development and pedestrian/vehicle traffic areas. There will not be a required local protective buffer around the wetland boundary, but the feature will be considered jurisdictional at the State and Federal level.

*m. Current photos of site conditions shall be provided to supplement the above information.*

Current photos of the resource areas are provided in the Wetland Delineation Report (Appendix D), which includes photo documentation of wetlands and sample points taken at the site during the delineation field work in April 2020.

- 2. The analysis shall include development recommendations including grading procedures, soil erosion control measures, slope stabilization measures, and methods of mitigating hydrologic impacts. For projects that affect possible wetlands, a copy of the Local Wetland Inventory (LWI) map pertaining to the site shall be provided. Notice of the proposal shall be given to the Oregon Division of State Lands and the Army Corps of Engineers.*

A total of 414 square feet (43 cubic yards (cy)) of permanent clean sand/gravel/soil fill will be placed in Wetland A north (non-significant wetland) to accommodate redevelopment on site.

Grading procedures will follow proper erosion control measures, including the placement of sediment fencing around wetland boundaries, inlet protection around all stormwater inlets, and a construction entrance to reduce dust and tracking within and outside of the work area. Inlet protection will include a polypropylene filter sack (woven) to reduce the transport of sediment into storm pipes, the construction entrance will include subgrade reinforcement geotextile fabric to prevent infiltration or transport of sediment, and sediment fencing will consist of filter fabric material mounted to 2-foot posts around wetlands to mitigate the potential for hydrologic impacts.

Figure 6 displays the LWI map pertaining to the site.

A federal Nationwide Permit Application is being pursued to fill this wetland, which is considered jurisdictional. As the volume of fill is below 50 cy, no State removal/fill permit is required. As the area of impact is less than 0.1 acres, no mitigation is required at the federal level. A permit application has been submitted and will be approved by the Corps of Engineers prior to development within the wetland areas.

3. ***Ecological Analysis. The Ecological Analysis shall include a map, using the Physical Analysis map as a base, showing the delineated boundaries and coverage of wetlands, riparian corridors, and wildlife habitat resources identified on the site.***

Figures 4 -4A shows the delineated boundaries and coverage of wetland resources within the project area as well as the City-applied SROZ boundary; Figure 4B shows environmental cross sections. Figure 7 shows Metro's map of Regionally Significant Habitat (under Title 13), the site includes Upland Wildlife habitat class B - areas with secondary riparian value that have medium value for wildlife habitat, Upland Wildlife habitat class C - areas with secondary riparian value that have low value for wildlife habitat, Riparian Corridors / Wildlife Habitat Class I - Areas support 3 or more riparian functions, and Riparian Corridors / Wildlife Habitat Class II - areas supporting 1 or 2 primary riparian functions.

Wetland A north resides in Class B habitat, while Wetland A south resides in Class I. Wetland C resides in Class C and Class II; Wetland B resides in Class I, and the Tributary to Coffee Lake Creek resides in Class I, respectively.

- a. ***Wetland boundaries shall be delineated using the method currently accepted by the Oregon Division of State Lands and the US Army Corps of Engineers. Riparian boundaries shall be delineated using the riparian corridor descriptions in this ordinance. Boundaries of mapped Goal 5 wildlife habitat shall be verified by field observation.***

PHS delineated the limits of the wetlands on the site based on the presence of wetland hydrology, hydric soils, and hydrophytic vegetation, in accordance with the Routine On-site Determination, as described in the *Corps of Engineers Wetland Delineation Manual, Wetlands Research Program Technical Report Y-87-1* ("The 1987 Manual") and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region*.

- b. ***The analysis shall include an inventory that lists and describes the native and ornamental dominant and sub-dominant groundcover, shrub and tree species occurring on the site and wildlife observed during at least one site visit (specify date). The report shall also include recommended measures for minimizing the adverse impacts of the proposed development on unique and/or significant features of the ecosystem. The analysis shall include a report that discusses the ecological functions and values of the SROZ area, discussing each parameter listed below. The discussion shall be based on actual field observations and data obtained by a natural resource professional.***

### **Vegetation and Wildlife Species**

The following tables summarize vegetation and wildlife species occurring on the site during the delineation field work on April 1, 2020. The lawn areas consist of facultative grasses and weedy forbs that are regularly mowed. A densely forested area south of the existing building is dominated by Oregon white oak, Douglas fir, and cherry. This area has been cleared of any understory species for a Frisbee golf course. Also included are transient species (mostly birds) that could be expected to make use of the site at some time during the year. A professional arborist report describing tree health and parameters can be found in Attachment B.

**Table 3. Non-comprehensive list of vegetation observed within project area**

Scientific Name	Common Name	Non-Native or Ornamental
<b>TREES</b>		
<i>Acer macrophyllum</i>	bigleaf maple	
<i>Fraxinus latifolia</i>	Oregon ash	
<i>Pseudotsuga menziesii</i>	Douglas- fir	
<i>Quercus garryana</i>	Oregon white oak	
<i>Salix sp.</i>	Willow	
<b>SHRUBS</b>		
<i>Cornus alba</i>	redosier dogwood	
<i>Corylus cornuta</i>	beaked hazelnut	
<i>Crataegus douglasii</i>	black hawthorn	
<i>Crataegus monogyna</i>	English hawthorn	X
<i>Oemleria cerasiformis</i>	Indian plum	
<i>Rosa rubiginosa</i>	Sweetbrier rose	
<i>Rosa sp.</i>	wild rose	
<i>Symphoricarpos albus</i>	snowberry	
<b>WOODY VINES</b>		
<i>Hedera helix</i>	English ivy	X
<i>Rubus discolor</i>	Himalayan blackberry	X
<i>Rubus ursinus</i>	California dewberry	
<b>HERBS</b>		
<i>Alopecurus pratensis</i>	meadow foxtail	X
<i>Anthoxanthum odoratum</i>	sweet vernal grass	X
<i>Carex obnupta</i>	Slough sedge	
<i>Claytonia sibirica</i>	Spring beauty	
<i>Leucanthemum vulgare</i>	ox-eye daisy	X
<i>Cirsium arvense</i>	Canada thistle	X
<i>Galium aparine</i>	cleavers	
<i>Holcus lanatus</i>	common velvet grass	X
<i>Hypochaeris radicata</i>	spotted cat's ear	X
<i>Myosotis discolor</i>	forget me not	
<i>Poa sp.</i>	bluegrass	X
<i>Polystichum munitum</i>	sword fern	
<i>Ranunculus uncinatus</i>	Woodland buttercup	
<i>Trifolium repens</i>	white clover	X
<i>Tellima grandiflora</i>	fringecup	

**Table 4. Non-Comprehensive List of Wildlife species *potentially* within the project area\***

<b>Common Name</b>	<b>Scientific Name</b>
<b>MAMMALS</b>	
Black-tailed deer	<i>Odocoileus hemionis columbianus</i>
Chickeree	<i>Tamiasciurus douglasii</i>
Coyote	<i>Canis latrans</i>
Deer mouse	<i>Peromyscus maniculatus</i>
Eastern fox squirrel	<i>Sciurus niger</i>
Nutria	<i>Myocastor coypus</i>
Raccoon	<i>Procyon lotor</i>
Red fox	<i>Vulpes fulva</i>
Western gray squirrel	<i>Sciurus griseus</i>
<b>BIRDS</b>	
American crow	<i>Corvus brachyrhynchos</i>
American kestrel	<i>Falco sparverius</i>
American goldfinch	<i>Carduelis tristis</i>
American robin	<i>Turdus migratorius</i>
American wigeon	<i>Anas americana</i>
Barn swallow	<i>Hirundo rustica</i>
Bewick's wren	<i>Thryomanes bewickii</i>
Black-capped chickadee	<i>Parus atricapillus</i>
Black-headed grosbeak	<i>Pheucitus melanocephalus</i>
Brewer's blackbird	<i>Euphagus cyanocephalus</i>
Brown creeper	<i>Certhia americana</i>
Bushtit	<i>Psaliparus minimus</i>
California quail	<i>Callipepla californica</i>
Canada goose	<i>Branta canadensis</i>
Cedar waxwing	<i>Bombycilla cedrorum</i>
Chestnut-backed chickadee	<i>Parus rufescens</i>
Cinnamon teal	<i>Anus cyanoptera</i>
Common snipe	<i>Gallinago</i>
Common yellowthroat	<i>Geothlypis trichas</i>
Cooper's hawk	<i>Accipiter cooperii</i>
Dark-eyed junco	<i>Junco hyemalis</i>
Downy woodpecker	<i>Picoides pubescens</i>
European starling*	<i>Sturnus vulgaris</i>
Flycatcher	<i>Empidonax sp.</i>
Fox sparrow	<i>Passerella iliaca</i>
Golden-crowned kinglet	<i>Regulus satrapa</i>



<b>Common Name</b>	<b>Scientific Name</b>
Golden-crowned sparrow	<i>Zonotrichia atricapilla</i>
Great blue heron	<i>Ardea herodias</i>
Great-horned owl	<i>Bubo virginianus</i>
Hairy woodpecker	<i>Picoides villosus</i>
Hermit thrush	<i>Catharus guttatus</i>
House finch	<i>Carpodacus mexicanus</i>
House sparrow	<i>Passer domesticus</i>
House wren	<i>Troglodytes aedon</i>
Killdeer	<i>Charadrius vociferus</i>
Lazuli bunting	<i>Plectrophenax nivalis</i>
Lesser goldfinch	<i>Carduelis psaltria</i>
Marsh wren	<i>Cistothorus palustris</i>
Mourning dove	<i>Zenaida macroura</i>
Northern flicker	<i>Colaptes auratus</i>
Northern harrier	<i>Circus cyaneus</i>
Orange-crowned warbler	<i>Vermivora celata</i>
Pileated woodpecker	<i>Dryocopus pileatus</i>
Red-breasted nuthatch	<i>Sitta canadensis</i>
Red-breasted sapsucker	<i>Sphyrapicus ruber</i>
Red tailed hawk	<i>Buteo jamaicensis</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Ring-necked pheasant	<i>Phasianus colchicus</i>
Ruby-crowned kinglet	<i>Regulus calendula</i>
Rufous hummingbird	<i>Selasphorus rufus</i>
Savannah sparrow	<i>Passerculus sandwichensis</i>
Song sparrow	<i>Melospiza melodia</i>
Spotted towhee	<i>Pipilo erythrophthalmus</i>
Steller's jay	<i>Cyanocitta stelleri</i>
Swainson's thrush	<i>Catharus ustulatus</i>
Tree swallow	<i>Tachycineta bicolor</i>
Turkey vulture	<i>Cathartes aura</i>
Varied thrush	<i>Ixoreus naevius</i>
Violet green swallow	<i>Tachycineta thalassina</i>
Western bluebird	<i>Sialia mexicana</i>
Western meadowlark	<i>Sturnella neglecta</i>
Western screech owl	<i>Otus kennicottii</i>
Western scrub jay	<i>Aphelocoma coerulescens</i>
Western tanager	<i>Piranga ludoviciana</i>

<b>Common Name</b>	<b>Scientific Name</b>
Western wood pewee	<i>Contopus sordidulus</i>
White crowned sparrow	<i>Zonotricha leucophrys</i>
Winter wren	<i>Troglodytes</i>
<b>AMPHIBIANS</b>	
Bullfrog	<i>Rana catesbeiana</i>
Long-toed salamander	<i>Ambystoma macrodactylum</i>
Northwestern salamander	<i>Ambystoma gracile</i>
Pacific treefrog	<i>Hyla regilla</i>
Red-legged frog	<i>Rana aurora</i>
Roughskin newt	<i>Taricha granulosa</i>
<b>REPTILES</b>	
Common garter snake	<i>Thamnophis sirtalis</i>
<b>FISH</b>	
Mosquitofish	<i>Gambusia affinis</i>

\*none of these species were observed on the day of the delineation.

### **Impacts to unique or significant features of the ecosystem**

Impacts proposed to existing development on site, and the previously un-mapped portion of Wetland A (north) are not anticipated to affect any significant or unique features of the ecosystem present at this site. No locally jurisdictional buffers or special habitat areas are proposed for impact, and only habitat improvements are proposed in the form of riparian enhancement along the western side of the tributary.

### **Ecological Functions and Values** of the resources are discussed below.

- c. *Wetlands (based on evaluation criteria in the Oregon Freshwater Wetlands Assessment Methodology (OFWAM), Oregon Division (sic) of State Lands)*
  - i. *wildlife habitat diversity*
  - ii. *fish habitat*
  - iii. *water quality protection*
  - iv. *hydrologic control*

PHS assessed several functions provided by onsite wetlands using OFWAM (Appendix C). By applying this methodology to each wetland, their ability to provide certain key wetland functions could be compared.

The summary sheets are in Appendix C. A narrative summary is provided below:

Wetland A (south) came in as significant through an OFWAM assessment and rated highest in locally designated moderate hydrologic control (dense vegetation allows for continued soil moisture, nutrient cycling), water quality (dense vegetation allows for infiltration, temperature control and improved water quality to wetlands downslope), and wildlife habitat (forested canopy with moderate understory and herbaceous vegetation provides habitat for some wildlife species, with the exception of fish and larger mammals due to proximity to existing development).

This portion of the wetland was previously rated significant by FES. PHS agrees with FES on this significance rating which applies a 50-foot buffer.

Wetland A (north) came in as non-significant through an OFWAM assessment and displays degraded functions and values. This wetland was not part of the FES mapping in 1998 and is mapped as a wetland because it is in hydric NRCS soils, met hydrology and (disturbed) vegetation conditions. The OFWAM assessment met automatic exclusion because: the wetland was created for the purpose of controlling, storing, or maintaining stormwater and is a ditch without a free and open connection to natural waters of the state due to a mostly blocked culvert under Xerox Drive. This wetland is non-vegetated within the ditch due to regular clearing and surrounded by Oregon white oak and will not require a local protective buffer around the wetland boundary but will be considered jurisdictional at the State and Federal level.

Wetland B and Tributary to Coffee Lake Creek came in as significant through an OFWAM assessment and rated highest in hydrologic control (dense vegetation allows for continued soil moisture, nutrient cycling). This portion of the wetland was previously rated significant by FES. PHS agrees with FES on this significance rating which applies a 50-foot buffer.

Wetland C came in as non-significant through an OFWAM assessment which displays degraded functions and values. A portion of this wetland was part of the FES mapping in 1998 (adjacent to the tributary) but the recently delineated boundary has extended west encompassing a large acreage of manicured lawn. It is believed that most of this wetland is artificially created by irrigation and due to the upslope nature of the wetland, is not primarily fed by groundwater or overflow from the adjacent tributary. Hydrologic control is degraded due to a lack of diverse vegetation, which consists of mowed perennial grass with a shallow root system. For this reason, retention, filtration, and overall water quality contributions are low. There is poor wildlife habitat due to a lack of vegetative cover, diversity, and proximity to development and pedestrian/vehicle traffic areas. There will not be a required local protective buffer around the wetland boundary, but the feature will be considered jurisdictional at the State and Federal level.

- d. Wildlife Habitat (includes riparian corridors and upland forested areas)*
  - i. wildlife habitat diversity*
  - ii. water quality protection*
  - iii. ecological integrity*
  - iv. connectivity*
  - v. uniqueness*

Significant habitat is in the southeast study area (Wetland B), which is surrounded by upland forested area. This forest is dominated by native vegetation, contains a dense canopy and understory, and can accommodate several different avian species, smaller mammals, and amphibians – moderate diversity potential. There is one Cowardin class with at least five species but no adjacent water quality limited areas. This does still positively contribute to water quality protection. Adjacent land is mostly developed with roadways to the north and south, making this habitat less ideal for larger species. Fish habitat is poor/degraded considering the man-made barriers present downstream in the tributary. There is no known or observed unique habitat in this site. Wildlife habitat is considered moderate to poor.

e. **Riparian Corridors**

**Stream-riparian ecosystems:**

- i. **Presence and abundance of Large Woody Debris (LWD) in and adjacent to stream**
- ii. **Tree/shrub canopy stream shade production (water temperature and aquatic plant growth control)**
- iii. **Erosion and sediment control by riparian vegetation**
- iv. **Water quality protection by riparian vegetation**
- v. **River-floodplain ecosystem (Willamette River)**
- vi. **Presence of functional floodplain (inundated annually)**
- vii. **Type and condition of functional floodplain vegetation**
- viii. **Use of river-floodplain by ESA-listed species**
- ix. **Role as wildlife corridor connecting significant wildlife habitat areas**

There is no large woody debris in the tributary within the study area. There is moderate shade production from adjacent canopy along the stream bank, and even more within the dense tree canopy of Wetland B. The dense vegetation in Wetland B aids in erosion and sediment control, albeit slopes are very low gradient and there is typically no issue with erosion or sedimentation in this location. Wetland B is a remnant of higher quality riparian corridor, but due to a lack of fish-bearing adjacent streams and a small drainage area, this feature is not protected by Goal 5 safe harbor buffers. The applicant is proposing to place a buffer around Wetland B due to locally applied significance criteria related to vegetation diversity in the riparian corridor, hydrologic control to the adjacent tributary, improved water quality from shading, filtration, and flow moderation. The Wetland B habitat contributes to overall uplift to the seasonal flow within the tributary to Coffee Lake Creek, which eventually contributes to an improvement in the overall water quality of the river-floodplain ecosystem tied to the Willamette River. There are no known listed ESA species at this site, and none were observed at the time of the delineation. This habitat is degraded as a connecting wildlife corridor, due to the existing roadways at Xerox Drive and Printer Parkway. The overall riparian corridor is moderate.

4. **Mitigation and Enhancement Proposal. The applicant must propose a Significant Resource mitigation and enhancement plan as part of the SRIR. The mitigation and enhancement shall increase the natural values and quality of the remaining Significant Resource lands located on the site or other location as approved by the City. The mitigation and enhancement proposal shall conform to the mitigation standards identified in this Section.**

Figures 4 and 4A displays an area adjacent to the tributary to Coffee Lake Creek proposed for enhancement. This improvement to native vegetation will functionally uplift the riparian corridor of this small creek and improve shading, hydrologic control, habitat (to a small degree), and overall water quality.

5. **Waiver of Documentation: The Planning Director may waive the requirement that an SRIR be prepared where the required information has already been made available to the City, or may waive certain provisions where the Director determines that the information is not necessary to review the application. Such waivers may be appropriate for small-scale developments and shall be processed under Administrative Review. Where such waivers are granted by the Planning Director, the Director shall clearly indicate the reasons for doing so in the record, citing the relevant information relied upon in reaching the decision.**

Not applicable. An SRIR is required by the City.

**(.03) SRIR Review Criteria. In addition to the normal Site Development Permit Application requirements as stated in the Planning and Land Development Ordinance, the following standards shall apply to the issuance of permits requiring an SRIR. The SRIR must demonstrate how these standards are met in a manner that meets the purposes of this Section.**

**A. Except as specifically authorized by this code, development shall be permitted only within the Area of Limited Conflicting Use (see definition) found within the SROZ;**

No protected buffers adjacent to significant resources are proposed for impact within the SROZ and less than 5% within Area of Limited Conflicting Use.

**B. Except as specifically authorized by this code, no development is permitted within Metro's Urban Growth Management Functional Plan Title 3 Water Quality Resource Areas boundary;**

There are no proposed impacts to existing UGMFP Title 3 Water Quality Resource Area boundaries (Figures 4 and 5).

**C. No more than five (5) percent of the Area of Limited Conflicting Use (see definition) located on a property may be impacted by a development proposal. On properties that are large enough to include Areas of Limited Conflicting Use on both sides of a waterway, no more than five (5) percent of the Area of Limited Conflicting Use on each side of the riparian corridor may be impacted by a development proposal. This condition is cumulative to any successive development proposals on the subject property such that the total impact on the property shall not exceed five (5) percent;**

There is a very small area of limited conflicting use proposed for impact directly north of Xerox Drive and the southern "Significant" Wetland A boundary. This area, however, is already being impacted by Xerox Drive, which crosses through the area of conflicting use. This area does not exceed 5 percent of existing areas of conflicting use on site.

**D. Mitigation of the area to be impacted shall be consistent with Section 4.139.06 of this code and shall occur in accordance with the provisions of this Section;**

Not applicable. There is no proposed impact to areas surrounding significant wetlands; however, resource enhancement is proposed along the west side of the tributary to Coffee Lake Creek (Figure 4) and will comply with Section 4.139.06 of this code in an effort to improve riparian habitat and water quality on site.

**E. The impact on the Significant Resource is minimized by limiting the degree or magnitude of the action, by using appropriate technology or by taking affirmative steps to avoid, reduce or mitigate impacts;**

This section does not apply, as no impacts to Significant Resources are proposed for this project. All attempts to avoid and/or minimize impacts were pursued for this project, which is why impacts are so minimal and why the applicant has successfully been exempt from a State removal/fill permit. By utilizing the existing project footprint and complying with appropriate erosion and sediment controls, impacts are minimal and not anticipated to have any detrimental effects to significant resources on site.

- F. The impacts to the Significant Resources will be rectified by restoring, rehabilitating, or creating enhanced resource values within the “replacement area” (see definitions) on the site or, where mitigation is not practical on-site, mitigation may occur in another location approved by the City;*

This section does not apply, as no impacts to Significant Resources are proposed for this project.

- G. Non-structural fill used within the SROZ area shall primarily consist of natural materials similar to the soil types found on the site;*

Fill used on site for Wetland A north (non-significant) is limited to natural material: clean sand/gravel/soil mix, either native soils from the site, or clean imported fill similar to the soil types found on the site.

- H. The amount of fill used shall be the minimum required to practically achieve the project purpose;*

Only 43 cy of fill is proposed at this time, which is a minimum amount that remains exempt from permitting requirements at the state level. This fill is not impacting any significant resources.

- I. Other than measures taken to minimize turbidity during construction, stream turbidity shall not be significantly increased by any proposed development or alteration of the site;*

No outfall or increase to any mapped waters or streams on site is proposed. Stormwater treatment to impervious surfaces is required and will outfall into Wetland A south at the same discharge location south of Xerox Drive to maintain hydrology to this resource. The water will be treated and is not anticipated to increase turbidity during construction due to appropriate erosion and sediment control measures, including silt fencing.

- J. Appropriate federal and state permits shall be obtained prior to the initiation of any activities regulated by the U.S. Army Corps of Engineers and the Oregon Division of State Lands in any jurisdictional wetlands or water of the United States or State of Oregon, respectively.*

A wetland delineation report has been prepared and supplied to DSL for concurrence (Appendix D). To obtain appropriate federal wetland fill permits, a Corps Permit Application has been submitted to the Army Corps of Engineers (NWP 2020-236) prior to any activities within wetlands. As impacts to wetlands are less than 50 cy, no State removal/fill permit is required.

## **SECTION 4.139.06 MITIGATION STANDARDS**

*The following mitigation standards apply to significant wildlife habitat resource areas for encroachments within the Area of Limited Conflicting uses and shall be followed by those proposing such encroachments. Wetland mitigation shall be conducted as per permit conditions from the U.S. Army Corps of Engineers and the Oregon Division of State Lands [emphasis ours]. While impacts are generally not allowed in the riparian corridor resource area, permitted impacts shall be mitigated by: using these mitigation standards if the impacts are to wildlife habitat values, and using state and federal processes if the impacts are to wetland resources in the riparian corridor...*

As 414 square feet of impacts are proposed to Wetland A North, a Corps permit is required and is currently in review with the Army Corps of Engineers (NWP 2020-236). No impacts to significant resource areas in adjacent uplands is proposed at this time. As impacts are below 0.1 acre, no mitigation is required at the federal level; however, enhancement is being proposed by the applicant on the west side of the tributary to Coffee Lake Creek (Figures 4 and 4A). The planting plan will meet standards of Section 4.139.06(.02).

## **SECTION 4.139.10 Development Review Board (DRB) Process**

*(.01) Exceptions. The following exceptions may be authorized through a Development Review Board quasi-judicial review procedure.*

*D Map Refinement process. The applicant may propose to amend the SROZ boundary through a Development Review Board quasi-judicial zone change where more detailed information is provided, such as a state approved wetland delineation. The criteria for amending the SROZ are as follows:*

No adjustments to the SROZ are proposed at this time, the applicant has successfully avoided most areas of conflicting use.

*(.03) Development of structures, additions and improvements that relate to uses other than single family residential.*

This SRIR addresses the development of additions and improvements to a structure other than single family residential and thus requires DRB process.

## **SECTION 4.139.11 Special Provisions**

*(.03) Alteration of constructed drainageways. Alteration of constructed drainageways may be allowed provided that such alterations do not adversely impact stream flows, flood storage capacity and in stream water quality and provide more efficient use of the land as well as provide improved habitat value through mitigation, enhancement and/or restoration. Such alterations must be evaluated through an SRIR and approved by the City Engineer and Development Review Board.*

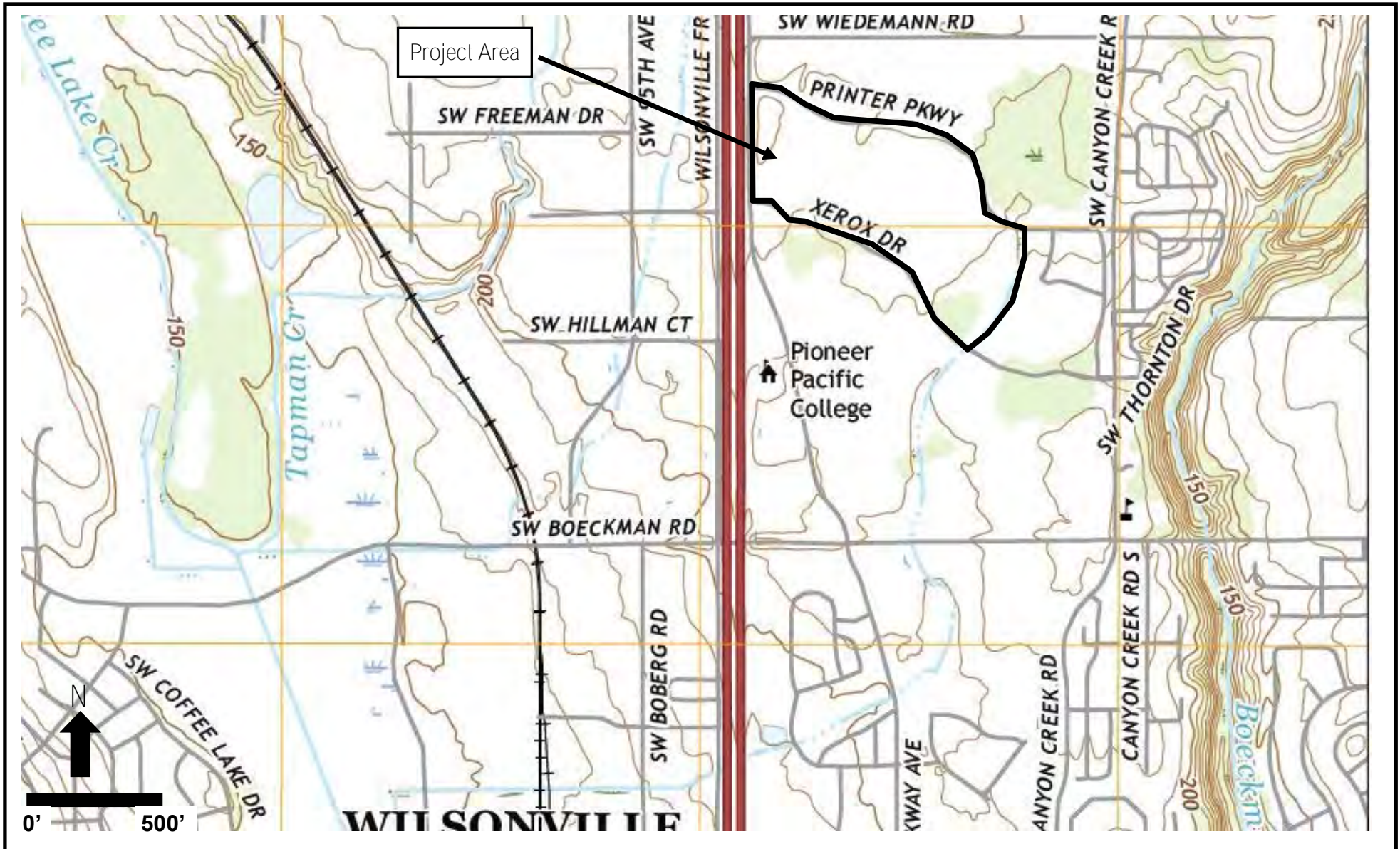
This SRIR addresses impact to a northern artificially created drainageway tied to Wetland A. This will not impact streamflow, flood storage capacity and in stream water quality but rather provide a more efficient use of the land. Treated stormwater runoff will continue to flow into Wetland A resulting in no loss of hydrology. To compensate for site disturbances an enhancement area is proposed along the tributary of Coffee Lake Creek to establish an improved habitat value in a degraded riparian area.

# Attachment A

## Figures







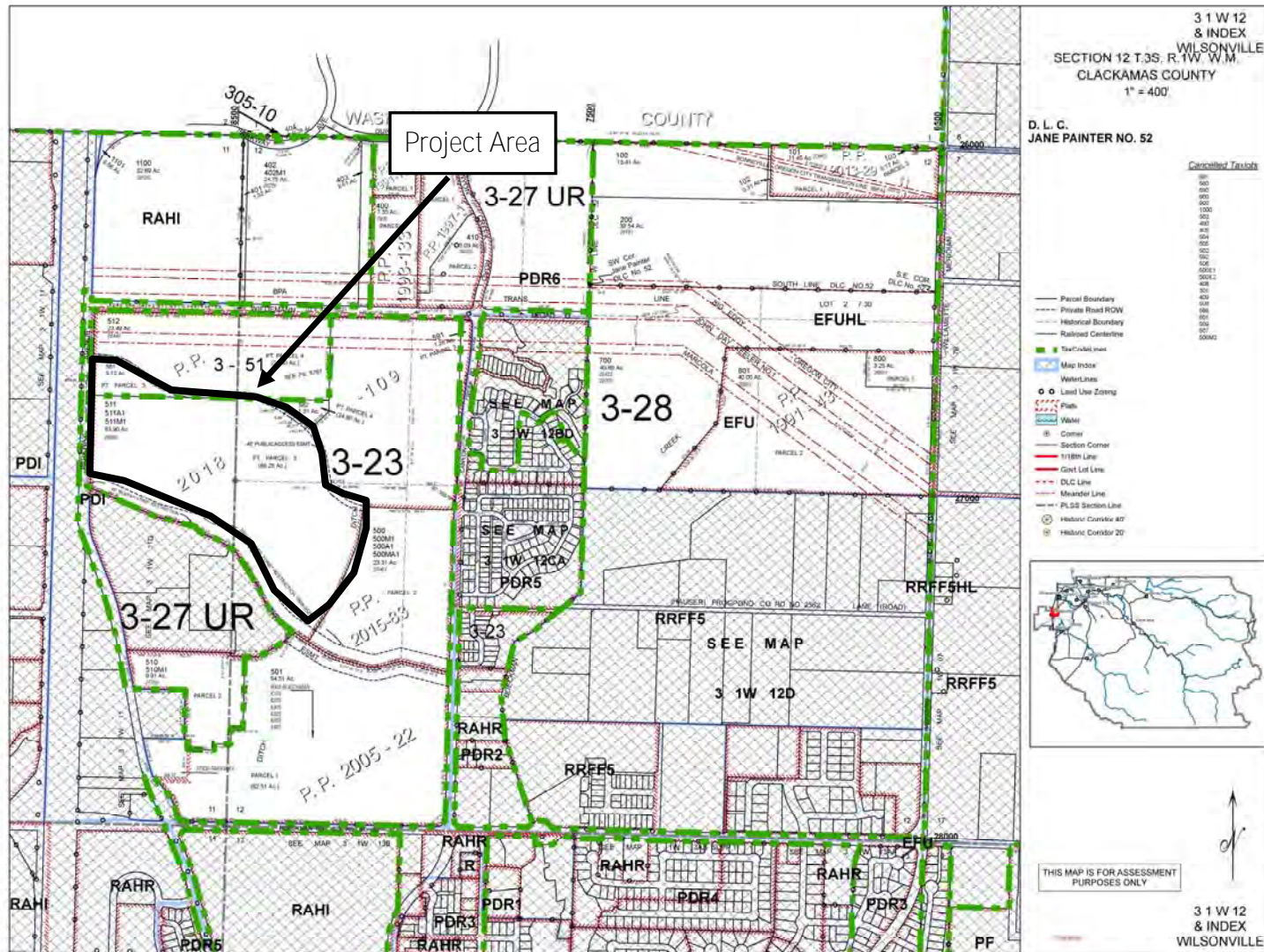
#6940  
4/2/2020



Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

General Location and Topography  
Parkway Woods - Wilsonville, Oregon  
United States Geological Survey (USGS) Sherwood, Oregon 7.5 quadrangle, 2017  
(viewer.nationalmap.gov/basic)

FIGURE  
1



#6940  
4/2/2020



Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

Tax Lot Map  
Parkway Woods - Wilsonville, Oregon  
The Oregon Map (ormap.net)

FIGURE  
2



Soils Legend  
 1A - Aloha silt loam, 0-3% slopes  
 21—Concord silt loam (Hydric)  
 225A—Huberly silt loam, 0-3% slopes (Hydric)

Map Scale: 1:6,220 if printed on A landscape (11" x 8.5") sheet.  
 0 50 100 200 300 Meters  
 0 300 600 1200 1800 Feet  
 Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

#6940  
 4/2/2020  
  
 Pacific Habitat Services, Inc.  
 9450 SW Commerce Circle, Suite 180  
 Wilsonville, OR 97070

Soils  
 Parkway Woods - Wilsonville, Oregon  
 Natural Resources Conservation Services, Web Soil Survey, 2019  
 (websoilsurvey.sc.egov.usda.gov)

FIGURE  
 3

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE CONSULTING ENGINEER. THE CONSULTING ENGINEER SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCURRED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND REMOVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE: CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE OWNER. THE ENGINEER SHALL BE EXPECTED TO SAFELY AND RESPONSIBLY FOR SAFETY OF THE WORK OF PERSONS ENGAGED BY THE WORK OF ANY NEARBY STRUCTURES OR OF ANY OTHER PERSONS.

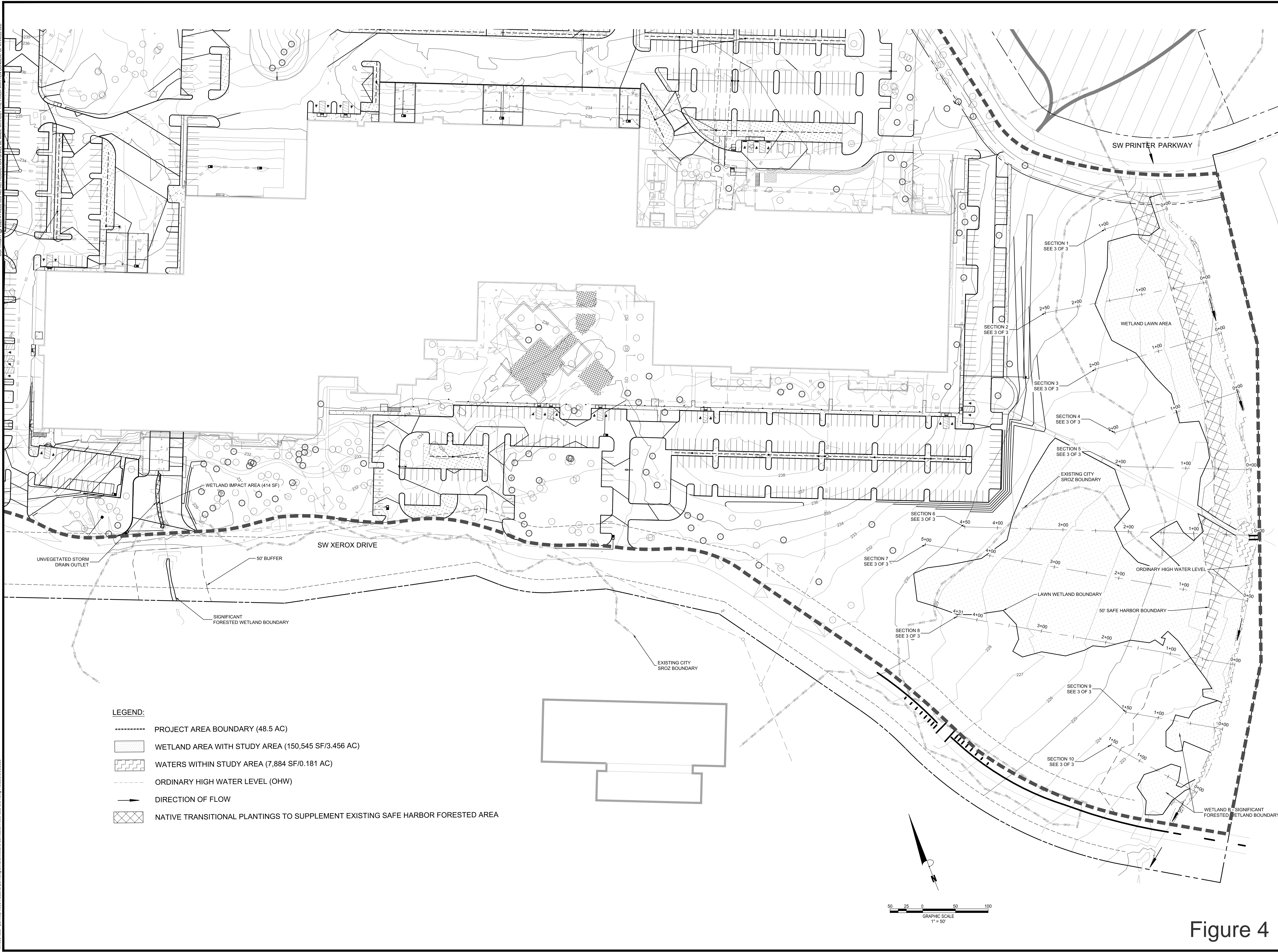


ENVIRONMENTAL AREAS  
PRELIMINARY IMPROVEMENT PLANS  
PARKWAY WOODS INDUSTRIAL PARK  
WILSONVILLE, OREGON



REVISIONS:


PM.	
DR.	BLB
JOB NO.	19004599
FILE NO.	19004599-EX01



- LEGEND:**
- PROJECT AREA BOUNDARY (48.5 AC)
  - [Cross-hatched] WETLAND AREA WITH STUDY AREA (150,545 SF/3.456 AC)
  - [Dotted] WATERS WITHIN STUDY AREA (7,884 SF/0.181 AC)
  - ORDINARY HIGH WATER LEVEL (OHW)
  - DIRECTION OF FLOW
  - [Cross-hatched] NATIVE TRANSITIONAL PLANTINGS TO SUPPLEMENT EXISTING SAFE HARBOR FORESTED AREA

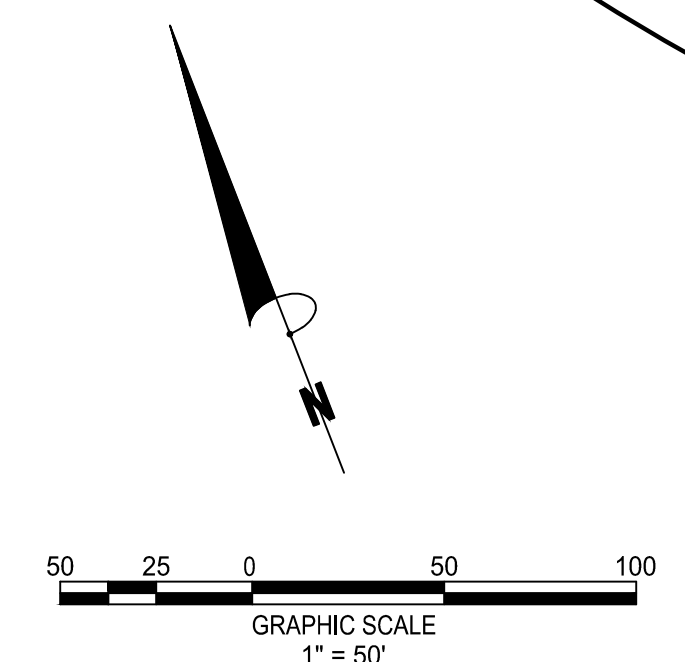
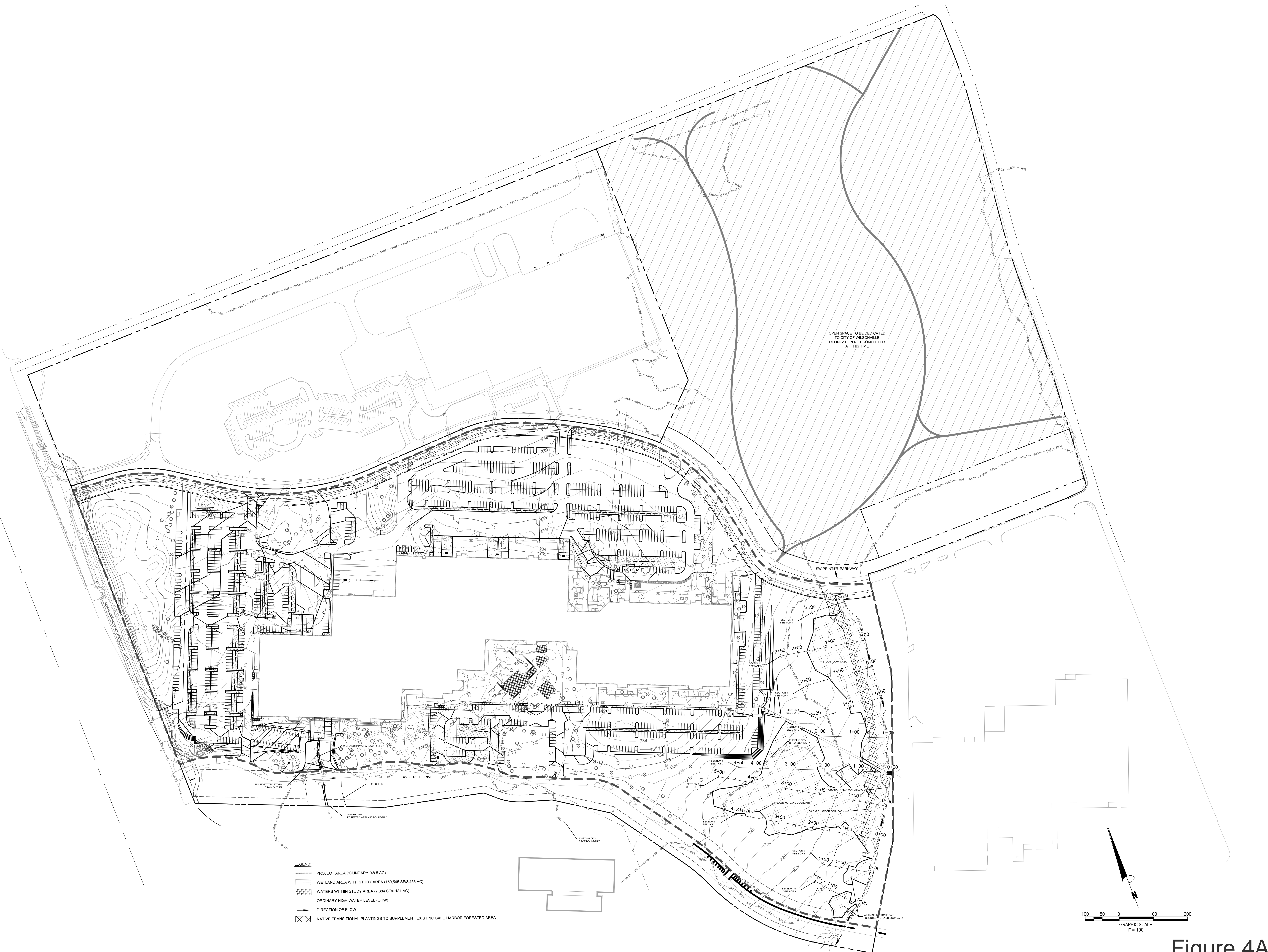


Figure 4

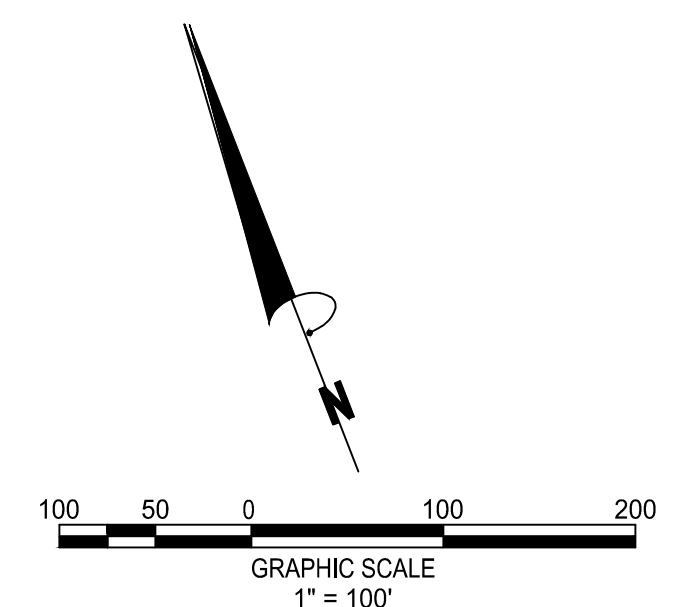
COPYRIGHT © 2020 ATWELL LLC. REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF ATWELL LLC. K:\19004599 - parkway woods industrial park\atwell\ah\h\wetland delineation\19004599.dwg P:\atwell\es\020200

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K:\19004599 - parkway wood industrial park\utility\sh3\wetland delineation\19004599.dwg P:\data\6/30/2020



- LEGEND:
- PROJECT AREA BOUNDARY (48.5 AC)
  - WETLAND AREA WITH STUDY AREA (150,545 SF/3.456 AC)
  - WATERS WITHIN STUDY AREA (7,884 SF/0.181 AC)
  - ORDINARY HIGH WATER LEVEL (OHW)
  - DIRECTION OF FLOW
  - ☒ NATIVE TRANSITIONAL PLANTINGS TO SUPPLEMENT EXISTING SAFE HARBOR FORESTED AREA



THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE CONSULTING ENGINEER. THE CONSULTING ENGINEER SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

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ENVIRONMENTAL AREAS  
 PRELIMINARY IMPROVEMENT PLANS  
 PARKWAY WOODS INDUSTRIAL PARK  
 WILSONVILLE, OREGON



REVISIONS:

NO.	DESCRIPTION

PM.	
DR.	BLB
JOB NO.	19004599
FILE NO.	19004599-EX01

Figure 4A

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE CONSULTING ENGINEER. THE CONSULTING ENGINEER SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCURRED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND RESERVE ANY AND ALL UNDERGROUND UTILITIES.



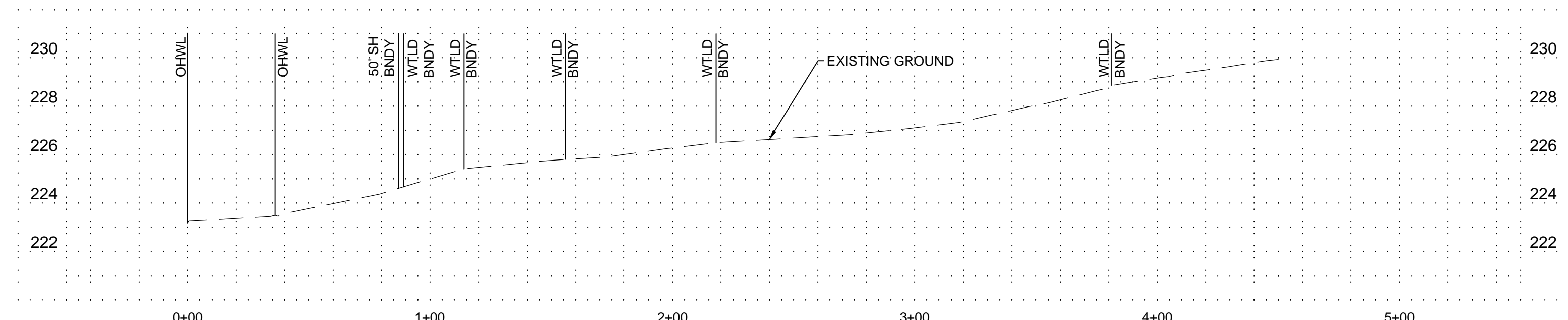
ENVIRONMENTAL CROSS SECTIONS  
PRELIMINARY IMPROVEMENT PLANS  
PARKWAY WOODS BUSINESS PARK  
WILSONVILLE, OREGON



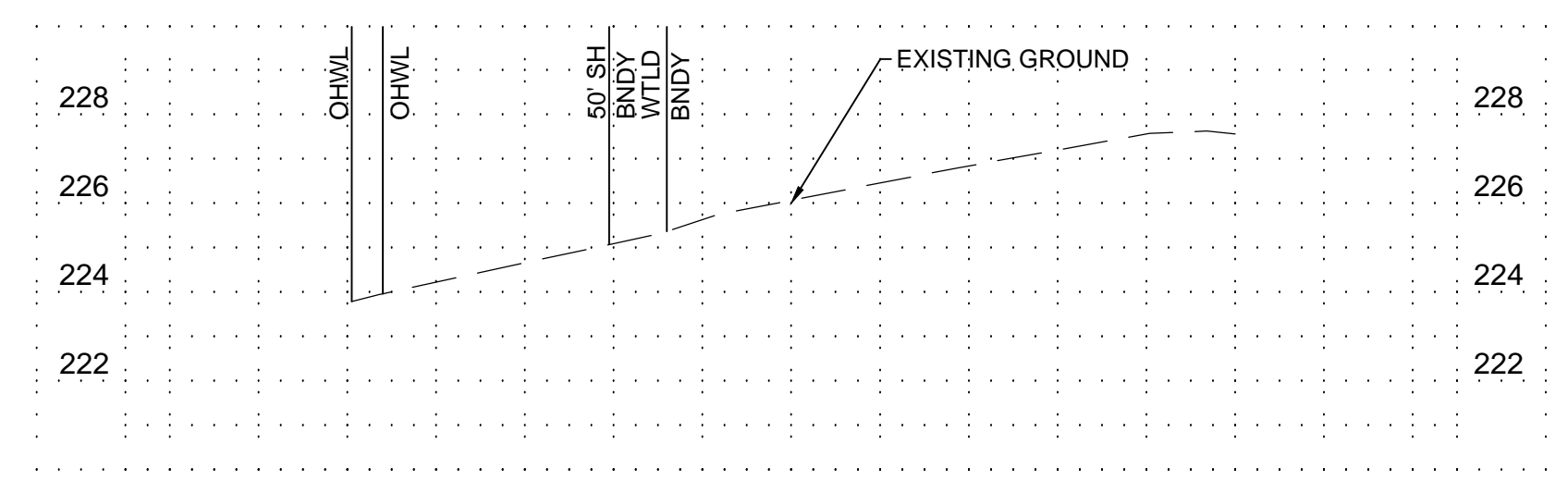
REVISIONS:


PM.	CM
DR.	BLB
JOB NO.	19004599
FILE NO.	19004599-FIG6A

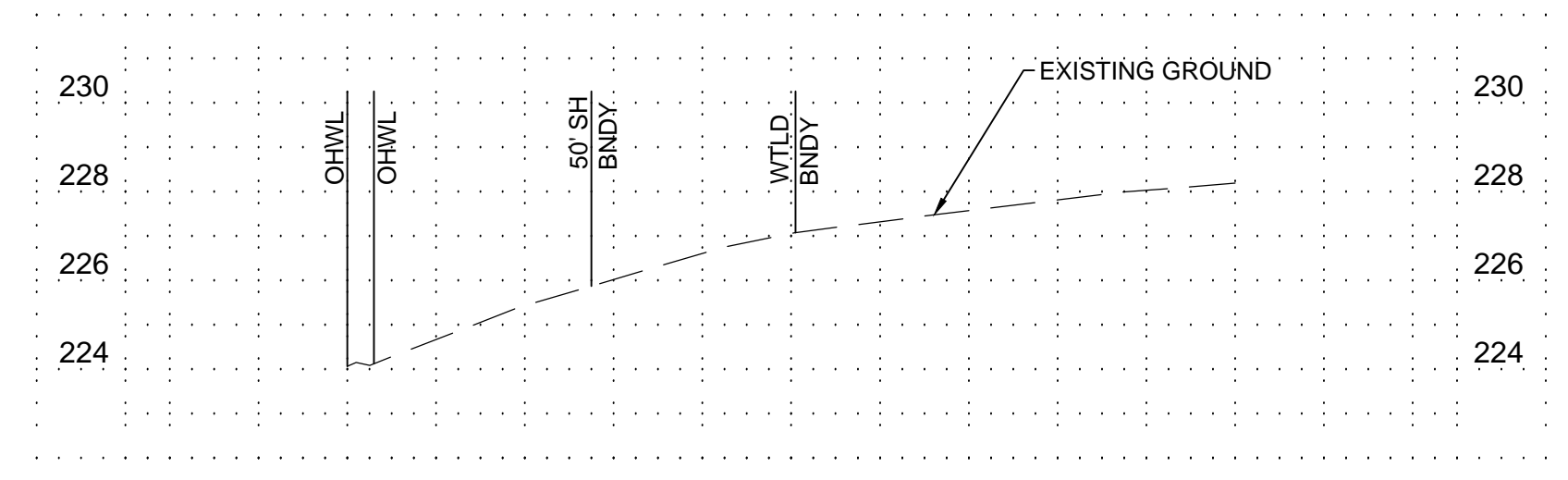
P20W500005\_DP19\_0313



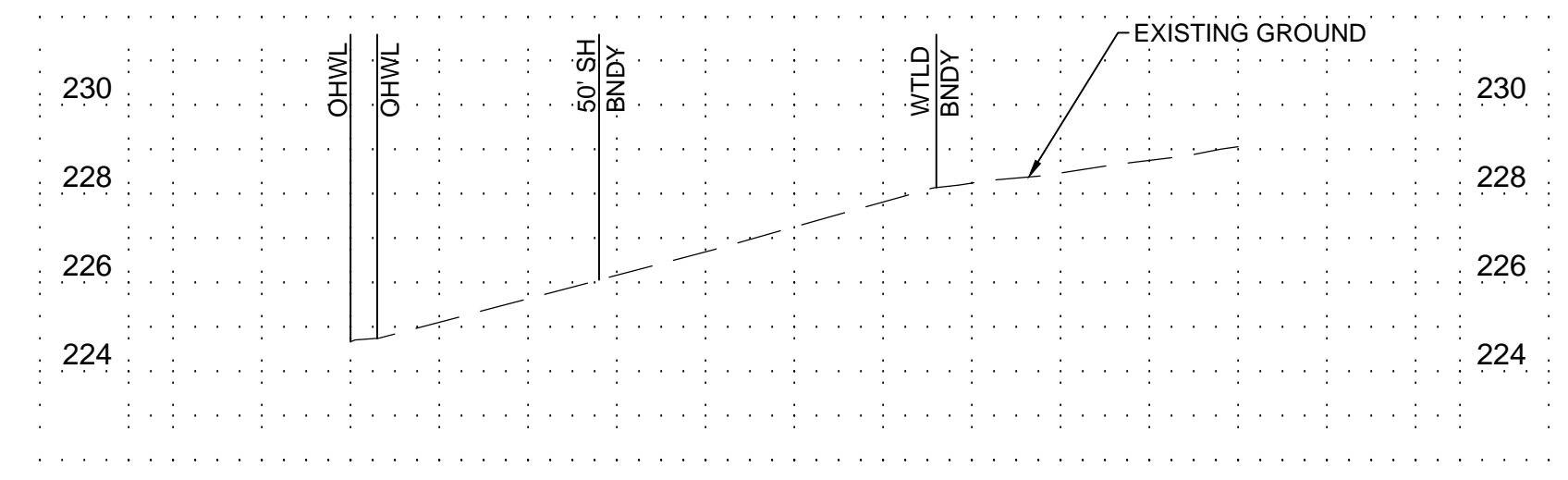
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HORIZONTAL SCALE: 1"=40'  
VERTICAL SCALE: 1"=4'



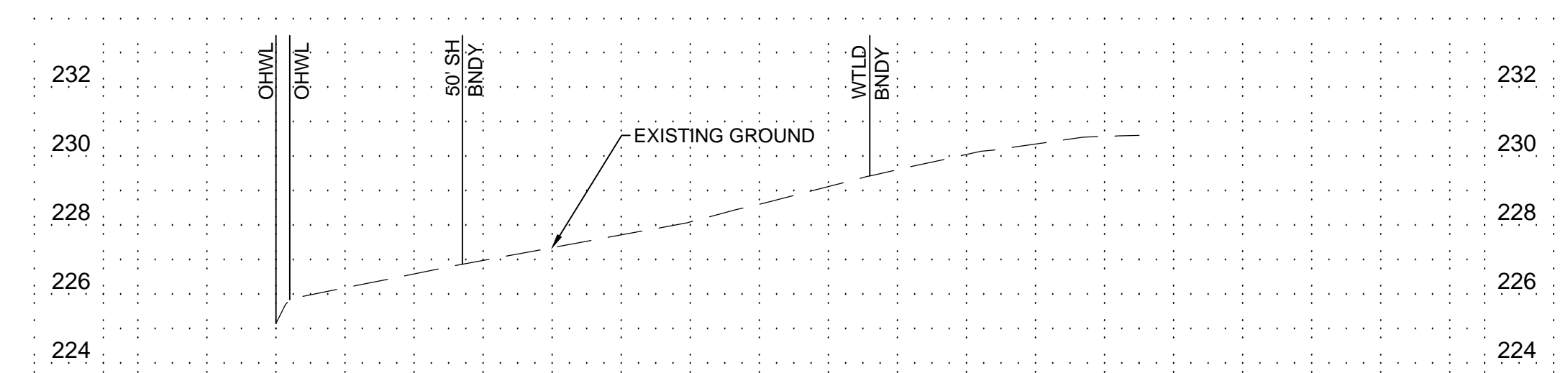
ALIGNMENT - (WETLAND 5) PROFILE VIEW  
HORIZONTAL SCALE: 1"=40'  
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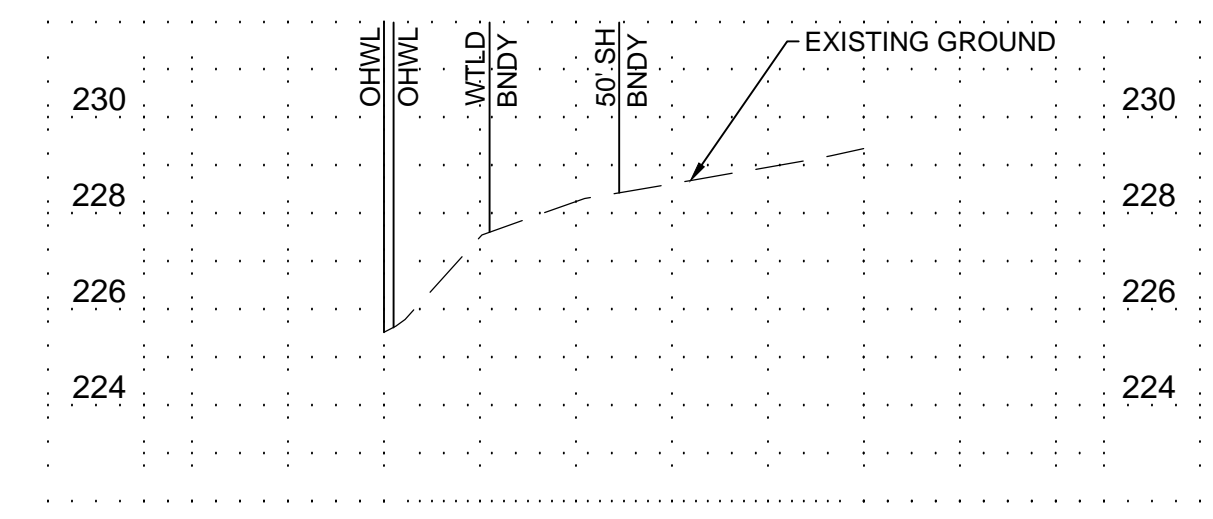
ALIGNMENT - (WETLAND 4) PROFILE VIEW  
HORIZONTAL SCALE: 1"=40'  
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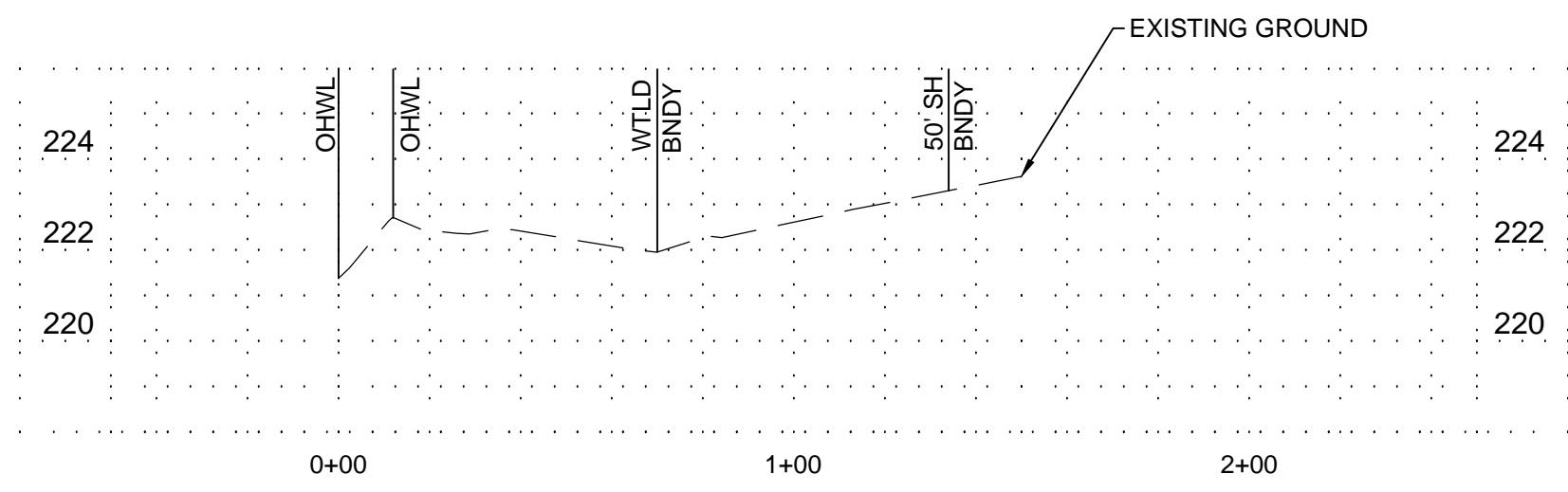
ALIGNMENT - (WETLAND 3) PROFILE VIEW  
HORIZONTAL SCALE: 1"=40'  
VERTICAL SCALE: 1"=4'



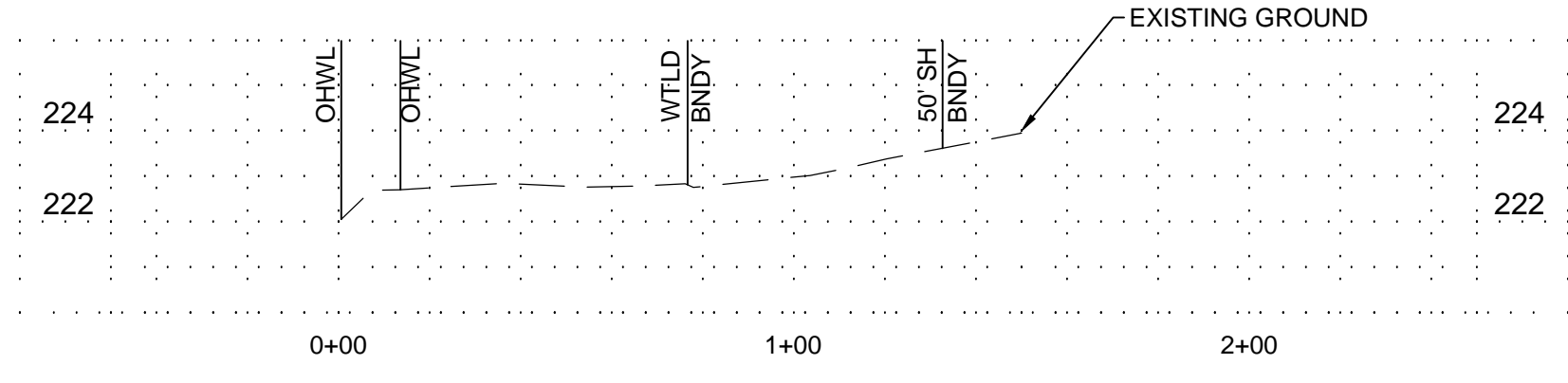
ALIGNMENT - (WETLAND 2) PROFILE VIEW  
HORIZONTAL SCALE: 1"=40'  
VERTICAL SCALE: 1"=4'



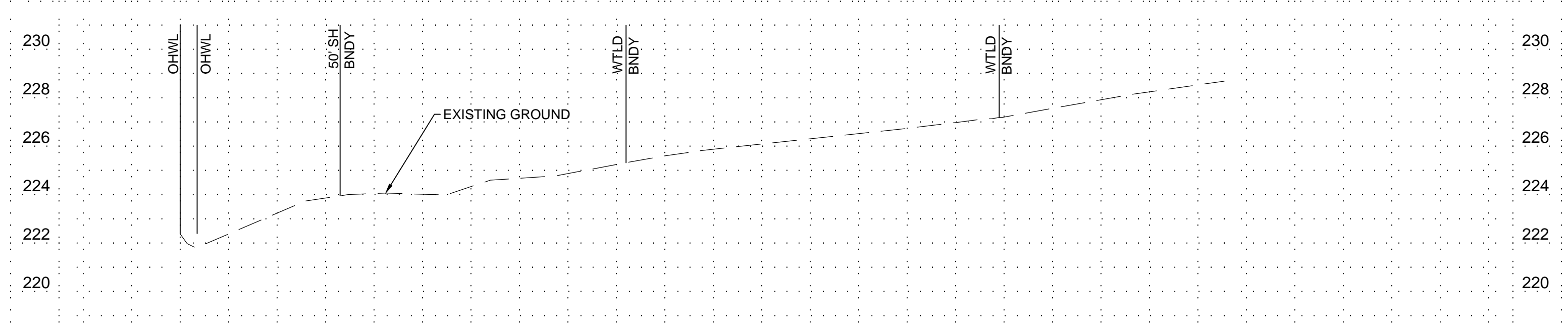
ALIGNMENT - (WETLAND 1) PROFILE VIEW  
HORIZONTAL SCALE: 1"=40'  
VERTICAL SCALE: 1"=4'



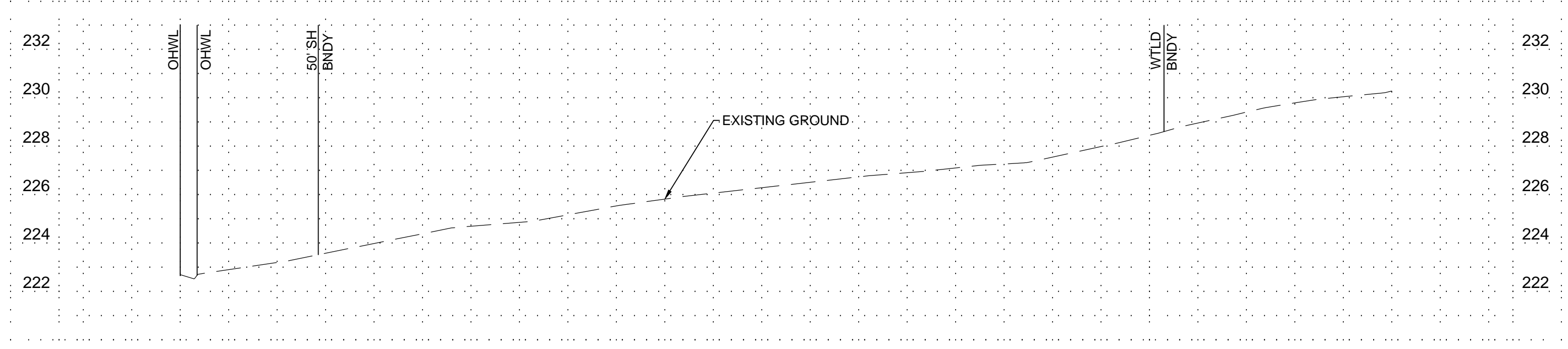
ALIGNMENT - (WETLAND 10) PROFILE VIEW  
HORIZONTAL SCALE: 1"=40'  
VERTICAL SCALE: 1"=4'



ALIGNMENT - (WETLAND 9) PROFILE VIEW  
HORIZONTAL SCALE: 1"=40'  
VERTICAL SCALE: 1"=4'



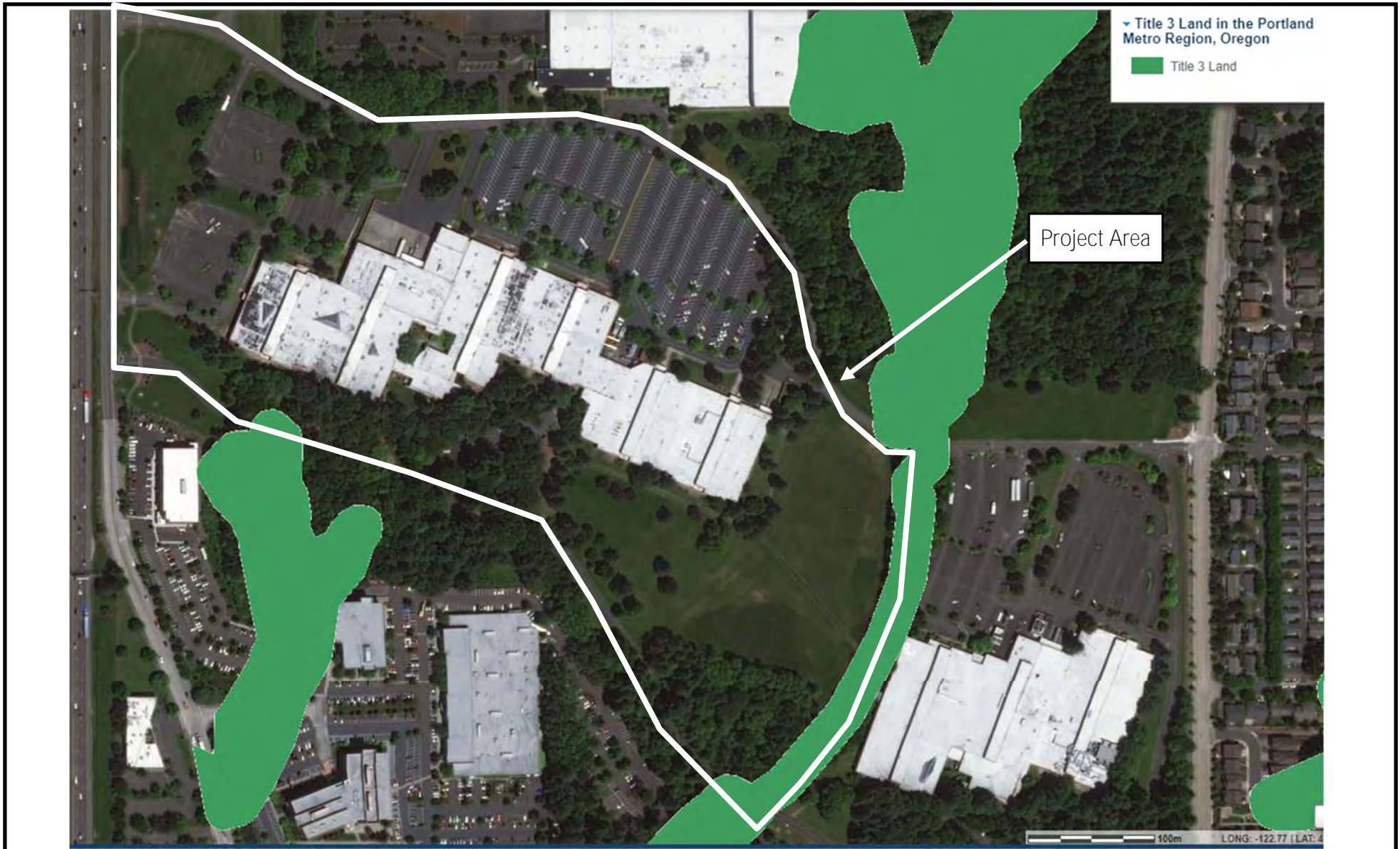
ALIGNMENT - (WETLAND 8) PROFILE VIEW  
HORIZONTAL SCALE: 1"=40'  
VERTICAL SCALE: 1"=4'



ALIGNMENT - (WETLAND 7) PROFILE VIEW  
HORIZONTAL SCALE: 1"=40'  
VERTICAL SCALE: 1"=4'

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K:\19004599 - parkway woods business park\utility\env\wetland\delimitation\19004599-FIG6A.dwg Pdate: 5/26/2020



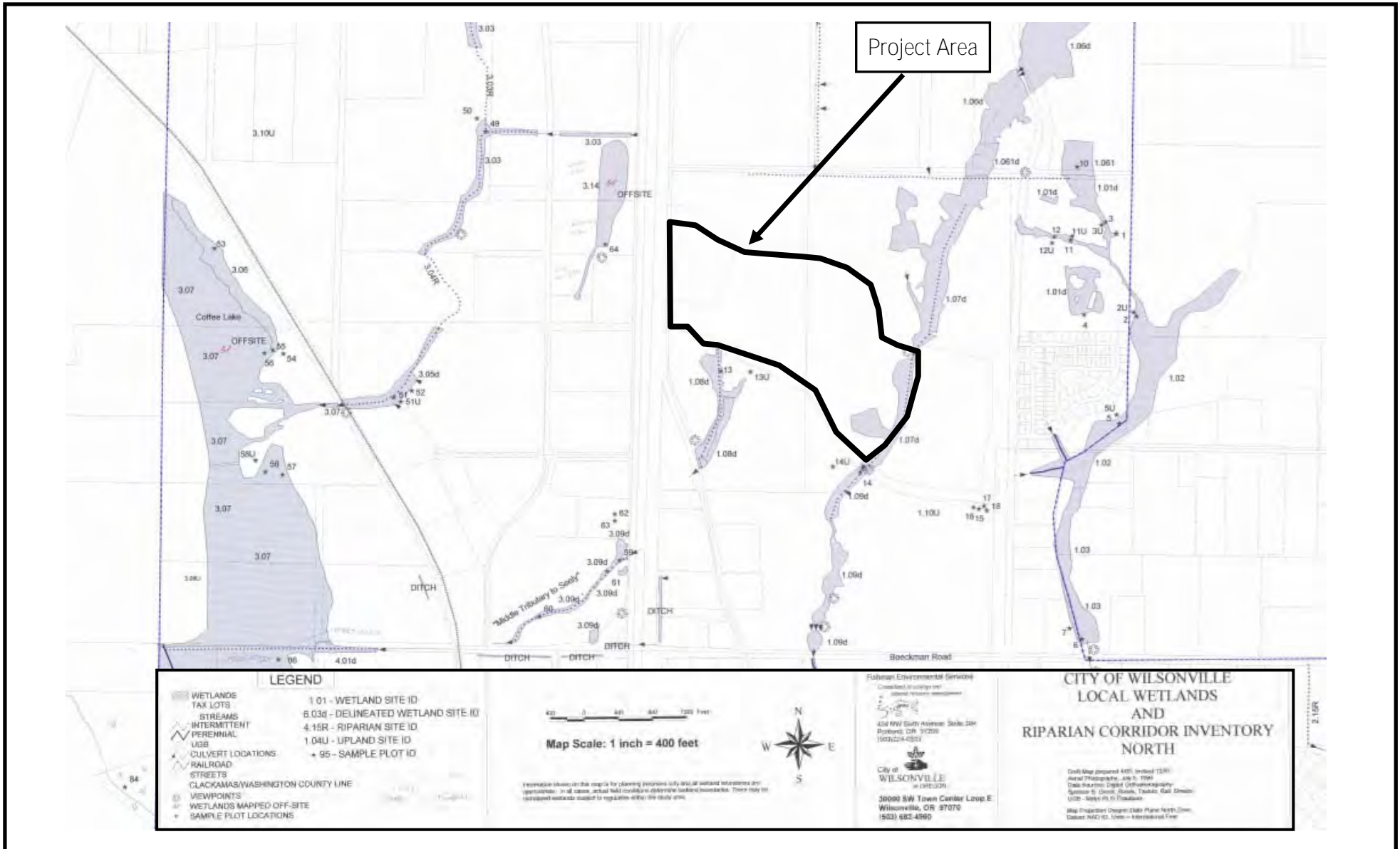
#6940  
4/2/2020



Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

Title 3 Land in the Portland Metro Region  
Parkway Woods - Wilsonville, Oregon  
[www.oregonmetro.gov/rlls](http://www.oregonmetro.gov/rlls), 2012

FIGURE  
5



#6940  
4/2/2020

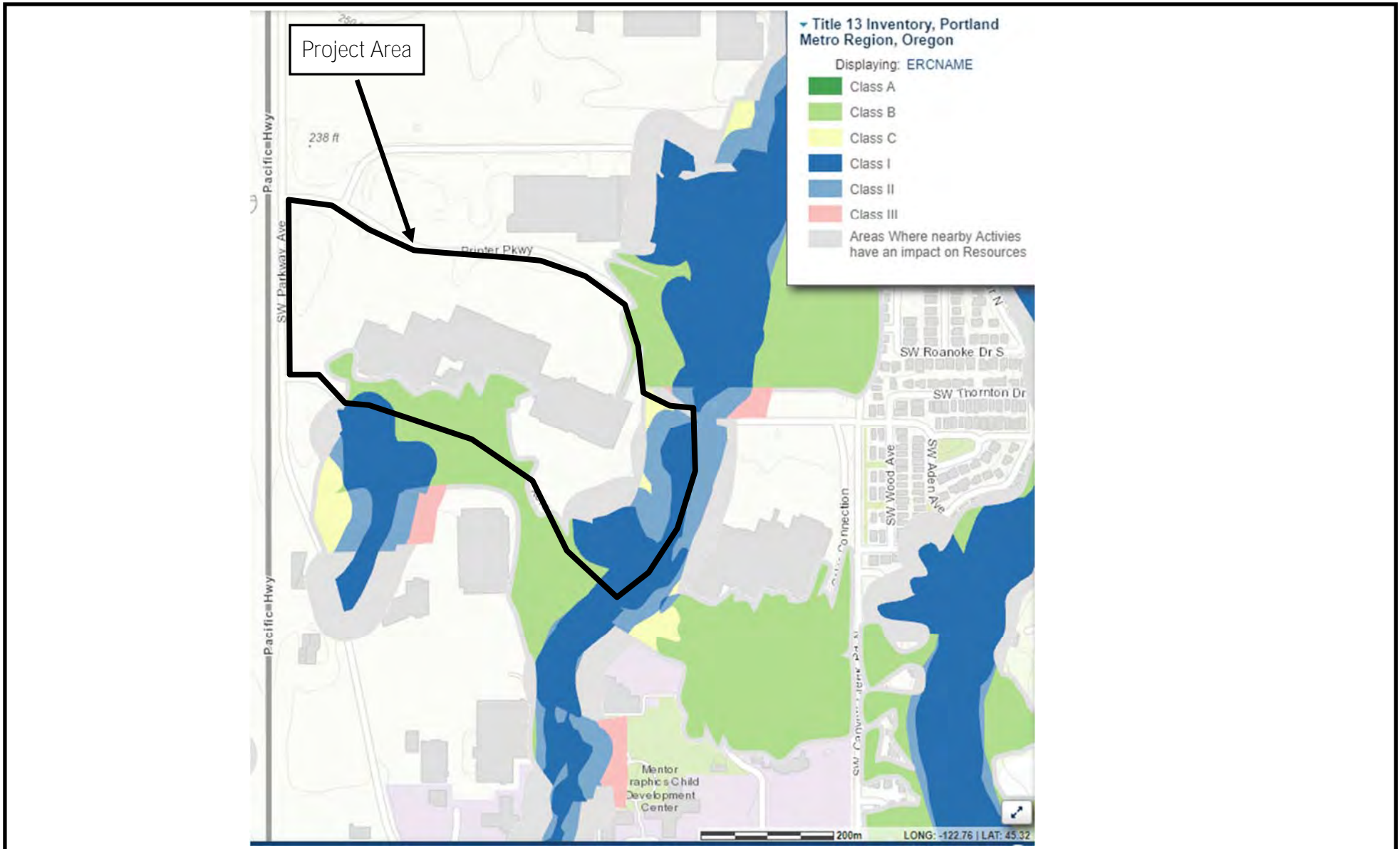


Pacific Habitat Services, Inc.  
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Wilsonville, OR 97070

Local Wetland Inventory  
Parkway Woods - Wilsonville, Oregon  
Fishman Environmental Services, 1999

FIGURE  
6





#6940  
4/2/2020



Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

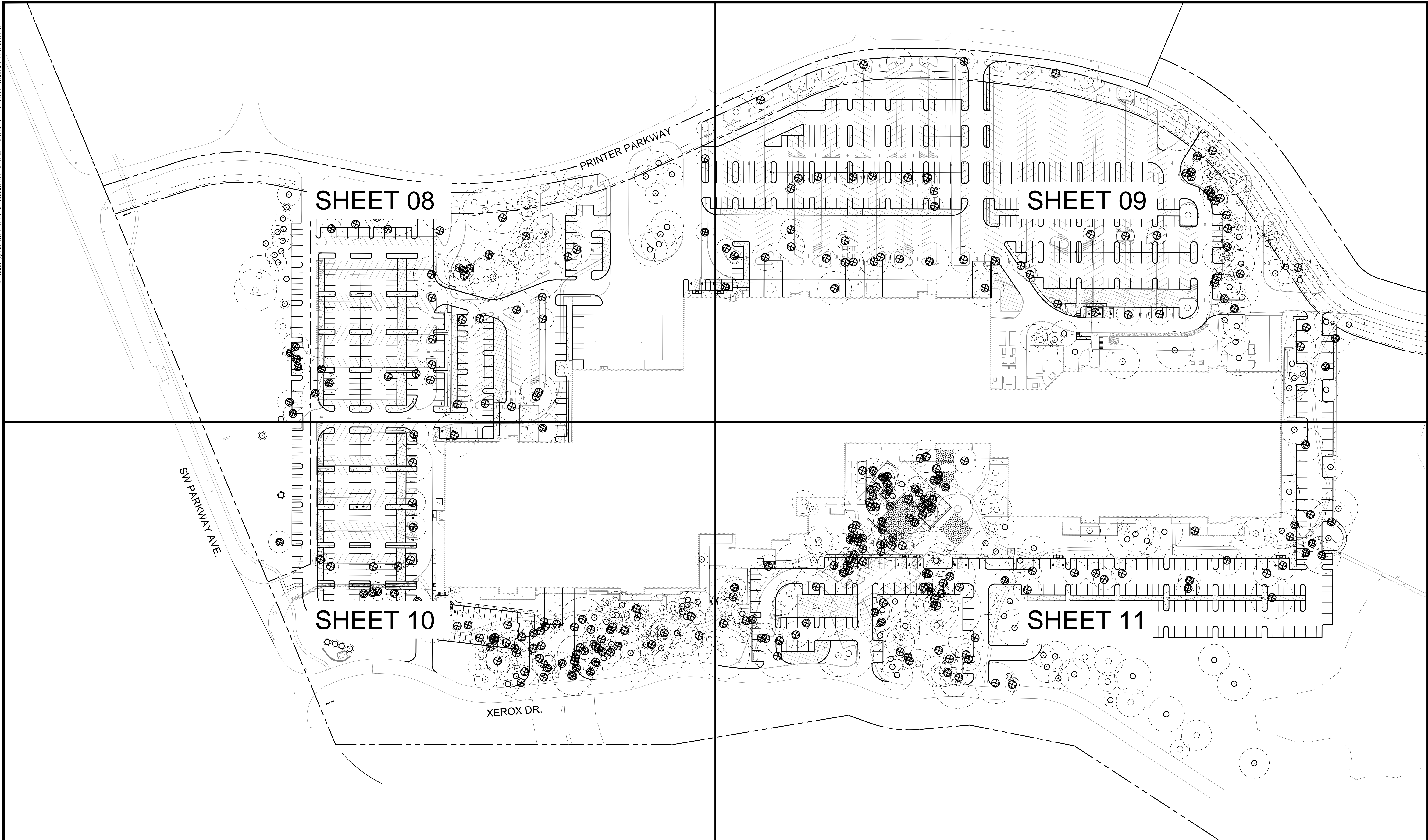
Title 13 Land in the Portland Metro Region  
Parkway Woods - Wilsonville, Oregon  
[www.oregonmetro.gov/rllis](http://www.oregonmetro.gov/rllis), 2012

FIGURE  
7

# Attachment B

## Tree Report





SHEET 08

SHEET 09



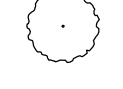
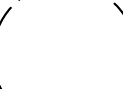
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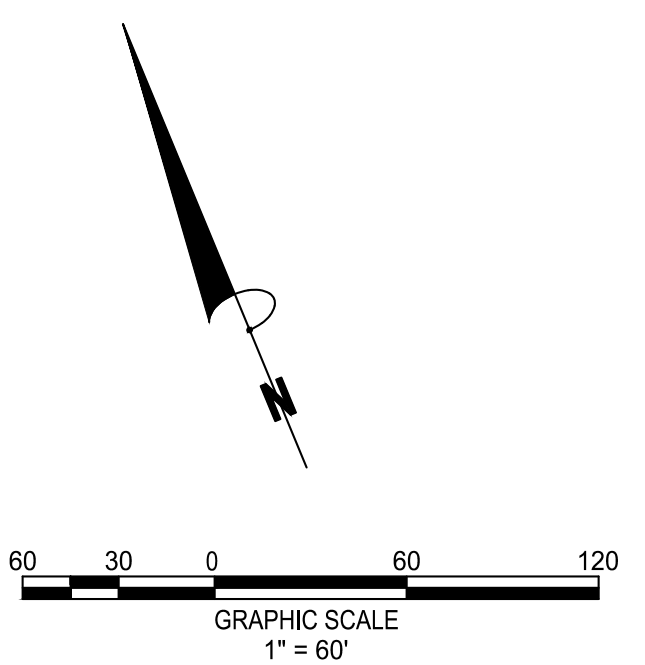
SHEET 11

PRINTER PARKWAY

SW PARKWAY AVE.

XEROX DR.

- LEGEND**
-  TREE REMOVAL
  -  EVERGREEN TREE
  -  DECIDUOUS TREE
  -  TREE CANOPY SPREAD



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**TREE PROTECTION & REMOVAL - OVERALL**  
 PRELIMINARY IMPROVEMENT PLANS  
**PARKWAY WOODS BUSINESS PARK**  
 WILSONVILLE, OREGON



**REVISIONS:**


PM.	B.BERRY
DR.	J.GLUECK
JOB NO.	19004599
FILE NO.	19004599-TR07

K:\19004599 - parkway woods industrial park\mxd\plan sheets\preliminary\19004599-07.dwg (P) Date: 7/7/2020  
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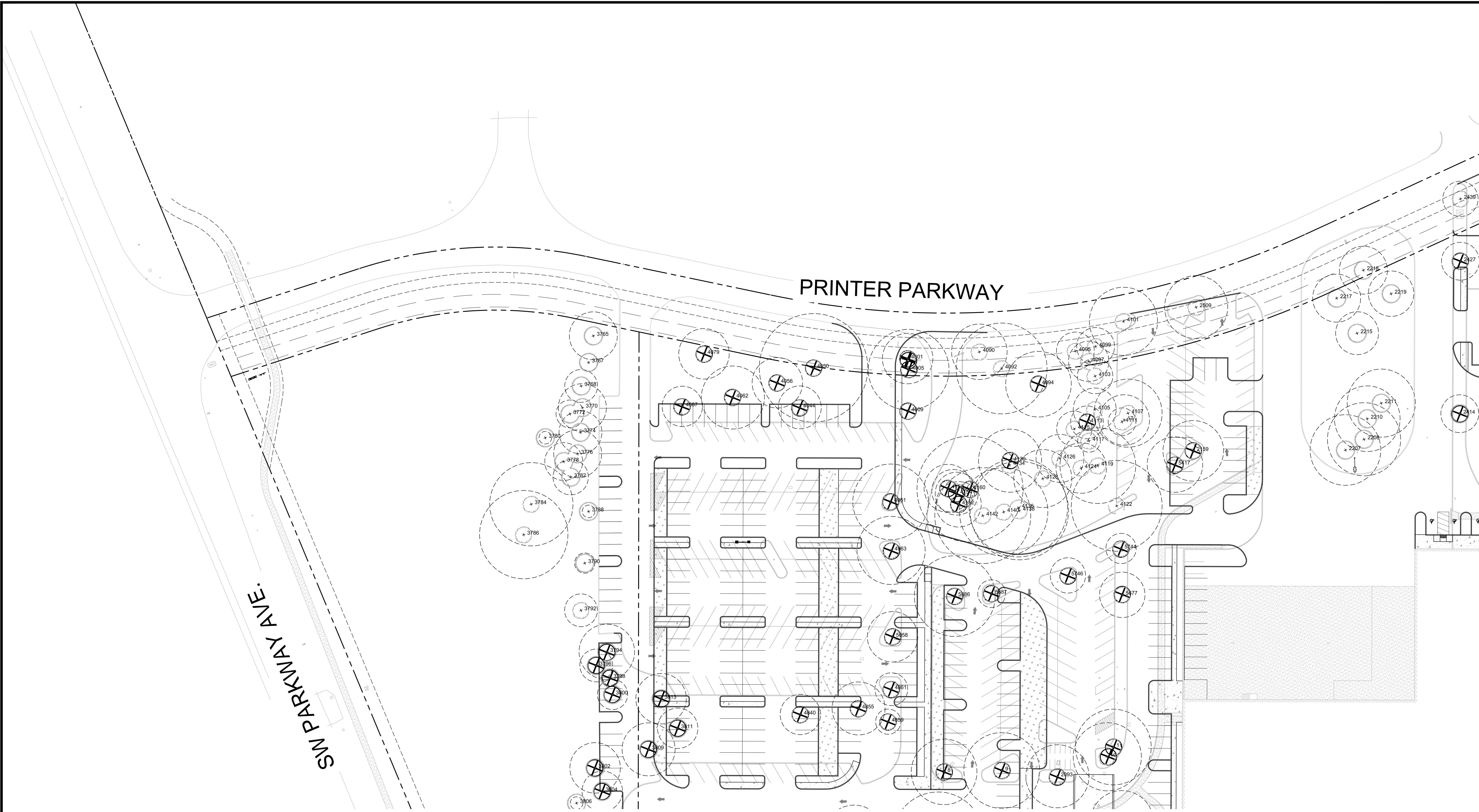


**TREE PROTECTION & REMOVAL**  
 PRELIMINARY IMPROVEMENT PLANS  
 PARKWAY WOODS BUSINESS PARK  
 WILSONVILLE, OREGON

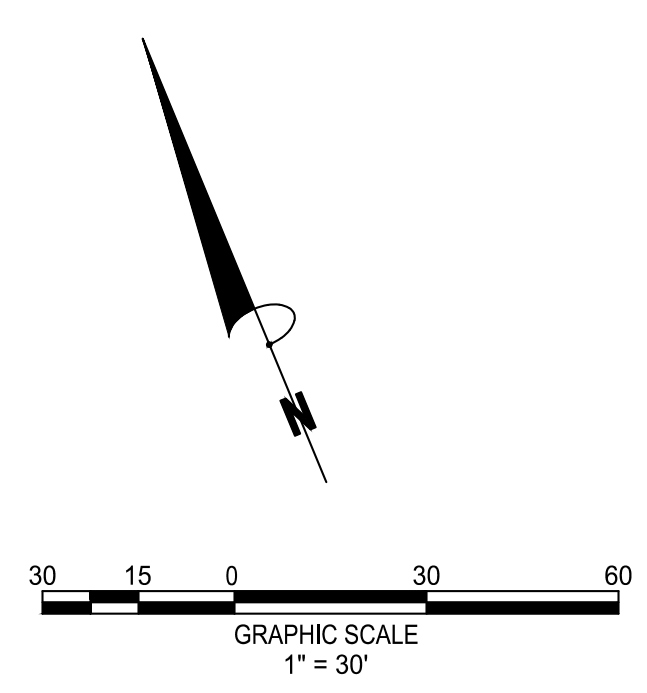


REVISIONS:


PM.	B. BERRY
DR.	J. GLUECK
JOB NO.	19004599
FILE NO.	19004599-TR08



- LEGEND**
- TREE REMOVAL
  - EVERGREEN TREE
  - DECIDUOUS TREE
  - TREE CANOPY SPREAD



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# PRINTER PARKWAY

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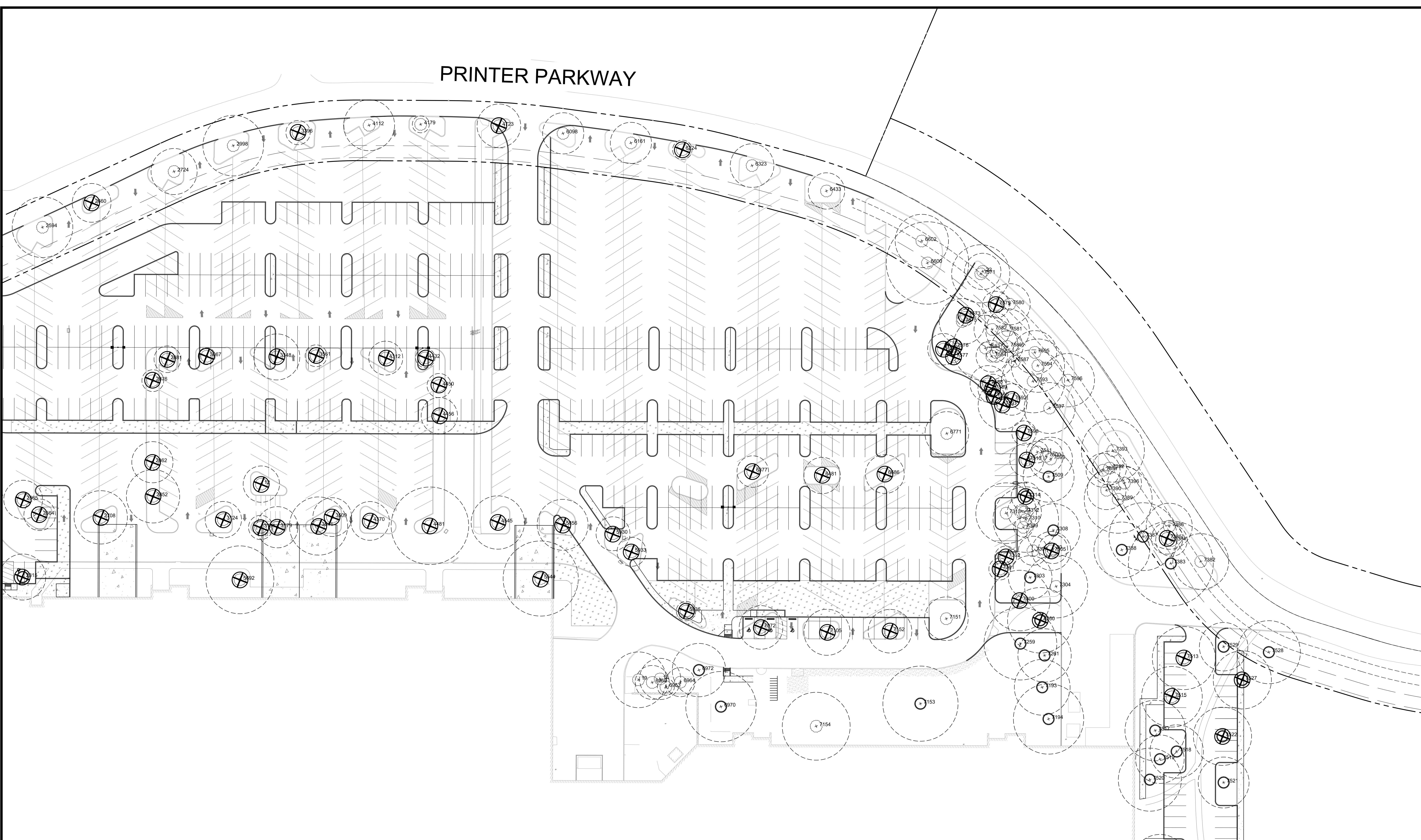


## TREE PROTECTION & REMOVAL PRELIMINARY IMPROVEMENT PLANS PARKWAY WOODS BUSINESS PARK WILSONVILLE, OREGON

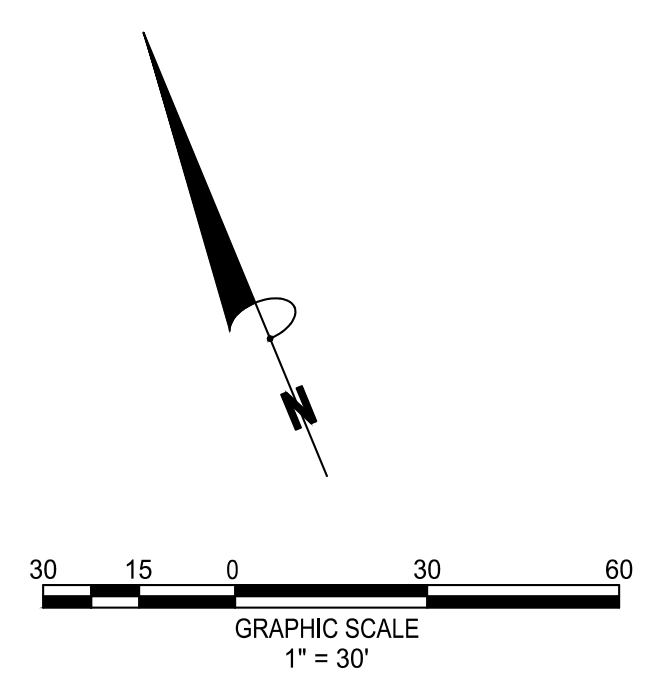


REVISIONS:


PM.	B. BERRY
DR.	J. GLUECK
JOB NO.	19004599
FILE NO.	19004599-TR09



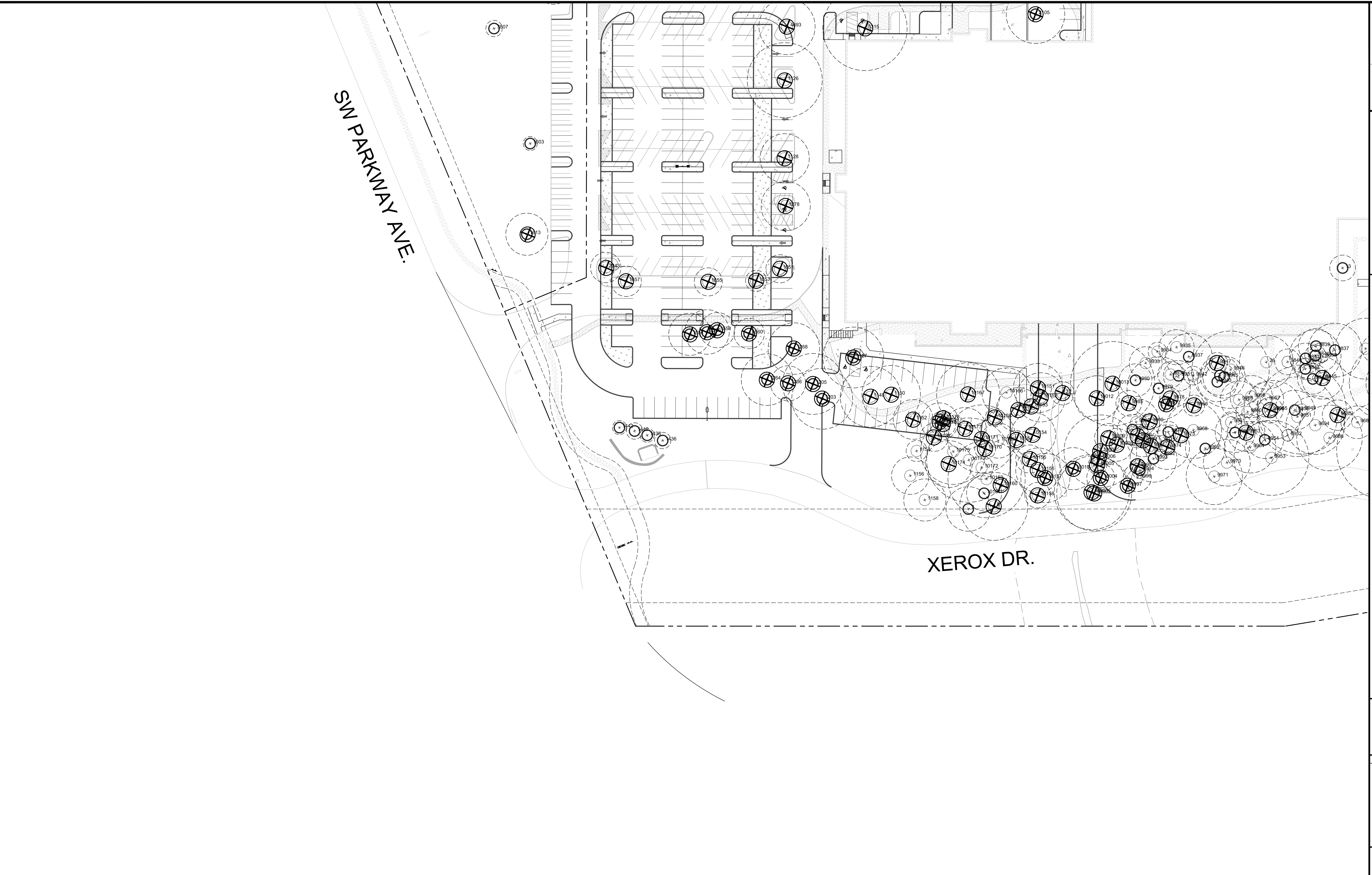
- LEGEND**
- TREE REMOVAL
  - EVERGREEN TREE
  - DECIDUOUS TREE
  - TREE CANOPY SPREAD



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K:\19004599 - parkway woods industrial park\map\plan sheets-preliminary\19004599-tr10.dwg Plot Date: 7/7/2020



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**ATWELL**  
 866.850.2200 [www.atwell-group.com](http://www.atwell-group.com)  
 9755 S. PORTLAND, OR 97224  
 971.334.8989

**TREE PROTECTION & REMOVAL**  
 PRELIMINARY IMPROVEMENT PLANS  
**PARKWAY WOODS BUSINESS PARK**  
 WILSONVILLE, OREGON



REVISIONS:


PM.	B. BERRY
DR.	J. GLUECK
JOB NO.	19004599
FILE NO.	19004599-TR10

**LEGEND**

- TREE REMOVAL
- EVERGREEN TREE
- DECIDUOUS TREE
- TREE CANOPY SPREAD

GRAPHIC SCALE  
 1" = 30'

Scale markings: 30, 15, 0, 30, 60

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND ACCEPTS FULL RESPONSIBILITY FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE: CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. NEITHER THE OWNER NOR THE ENGINEER SHALL BE RESPONSIBLE TO ANY PARTY FOR THE WORK OF PERSONS ENGAGED IN THE WORK OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.



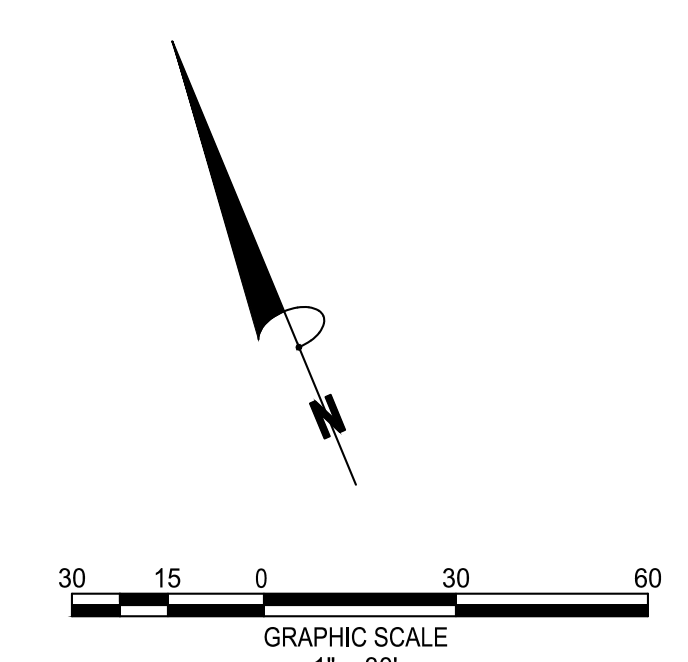
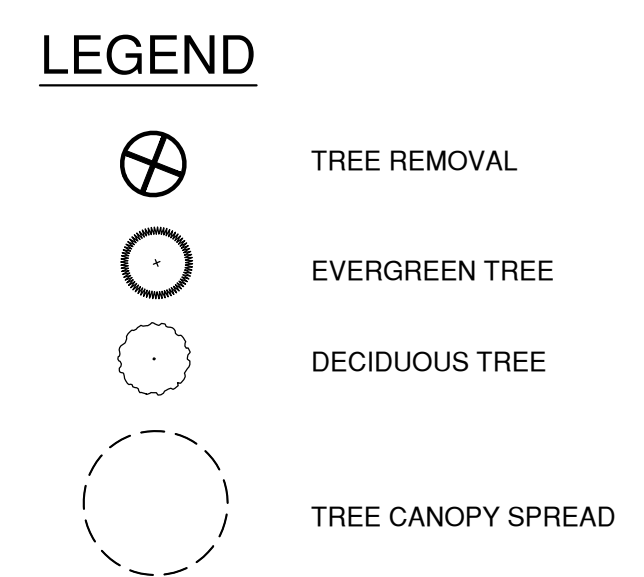
**TREE PROTECTION & REMOVAL**  
PRELIMINARY IMPROVEMENT PLANS  
**PARKWAY WOODS BUSINESS PARK**  
WILSONVILLE, OREGON



REVISIONS:

NO.	DESCRIPTION	DATE

PM.	B. BERRY
DR.	J. GLUECK
JOB NO.	19004599
FILE NO.	19004599-TR11



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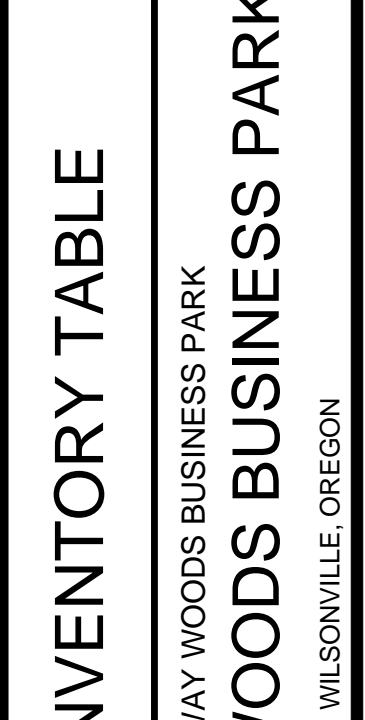
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Table with 13 columns: Tree No., Survey Type, Common Name, Scientific Name, DBH1, C-Rad2, Condition3, Structure, Comments, Treatment, Mitigation5. Rows include trees like "OAK24IN", "FIR22IN", "OAK16IN", etc.

Table with 13 columns: Tree No., Survey Type, Common Name, Scientific Name, DBH1, C-Rad2, Condition3, Structure, Comments, Treatment, Mitigation5. Rows include trees like "PINE16IN", "PINE11IN", "PINE12IN", etc.

THE LOCATIONS OF EXISTING UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND ACCEPTS TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES THAT MAY BE OCCURRED BY THE CONTRACTOR'S FAILURE TO PROPERLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE: CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. WHETHER THE OWNER OR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK OF PERSONS EMPLOYED IN THE WORK OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.



TREE INVENTORY TABLE
PARKWAY WOODS BUSINESS PARK
PARKWAY WOODS BUSINESS PARK
WILSONVILLE, OREGON



Table with 2 columns: REVISIONS, Description. Includes fields for revision number and description.

PM: B.BERRY
DR: J.GLUECK
JOB NO: 19004599
FILE NO: 19004599-TR12



Tree No.	Survey Type	Common Name	Scientific Name	DBH1	C-Rad2	Condition3	Structure	Comments	Treatment	Mitigation5
6686	"OAK14IN"	red oak	<i>Quercus rubra</i>	13	16	good	good		remove	yes
6771	"OAK14IN"	Norway maple	<i>Acer platanoides</i>	14	18	good	good		retain	n/a
6960	"OAK10IN"	red oak	<i>Quercus rubra</i>	10	14	good	fair	one sided	retain	n/a
6960.1(18)		red oak	<i>Quercus rubra</i>	10	17	good	fair	one sided	retain	n/a
6960.2(19)		red oak	<i>Quercus rubra</i>	16	23	good	good		retain	n/a
6963	"OAK8IN"	red oak	<i>Quercus rubra</i>	8	7	good	fair	one sided, codominant at 12' with included bark	retain	n/a
6964	"OAK10IN"	red oak	<i>Quercus rubra</i>	11	12	good	fair	moderately one sided	retain	n/a
6970	"PINE40IN"	ponderosa pine	<i>Pinus ponderosa</i>	40	29	good	fair	multiple leaders	retain	n/a
6972	"PINE28IN"	ponderosa pine	<i>Pinus ponderosa</i>	29	22	good	good		retain	n/a
7072	"OAK13IN"	red oak	<i>Quercus rubra</i>	13	18	good	good		remove	yes
7105	"OAK14IN"	red oak	<i>Quercus rubra</i>	14	19	good	good		remove	yes
7151	"OAK15IN"	Norway maple	<i>Acer platanoides</i>	17	18	fair	fair	sunscaled on trunk and branches	remove	no (nuisance species)
7152	"OAK10IN"	red oak	<i>Quercus rubra</i>	11	18	good	good		remove	yes
7153	"PINE32IN"	ponderosa pine	<i>Pinus ponderosa</i>	33	31	good	good		retain	n/a
7154	"OAK30IN"	Oregon white oak	<i>Quercus garryana</i>	21	28	good	good		retain	n/a
7193	"PINE26IN"	ponderosa pine	<i>Pinus ponderosa</i>	27	23	good	fair	codominant at 30' with included bark	retain	n/a
7194	"PINE32IN"	ponderosa pine	<i>Pinus ponderosa</i>	33	29	good	good		retain	n/a
7259	"PINE30IN"	ponderosa pine	<i>Pinus ponderosa</i>	29	30	good	fair	moderately one sided	retain	n/a
7260	"PINE34IN"	ponderosa pine	<i>Pinus ponderosa</i>	32	27	good	good		remove	yes
7261	"PINE26IN"	ponderosa pine	<i>Pinus ponderosa</i>	25	22	good	fair	moderately one sided	retain	n/a
7300	"OAK16IN"	Oregon white oak	<i>Quercus garryana</i>	17	25	good	fair	one sided	remove	yes
7301	"DECIDUOUS 9IN"	English hawthorn	<i>Crataegus monogyna</i>	9	9	good	fair	multiple leaders	remove	no (nuisance species)
7302	"DECIDUOUS 7IN"	sweet cherry	<i>Prunus avium</i>	7	9	good	good		remove	no (nuisance species)
7303	"PINE26IN"	ponderosa pine	<i>Pinus ponderosa</i>	27	18	fair	good	moderate branch tip dieback	retain	n/a
7304	"OAK15IN"	Oregon white oak	<i>Quercus garryana</i>	17	26	good	fair	one sided	retain	n/a
7305	"OAK8IN"	Oregon white oak	<i>Quercus garryana</i>	9	16	good	poor	suppressed	remove	no (poor condition)
7305.1(20)		Oregon white oak	<i>Quercus garryana</i>	12	12	fair	fair	one sided, overtopped by adjacent trees, added to site map in approximate location by arborist	remove	yes
7307	"OAK9IN"	Oregon white oak	<i>Quercus garryana</i>	9	12	good	fair	one sided	retain	n/a
7308	"PINE32IN"	ponderosa pine	<i>Pinus ponderosa</i>	32	22	good	fair	one sided	retain	n/a
7309	"DECIDUOUS 6IN"	black hawthorn	<i>Crataegus douglasii</i>	5	8	fair	fair	one sided, significant lean, overtopped by adjacent trees	retain	n/a
7310	"OAK22IN"	Oregon white oak	<i>Quercus garryana</i>	24	27	good	fair	one sided	retain	n/a
7312	"OAK12IN"	Oregon white oak	<i>Quercus garryana</i>	12	14	fair	fair	one sided, moderately suppressed	retain	n/a
7312.1(21)		Oregon white oak	<i>Quercus garryana</i>	6	6	fair	fair	one sided, overtopped by adjacent trees, added to site map in approximate location by arborist	retain	n/a
7313	"OAK24IN"	Oregon white oak	<i>Quercus garryana</i>	22	25	good	fair	one sided	retain	n/a
7314	"PINE14IN"	ponderosa pine	<i>Pinus ponderosa</i>	16	12	very poor	very poor	dying from top down	remove	no (very poor condition)
7382	"OAK24IN"	Oregon white oak	<i>Quercus garryana</i>	25	23	good	fair	leans southeast	retain	n/a
7383	"PINE36IN"	ponderosa pine	<i>Pinus ponderosa</i>	35	35	good	fair	lower branches with high aspect ratios, leans south, appears to be native	retain	n/a
7384	"OAK12IN"	Oregon white oak	<i>Quercus garryana</i>	11	13	good	fair	one sided	retain	n/a
7385	"DECIDUOUS 8IN"	English hawthorn	<i>Crataegus monogyna</i>	8	13	very poor	very poor	suppressed, significant decay	remove	no (very poor condition) (nuisance species)
7386	"OAK12IN 9IN"	Oregon white oak	<i>Quercus garryana</i>	28	19	good	fair	one sided, codominant at 6' with included bark	retain	n/a
7387	"PINE26IN 12IN"	ponderosa pine	<i>Pinus ponderosa</i>	36	28	good	fair	one sided, codominant at 3' with included bark	retain	n/a
7388	"PINE32IN"	ponderosa pine	<i>Pinus ponderosa</i>	31	23	good	fair	moderately one sided	retain	n/a
7389	"OAK10IN 2X8IN 3X14IN"	Oregon white oak	<i>Quercus garryana</i>	28,23,9	28	fair	fair	stump sprout	retain	n/a
7390	"OAK9IN"	Oregon ash	<i>Fraxinus latifolia</i>	9	16	good	fair	one sided	retain	n/a
7391	"OAK12IN"	Oregon ash	<i>Fraxinus latifolia</i>	11	14	good	fair	one sided	retain	n/a
7392	"OAK10IN"	Oregon ash	<i>Fraxinus latifolia</i>	11	14	good	fair	one sided	retain	n/a
7393	"OAK22IN"	Oregon white oak	<i>Quercus garryana</i>	24	26	good	fair	crack/seam at lower trunk behind failed branch	retain	n/a
7396	"OAK8IN"	Oregon ash	<i>Fraxinus latifolia</i>	8	14	good	fair	one sided	retain	n/a
7509	"PINE30IN"	ponderosa pine	<i>Pinus ponderosa</i>	27	21	good	good		retain	n/a
7510	"DECIDUOUS 2X7IN"	English hawthorn	<i>Crataegus monogyna</i>	13	14	good	fair	one sided, codominant at 3' with included bark	remove	no (nuisance species)
7511	"OAK8IN"	Oregon ash	<i>Fraxinus latifolia</i>	8	9	good	fair	one sided	retain	n/a
7513	"OAK18IN"	red oak	<i>Quercus rubra</i>	19	26	good	good		remove	yes
7515	"OAK16IN"	Norway maple	<i>Acer platanoides</i>	15	25	good	fair	multiple leaders at 7'	remove	no (nuisance species)
7517	"PINE30IN"	ponderosa pine	<i>Pinus ponderosa</i>	29	25	good	fair	multiple leaders at 20'	retain	n/a
7518	"PINE28IN"	ponderosa pine	<i>Pinus ponderosa</i>	27	22	good	fair	one sided, minor branch tip dieback, multiple leaders with included bark	retain	n/a
7519	"PINE24IN"	ponderosa pine	<i>Pinus ponderosa</i>	24	20	good	fair	one sided	retain	n/a
7520	"PINE28IN"	ponderosa pine	<i>Pinus ponderosa</i>	28	26	good	fair	one sided	retain	n/a
7521	"PINE20IN"	ponderosa pine	<i>Pinus ponderosa</i>	17	21	good	good		retain	n/a
7522	"PINE32IN"	ponderosa pine	<i>Pinus ponderosa</i>	31	24	fair	good	moderate branch tip dieback	remove	yes
7527	"PINE30IN"	ponderosa pine	<i>Pinus ponderosa</i>	29	24	fair	fair	one sided, lower branch dieback	remove	yes
7528	"PINE34IN"	ponderosa pine	<i>Pinus ponderosa</i>	32	26	good	fair	codominant at 20', one sided	retain	n/a
7529	"PINE30IN"	ponderosa pine	<i>Pinus ponderosa</i>	29	20	good	good	moderately one sided	retain	n/a
7571	"OAK24IN"	Oregon white oak	<i>Quercus garryana</i>	22	24	fair	fair	bent lower trunk, multiple upright stems on bent trunk	retain	n/a
7571.1(22)		Oregon white oak	<i>Quercus garryana</i>	15	15	fair	fair	codominant at 3', one sided	retain	n/a
7573	"DECIDUOUS 7IN"	sweet cherry	<i>Prunus avium</i>	7	7	good	fair	one sided	remove	no (nuisance species)
7575	"DECIDUOUS 8IN"	Oregon white oak	<i>Quercus garryana</i>	17	19	good	fair	moderately one sided	remove	yes
7576	"DECIDUOUS 10IN"	European birch	<i>Betula pendula</i>	10	7	very poor	very poor	dead top	remove	no (very poor condition) (nuisance species)
7577	"DECIDUOUS 9IN"	European birch	<i>Betula pendula</i>	9	0	very poor	very poor	dead	remove	no (very poor condition) (nuisance species)
7578	"DECIDUOUS 8IN 6IN"	English hawthorn	<i>Crataegus monogyna</i>	12	13	good	fair	codominant at 2' with included bark	remove	no (nuisance species)
7579	"OAK12IN 10IN"	Oregon white oak	<i>Quercus garryana</i>	24	11	poor	poor	extensive decay at lower trunk with standing water in decay pocket	remove	no (poor condition)
7580	"OAK16IN 7IN"	Oregon white oak	<i>Quercus garryana</i>	23	17	good	fair	one sided	retain	n/a
7581	"OAK12IN 6IN"	Oregon white oak	<i>Quercus garryana</i>	20	18	fair	fair	moderately suppressed, codominant at 3', 6' codominant stem is dying	retain	n/a
7582	"OAK18IN"	Oregon white oak	<i>Quercus garryana</i>	20	15	good	fair	35% live crown ratio, marginal trunk taper	retain	n/a
7583	"OAK22IN"	Oregon white oak	<i>Quercus garryana</i>	24	27	good	fair	one sided	retain	n/a
7584	"OAK7IN"	Oregon ash	<i>Fraxinus latifolia</i>	6	13	good	fair	one sided	retain	n/a
7585	"OAK6IN"	Oregon ash	<i>Fraxinus latifolia</i>	6	8	fair	fair	moderately suppressed, one sided	retain	n/a
7586	"OAK16IN 13IN"	Oregon white oak	<i>Quercus garryana</i>	28	13	fair	fair	moderately suppressed, codominant at 3' with included bark	retain	n/a
7587	"OAK15IN"	Oregon white oak	<i>Quercus garryana</i>	17	21	fair	fair	one sided	retain	n/a
7588	"DECIDUOUS 8IN"	English hawthorn	<i>Crataegus monogyna</i>	10	15	good	fair	one sided, multiple leaders with included bark	remove	no (nuisance species)
7589	"CHERRY7IN"	sweet cherry	<i>Prunus avium</i>	7	12	good	fair	one sided	remove	no (nuisance species)
7590	"CHERRY9IN"	sweet cherry	<i>Prunus avium</i>	9	6	poor	poor	extensive sunscaled at lower trunk	remove	no (poor condition) (nuisance species)
7591	"CHERRY15IN"	sweet cherry	<i>Prunus avium</i>	15	20	good	fair	moderately one sided, partially uprooted but stable	remove	no (nuisance species)
7592	"CHERRY10IN"	sweet cherry	<i>Prunus avium</i>	11	13	good	fair	one sided	remove	no (nuisance species)
7593	"OAK18IN"	Oregon white oak	<i>Quercus garryana</i>	19	26	good	fair	one sided	retain	n/a
7594	"OAK20IN"	Oregon white oak	<i>Quercus garryana</i>	21	22	good	fair	moderately one sided, kinked lower trunk	retain	n/a
7595	"OAK12IN"	Oregon white oak	<i>Quercus garryana</i>	13	18	fair	fair	one sided, moderately suppressed, moderately thin crown	retain	n/a
7596	"OAK26IN"	Oregon white oak	<i>Quercus garryana</i>	24	22	good	fair	moderately one sided	retain	n/a
7597	"OAK26IN 8IN 2X12IN 1"	Oregon white oak	<i>Quercus garryana</i>	13,12,1,0.8	21	fair	fair	stump sprout, moderately one sided	retain	n/a
7600	"DECIDUOUS 9IN"	black hawthorn	<i>Crataegus douglasii</i>	11	10	very poor	very poor	branch failure and lateral decay	remove	no (nuisance species)

Tree No.	Survey Type	Common Name	Scientific Name	DBH1	C-Rad2	Condition3	Structure	Comments	Treatment	Mitigation5
7598	"DECIDUOUS 9IN"	black hawthorn	<i>Crataegus douglasii</i>	11	10	very poor	very poor	branch failures and lateral decay	remove	no (very poor condition)
7599	"OAK2X12IN"	Oregon white oak	<i>Quercus garryana</i>	24	18	good	fair	codominant at 3' with included bark	retain	n/a
7600	"OAK12IN"	Oregon white oak	<i>Quercus garryana</i>	17	14	fair	fair	one sided, codominant at 3' with dead 5' codominant stem	retain	n/a
7660	"PINE26IN"	ponderosa pine	<i>Pinus ponderosa</i>	26	23	fair	good	moderate branch tip dieback	retain	n/a
7661	"PINE28IN"	ponderosa pine	<i>Pinus ponderosa</i>	27	28	fair	good	moderate branch tip dieback	remove	yes
7665	"PINE15IN"	ponderosa pine	<i>Pinus ponderosa</i>	16	17	fair	fair	thin crown, moderate branch tip dieback, codominant at 25'	retain	n/a
7670	"OAK16IN"	Norway maple	<i>Acer platanoides</i>	17	25	good	fair	multiple leaders with included bark	remove	no (nuisance species)
7671	"PINE20IN"	ponderosa pine	<i>Pinus ponderosa</i>	23	26	fair	fair	codominant at 10' with included bark, moderately thin crown	remove	yes
7673	"PINE28IN"	ponderosa pine	<i>Pinus ponderosa</i>	30	30	good	good		retain	n/a
7674	"DECIDUOUS 10IN"	Himalayan birch	<i>Betula utilis</i>	10	15	poor	poor	suppressed	remove	no (poor condition)
7675	"DECIDUOUS 10IN"	Himalayan birch	<i>Betula utilis</i>	9	11	fair	fair	moderately suppressed	retain	n/a
7685	"PINE20IN"	ponderosa pine	<i>Pinus ponderosa</i>	19	14	fair	fair	multiple leaders, moderately suppressed	remove	yes
7697	"PINE32IN"	ponderosa pine	<i>Pinus ponderosa</i>	30	30	good	fair	codominant at 30' with included bark	retain	n/a
7699	"PINE32IN"	ponderosa pine	<i>Pinus ponderosa</i>	31	35	fair	fair	moderately one sided, moderate branch tip dieback	remove	yes
7700	"PINE30IN"	ponderosa pine	<i>Pinus ponderosa</i>	29	32	fair	fair	moderately one sided, moderate branch tip dieback	retain	n/a
7702	"PINE32IN"	ponderosa pine	<i>Pinus ponderosa</i>	30	21	good	fair	multiple leaders at 25' with included bark, swelling at root crown	retain	n/a
7869	"PINE20IN"	ponderosa pine	<i>Pinus ponderosa</i>	22	25	fair	fair	one sided, moderately thin crown	retain	n/a
7899	"OAK16IN"	pin oak	<i>Quercus palustris</i>	17	16	good	fair	codominant at 10' with included bark	retain	n/a
7901	"OAK22IN"	pin oak	<i>Quercus palustris</i>	24	25	good	fair	codominant at 10' and 20' with included bark	retain	n/a
7905	"PINE36IN"	ponderosa pine	<i>Pinus ponderosa</i>	34	28	good	fair	multiple leaders with included bark	retain	n/a
7910	"OAK24IN"	pin oak	<i>Quercus palustris</i>	27	35	good	fair	multiple leaders with included bark	remove	yes
7913	"OAK24IN"	pin oak								

Tree No.	Survey Type	Common Name	Scientific Name	DBH1	C-Rad2	Condition3	Structure	Comments	Treatment	Mitigation5
8493	"OAK10IN"	Oregon white oak	<i>Quercus garryana</i>	9	11	poor	poor	suppressed	remove	no (poor condition)
8494	"OAK7IN"	Oregon white oak	<i>Quercus garryana</i>	6	10	poor	poor	suppressed	remove	no (poor condition)
8496	"FIR12IN 6IN OAK"	Douglas-fir	<i>Pseudotsuga menziesii</i>	13	8	fair	fair	one sided, overtopped by adjacent trees	retain	n/a
8497	"OAK22IN"	Oregon white oak	<i>Quercus garryana</i>	22	44	fair	fair	significant lean south, lower branch dieback	retain	n/a
8498	"OAK26IN"	Oregon white oak	<i>Quercus garryana</i>	26	31	good	fair	one sided	remove	yes
8498.1(23)		Douglas-fir	<i>Pseudotsuga menziesii</i>	15	18	fair	fair	one sided, overtopped by adjacent trees, codominant at 10' with included bark	retain	n/a
8499	"OAK2X32IN"	Oregon white oak	<i>Quercus garryana</i>	53	47	good	fair	codominant at 5' with included bark	retain	n/a
8500	"OAK10IN"	Oregon white oak	<i>Quercus garryana</i>	10	7	fair	poor	15% live crown ratio, poor trunk taper	retain	n/a
8501	"OAK7IN"	Oregon ash	<i>Fraxinus latifolia</i>	7	11	good	good		retain	n/a
8502	"FIR28IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	30	31	good	good		retain	n/a
8503	"DECIDUOUS 6IN"	Scoulers willow	<i>Salix scouleriana</i>	5	9	poor	poor	one sided, significant decay at root crown	remove	no (poor condition) (<6inchDBH)
8505	"FIR10IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	11	15	good	fair	one sided, overtopped by adjacent trees	retain	n/a
8506	"FIR34IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	31	24	good	fair	one sided	remove	yes
8507	"FIR12IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	12	16	poor	poor	overtopped by adjacent trees, suppressed	remove	no (poor condition)
8508	"FIR32IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	31	35	good	good		retain	n/a
8509	"FIR6IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	6	12	fair	fair	overtopped by adjacent trees	retain	n/a
8510	"FIR40IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	38	24	good	fair	50% live crown ratio, codominant at 50' with included bark	retain	n/a
8511	"OAK18IN"	Oregon white oak	<i>Quercus garryana</i>	19	19	fair	poor	significant lean southeast, 25% live crown ratio	retain	n/a
8512	"OAK22IN 9IN"	Oregon white oak	<i>Quercus garryana</i>	26	22	fair	fair	one sided, 35% live crown ratio, codominant at 4' with included bark, suppressed codominant stem	retain	n/a
8513	"OAK14IN"	Oregon white oak	<i>Quercus garryana</i>	15	8	fair	fair	one sided, 35% live crown ratio, marginal trunk taper	retain	n/a
8514	"OAK14IN"	Oregon white oak	<i>Quercus garryana</i>	16	24	fair	fair	one sided, marginal trunk taper	retain	n/a
8515	"OAK14IN"	Oregon white oak	<i>Quercus garryana</i>	13	10	poor	poor	suppressed	remove	no (poor condition)
8516	"FIR28IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	29	23	good	good		retain	n/a
8517	"FIR16IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	17	17	fair	fair	one sided, marginal trunk taper	retain	n/a
8518	"FIR25IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	26	26	good	fair	moderately one sided	retain	n/a
8519	"OAK7IN"	Oregon white oak	<i>Quercus garryana</i>	6	4	poor	poor	suppressed	remove	no (poor condition)
8520	"OAK14IN"	Oregon white oak	<i>Quercus garryana</i>	15	13	poor	poor	suppressed	remove	no (poor condition)
8521	"OAK26IN"	Oregon white oak	<i>Quercus garryana</i>	27	24	good	fair	moderately one sided	retain	n/a
8522	"DECIDUOUS 6IN"	English hawthorn	<i>Crataegus monogyna</i>	6	7	very poor	very poor	dying	remove	no (very poor condition) (nuisance species)
8523	"OAK24IN"	Oregon white oak	<i>Quercus garryana</i>	25	25	good	fair	one sided, 40% live crown ratio, marginal trunk taper	retain	n/a
8524	"OAK10IN"	Oregon white oak	<i>Quercus garryana</i>	12	19	fair	fair	overtopped by adjacent trees, one sided, 33% live crown ratio	retain	n/a
8525	"OAK18IN"	Oregon white oak	<i>Quercus garryana</i>	21	34	fair	fair	one sided, 35% live crown ratio, marginal trunk taper	retain	n/a
8526	"OAK6IN"	Oregon white oak	<i>Quercus garryana</i>	6	4	poor	poor	suppressed	remove	no (poor condition)
8527	"OAK36IN"	Oregon white oak	<i>Quercus garryana</i>	35	23	good	fair	multiple leaders with included bark	retain	n/a
8528	"OAK8IN"	Oregon white oak	<i>Quercus garryana</i>	9	10	poor	poor	suppressed	remove	no (poor condition)
8529	"OAK8IN 16IN"	Oregon white oak	<i>Quercus garryana</i>	17	14	poor	poor	suppressed, poor trunk taper	remove	no (poor condition)
8530	"OAK18IN"	Oregon white oak	<i>Quercus garryana</i>	21	42	fair	poor	one sided, significant lean east, poor trunk taper	retain	n/a
8531	"OAK24IN"	Oregon white oak	<i>Quercus garryana</i>	25	24	good	poor	25% live crown ratio, marginal trunk taper	retain	n/a
8532	"OAK18IN"	Oregon white oak	<i>Quercus garryana</i>	19	19	fair	fair	one sided, marginal trunk taper	remove	yes
8533	"OAK18IN 16IN"	Oregon white oak	<i>Quercus garryana</i>	20	18	fair	poor	codominant at 1', 33% live crown ratio, poor trunk taper, large stem failure with decay at 3'	remove	yes
8535	"OAK32IN"	Oregon white oak	<i>Quercus garryana</i>	35	29	good	good		retain	n/a
8536	"DECIDUOUS 6IN"	sweet cherry	<i>Prunus avium</i>	5	7	good	good	overtopped by adjacent trees	remove	no (nuisance species) (<6inchDBH)
8558	"DECIDUOUS 7IN"	Scoulers willow	<i>Salix scouleriana</i>	7	7	fair	fair	one sided	retain	n/a
8608	"DECIDUOUS 8IN"	sweet cherry	<i>Prunus avium</i>	10	12	fair	fair	overtopped by adjacent trees	remove	no (nuisance species)
8799	"DECIDUOUS 16IN"	Himalayan birch	<i>Betula utilis</i>	17	20	good	fair	branches with high aspect ratios	remove	yes
8838	"CHERRY12IN"	flowering cherry	<i>Prunus serrulata</i>	12	14	good	fair	one sided	remove	yes
8839	"CHERRY22IN"	flowering cherry	<i>Prunus serrulata</i>	23	27	good	fair	pruned away from building	remove	yes
8880	"CHERRY15IN"	flowering cherry	<i>Prunus serrulata</i>	15	14	good	fair	overtopped by adjacent trees, one sided	remove	yes
8903	"FIR9IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	8	11	good	fair	overtopped by adjacent trees	remove	yes
8904	"OAK20IN"	Oregon white oak	<i>Quercus garryana</i>	20	7	fair	fair	one sided from previous tree that was removed	remove	yes
8905	"FIR10IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	10	10	good	fair	overtopped by adjacent trees	remove	yes
8906	"OAK26IN"	Oregon white oak	<i>Quercus garryana</i>	26	32	good	fair	one sided from previous tree that was removed	remove	yes
8908	"OAK10IN"	bigleaf maple	<i>Acer macrophyllum</i>	11	17	good	fair	one sided, multiple leaders	remove	yes
8909	"OAK20IN"	Oregon white oak	<i>Quercus garryana</i>	21	26	fair	fair	one sided, marginal trunk taper	remove	yes
8910	"FIR10IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	9	9	fair	fair	one sided, overtopped by adjacent trees	remove	yes
8913	"OAK9IN"	Oregon white oak	<i>Quercus garryana</i>	10	8	poor	poor	suppressed	remove	no (poor condition)
8915	"FIR24IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	24	15	fair	fair	one sided from previous tree that was removed	retain	n/a
8919	"FIR20IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	22	27	fair	fair	one sided, overtopped by adjacent trees, previously lost top at 40'	remove	yes
8920	"PINE32IN"	ponderosa pine	<i>Pinus ponderosa</i>	33	16	fair	fair	40% live crown ratio, scattered branch tip dieback	remove	yes
8921	"OAK6IN"	Oregon white oak	<i>Quercus garryana</i>	6	20	poor	poor	overtopped by adjacent trees, suppressed	remove	no (poor condition)
8922	"FIR15IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	17	21	fair	fair	one sided, overtopped by adjacent trees, moderately thin crown	remove	yes
8923	"FIR13IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	14	20	good	fair	one sided, overtopped by adjacent trees	remove	yes
8925	"DECIDUOUS 14IN"	sweet cherry	<i>Prunus avium</i>	14	12	fair	poor	codominant at 30', 35% live crown ratio, decay at root crown	remove	no (nuisance species)
8926	"FIR16IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	18	23	good	good	wound at lower trunk	remove	yes
8927	"FIR16IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	16	13	fair	fair	one sided, overtopped by adjacent trees, marginal trunk taper	remove	yes
8928	"FIR8IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	8	9	fair	good	overtopped by adjacent trees	remove	yes
8929	"OAK14IN"	Scoulers willow	<i>Salix scouleriana</i>	15	17	poor	poor	one sided, history of branch failure	remove	no (poor condition)
8930	"FIR20IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	23	20	good	fair	moderately one sided	retain	n/a
8931	"DECIDUOUS 8IN"	sweet cherry	<i>Prunus avium</i>	7	9	good	fair	overtopped by adjacent trees	remove	no (nuisance species)
8932	"DECIDUOUS 12IN"	Scoulers willow	<i>Salix scouleriana</i>	14	14	poor	very poor	extensive decay in trunk	remove	no (poor condition)
8933	"OAK28IN"	Oregon white oak	<i>Quercus garryana</i>	28	41	good	fair	one sided, leans over building	remove	yes
8934	"DECIDUOUS 6IN"	English hawthorn	<i>Crataegus monogyna</i>	6	12	poor	poor	suppressed	remove	no (poor condition) (nuisance species)
8937	"FIR15IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	16	14	good	fair	codominant at 35'	remove	yes
8951	"FIR20IN"	ponderosa pine	<i>Pinus ponderosa</i>	21	20	good	fair	one sided	remove	yes
8953	"OAK24IN"	Oregon white oak	<i>Quercus garryana</i>	25	29	good	fair	one sided	remove	yes
8954	"PINE38IN"	ponderosa pine	<i>Pinus ponderosa</i>	35	19	poor	poor	significant branch dieback	remove	no (poor condition)
8955	"FIR6IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	5	7	fair	fair	overtopped by adjacent trees, lost top at 7', sweep in lower trunk	remove	no (<6inchDBH)
8957	"OAK9IN"	Oregon white oak	<i>Quercus garryana</i>	9	8	poor	poor	suppressed	remove	no (poor condition)
8957.1(24)		Oregon ash	<i>Fraxinus latifolia</i>	7	10	fair	fair	one sided, overtopped by adjacent trees, added to site map in approximate location by arborist	remove	yes
8958	"OAK18IN"	Oregon white oak	<i>Quercus garryana</i>	19	24	good	fair	one sided	retain	n/a
8959	"OAK20IN"	Oregon white oak	<i>Quercus garryana</i>	21	27	good	fair	40% live crown ratio	remove	yes
8960	"DECIDUOUS 7IN"	Oregon white oak	<i>Quercus garryana</i>	7	5	poor	poor	suppressed	remove	no (poor condition)

Tree No.	Survey Type	Common Name	Scientific Name	DBH1	C-Rad2	Condition3	Structure	Comments	Treatment	Mitigation5
8962	"FIR20IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	22	27	good	fair	moderately one sided	remove	yes
8963	"OAK22IN"	Oregon white oak	<i>Quercus garryana</i>	23	26	good	fair	one sided, codominant at 10'	remove	yes
8965	"FIR10IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	11	18	good	fair	one sided	remove	yes
9107	"OAK18IN 9IN"	Oregon white oak	<i>Quercus garryana</i>	31	28	good	fair	33% live crown ratio	retain	n/a
9108	"OAK16IN"	Oregon ash	<i>Fraxinus latifolia</i>	16	20	fair	fair	one sided, decay pocket at lower trunk	remove	yes
9109	"DECIDUOUS 6IN"	sweet cherry	<i>Prunus avium</i>	5	10	poor	poor	one sided, overtopped by adjacent trees, significant lean	remove	no (poor condition) (nuisance species) (<6inchDBH)
9110	"DECIDUOUS 6IN"	English hawthorn	<i>Crataegus monogyna</i>	6	6	poor	poor	suppressed	remove	no (poor condition) (nuisance species)
9111	"OAK11IN 8IN"	Oregon white oak	<i>Quercus garryana</i>	11,6	12	poor	poor	suppressed, codominant at ground level, significant decay in 6" stem	remove	no (poor condition)
9112	"OAK12IN"	Oregon white oak	<i>Quercus garryana</i>	12	15	poor	poor	suppressed	remove	no (poor condition)
9113	"FIR7IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	6	7	poor	poor	suppressed	remove	no (poor condition)
9115	"OAK11IN"	Oregon ash	<i>Fraxinus latifolia</i>	10	6	good	fair	codominant at ground level, one sided	retain	n/a
9117	"DECIDUOUS 11IN"	sweet cherry	<i>Prunus avium</i>	11	15	good	good		remove	no (nuisance species)
9118	"DECIDUOUS 6IN"	sweet cherry	<i>Prunus avium</i>	5	10	good	good		remove	no (nuisance species) (<6inchDBH)
9151	"OAK22IN"	Oregon white oak	<i>Quercus garryana</i>	24	19	good	fair	moderately one sided	remove	yes
9152	"OAK16IN"	Oregon white oak	<i>Quercus garryana</i>	17	14	good	fair	one sided	remove	yes
9153	"OAK16IN"	Oregon white oak	<i>Quercus garryana</i>	18	25	fair	fair	one sided, overtopped by adjacent trees, marginal trunk taper	remove	yes
9154	"FIR16IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	17	18	good	fair	one sided, marginal trunk taper	remove	yes
9155	"OAK16IN"	Oregon white oak	<i>Quercus garryana</i>	15	24	fair	fair	one sided, 50% live crown ratio, marginal trunk taper	remove	yes
9156	"DECIDUOUS 10IN"	sweet cherry	<i>Prunus avium</i>	11	20	good	fair	moderately one sided	remove	no (nuisance species)
9157	"OAK10IN"	Oregon white oak	<i>Quercus garryana</i>	10	18	poor	poor	top failed at 8'	remove	no (poor condition)
9158	"DECIDUOUS 12IN 6IN 8I"	Scoulers willow	<i>Salix scouleriana</i>	20	12	poor	poor	history of branch failure, decay at lower trunk	remove	no (poor condition)
9159	"OAK24IN"	Oregon white oak	<i>Quercus garryana</i>	25	29	good	fair	one sided	remove	yes
9160	"FIR12IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	11	14	good	fair	overtopped by adjacent trees	remove	yes
9161	"OAK24IN"	Oregon white oak	<i>Quercus garryana</i>	27	12	poor	poor	moderately suppressed, moderate branch dieback	remove	no (poor condition)
9162	"OAK9IN"	Oregon ash	<i>Fraxinus latifolia</i>	8	15	fair	fair	overtopped by adjacent trees	remove	yes
9163	"FIR7IN"	Douglas-fir	<i>Pseudotsuga menziesii</i>	6	7	fair	fair	overtopped by adjacent trees	remove	yes
9164	"PINE28IN"	ponderosa pine	<i>Pinus ponderosa</i>	28	27	fair	fair	one sided, moderately thin crown, codominant at 60'	remove	yes
9185	"OAK18IN"	Oregon ash	<i>Fraxinus latifolia</i>	19	23	good	fair	one sided	retain	n/a
9186	"OAK24IN"	Oregon ash	<i>Fraxinus latifolia</i>	23	24	good	fair	one sided	retain	n/a
9195	"CHERRY14IN"	flowering cherry	<i>Prunus serrulata</i>	15	10	fair	fair	decay at lower trunk	retain	n/a
9203	"MAPLE10IN JAP"	Japanese maple	<i>Acer palmatum</i>	12	19	good	fair	multiple leaders with included bark	retain	n/a
9210	"OAK24IN"	red oak	<i>Quercus rubra</i>	25	27	good	fair	one sided	remove	yes
9211	"OAK20IN"	red oak	<i>Quercus rubra</i>	20	25	good	fair	one sided	retain	n/a
9212	"OAK22IN"	Oregon white oak	<i>Quercus garryana</i>	27	36	good	fair	moderately one sided	retain	n/a
9322	"OAK24IN"	Oregon white oak	<i>Quercus garryana</i>	25	25	poor	poor	moderate branch dieback, 33% live crown ratio	remove	no (poor condition)
9322.1(25)		Oregon white oak	<i>Quercus garryana</i>	20	23	poor	poor	suppressed	remove	no (poor condition)
9324	"OAK20IN"	Oregon ash	<i>Fraxinus latifolia</i>	20	23	good	good		remove	yes
9325	"OAK24IN"	Oregon white oak	<i>Quercus garryana</i>	26	36	fair	fair	overextended branches, moderately one sided	remove	yes
9326	"OAK20IN"	Oregon ash	<i>Fraxinus latifolia</i>	18	22	good	fair	moderately one sided, overtopped by adjacent trees	remove	yes
9327	"OAK40IN"	Oregon white oak	<i>Quercus garryana</i>	38	33					



# Attachment C

## OFWAM Summary Sheets



# Oregon Freshwater Wetland Assessment Methodology

## Functions and Conditions Summary Sheet

<b>Project:</b>	6940 Parkway Woods		<b>Wetland:</b>	<b>Wetland A North</b>
<b>Location:</b>	Wilsonville, Oregon		<b>Approx. Area (acres):</b>	>.5 acre (continues off-site)
<b>Date:</b>	4/1/2020		<b>Wetland Types(s):</b>	PEM
<b>Result:</b>	<b>Wetland provides habitat for some wildlife species</b>			
<b>Rationale:</b>	One Class with less than 5 species		No adjacent Water Quality limited streams	
	Herbaceous vegetation, no ponding		Adjacent land is mostly developed	
	Less than 0.5 acres of open water		Wetland buffer is greater than 40%	
<b>Result:</b>	<b>Wetland's fish habitat function is impacted or degraded</b>			
<b>Rationale:</b>	Less than 50% of stream is shaded		No adjacent Water Quality Limited streams	
	Stream banks are extensively modified		Adjacent land is mostly developed	
	<10% of stream has instream structures		Stream does not contain fish	
<b>Result:</b>	<b>Wetland's water-quality function is impacted or degraded</b>			
<b>Rationale:</b>	Primary water source is groundwater		Wetland is between 0.5 and 5 acres	
	Can't determine if wetland floods or ponds		Adjacent land is mostly developed	
	Low vegetation cover		No adjacent Water Quality Limited streams	
<b>Result:</b>	<b>Wetland's hydrologic control is impacted or degraded</b>			
<b>Rationale:</b>	Wetland is not within 100 year floodplain		Herbaceous vegetation, no ponding	
	Can't determine if wetland floods or ponds		Development downslope of wetland	
	Flow out of wetland is restricted		Development upslope of wetland	
<b>Result:</b>	<b>Wetland site is not appropriate for educational use</b>			
<b>Rationale:</b>	No access allowed to wetland		No access point to wetland exists	
	1 or 2 visible safety hazards		Wetland is not limited mobility accessible	
	No access or observation of other habitats			
<b>Result:</b>	<b>Wetland is not appropriate or does not provide rec. opportunities</b>			
<b>Rationale:</b>	No access point to wetland exists		Wetland provides habitat for some wildlife	
	No boat launching can be developed		No fishing is allowed	
	No trails or viewing areas exist		No hunting is allowed	

# Oregon Freshwater Wetland Assessment Methodology

## Functions and Conditions Summary Sheet

<b>Project:</b>	6940 Parkway Woods		<b>Wetland:</b>	<b>Wetland A South - 1.08d</b>
<b>Location:</b>	Wilsonville, Oregon	<b>Approx. Area (acres):</b>		>.5 acre (continues off-site)
<b>Date:</b>	4/1/2020	<b>Wetland Types(s):</b>		PEM
<b>Result:</b>	<b>Wetland provides habitat for some wildlife species</b>			
<b>Rationale:</b>	One Cowardin class with > 5 species	No adjacent Water Quality limited streams		
	Herbaceous vegetation, no ponding	Adjacent land is mostly developed		
	Less than 0.5 acres of open water	Wetland buffer is greater than 40%		
<b>Result:</b>	<b>Wetland's fish habitat function is impacted or degraded</b>			
<b>Rationale:</b>	Less than 50% of stream is shaded	No adjacent Water Quality Limited streams		
	Stream banks are extensively modified	Adjacent land is mostly developed		
	<10% of stream has instream structures	Stream does not contain fish		
<b>Result:</b>	<b>Wetland's water-quality function is impacted or degraded</b>			
<b>Rationale:</b>	Primary water source is groundwater	Wetland is between 0.5 and 5 acres		
	Wetland floods/ponds in growing season	Adjacent land is mostly developed		
	High wetland vegetation cover	No adjacent Water Quality Limited streams		
<b>Result:</b>	<b>Wetland's hydrologic control is impacted or degraded</b>			
<b>Rationale:</b>	Wetland is not within 100 year floodplain	Herbaceous vegetation, no ponding		
	Wetland floods/ponds in growing season	Development downslope of wetland		
	Water has unrestricted flow out of wetland	Development upslope of wetland		
<b>Result:</b>	<b>Wetland site is not appropriate for educational use</b>			
<b>Rationale:</b>	No access allowed to wetland	No access point to wetland exists		
	1 or 2 visible safety hazards	Wetland is not limited mobility accessible		
	No access or observation of other habitats			
<b>Result:</b>	<b>Wetland is not appropriate or does not provide rec. opportunities</b>			
<b>Rationale:</b>	No access point to wetland exists	Wetland provides habitat for some wildlife		
	No boat launching can be developed	No fishing is allowed		
	No trails or viewing areas exist	No hunting is allowed		

# Oregon Freshwater Wetland Assessment Methodology

## Functions and Conditions Summary Sheet

<b>Project:</b>	6940 Parkway Woods	<b>Wetland:</b>	<b>Wetland B/Trib-107.d</b>
<b>Location:</b>	Wilsonville, Oregon	<b>Approx. Area (acres):</b>	>.5 acre (continues off-site)
<b>Date:</b>	4/1/2020	<b>Wetland Types(s):</b>	PFO
<b>Result:</b>	<b>Wetland provides habitat for some wildlife species</b>		
<b>Rationale:</b>	One Cowardin class with > 5 species	No adjacent Water Quality limited streams	
	Dominated by woody vegetation	Adjacent land is mostly developed	
	Less than 0.5 acres of open water	Wetland buffer is greater than 40%	
<b>Result:</b>	<b>Wetland's fish habitat function is impacted or degraded</b>		
<b>Rationale:</b>	50-75% of stream is shaded	No adjacent Water Quality Limited streams	
	Only portions of stream are modified	Adjacent land is mostly developed	
	<10% of stream has instream structures	Stream does not contain fish	
<b>Result:</b>	<b>Wetland's water-quality function is impacted or degraded</b>		
<b>Rationale:</b>	Primary water source is groundwater	Wetland is between 0.5 and 5 acres	
	Wetland floods/ponds in growing season	Adjacent land is mostly developed	
	High wetland vegetation cover	No adjacent Water Quality Limited streams	
<b>Result:</b>	<b>Wetland's hydrologic control function is intact</b>		
<b>Rationale:</b>	Wetland is not within 100 year floodplain	Dominated by woody vegetation	
	Wetland floods/ponds in growing season	Development downslope of wetland	
	Minor restrictions slow down the water	Development upslope of wetland	
<b>Result:</b>	<b>Wetland site is not appropriate for educational use</b>		
<b>Rationale:</b>	No access allowed to wetland	No access point to wetland exists	
	1 or 2 visible safety hazards	Wetland is not limited mobility accessible	
	No access or observation of other habitats		
<b>Result:</b>	<b>Wetland is not appropriate or does not provide rec. opportunities</b>		
<b>Rationale:</b>	No access point to wetland exists	Wetland provides habitat for some wildlife	
	No boat launching can be developed	No fishing is allowed	
	No trails or viewing areas exist	No hunting is allowed	

# Oregon Freshwater Wetland Assessment Methodology

## Functions and Conditions Summary Sheet

<b>Project:</b>	6940 Parkway Woods		<b>Wetland:</b>	<b>Wetland C- 107.d</b>
<b>Location:</b>	Wilsonville, Oregon		<b>Approx. Area (acres):</b>	>.5 acre
<b>Date:</b>	4/1/2020		<b>Wetland Types(s):</b>	PEM
<b>Result:</b>	<b>Wetland provides habitat for some wildlife species</b>			
<b>Rationale:</b>	One Class with less than 5 species		No adjacent Water Quality limited streams	
	Herbaceous vegetation, no ponding		Adjacent land is mostly developed	
	Less than 0.5 acres of open water		Wetland buffer is less than 10%	
<b>Result:</b>	<b>Wetland's fish habitat function is impacted or degraded</b>			
<b>Rationale:</b>	50-75% of stream is shaded		No adjacent Water Quality Limited streams	
	Only portions of stream are modified		Adjacent land is mostly developed	
	<10% of stream has instream structures		Stream does not contain fish	
<b>Result:</b>	<b>Wetland's water-quality function is impacted or degraded</b>			
<b>Rationale:</b>	Primary water source is groundwater		Wetland is between 0.5 and 5 acres	
	Wetland floods/ponds in growing season		Adjacent land is mostly developed	
	High wetland vegetation cover		No adjacent Water Quality Limited streams	
<b>Result:</b>	<b>Wetland's hydrologic control is impacted or degraded</b>			
<b>Rationale:</b>	Wetland is not within 100 year floodplain		Herbaceous vegetation, no ponding	
	Wetland floods/ponds in growing season		Open space downslope of development	
	Water has unrestricted flow out of wetland		Development upslope of wetland	
<b>Result:</b>	<b>Wetland site is not appropriate for educational use</b>			
<b>Rationale:</b>	No access allowed to wetland		Maintained public access within 250 feet	
	No visible hazards to public		Wetland is limited mobility accessible	
	No access or observation of other habitats			
<b>Result:</b>	<b>Wetland has the potential to provide recreational activities</b>			
<b>Rationale:</b>	Maintained public access within 250 feet		Wetland provides habitat for some wildlife	
	No boat launching can be developed		No fishing is allowed	
	No trails or viewing areas exist		No hunting is allowed	



# Attachment D

## Wetland Delineation Report



**WETLAND DELINEATION / DETERMINATION REPORT COVER FORM**

Fully completed and signed report cover forms and applicable fees are required before report review timelines are initiated by the Department of State Lands. Make the checks payable to the Oregon Department of State Lands. To pay fees by credit card, go online at: <https://apps.oregon.gov/DSL/EPS/program?key=4>.


Attach this completed and signed form to the front of an unbound report or include a hard copy with a digital version (single PDF file of the report cover from and report, minimum 300 dpi resolution) and submit to, **Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279**. A single PDF of the completed cover form and report may be e-mailed to **Wetland\_Delineation@dsl.state.or.us**. For submittal of PDF files larger than 10 MB, e-mail DSL instructions on how to access the file from your ftp or other file sharing website.

**Contact and Authorization Information**

<input checked="" type="checkbox"/> Applicant <input type="checkbox"/> Owner Name, Firm and Address: <b>Matt Morvai, VP, Asset Management</b> PWII Owner, LLC 222 SW Columbia St. STE#700 Portland, OR 97201	Business phone # (503) 783 6260 Mobile phone # (optional) E-mail: mmorvai@skbcos.com
--	--

<input checked="" type="checkbox"/> Authorized Legal Agent, Name and Address: <b>same</b>	Business phone # Mobile phone # E-mail:
--	---

I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact.

Typed/Printed Name: MATT MORVAI Signature:   
Date: \_\_\_\_\_ Special instructions regarding site access: \_\_\_\_\_

**Project and Site Information**

Project Name: <b>Parkway Woods Property</b>	Latitude: 45.3254 Longitude: -122.7669 <small>decimal degree - centroid of site or start &amp; end points of linear project</small>
	Tax Map # 3S 1W 12 Tax Lot(s) Portion 500, 581
Proposed Use: <b>Improvements to Existing Development</b>	Tax Map # Tax Lot(s)
Project Street Address (or other descriptive location): Parkway Woods- 26600 SW Parkway Ave	Township 3S Range 1W Section 12 QQ Use separate sheet for additional tax and location information
City: <b>Wilsonville</b> County: <b>Clackamas</b>	Waterway: N/A River Mile: N/A NWI Quad(s): <b>Sherwood</b>

**Wetland Delineation Information**

Wetland Consultant Name, Firm and Address: <b>Pacific Habitat Services</b> Attn: <b>Carlee Michelson</b> 9450 SW Commerce Circle, Suite 180 Wilsonville, OR 97070	Phone # <b>503-570-0800</b> Mobile phone # E-mail: <b>cm@pacifichabitat.com</b>
---	---

The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.

Consultant Signature:  Date: **05/26/2020**

Primary Contact for report review and site access is  Consultant  Applicant/Owner  Authorized Agent

Wetland/Waters Present?  Yes  No Study Area size: 49 ac Wetland Acreage: 3.46 Waters: 0.18

**Check Applicable Boxes Below**

- |  |  |
|--|--|
| <input type="checkbox"/> R-F permit application submitted  | <input checked="" type="checkbox"/> Fee payment submitted <b>\$466</b>                                       |
| <input type="checkbox"/> Mitigation bank site  | <input type="checkbox"/> Fee (\$100) for resubmittal of rejected report                                      |
| <input type="checkbox"/> Industrial Land Certification Program Site                              | <input type="checkbox"/> Request for Reissuance. See eligibility criteria (no fee)                           |
| <input type="checkbox"/> Wetland restoration/enhancement project (not mitigation)                | DSL # _____ Expiration Date _____  |
| <input type="checkbox"/> Previous delineation/application on parcel?<br>If Known, previous DSL # | <input checked="" type="checkbox"/> LWI shows wetlands or waters on parcel?<br>Wetland ID Code 1.08d & 1.07d |

**For Office Use Only**

DSL Reviewer: \_\_\_\_\_ Fee Paid Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ DSL WD # \_\_\_\_\_  
Date Delineation Received: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Scanned:  Final Scan:  DSL App. # \_\_\_\_\_

# Wetland Delineation of Parkway Woods in Wilsonville, Oregon

(Township 3 South, Range 1 West, Section 12, Portion of Tax lots 500  
and 581)

**Prepared for**

**Matt Morvai, Vice President, Asset Management**

**PWII Owner, LLC**

222 SW Columbia St. STE#700

Portland, Oregon 97201

**Prepared by**

Carlee Michelson, Joe Thompson,  
Amy Hawkins, and John Van Staveren

**Pacific Habitat Services, Inc.**

Wilsonville, Oregon 97070

(503) 570-0800

(503) 570-0855 FAX

PHS Project Number: 6940

**May 29, 2020**



# TABLE OF CONTENTS

	<u>Page</u>
<b>I. INTRODUCTION.....</b>	<b>1</b>
<b>II. RESULTS AND DISCUSSION .....</b>	<b>1</b>
A. Landscape Setting and Land Use.....	1
B. Site Alterations.....	2
C. Precipitation Data and Analysis.....	2
D. Methods .....	2
E. Description of All Wetlands and Other Non-Wetland Waters .....	3
F. Deviation from LWI or NWI .....	5
G. Mapping Method.....	5
H. Additional Information .....	6
I. Results and Conclusions .....	6
J. Disclaimer.....	6
<b>III. REFERENCES.....</b>	<b>7</b>
<b>APPENDIX A: Figures</b>	
Figure 1: Vicinity Map (USGS)	
Figure 2: Tax Lot Map	
Figure 3: Local Wetland Inventory Map	
Figure 4: Soil Survey Map	
Figure 5: Aerial Photo	
Figure 6: Potentially Jurisdictional Wetland (Wetland Delineation Map)	
<b>APPENDIX B: Wetland Delineation Data Sheets</b>	
<b>APPENDIX C: Site photos (ground level)</b>	
<b>APPENDIX D: Wetland Definitions and Methodology (Client only)</b>	

## **I. INTRODUCTION**

Pacific Habitat Services, Inc. (PHS) conducted a wetland delineation for the Parkway Woods development site in Wilsonville, Oregon (Township 3 South, Range 1 West, Section 12, Portion of Tax lots 500 and 581). This report presents the results of PHS's wetland delineation within the study area. Figures, including a map depicting the location of wetlands within the study area, are located in Appendix A. Data sheets documenting on-site conditions are in Appendix B. Ground-level photos of the site are located in Appendix C. A discussion of the wetland delineation methodology, provided for the client, is in Appendix D.

## **II. RESULTS AND DISCUSSION**

### **A. Landscape Setting and Land Use**

The study area is located east of I-5, north of Xerox Drive, and south of Printer Parkway, in Wilsonville, Oregon. The site is bounded to the west by I-5, and to the east, north and south by existing development and open space. Adjacent land use is primarily commercial but undeveloped forest and grassy areas function as open space amenities to adjoining development.

The study area consists of gently rolling topography in the undeveloped areas, with elevations generally sloping from northwest to southeast. The highest elevations exist along the west end, at 244 feet, also extending to 242 along SW Printer Parkway. The lowest elevation in the eastern portion of the study area. The lowest surveyed elevation is 228 feet, though it is evident that elevations continue to drop down to the south flowing tributary to Coffee Lake Creek, which is located very near the eastern limits of the study area.

The pervious portions of the study area generally consist of mowed lawn grasses and mixed canopy forest, portions of which have been managed for the use of Xerox employees, including walking/running trails and Frisbee golf courses.

The lawn areas consist of facultative grasses and weedy forbs that are regularly mowed. A densely forested area south of the existing building is dominated by Oregon white oak (*Quercus garryana*, UPL), Douglas fir (*Pseudotsuga menziesii*, FACU), and cherry (*Prunus* sp.). This area has been cleared of any understory species for the Frisbee golf course.

Southwest Parkway Avenue, which is located just west of the site does include roadside ditches but these ditches lie beyond the western limits of the study area.

## B. Site Alterations

Historical photos of the study area dating to 1981 confirm that site conditions have changed little over the past 40 years. Older photos, between 1952 and 1970, reveal a patchwork of forested and farmed areas. The two remaining forested areas along the southern site boundary are part of the forested areas observable in 1952.

No recent fill material or deposits were observed within the study area.

## C. Precipitation Data and Analysis

The delineation was conducted on April 1, 2020. Recorded precipitation was 0.08 inch; precipitation for the prior two weeks totaled 1.19 inches (NRCS, 2020). Precipitation for the month of March totaled 2.43 inches, which is 58% of normal for the period of record. Precipitation for the water year to date (October 1, 2019 through March 31, 2020) totaled 11.76 inches, which is 43% of normal for the period of record.

WETS tables were unavailable for nearby stations within Clackamas County or within Washington County at the time of this report preparation. However, data from the Portland airport was available. Table 2 shows the average monthly precipitation in Portland for the three months prior to the April site visit, as well as the upper and lower values considered within normal ranges for the period of record (NRCS WETS table for Portland 1998-2020).

**Table 1. Comparison of average and observed monthly precipitation prior to the April 2020 delineation field work.**

Month	Average*	30% chance will have		Observed Precipitation**	Percent of Normal
		Less than	More than		
January 2020	5.08	3.72	5.98	7.58	150
February 2020	3.64	2.34	4.38	1.55	43
March 2020	4.20	3.12	4.92	2.43	58

\*Average Monthly Rainfall (NRCS WETS Table for Portland airport)

\*\*Recorded monthly rainfall (NRCS) for Portland, 2020

Recorded precipitation for January was well over normal levels, but February and March were below average for the area. The precipitation fluctuations preceding the delineation are not expected to have affected the wetland boundary given that the delineation also relied on the presence of hydric soil indicators, a dominance of hydrophytic vegetation, as well as topographic and geomorphic position to define the wetland boundaries.

## D. Methods

PHS delineated the limits of the wetlands on the site based on the presence of wetland hydrology, hydric soils, and hydrophytic vegetation, in accordance with the Routine On-site Determination, as described in the *Corps of Engineers Wetland Delineation Manual, Wetlands Research Program Technical Report Y-87-1* (“The 1987 Manual”) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region*. PHS delineated the limits of the Ordinary High-Water Mark (OHWM) on site in

accordance with *Corps of Engineers Guide to Ordinary High Water Mark (OHWM) Delineation for Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the United States*. PHS conducted the wetland delineation within the study area on April 1, 2020.

The entire study area was investigated for the presence of wetlands or other waters. Two wetlands were delineated within the study area; the OHWM of an unnamed tributary to Coffee Lake Creek was also delineated. Wetlands A and B were delineated based on topographic changes and changes from observed hydric soils to soils where no hydric indicators were observed. The presence/absence of saturation or a water table within the upper 12 inches of the soil profile was also used to determine the wetland boundaries, as well as the presence of hydrophytic species.

The OHWM of a tributary to Coffee Lake Creek was delineated based on a topographic break in slope, as well as changes in vegetation and sediment characteristics.

The vegetation throughout the project area generally consists of facultative grasses and weedy forbs that are regularly mowed, with scattered trees and a forested area located south of the existing building. PHS did not record additional data in areas that are topographically higher than the wetlands (other than data needed to verify the wetland/upland boundary); however, several excavations were evaluated across the entire site to determine if wetlands were present. Sample points 14, 16 and 17 are located upslope in the eastern and northwestern portions of the site. These sample points are representative of the mowed, grassy upland areas maintained and supplemented by irrigation. The upland areas do not exhibit surface indicators of wetlands (i.e. ponded surface water, geomorphic position, or stunted/stressed vegetation, FACW or wetter vegetation, etc.) or other waters. Sample points 13 and 15 represent wetland areas in these grassy irrigated lawns, which contained abundant oxidized rhizospheres.

## **E. Description of all Wetlands and Other Non-Wetland Waters**

### **Wetland A**

Wetland A is a linear swale located in the southwestern portion of the study area. Wetland A is 713 square feet (0.01 acres) in size. The Cowardin classification of Wetland A is palustrine emergent, seasonally flooded/saturated (PEME); the HGM classification is Slope.

Dominant vegetation within Wetland A is characterized by sample points 2 and 3 and includes snowberry (*Symphoricarpos albus*, FACU), slough sedge (*Carex obnupta*, OBL), and Siberian spring beauty (*Claytonia sibirica*, FAC). Soils within Wetland A meet the hydric soil criteria for Depleted Matrix (F3) and Redox Dark Surface (F6) and are therefore considered hydric.

The adjacent upland is characterized by sample points 1 and 4, which are dominated by Oregon ash (*Fraxinus latifolia*, FACW), rose (*Rosa* sp., FAC), and slough sedge. The upland lacked hydrology and contains some mapped NRCS hydric soils that appear relict. Due to a lack of chroma (faint/non-distinct redoximorphic features) the soils did not meet hydric criteria. More details are described in the data sheets.

The primary source of hydrology within Wetland A appears to be from a partially buried culvert, located at the north end of the wetland beneath an existing sidewalk and building, with inputs

from seasonal precipitation, stormwater runoff from impervious surfaces and overland flow. Surface hydrology was present within Wetland A during the site visit. Wetland A continues through a culvert under Xerox Drive and remains daylighted as it continues off site to the south into a heavily forested area adjacent to other development.

### **Wetland B**

Wetland B is located in the forested southeastern portion of the study area. Wetland B is 7,692 square feet (0.18 acres) in size. The Cowardin classification of Wetland B is palustrine forested, seasonally flooded/saturated (PFOE); the HGM classification is Slope. The wetland is forested in the southeastern corner, north of Xerox Drive with a floodplain/hydrologic connection to the seasonal tributary of Coffee Lake Creek.

Dominant vegetation includes Oregon ash, English hawthorn (*Crataegus monogyna*, FAC), red osier dogwood (*Cornus alba*, FACW), snowberry, bluegrass, slough sedge, common camas (*Camassia quamash*, FACW), woodland buttercup (*Ranunculus uncinatus*, FAC), and shining crane's bill (*Geranium lucidum*, UPL). Soils within Wetland B meet the hydric soil criteria for Redox Dark Surface (F6) and are therefore considered hydric. The forested upland is dominated by Oregon white oak (*Quercus garryana*, FACU), Douglas fir, Oregon ash, twin berry (*Oemleria cerasiformis*, FACU), snowberry, sweetbrier rose (*Rosa rubiginosa*, UPL), vine maple (*Acer circinatum*, FAC), shining crane's bill, slough sedge, sword fern (*Polystichum munitum*, FACU), fringecup (*Tellima grandiflora*, FACU), and bedstraw (*Galium aparine*, FACU).

The primary source of hydrology within Wetland B appears to be from groundwater, with inputs from seasonal precipitation and overflow from the adjacent tributary. Although other evidence of sustained surface water, a high-water table and saturation were each absent at the time of the delineation, oxidized rhizospheres were observed suggesting hydrology is present within Wetland B adequate to support a dominant hydrophytic plant community. Wetland B is truncated to the south by Xerox Drive.

### **Wetland C**

Wetland C is located in the forested southeastern portion of the study area, beginning north of Wetland B. Wetland C is 142,439 square feet (3.27 acres) in size. The Cowardin classification of Wetland C is palustrine emergent, seasonally flooded/saturated (PEME); the HGM classification is Slope. The wetland is characterized by managed lawn area due north of Wetland B. This wetland is bisected by a paved pedestrian path in the mowed lawn area, which is provided seasonal irrigation and mowed regularly.

Both the wetland and adjoining upland include field meadow foxtail (*Alopecurus pratensis*, FAC), sweet vernal grass (*Anthoxanthum odoratum*, FACU) and an unknown bluegrass (*Poa sp.*, (FAC)). Sweet vernal grass is more abundant in upland areas and field meadow foxtail is more abundant in the wetland areas. Soils within Wetland C meet the hydric soil criteria for Redox Dark Surface (F6) and Depleted Matrix (F3) and are therefore considered hydric. Evidence of hydrology was documented through oxidized rhizospheres, saturation visible in aerial imagery and FAC-neutral test. It is noted that aerial imagery suggesting wetness signatures is in large part likely due to irrigation.



The primary source of hydrology within Wetland C appears to be from overland flow (irrigation supported), with inputs from seasonal precipitation and possibly potential overflow from the adjacent tributary. The tributary is below the wetland however, and within a well-defined channel. It is unlikely that flooding reaches the majority of Wetland C from riverine overflow. Although surface water, a high-water table and saturation were absent, oxidized rhizospheres were observed, suggesting that sufficient hydrology is present within Wetland B to support a dominant hydrophytic plant community.

### **Tributary to Coffee Lake Creek**

The tributary to Coffee Lake Creek (7,884 square feet/0.18 acre) flows south through the eastern portion of the study area. The Cowardin class is riverine, intermittent, streambed, seasonally flooded (R4SBC); the HGM class is Riverine. The creek averages 2 to 4 feet wide throughout the project area.

Riparian vegetation consists of a native forest-shrub mix. Dominant species include Oregon ash, willow (*Salix* sp.), sword fern, English ivy (*Hedera helix*, FACU) and a few Oregon white oak. The upland and wetland areas adjacent to this reach of the tributary are mostly managed and mowed, apart from the forested portion of Wetland B described above.

Within the study area the tributary is low gradient with moderate, seasonal flow, and the banks are stable. Areas surrounding the tributary begin to immediately slope upward away from the channel with the exception of some flatter areas in the vicinity of Wetland B, where slopes flatten out and seasonal overflow from the tributary likely saturates Wetland B.

## **F. Deviation from LWI or NWI**

The Local Wetland Inventory (LWI) maps a linear wetland (108.d) and an intermittent channel (107.d) that coincide with PHS' delineation of Wetland A. The LWI also maps a larger wetland and an intermittent channel that coincide with PHS' delineation of Wetland B and the unnamed tributary to Coffee Lake Creek. There were no wetlands mapped at the location of Wetland C, however, which is likely due to the formation of this wetland occurring unnaturally due to lawn irrigation and pedestrian foot traffic. The LWI is otherwise consistent with PHS' delineation within the study area.

## **G. Mapping Method**

PHS flagged the limits of the wetlands and creek within the study area with blue pin flags; lime green tape was used for sample point locations. Chase, Jones & Associates, Inc. then performed a professional land survey of the delineated boundaries. The accuracy of the survey and sample points 1-8 is sub-centimeter. The remaining sample points (9-17) were placed on the map using GPS and surveyed flags; the accuracy of these data points is +/- 3 feet.

## **H. Additional Information**

The tributary to Coffee Lake Creek is not mapped as essential salmonid habitat (ESH). Streamnet does not map salmonids within the tributary or downstream in Coffee Lake Creek. Coffee Lake Creek is a direct tributary to the Willamette River. Spring and fall Chinook salmon, as well as summer and winter steelhead are mapped within the Willamette River, approximately four miles south of the study area.

## **I. Results and Conclusions**

PHS delineated Wetlands A, B and C, as well as the tributary to Coffee Lake Creek within the study area. The total area of wetland within the study area boundary is 150,844 square feet (3.46 acres), as summarized in Section E above. Other waters within the study area associated with the tributary total 7,884 square feet/0.18 acres)

## **J. Required Disclaimer**

This report documents the investigation, best professional judgment and conclusions of the investigators. It is correct and complete to the best of our knowledge. It should be considered a Preliminary Jurisdictional Determination of wetlands and other waters and used at your own risk unless it has been reviewed and approved in writing by the Oregon Department of State Lands in accordance with OAR 141-090-0005 through 141-090-0055.

### III. REFERENCES

Adamus, P.R. and D. Field. 2001 *Guidebook for Hydrogeomorphic (HGM)-based Assessment of Oregon Wetland and Riparian Sites. Willamette Valley Ecoregion, Riverine Impounding and Slopes/Flats Subclasses*. Oregon Division of State Lands, Salem, OR.

GoogleEarth Map. 2019 aerial photograph.

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[http://rsgisias.crrel.usace.army.mil/nwpl\\_static/data/DOC/lists\\_2016/States/pdf/OR\\_2016v1.pdf](http://rsgisias.crrel.usace.army.mil/nwpl_static/data/DOC/lists_2016/States/pdf/OR_2016v1.pdf)

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NRCS monthly rainfall data for Portland. <https://efotg.sc.egov.usda.gov/>

Oregon Department of State Lands, 2009. Oregon Revised Statutes (ORS), *Chapter 196 — Columbia River Gorge; Ocean Resource Planning; Wetlands; Removal and Fill*. Section 196.800 Definitions for ORS 196.600 - 196.905

Oregon Maps online. 2020. <http://www.ormap.org/>

US Army Corps of Engineers, Environmental Laboratory, 1987. *Corps of Engineers Wetland Delineation Manual. Technical Report Y-87-1*.

US Army Corps of Engineers, Environmental Laboratory, 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)*.

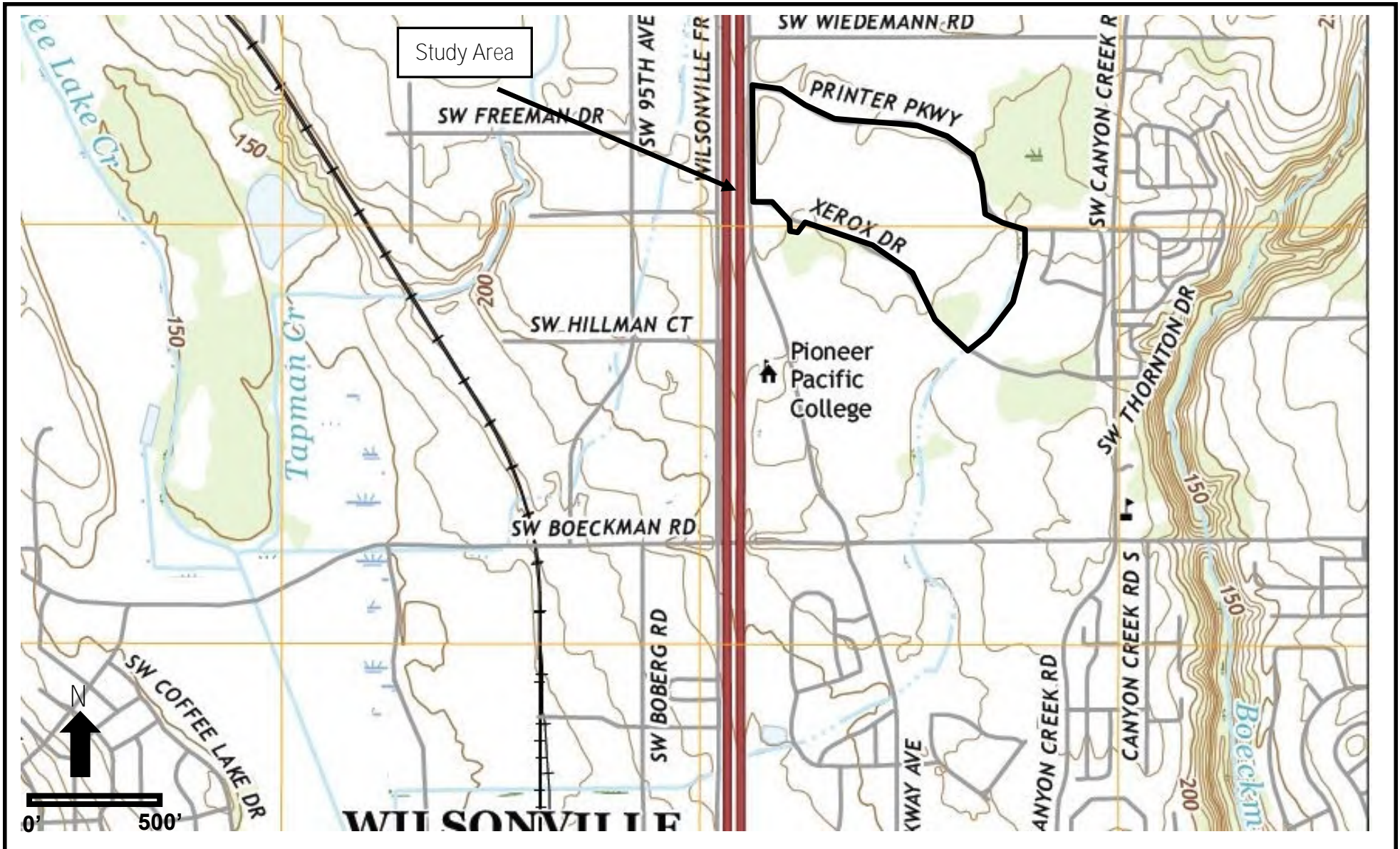
USDA, Web Soil Mapper, 2020. *Soil Survey of Clackamas County, Oregon*.  
<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>

US Geologic Survey, 2014. *7.5-minute topographic map, Wilsonville, Oregon quadrangle*.

# Appendix A

## Figures





Study Area

Pioneer Pacific College

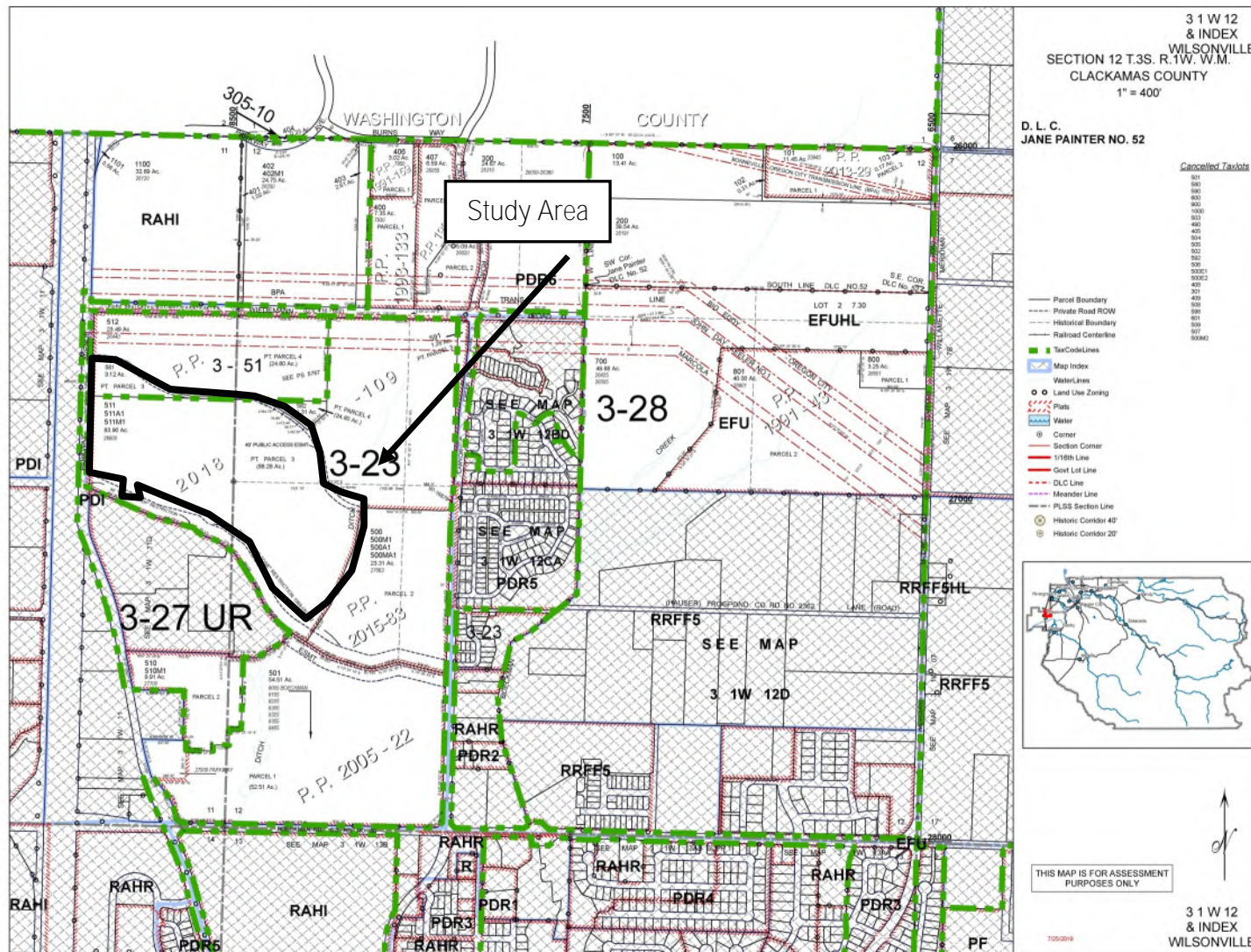
FIGURE  
1

General Location and Topography  
Parkway Woods - Wilsonville, Oregon  
United States Geological Survey (USGS) Sherwood, Oregon 7.5 quadrangle, 2017  
(viewer.nationalmap.gov/basic)

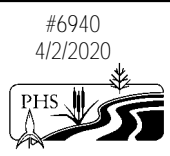
#6940  
4/2/2020



Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070



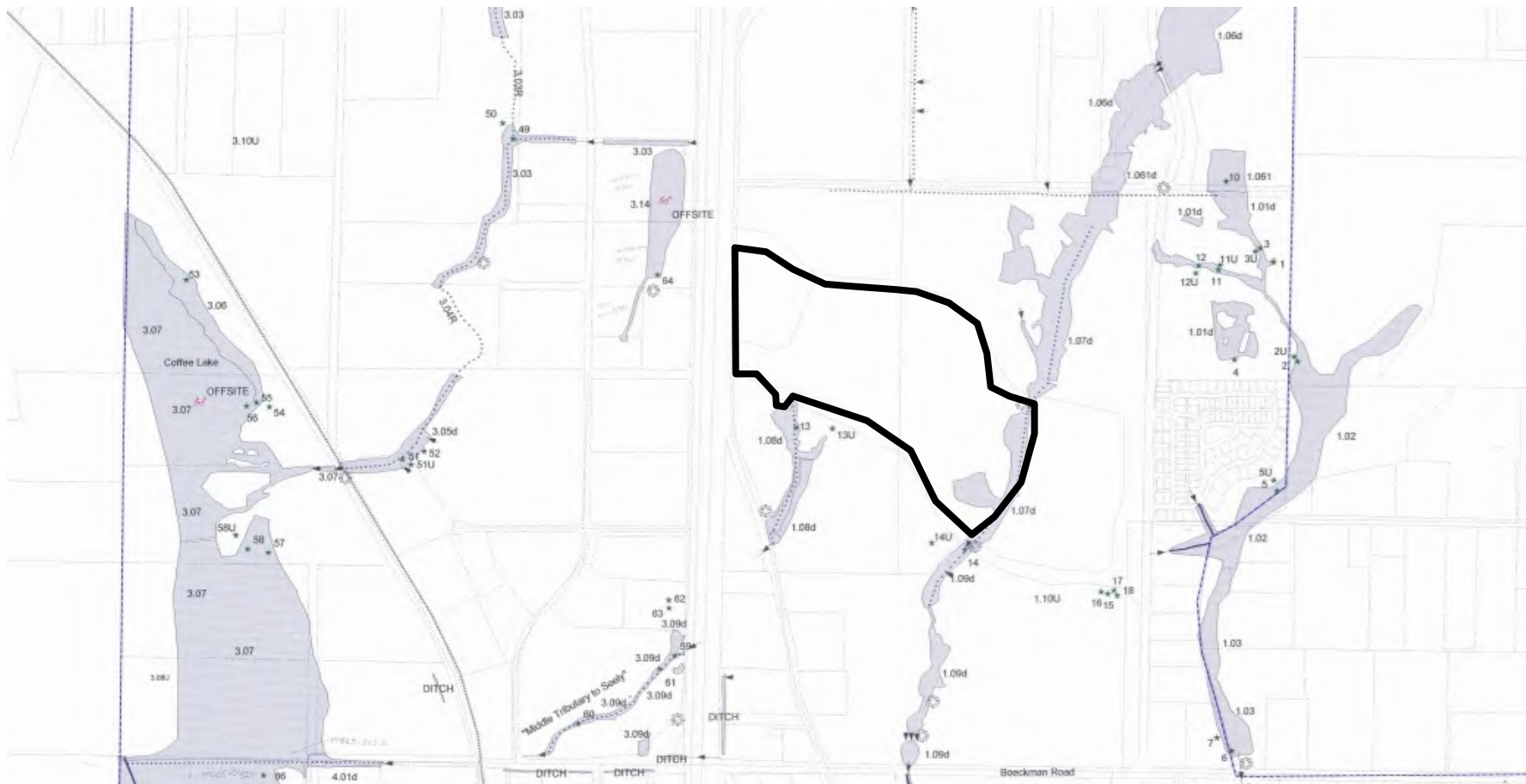
Study Area



#6940  
4/2/2020  
Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

Tax Lot Map  
Parkway Woods - Wilsonville, Oregon  
The Oregon Map (ormap.net)

FIGURE  
2A



<p><b>LEGEND</b></p> <ul style="list-style-type: none"> <li>WETLANDS</li> <li>TAX LOTS</li> <li>STREAMS</li> <li>INTERMITTENT</li> <li>PERENNIAL</li> <li>UGB</li> <li>CULVERT LOCATIONS</li> <li>RAILROAD</li> <li>STREETS</li> <li>CLACKAMAS/WASHINGTON COUNTY LINE</li> <li>VIEWPOINTS</li> <li>WETLANDS MAPPED OFF-SITE</li> <li>SAMPLE PLOT LOCATIONS</li> </ul>		<p>1.01 - WETLAND SITE ID          6.03d - DELINEATED WETLAND SITE ID          4.15R - RIPARIAN SITE ID          1.04U - UPLAND SITE ID          * 95 - SAMPLE PLOT ID</p>		<p>400 0 400 800 1200 Feet</p> <p><b>Map Scale: 1 inch = 400 feet</b></p>		<p>Fishman Environmental Services          Consulting, monitoring and          natural resource management          434 NW Sixth Avenue, Suite 304          Portland, OR 97209          (503)224-0330</p> <p><b>CITY OF WILSONVILLE</b>          IN OREGON          30000 SW Town Center Loop E          Wilsonville, OR 97070          (503) 682-4960</p>		<p><b>CITY OF WILSONVILLE          LOCAL WETLANDS          AND          RIPARIAN CORRIDOR INVENTORY          NORTH</b></p> <p><small>Draft Map prepared 4/02, revised 12/97          Aerial Photography, July 8, 1999          Data Sources: Digital Orthophotography,          Spectro-2, Oracle-roads, Tracks, Rail, Streets,          UGB - Metro-RLS Database.          Map Projection: Oregon State Plane North Zone          Datum: NAD 83, Units = International Feet</small></p>	
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#6940  
4/2/2020

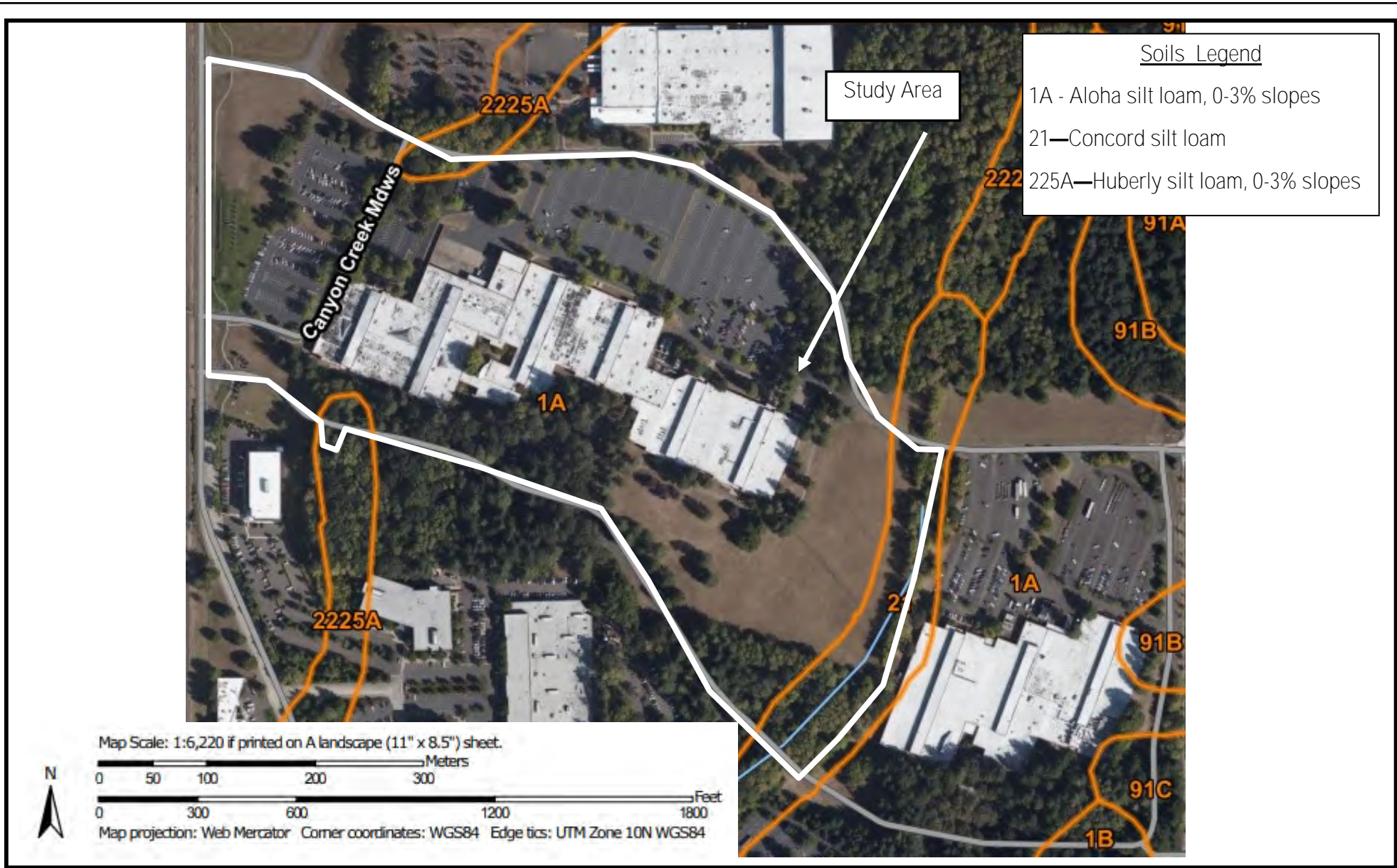


Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

LWI

Parkway Woods - Wilsonville, Oregon  
Fishman Environmental Services, 1999

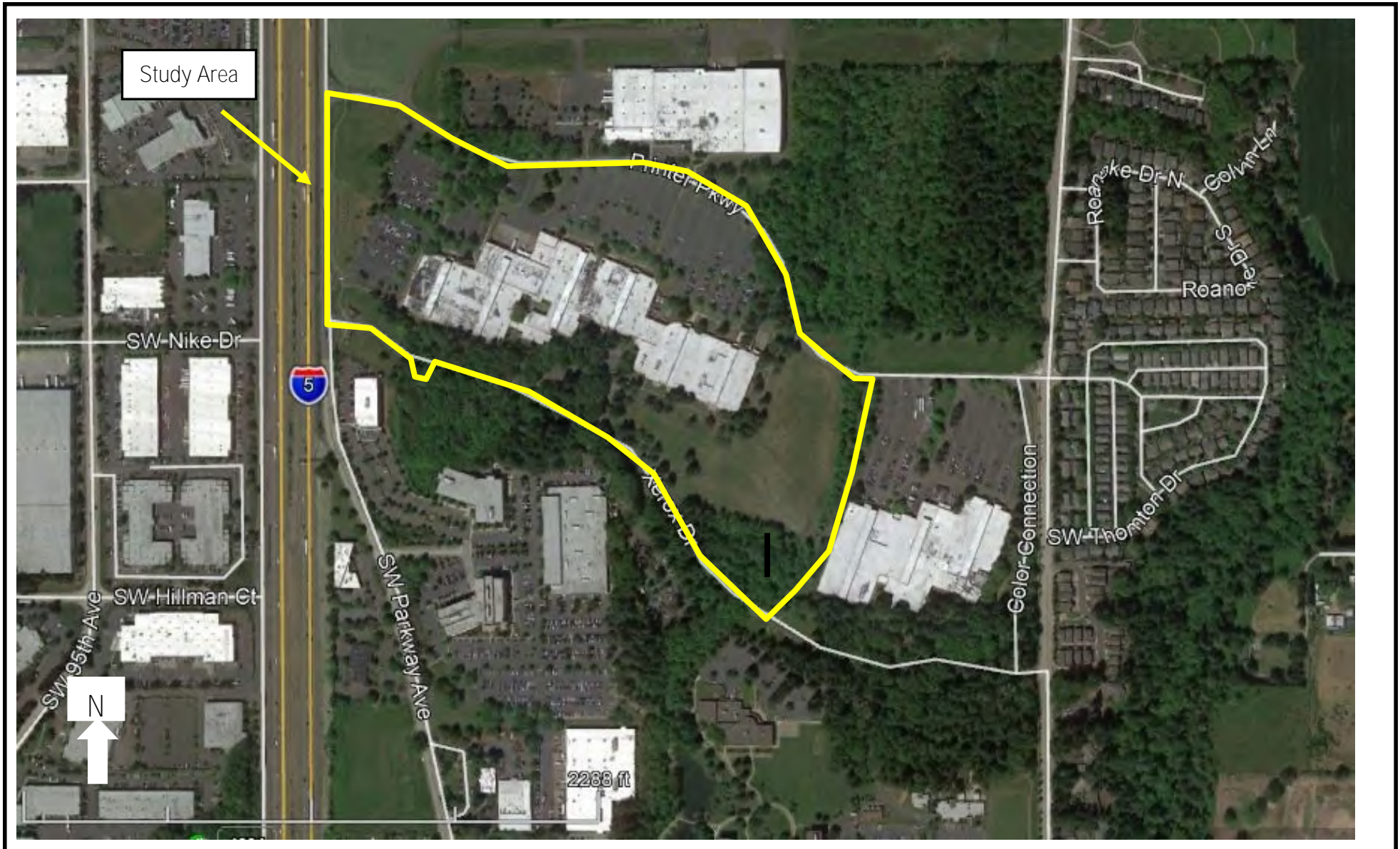
FIGURE  
3



Soils  
Parkway Woods - Wilsonville, Oregon  
Natural Resources Conservation Services, Web Soil Survey, 2019  
(websoilsurvey.sc.egov.usda.gov)

FIGURE  
4





#6940  
4/2/2020

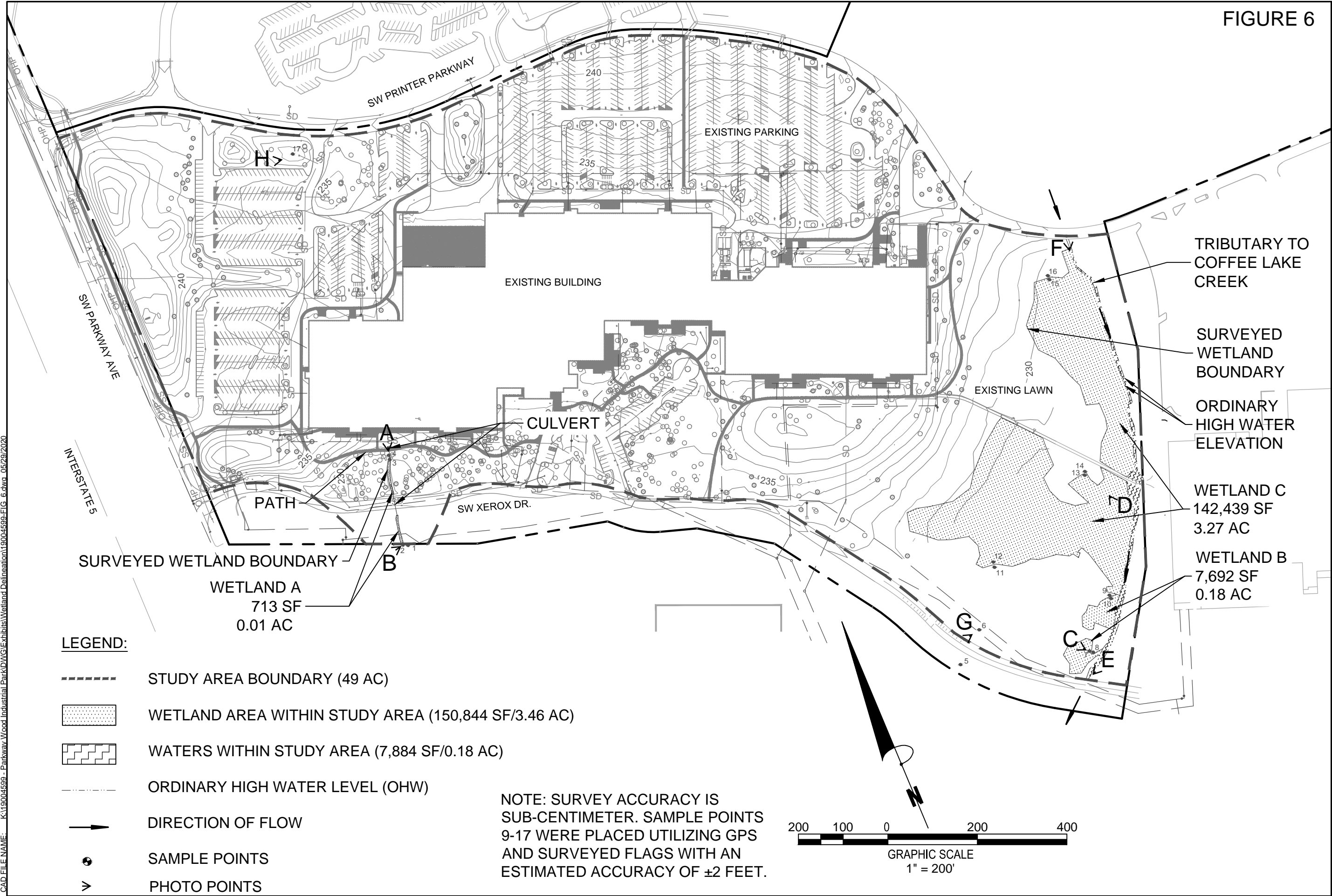


Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

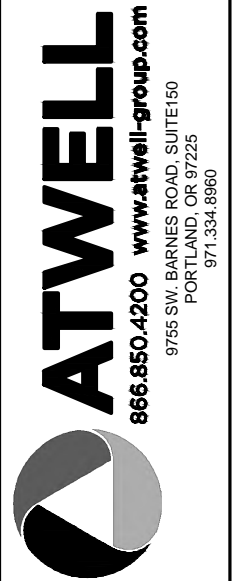
Aerial Photo  
Parkway Woods - Wilsonville, Oregon  
GoogleEarth, 2019

FIGURE  
5

FIGURE 6



NOTE: SURVEY ACCURACY IS SUB-CENTIMETER. SAMPLE POINTS 9-17 WERE PLACED UTILIZING GPS AND SURVEYED FLAGS WITH AN ESTIMATED ACCURACY OF ±2 FEET.



PARKWAY WOODS BUSINESS PARK  
 WILSONVILLE, OREGON  
**EXISTING CONDITIONS**

CAD FILE NAME: K:\19004599 - Parkway Wood Industrial Park\DWG\3-Exhibits\Wetland Delineation\19004599-FIG. 6.dwg 05/29/2020

JOB #	19004599
DATE	5/29/2020
SCALE	AS SHOWN
DRAWN	BLB
SHT	1 OF 1

# Appendix B

## Wetland Determination Data Sheets



WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 1  
 Investigator(s): JT/CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): <5%  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	<b>Is Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks:					

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (plot size: <u>30</u> )				<b>Dominance Test worksheet:</b>	
1 <u><i>Fraxinus latifolia</i></u>	<u>100</u>	<u>X</u>	<u>FACW</u>	Number of Dominant Species	
2 _____				That are OBL, FACW, or FAC: <u>3</u> (A)	
3 _____				Total Number of Dominant	
4 _____				Species Across All Strata: <u>4</u> (B)	
	<u>100</u>	= Total Cover		Percent of Dominant Species	
<b>Sapling/Shrub Stratum</b> (plot size: <u>15</u> )				That are OBL, FACW, or FAC: <u>75%</u> (A/B)	
1 <u><i>Rosa sp.</i></u>	<u>20</u>	<u>X</u>	<u>(FAC)</u>	<b>Prevalence Index Worksheet:</b>	
2 <u><i>Ilex sp.</i></u>	<u>5</u>		<u>(FAC)</u>		Total % Cover of _____ Multiply by: _____
3 <u><i>Rubus armeniacus</i></u>	<u>2</u>		<u>FAC</u>		OBL Species _____ x 1 = <u>0</u>
4 _____					FACW species _____ x 2 = <u>0</u>
5 _____					FAC Species _____ x 3 = <u>0</u>
	<u>27</u>	= Total Cover		FACU Species _____ x 4 = <u>0</u>	
<b>Herb Stratum</b> (plot size: <u>5</u> )				UPL Species _____ x 5 = <u>0</u>	
1 <u><i>Carex obnupta</i></u>	<u>30</u>	<u>X</u>	<u>OBL</u>	Column Totals <u>0</u> (A) <u>0</u> (B)	
2 <u>Unidentified grass</u>	<u>5</u>		<u>(FAC)</u>	Prevalence Index =B/A = <u>#DIV/0!</u>	
3 _____				<b>Hydrophytic Vegetation Indicators:</b>	
4 _____					_____ 1- Rapid Test for Hydrophytic Vegetation
5 _____					<u>X</u> 2- Dominance Test is >50%
6 _____					_____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup>
7 _____					_____ 4-Morphological Adaptations <sup>1</sup> (provide supporting
8 _____				data in Remarks or on a separate sheet)	
	<u>35</u>	= Total Cover		_____ 5- Wetland Non-Vascular Plants <sup>1</sup>	
<b>Woody Vine Stratum</b> (plot size: <u>15</u> )				_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
1 <u><i>Hedera helix</i></u>	<u>40</u>	<u>X</u>	<u>FACU</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless	
2 _____				disturbed or problematic.	
	<u>40</u>	= Total Cover		<b>Hydrophytic</b>	
<b>% Bare Ground in Herb Stratum</b> <u>65</u>				<b>Vegetation Present?</b>	
Remarks:				Yes <u>X</u> No _____	

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<b>0-6</b>	<b>10YR 3/1</b>	<b>100</b>					<b>Silty Clay Loam</b>	
<b>6-16</b>	<b>10YR 3/1</b>	<b>90</b>	<b>10YR 3/3</b>	<b>10</b>	<b>C</b>	<b>M</b>	<b>Silty Clay Loam</b>	<b>Large</b>

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)** **Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:  
**Redox is faint (non-distinct), and therefore does not meet Redox Dark Surface (F6) criteria. Soils appear relict. This area has mapped NRCS hydric soils, possibly an old swale that was altered by development several decades ago and lost hydrology from the controlled conveyance of storm infrastructure.**

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input checked="" type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**  
 Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): >16  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): >16

**Wetland Hydrology Present?**  
 Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 2  
 Investigator(s): JT/CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): None Slope (%): <5%  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	Is Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks:					

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
<b>Tree Stratum</b> (plot size: _____)				Number of Dominant Species	
1	_____	_____	_____	That are OBL, FACW, or FAC: <u>3</u> (A)	
2	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>5</u> (B)	
3	_____	_____	_____	Percent of Dominant Species	
4	_____	_____	_____	That are OBL, FACW, or FAC: <u>60%</u> (A/B)	
5	<u>0</u>	= Total Cover		<b>Prevalence Index Worksheet:</b>	
<b>Sapling/Shrub Stratum</b> (plot size: <u>15</u> )				Total % Cover of _____ Multiply by: _____	
1	<u>10</u>	<u>X</u>	<u>FACU</u>	OBL Species _____ x 1 = <u>0</u>	
2	_____	_____	_____	FACW species _____ x 2 = <u>0</u>	
3	_____	_____	_____	FAC Species _____ x 3 = <u>0</u>	
4	_____	_____	_____	FACU Species _____ x 4 = <u>0</u>	
5	<u>10</u>	= Total Cover		UPL Species _____ x 5 = <u>0</u>	
<b>Herb Stratum</b> (plot size: <u>5</u> )				Column Totals <u>0</u> (A) <u>0</u> (B)	
1	<u>10</u>	<u>X</u>	<u>OBL</u>	Prevalence Index =B/A = <u>#DIV/0!</u>	
2	<u>10</u>	<u>X</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b>	
3	<u>5</u>	_____	<u>FACU</u>	_____ 1- Rapid Test for Hydrophytic Vegetation	
4	<u>10</u>	<u>X</u>	<u>FAC</u>	<u>X</u> 2- Dominance Test is >50%	
5	_____	_____	_____	_____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup>	
6	_____	_____	_____	_____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet)	
7	_____	_____	_____	_____ 5- Wetland Non-Vascular Plants <sup>1</sup>	
8	<u>35</u>	= Total Cover		_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
<b>Woody Vine Stratum</b> (plot size: <u>15</u> )				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1	<u>40</u>	<u>X</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____	
2	_____	_____	_____		
	<u>40</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>65</u>					
Remarks:					

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<b>0-2</b>	<b>10YR 4/1</b>	<b>100</b>					<b>Silty Clay Loam</b>	
<b>2-12</b>	<b>1YR 4/1</b>	<b>90</b>	<b>10YR 4/6</b>	<b>10</b>	<b>C</b>	<b>M</b>	<b>Silty Clay Loam</b>	<b>Medium</b>

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)** **Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

**Hydric Soil Present? Yes  No**

Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes  No  Depth (inches): Surface

Saturation Present? Yes  No  Depth (inches): Surface

(includes capillary fringe)

**Wetland Hydrology Present?**  
Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 3  
 Investigator(s): JT/CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): None Slope (%): <5%  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation X Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) N  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	<b>Is Sampled Area within a Wetland?</b>	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks:					

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	
<u>Tree Stratum</u> (plot size: _____)				<b>Dominance Test worksheet:</b>
1 _____				Number of Dominant Species _____
2 _____				That are OBL, FACW, or FAC: _____ (A)
3 _____				Total Number of Dominant Species Across All Strata: _____ (B)
4 _____				Percent of Dominant Species That are OBL, FACW, or FAC: <u>#DIV/0!</u> (A/B)
<u>0</u> = Total Cover				<b>Prevalence Index Worksheet:</b>
<u>Sapling/Shrub Stratum</u> (plot size: _____)				Total % Cover of _____ Multiply by: _____
1 _____				OBL Species _____ x 1 = <u>0</u>
2 _____				FACW species _____ x 2 = <u>0</u>
3 _____				FAC Species _____ x 3 = <u>0</u>
4 _____				FACU Species _____ x 4 = <u>0</u>
5 _____				UPL Species _____ x 5 = <u>0</u>
<u>0</u> = Total Cover				Column Totals <u>0</u> (A) <u>0</u> (B)
<u>Herb Stratum</u> (plot size: _____)				Prevalence Index =B/A = <u>#DIV/0!</u>
1 _____				<b>Hydrophytic Vegetation Indicators:</b>
2 _____				_____ 1- Rapid Test for Hydrophytic Vegetation
3 _____				_____ 2- Dominance Test is >50%
4 _____				_____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup>
5 _____				_____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet)
6 _____				_____ 5- Wetland Non-Vascular Plants <sup>1</sup>
7 _____				<u>X</u> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
8 _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u>0</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
<u>Woody Vine Stratum</u> (plot size: _____)				
1 _____				
2 _____				
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>100</u>				

Remarks:  
**Vegetation cleared for landscaping**



**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-2	10YR 3/1	50					Muck	Mixed matrix
0-2	10YR 4/1	50					Silty Clay Loam	Mixed matrix
2-10	10YR 3/2	90	10YR 4/2	10	D	M	Silty Clay Loam	Large
10-13	10YR 4/1	80	10YR 2.5/1	10	C	M	Silty Clay Loam	Large
10-13			7.5YR 5/8	10	C	M	Silty Clay Loam	Large

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

soils were observed as being saturated for at least two weeks during the early growing season.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one required; check all that apply)**

**Secondary Indicators (2 or more required)**

<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): 6  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): Surface

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 4  
 Investigator(s): JT/CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): None Slope (%): <5%  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation X Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) N  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	<b>Is Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks:					

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (plot size: <u>30</u> )				<b>Dominance Test worksheet:</b>
1 <u>Quercus garryana</u>	<u>50</u>	<u>X</u>	<u>FACU</u>	Number of Dominant Species
2 <u>Prunus sp</u>	<u>10</u>		<u>(FAC)</u>	That are OBL, FACW, or FAC: <u>1</u> (A)
3 _____				Total Number of Dominant
4 _____				Species Across All Strata: <u>3</u> (B)
	<u>60</u>	= Total Cover		Percent of Dominant Species
<b>Sapling/Shrub Stratum</b> (plot size: _____)				That are OBL, FACW, or FAC: <u>33%</u> (A/B)
1 _____				<b>Prevalence Index Worksheet:</b>
2 _____				Total % Cover of _____ Multiply by: _____
3 _____				OBL Species _____ x 1 = <u>0</u>
4 _____				FACW species _____ x 2 = <u>0</u>
5 _____				FAC Species _____ x 3 = <u>0</u>
	<u>0</u>	= Total Cover		FACU Species _____ x 4 = <u>0</u>
<b>Herb Stratum</b> (plot size: <u>5</u> )				UPL Species _____ x 5 = <u>0</u>
1 <u>Leontodon saxatilis</u>	<u>5</u>	<u>X</u>	<u>FACU</u>	Column Totals <u>0</u> (A) <u>0</u> (B)
2 <u>Cardamine oligosperma</u>	<u>5</u>	<u>X</u>	<u>FAC</u>	Prevalence Index =B/A = <u>#DIV/0!</u>
3 _____				<b>Hydrophytic Vegetation Indicators:</b>
4 _____				_____ 1- Rapid Test for Hydrophytic Vegetation
5 _____				_____ 2- Dominance Test is >50%
6 _____				_____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup>
7 _____				_____ 4-Morphological Adaptations <sup>1</sup> (provide supporting
8 _____				data in Remarks or on a separate sheet)
	<u>10</u>	= Total Cover		_____ 5- Wetland Non-Vascular Plants <sup>1</sup>
<b>Woody Vine Stratum</b> (plot size: _____)				_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1 _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless
2 _____				disturbed or problematic.
	<u>0</u>	= Total Cover		<b>Hydrophytic Vegetation Present?</b>
% Bare Ground in Herb Stratum <u>90</u>				Yes _____ No <u>X</u>

Remarks:  
**Area is cleared of groundcover, but trees are representative of conditions.**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<u>0-7</u>	<u>10YR 3/1</u>	<u>100</u>					<u>Silty Clay Loam</u>	
<u>7-14</u>	<u>10YR 3/1</u>	<u>95</u>	<u>10YR 3/6</u>	<u>5</u>	<u>C</u>	<u>M</u>	<u>Silty Clay Loam</u>	<u>Medium</u>

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)** **Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:  
**Soils appear relict. This area has mapped NRCS hydric soils, possibly an old swale that was altered by development several decades ago and lost hydrology from the controlled conveyance of storm infrastructure.**

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**  
 Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): >14  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): 0-2;>14

**Wetland Hydrology Present?**  
 Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
**Saturation at surface only and not associated with high ground water table.**

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 5  
 Investigator(s): JT/CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Borrow Pit Local relief (concave, convex, none): None Slope (%): <5%  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	<b>Is Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks:					

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (plot size: _____)				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That are OBL, FACW, or FAC: <u>#DIV/0!</u> (A/B)
1	_____	_____	_____	
2	_____	_____	_____	
3	_____	_____	_____	
4	_____	_____	_____	
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (plot size: _____)				
1	_____	_____	_____	
2	_____	_____	_____	
3	_____	_____	_____	
4	_____	_____	_____	
5	_____	_____	_____	
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (plot size: _____)				
1	_____	_____	_____	
2	_____	_____	_____	
3	_____	_____	_____	
4	_____	_____	_____	
5	_____	_____	_____	
6	_____	_____	_____	
7	_____	_____	_____	
8	_____	_____	_____	
	<u>0</u>	= Total Cover		
<b>Woody Vine Stratum</b> (plot size: _____)				
1	_____	_____	_____	
2	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				
<b>Prevalence Index Worksheet:</b> Total % Cover of _____ Multiply by: OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) <u>0</u> (B)  Prevalence Index =B/A = <u>#DIV/0!</u>				
<b>Hydrophytic Vegetation Indicators:</b> _____ 1- Rapid Test for Hydrophytic Vegetation _____ 2- Dominance Test is >50% _____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup> _____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet) _____ 5- Wetland Non-Vascular Plants <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>				

Remarks:  
**Ground covered by leaf litter and/or duff. Adjacent vegetation includes ponderosa pine, cherry, Oregon oak, Himalayan blackberry and swordfern. No vegetation in borrow pit.**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-7	10YR 4/1	100					Silty Clay Loam	
7-12	10YR 4/1	95	7.5YR 4/6	5	C	M	Silty Clay Loam	Large
12-16	10YR 4/1	10	5YR 4/6	30	C	M	Silty Clay Loam	Large
12-16			10YR 4/6	40	C	M	Silty Clay Loam	Large

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one required; check all that apply)**

**Secondary Indicators (2 or more required)**

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): >16  
 Saturation Present? Yes  No  Depth (inches): >16  
 (includes capillary fringe)

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**This sparse vegetation is not caused by natural conditions indicating that the hydrology meets B8, but rather an extracation of soil from a borrow pit some time ago.**

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 6  
 Investigator(s): JT/CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): <5%  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks:	

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
<u>Tree Stratum</u> (plot size: <u>30</u> )				Number of Dominant Species	
1 <u>Pseudotsuga menziesii</u>	<u>50</u>	<u>X</u>	<u>FACU</u>	That are OBL, FACW, or FAC: <u>2</u> (A)	
2 <u>Quercus garryana</u>	<u>20</u>	<u>X</u>	<u>FACU</u>	Total Number of Dominant Species Across All Strata: <u>8</u> (B)	
3 <u>Crataegus monogyna</u>	<u>10</u>		<u>FAC</u>	Percent of Dominant Species That are OBL, FACW, or FAC: <u>25%</u> (A/B)	
4 <u>Populus balsamifera</u>	<u>5</u>		<u>FAC</u>	Prevalence Index Worksheet:	
	<u>85</u>	= Total Cover		Total % Cover of _____ Multiply by:	
<u>Sapling/Shrub Stratum</u> (plot size: <u>15</u> )				OBL Species _____ x 1 = <u>0</u>	
1 <u>Symphoricarpos albus</u>	<u>10</u>	<u>X</u>	<u>FACU</u>	FACW species _____ x 2 = <u>0</u>	
2 <u>Rosa rubiginosa</u>	<u>10</u>	<u>X</u>	<u>UPL</u>	FAC Species _____ x 3 = <u>0</u>	
3 <u>Acer circinatum</u>	<u>10</u>	<u>X</u>	<u>FAC</u>	FACU Species _____ x 4 = <u>0</u>	
4 <u>Corylus cornuta</u>	<u>5</u>		<u>FACU</u>	UPL Species _____ x 5 = <u>0</u>	
5 _____				Column Totals <u>0</u> (A) <u>0</u> (B)	
	<u>35</u>	= Total Cover		Prevalence Index =B/A = <u>#DIV/0!</u>	
<u>Herb Stratum</u> (plot size: <u>5</u> )				Hydrophytic Vegetation Indicators:	
1 <u>Carex obnupta</u>	<u>5</u>	<u>X</u>	<u>OBL</u>	_____ 1- Rapid Test for Hydrophytic Vegetation	
2 <u>Polystichum munitum</u>	<u>5</u>	<u>X</u>	<u>FACU</u>	_____ 2- Dominance Test is >50%	
3 _____				_____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup>	
4 _____				_____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet)	
5 _____				_____ 5- Wetland Non-Vascular Plants <sup>1</sup>	
6 _____				_____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
7 _____				_____	
8 _____				_____	
	<u>10</u>	= Total Cover		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<u>Woody Vine Stratum</u> (plot size: <u>15</u> )				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	
1 <u>Hedera helix</u>	<u>10</u>	<u>X</u>	<u>FACU</u>		
2 _____					
	<u>10</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>90</u>					

Remarks:  
**This pit is representative of the majority of upland forested area in the southeast corner of the site.**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR 3/2	99	10YR 4/3	1	C	M	Silty Clay Loam	Fine
6-16	10YR 3/2	95	10YR 4/6	5	C	M	Silty Clay Loam	Fine

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**Some water likely accumulates from precipitation due to geomorphic position that induces hydric soils, but no other indicators support wetland.**

**HYDROLOGY**

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one required; check all that apply)**

**Secondary Indicators (2 or more required)**

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): >16  
 Saturation Present? Yes  No  Depth (inches): 0-2;>16  
 (includes capillary fringe)

**Wetland Hydrology Present?**

Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**Saturation at the surface only and not associated with high ground water table.**

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 7  
 Investigator(s): JT/CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): <5%  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	Is Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks:					

**VEGETATION - Use scientific names of plants.**

Tree Stratum (plot size: <u>30</u> )	absolute % cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1 <u>Fraxinus latifolia</u>	<u>100</u>	<u>X</u>	<u>FACW</u>	
2 _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species That are OBL, FACW, or FAC: <u>60%</u> (A/B)
4 _____	_____	_____	_____	Prevalence Index Worksheet:
5 _____	<u>100</u>	= Total Cover		
Sapling/Shrub Stratum (plot size: <u>15</u> )				OBL Species <u>90</u> x 1 = <u>90</u>
1 <u>Symphoricarpos albus</u>	<u>20</u>	<u>X</u>	<u>FACU</u>	FACW species <u>110</u> x 2 = <u>220</u>
2 <u>Fraxinus latifolia</u>	<u>10</u>	<u>X</u>	<u>FACW</u>	FAC Species <u>5</u> x 3 = <u>15</u>
3 <u>Toxicodendron diversilobum</u>	<u>1</u>	_____	<u>FAC</u>	FACU Species <u>25</u> x 4 = <u>100</u>
4 _____	_____	_____	_____	UPL Species <u>30</u> x 5 = <u>150</u>
5 _____	_____	_____	_____	Column Totals <u>260</u> (A) <u>575</u> (B)
	<u>31</u>	= Total Cover		Prevalence Index =B/A = <u>2.21</u>
Herb Stratum (plot size: <u>5</u> )				Hydrophytic Vegetation Indicators:
1 <u>Carex obnupta</u>	<u>90</u>	<u>X</u>	<u>OBL</u>	
2 <u>Geranium lucidum</u>	<u>30</u>	<u>X</u>	<u>UPL</u>	<u>X</u> 2- Dominance Test is >50%
3 <u>Galium aparine</u>	<u>5</u>	_____	<u>FACU</u>	<u>X</u> 3-Prevalence Index is ≤ 3.0 <sup>1</sup>
4 <u>Claytonia sibirica</u>	<u>3</u>	_____	<u>FAC</u>	4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet)
5 <u>Trillium sp.</u>	<u>2</u>	_____	<u>(FAC)</u>	5- Wetland Non-Vascular Plants <sup>1</sup>
6 _____	_____	_____	_____	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
7 _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8 _____	_____	_____	_____	
	<u>130</u>	= Total Cover		Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Woody Vine Stratum (plot size: _____)				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				
Remarks:				
<u>Rubus ursinus &lt;1% in shrub layer.</u>				



**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12	10YR 3/1	88	7.5YR 3/3	10	C	M	Silty Clay Loam	Large
0-12			7.5YR 3/3	2	C	PL	Silty Clay Loam	ORs

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)** **Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input checked="" type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Frost-Heave Hummocks (D7)

**Field Observations:**  
 Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): >12  
 Saturation Present? Yes  No  Depth (inches): >12  
 (includes capillary fringe)

**Wetland Hydrology Present?** Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: \_\_\_\_\_

Remarks: \_\_\_\_\_

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 8  
 Investigator(s): JT/CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Berm Local relief (concave, convex, none): None Slope (%): <5%  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	<b>Is Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks:					

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (plot size: <u>30</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That are OBL, FACW, or FAC: <u>0%</u> (A/B)
1	<u>70</u>	<u>X</u>	<u>FACU</u>	
2				
3				
4				
	<u>70</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (plot size: <u>15</u> )				<b>Prevalence Index Worksheet:</b> Total % Cover of _____ Multiply by: OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) <u>0</u> (B)  Prevalence Index =B/A = <u>#DIV/0!</u>
1	<u>50</u>	<u>X</u>	<u>FACU</u>	
2	<u>10</u>		<u>FAC</u>	
3	<u>10</u>		<u>FACU</u>	
4	<u>5</u>		<u>FAC</u>	
	<u>75</u>	= Total Cover		
<b>Herb Stratum</b> (plot size: <u>5</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ 1- Rapid Test for Hydrophytic Vegetation _____ 2- Dominance Test is >50% _____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup> _____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet) _____ 5- Wetland Non-Vascular Plants <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
1	<u>40</u>	<u>X</u>	<u>UPL</u>	
2	<u>20</u>	<u>X</u>	<u>FACU</u>	
3	<u>10</u>		<u>FACW</u>	
4	<u>10</u>		<u>UPL</u>	
5				
6				
8				
	<u>80</u>	= Total Cover		
<b>Woody Vine Stratum</b> (plot size: _____)				
1				
2				
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>20</u>				
Remarks:				

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-8	10YR 3/1	99	10YR 3/3	1	C	M	Silty Clay Loam	Fine
8-14	10YR 3/1	95	10YR 3/6	5	C	M	Silty Clay Loam	Fine

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one required; check all that apply)**

**Secondary Indicators (2 or more required)**

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): >14  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): 0-1; 14

**Wetland Hydrology Present?**

Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**Saturation in upper horizon not associated with high water table.**

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 9  
 Investigator(s): CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Convex Slope (%): <1  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks:					

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (plot size: <u>30</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>4</u> (A)  Total Number of Dominant Species Across All Strata: <u>8</u> (B)  Percent of Dominant Species That are OBL, FACW, or FAC: <u>50%</u> (A/B)
1 <u>Fraxinus latifolia</u>	<u>80</u>	<u>X</u>	<u>FACW</u>	
2 <u>Quercus garryana</u>	<u>10</u>		<u>FACU</u>	
3 <u>Acer macrophyllum</u>	<u>10</u>		<u>FACU</u>	
4 _____	<u>100</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (plot size: <u>15</u> )				<b>Prevalence Index Worksheet:</b> Total % Cover of _____ Multiply by: _____ OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) <u>0</u> (B)  Prevalence Index =B/A = <u>#DIV/0!</u>
1 <u>Symphoricarpos albus</u>	<u>50</u>	<u>X</u>	<u>FACU</u>	
2 <u>Crataegus monogyna</u>	<u>20</u>	<u>X</u>	<u>FAC</u>	
3 <u>Oemleria cerasiformis</u>	<u>20</u>	<u>X</u>	<u>FACU</u>	
4 <u>Amelanchier alnifolia</u>	<u>10</u>		<u>FACU</u>	
5 <u>Rubus ursinus</u>	<u>5</u>		<u>FACU</u>	
	<u>105</u>	= Total Cover		
<b>Herb Stratum</b> (plot size: <u>5</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ 1- Rapid Test for Hydrophytic Vegetation _____ 2- Dominance Test is >50% _____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup> _____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet) _____ 5- Wetland Non-Vascular Plants <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
1 <u>Claytonia sibirica</u>	<u>20</u>	<u>X</u>	<u>FAC</u>	
2 <u>Galium aparine</u>	<u>10</u>	<u>X</u>	<u>FACU</u>	
3 <u>Tellima grandiflora</u>	<u>10</u>	<u>X</u>	<u>FACU</u>	
4 <u>Viola glabella</u>	<u>5</u>		<u>FACW</u>	
5 _____				
6 _____				
7 _____				
8 _____				
	<u>45</u>	= Total Cover		
<b>Woody Vine Stratum</b> (plot size: <u>15</u> )				
1 <u>Toxicodendron diversilobum</u>	<u>10</u>	<u>X</u>	<u>FAC</u>	
2 _____				
	<u>10</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>55</u>				
Remarks:				

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<b>0-7</b>	<b>10YR 3/1</b>	<b>100</b>					<b>Silt Loam</b>	
<b>7-16</b>	<b>10YR 3/1</b>	<b>95</b>	<b>10YR 3/4</b>	<b>5</b>	<b>C</b>	<b>M</b>	<b>Silty Clay Loam</b>	<b>Fine</b>

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)** **Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

**Hydric Soil Present? Yes  No**

Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes  No  Depth (inches): >16

Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): 0-1;>16

**Wetland Hydrology Present? Yes  No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: \_\_\_\_\_

Remarks: **Saturation not associated with high water table**

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 10  
 Investigator(s): CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Convex Slope (%): <1  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) Y  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	<b>Is Sampled Area within a Wetland?</b>	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks:					

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (plot size: <u>30</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That are OBL, FACW, or FAC: <u>100%</u> (A/B)
1 <u>Fraxinus latifolia</u>	<u>90</u>	<u>X</u>	<u>FACW</u>	
2 _____				
3 _____				
4 _____				
	<u>90</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (plot size: <u>15</u> )				
1 <u>Crataegus monogyna</u>	<u>20</u>	<u>X</u>	<u>FAC</u>	
2 <u>Symphoricarpos albus</u>	<u>5</u>		<u>FACU</u>	
3 <u>Frangula purshiana</u>	<u>5</u>		<u>FAC</u>	
4 <u>Fraxinus latifolia</u>	<u>5</u>		<u>FACW</u>	
5 _____				
	<u>35</u>	= Total Cover		
<b>Herb Stratum</b> (plot size: <u>5</u> )				
1 <u>Camassia quamash</u>	<u>90</u>	<u>X</u>	<u>FACW</u>	
2 <u>Claytonia sibirica</u>	<u>10</u>		<u>FAC</u>	
3 <u>Frangula purshiana</u>	<u>5</u>		<u>FAC</u>	
4 <u>Ranunculus uncinatus</u>	<u>1</u>		<u>FAC</u>	
5 _____				
6 _____				
7 _____				
8 _____				
	<u>106</u>	= Total Cover		
<b>Woody Vine Stratum</b> (plot size: <u>15</u> )				
1 _____				
2 _____				
	<u>0</u>	= Total Cover		
<b>% Bare Ground in Herb Stratum</b> <u>0</u>				
<b>Prevalence Index Worksheet:</b> Total % Cover of _____ Multiply by: OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) <u>0</u> (B)  Prevalence Index =B/A = <u>#DIV/0!</u>				
<b>Hydrophytic Vegetation Indicators:</b> _____ <u>X</u> 1- Rapid Test for Hydrophytic Vegetation _____ 2- Dominance Test is >50% _____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup> _____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet) _____ 5- Wetland Non-Vascular Plants <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)				
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____				
Remarks:				

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<b>0-5</b>	<b>10YR 3/1</b>	<b>100</b>					<b>Silty Clay Loam</b>	
<b>5-12</b>	<b>10YR 3/1</b>	<b>95</b>	<b>10YR 3/4</b>	<b>5</b>	<b>C</b>	<b>M</b>	<b>Silty Clay Loam</b>	<b>Fine</b>

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)** **Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present? Yes  No**

Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Iron Deposits (B5)	<input checked="" type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	
<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	
<input type="checkbox"/> Other (Explain in Remarks)	

**Field Observations:**  
 Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): >12  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): 0-5;>12

**Wetland Hydrology Present? Yes  No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: \_\_\_\_\_

Remarks: **More saturation in this pit at the surface. Water likely accumulates more here due to geomorphic position.**

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 11  
 Investigator(s): CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Berm Local relief (concave, convex, none): Convex Slope (%): 1  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation X Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) N  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks:					

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (plot size: <u>30</u> )				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>9</u> (B)  Percent of Dominant Species That are OBL, FACW, or FAC: <u>22%</u> (A/B)
1	<u>70</u>	<u>X</u>	<u>FACW</u>	
2	<u>20</u>	<u>X</u>	<u>FACU</u>	
3				
4				
	<u>90</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (plot size: <u>15</u> )				<b>Prevalence Index Worksheet:</b> Total % Cover of _____ Multiply by: OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) <u>0</u> (B)  Prevalence Index =B/A = <u>#DIV/0!</u>
1	<u>40</u>	<u>X</u>	<u>FACU</u>	
2	<u>20</u>	<u>X</u>	<u>FACU</u>	
3	<u>20</u>	<u>X</u>	<u>FACU</u>	
4	<u>10</u>		<u>FACW</u>	
5				
	<u>90</u>	= Total Cover		
<b>Herb Stratum</b> (plot size: <u>5</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ 1- Rapid Test for Hydrophytic Vegetation _____ 2- Dominance Test is >50% _____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup> _____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet) _____ 5- Wetland Non-Vascular Plants <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
1	<u>10</u>	<u>X</u>	<u>FACU</u>	
2	<u>10</u>	<u>X</u>	<u>FACU</u>	
3				
4				
5				
6				
7				
8				
	<u>20</u>	= Total Cover		
<b>Woody Vine Stratum</b> (plot size: <u>15</u> )				
1	<u>10</u>	<u>X</u>	<u>FACU</u>	
2	<u>10</u>	<u>X</u>	<u>FAC</u>	
	<u>20</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>80</u>				
Remarks:				



**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<b>0-9</b>	<b>10YR 3/2</b>	<b>100</b>					<b>Silty Clay Loam</b>	
<b>9-11</b>	<b>10YR 3/2</b>	<b>98</b>	<b>10YR 3/4</b>	<b>2</b>	<b>C</b>	<b>M</b>	<b>Silty Clay Loam</b>	<b>Fine</b>
<b>11-17</b>	<b>10YR 4/1</b>	<b>95</b>	<b>10YR 4/6</b>	<b>5</b>	<b>C</b>	<b>M</b>	<b>Silty Clay Loam</b>	<b>Fine</b>

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**This is still a loamy soil, so the applicability of A11 is a stretch, however it does meet this criteria.**

**HYDROLOGY**

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one required; check all that apply)**

**Secondary Indicators (2 or more required)**

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): >17  
 Saturation Present? Yes  No  Depth (inches): 0-1;16  
 (includes capillary fringe)

**Wetland Hydrology Present?**

Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**Saturation not associated with high water table**

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 12  
 Investigator(s): CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 1  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation X Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) N  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is Sampled Area within a Wetland?	Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes <u>X</u> No _____		
Remarks:			

**VEGETATION - Use scientific names of plants.**

Tree Stratum (plot size: <u>30</u> )	absolute % cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>4</u> (B)  Percent of Dominant Species That are OBL, FACW, or FAC: <u>75%</u> (A/B)
1 <u>Fraxinus latifolia</u>	<u>60</u>	<u>X</u>	<u>FACW</u>	
2 _____				
3 _____				
4 _____				
	<u>60</u>	= Total Cover		
Sapling/Shrub Stratum (plot size: <u>15</u> )	absolute % cover	Dominant Species?	Indicator Status	<b>Prevalence Index Worksheet:</b> Total % Cover of _____ Multiply by: OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) <u>0</u> (B)  Prevalence Index =B/A = <u>#DIV/0!</u>
1 <u>Cornus alba</u>	<u>60</u>	<u>X</u>	<u>FACW</u>	
2 <u>Rubus ursinus</u>	<u>10</u>		<u>FACU</u>	
3 _____				
4 _____				
5 _____				
	<u>70</u>	= Total Cover		
Herb Stratum (plot size: <u>5</u> )	absolute % cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> _____ 1- Rapid Test for Hydrophytic Vegetation <u>X</u> 2- Dominance Test is >50% _____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup> _____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet) _____ 5- Wetland Non-Vascular Plants <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1 <u>Poa sp</u>	<u>20</u>	<u>X</u>	<u>(FAC)</u>	
2 <u>Galium aparine</u>	<u>5</u>	<u>X</u>	<u>FACU</u>	
3 _____				
4 _____				
5 _____				
6 _____				
7 _____				
8 _____				
	<u>25</u>	= Total Cover		
Woody Vine Stratum (plot size: _____)	absolute % cover	Dominant Species?	Indicator Status	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1 _____				
2 _____				
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>75</u>				

Remarks:

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<b>0-6</b>	<b>10YR 3/2</b>	<b>100</b>					<b>Silty Clay Loam</b>	
<b>6-10</b>	<b>10YR 3/2</b>	<b>95</b>	<b>10YR 3/4</b>	<b>5</b>	<b>C</b>	<b>M</b>	<b>Silty Clay Loam</b>	<b>Fine</b>
<b>10-16</b>	<b>10YR 4/2</b>	<b>90</b>	<b>5YR 5/8</b>	<b>10</b>	<b>C</b>	<b>M</b>	<b>Silty Clay Loam</b>	<b>Fine</b>

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input checked="" type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input checked="" type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): >16  
 Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): 0-1;>16

**Wetland Hydrology Present?**

Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**Standing water was visible on last visit. Likely saturated longer than 2 weeks during growing season. Also, ash is thicker here and adequately supported by this hydroperiod. Both vegetation and hydric soils are present to support this. We are entering the lawn area, so the OR's are becoming more apparent nearby.**

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 13  
 Investigator(s): CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): None Slope (%): 3  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation X Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) N  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	<b>Is Sampled Area within a Wetland?</b>	Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes <u>X</u> No _____		
Remarks:			

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
<b>Tree Stratum</b> (plot size: _____)				Number of Dominant Species	
1	_____	_____	_____	That are OBL, FACW, or FAC: <u>2</u> (A)	
2	_____	_____	_____	Total Number of Dominant	
3	_____	_____	_____	Species Across All Strata: <u>3</u> (B)	
4	_____	_____	_____	Percent of Dominant Species	
	<u>0</u>	= Total Cover		That are OBL, FACW, or FAC: <u>67%</u> (A/B)	
<b>Sapling/Shrub Stratum</b> (plot size: _____)				<b>Prevalence Index Worksheet:</b>	
1	_____	_____	_____	Total % Cover of _____ Multiply by: _____	
2	_____	_____	_____	OBL Species _____ x 1 = <u>0</u>	
3	_____	_____	_____	FACW species _____ x 2 = <u>0</u>	
4	_____	_____	_____	FAC Species _____ x 3 = <u>0</u>	
5	_____	_____	_____	FACU Species _____ x 4 = <u>0</u>	
	<u>0</u>	= Total Cover		UPL Species _____ x 5 = <u>0</u>	
<b>Herb Stratum</b> (plot size: <u>5</u> )				Column Totals <u>0</u> (A) <u>0</u> (B)	
1	<u>Alopecurus pratensis</u> <u>40</u>	<u>X</u>	<u>FAC</u>	Prevalence Index =B/A = <u>#DIV/0!</u>	
2	<u>Anthoxanthum odoratum</u> <u>20</u>	<u>X</u>	<u>FACU</u>		
3	<u>Poa sp</u> <u>20</u>	<u>X</u>	<u>(FAC)</u>		
4	<u>Hypochaeris radicata</u> <u>10</u>		<u>FACU</u>		
5	<u>Leontodon saxatilis</u> <u>10</u>		<u>FACU</u>		
6	<u>Geranium molle</u> <u>5</u>		<u>(FAC)</u>		
7	<u>Trifolium repens</u> <u>5</u>		<u>FAC</u>		
8	_____		_____		
	<u>110</u>	= Total Cover			
<b>Woody Vine Stratum</b> (plot size: _____)				<b>Hydrophytic Vegetation Indicators:</b>	
1	_____	_____	_____	1- Rapid Test for Hydrophytic Vegetation	
2	_____	_____	_____	<u>X</u> 2- Dominance Test is >50%	
	<u>0</u>	= Total Cover		3-Prevalence Index is ≤ 3.0 <sup>1</sup>	
% Bare Ground in Herb Stratum <u>0</u>				4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet)	
Remarks:				5- Wetland Non-Vascular Plants <sup>1</sup>	
<b>Vegetation consists of a mowed lawn with no surrounding trees. Because of the level of disturbance to vegetation, more focus was applied to soils and hydrology.</b>				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____	

Remarks:  
**Vegetation consists of a mowed lawn with no surrounding trees. Because of the level of disturbance to vegetation, more focus was applied to soils and hydrology.**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-1	10YR 3/2	100					Silty Clay Loam	Fine
1-4	10YR 3/2	95	10YR 3/6	5	C	PL	Silty Clay Loam	ORs
4-9	10YR 3/2	90	10YR 3/6	2	C	PL	Silty Clay Loam	ORs
4-9			10YR 3/6	8	C	M	Silty Clay Loam	Fine
9-14	10YR 4/2	90	10YR 5/6	10	C	M	Silty Clay Loam	Fine

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one required; check all that apply)**

**Secondary Indicators (2 or more required)**

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input checked="" type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): >14  
 Saturation Present? Yes  No  Depth (inches): 0-2;>14  
 (includes capillary fringe)

**Wetland Hydrology Present?**  
 Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

**High water table was present approximately 2 weeks ago at about 9 inches in this vicinity.**

Remarks:

**Surface saturation is not currently associated with a high water table.**

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 14  
 Investigator(s): CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex Slope (%): 3  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation X Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) N  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	<b>Is Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks:					

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (plot size: _____)				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That are OBL, FACW, or FAC: <u>0%</u> (A/B)
1	_____	_____	_____	
2	_____	_____	_____	
3	_____	_____	_____	
4	_____	_____	_____	
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (plot size: _____)				<b>Prevalence Index Worksheet:</b> Total % Cover of _____ Multiply by: _____ OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) <u>0</u> (B)  Prevalence Index =B/A = <u>#DIV/0!</u>
1	_____	_____	_____	
2	_____	_____	_____	
3	_____	_____	_____	
4	_____	_____	_____	
5	_____	_____	_____	
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (plot size: <u>5</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ 1- Rapid Test for Hydrophytic Vegetation _____ 2- Dominance Test is >50% _____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup> _____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet) _____ 5- Wetland Non-Vascular Plants <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
1	<u>60</u>	<u>X</u>	<u>FACU</u>	
2	<u>20</u>		<u>FAC</u>	
3	<u>10</u>		<u>(FAC)</u>	
4	<u>10</u>		<u>FAC</u>	
5	<u>10</u>		<u>(FAC)</u>	
6	_____	_____	_____	
7	_____	_____	_____	
8	_____	_____	_____	
	<u>110</u>	= Total Cover		
<b>Woody Vine Stratum</b> (plot size: _____)				
1	_____	_____	_____	
2	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				

Remarks:  
**Vegetation consists of a mowed lawn with no surrounding trees. Because of the level of disturbance to vegetation, more focus was applied to soils and hydrology.**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
<b>0-9</b>	<b>10YR 3/2</b>	<b>100</b>					<b>Silty Clay Loam</b>	
<b>9-14</b>	<b>10YR 3/2</b>	<b>95</b>	<b>10YR 3/6</b>	<b>5</b>	<b>C</b>	<b>M</b>	<b>Silty Clay Loam</b>	<b>Fine</b>

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)** **Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

**Restrictive Layer (if present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes \_\_\_\_\_ No **X**

Remarks: \_\_\_\_\_

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**  
 Surface Water Present? Yes \_\_\_\_\_ No **X** Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No **X** Depth (inches): **>14**  
 Saturation Present? (includes capillary fringe) Yes **X** No \_\_\_\_\_ Depth (inches): **0-1;>14**

**Wetland Hydrology Present?**  
 Yes \_\_\_\_\_ No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  
 \_\_\_\_\_

Remarks:  
**Saturation not associated with high water table.**

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 15  
 Investigator(s): CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): None Slope (%): 2  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation X Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) N  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	<b>Is Sampled Area within a Wetland?</b>	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks:					

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (plot size: _____)				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That are OBL, FACW, or FAC: <u>67%</u> (A/B)
1				
2				
3				
4				
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (plot size: _____)				
1				
2				
3				
4				
5				
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (plot size: <u>5</u> )				
1	<u>50</u>	<u>X</u>	<u>(FAC)</u>	
2	<u>30</u>	<u>X</u>	<u>FAC</u>	
3	<u>20</u>	<u>X</u>	<u>FACU</u>	
4				
5				
6				
7				
8				
	<u>100</u>	= Total Cover		
<b>Woody Vine Stratum</b> (plot size: _____)				
1				
2				
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				
<b>Prevalence Index Worksheet:</b> Total % Cover of _____ Multiply by: _____ OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) <u>0</u> (B)  Prevalence Index =B/A = <u>#DIV/0!</u>				
<b>Hydrophytic Vegetation Indicators:</b> _____ 1- Rapid Test for Hydrophytic Vegetation <u>X</u> 2- Dominance Test is >50% _____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup> _____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet) _____ 5- Wetland Non-Vascular Plants <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)				
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____				

Remarks:  
**Vegetation consists of a mowed lawn with no surrounding trees. Because of the level of disturbance to vegetation, more focus was applied to soils and hydrology.**



**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4	10YR3/1	98	10YR 3/4	2	C	PL	Silty Clay Loam	ORs
4-10	10YR 3/1	95	10YR 3/4	5	C	M	Silty Clay Loam	Fine
10-16	10YR 4/1	90	10YR 3/6	10	C	M	Silty Clay Loam	Fine

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

**Primary Indicators (minimum of one required; check all that apply)**

**Secondary Indicators (2 or more required)**

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): <u>&gt;16</u>
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Depth (inches): <u>0-2;&gt;16</u>

**Wetland Hydrology Present?**

Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**Saturation not associated with high water table.**

**WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region**

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 16  
 Investigator(s): CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): None Slope (%): 3  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation X Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) N  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	<b>Is Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks:					

**VEGETATION - Use scientific names of plants.**

	absolute % cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (plot size: _____)				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That are OBL, FACW, or FAC: <u>67%</u> (A/B)
1	_____	_____	_____	
2	_____	_____	_____	
3	_____	_____	_____	
4	_____	_____	_____	
	<u>0</u>	= Total Cover		
<b>Sapling/Shrub Stratum</b> (plot size: _____)				<b>Prevalence Index Worksheet:</b> Total % Cover of _____ Multiply by: _____ OBL Species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC Species _____ x 3 = <u>0</u> FACU Species _____ x 4 = <u>0</u> UPL Species _____ x 5 = <u>0</u> Column Totals <u>0</u> (A) <u>0</u> (B)  Prevalence Index =B/A = <u>#DIV/0!</u>
1	_____	_____	_____	
2	_____	_____	_____	
3	_____	_____	_____	
4	_____	_____	_____	
5	_____	_____	_____	
	<u>0</u>	= Total Cover		
<b>Herb Stratum</b> (plot size: <u>5</u> )				<b>Hydrophytic Vegetation Indicators:</b> _____ 1- Rapid Test for Hydrophytic Vegetation <u>X</u> 2- Dominance Test is >50% _____ 3-Prevalence Index is ≤ 3.0 <sup>1</sup> _____ 4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet) _____ 5- Wetland Non-Vascular Plants <sup>1</sup> _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
1	<u>Poa sp</u>	<u>40</u>	<u>X</u> (FAC)	
2	<u>Anthoxanthum odoratum</u>	<u>30</u>	<u>X</u> FACU	
3	<u>Alopecurus pratensis</u>	<u>20</u>	<u>X</u> FAC	
4	<u>Holcus lanatus</u>	<u>5</u>	<u>FAC</u>	
5	<u>Hypochaeris radicata</u>	<u>5</u>	<u>FACU</u>	
6	_____	_____	_____	
7	_____	_____	_____	
8	_____	_____	_____	
	<u>100</u>	= Total Cover		
<b>Woody Vine Stratum</b> (plot size: _____)				
1	_____	_____	_____	
2	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				

Remarks:  
**Vegetation consists of a mowed lawn with no surrounding trees. Because of the level of disturbance to vegetation, more focus was applied to soils and hydrology.**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Table with columns: Depth (Inches), Matrix (Color (moist), %), Redox Features (Color (moist), %, Type, Loc), Texture, Remarks. Rows include 0-10 and 10-14 depth intervals with matrix 10YR 3/1 and 10YR 3/2, and redox features 10YR 3/3 and 10YR 3/4.

1Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

2Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils3:

Table listing hydric soil indicators (Histosol, Histic Epipedon, Black Histic, Hydrogen Sulfide, Depleted Below Dark Surface, Thick Dark Surface, Sandy Mucky Mineral, Sandy Gleyed Matrix) and problematic hydric soil indicators (Sandy Redox, Stripped Matrix, Loamy Mucky Mineral, Loamy Gleyed Matrix, Depleted Matrix, Redox Dark Surface, Depleted Dark Surface, Redox Depressions, 2 cm Muck, Red Parent Material, Very Shallow Dark Surface, Other).

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: \_\_\_\_\_
Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

Table listing primary indicators (Surface Water, High Water Table, Saturation, Water Marks, Sediment Deposits, Drift Deposits, Algal Mat or Crust, Iron Deposits, Surface Soil Cracks, Inundation Visible on Aerial Imagery, Sparsely Vegetated Concave Surface) and secondary indicators (Water stained Leaves, Drainage Patterns, Dry-Season Water Table, Saturation Visible on Aerial Imagery, Geomorphic Position, Shallow Aquitard, Fac-Neutral Test, Raised Ant Mounds, Frost-Heave Hummocks).

Field Observations:

Surface Water Present? Yes \_\_\_\_\_ No X
Water Table Present? Yes \_\_\_\_\_ No X
Saturation Present? (includes capillary fringe) Yes X No \_\_\_\_\_
Depth (inches): \_\_\_\_\_
Depth (inches): >14
Depth (inches): 0-1;>14

Wetland Hydrology Present?
Yes \_\_\_\_\_ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Saturation not associated with high water table.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Parkway Woods City/County: Wilsonville/Clackamas Sampling Date: 4/1/2020  
 Applicant/Owner: ScanlanKemperBard State: OR Sampling Point: 17  
 Investigator(s): CM Section, Township, Range: 12/T3S/R1W  
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 3  
 Subregion (LRR): LRR A Lat: 45.3232° Long: -122.7641° Datum: WSG85  
 Soil Map Unit Name: Aloha silt loam or Concord silt loam NWI Classification: None  
 Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (if no, explain in Remarks)  
 Are vegetation X Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? (Y/N) N  
 Are vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	Is Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks:					

**VEGETATION - Use scientific names of plants.**

Tree Stratum	absolute % cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
Tree Stratum (plot size: <u>30</u> )				Number of Dominant Species	
1 <u>Quercus garryana</u>	<u>20</u>	<u>X</u>	<u>FACU</u>	That are OBL, FACW, or FAC: <u>2</u> (A)	
2 <u>Fraxinus latifolia</u>	<u>10</u>	<u>X</u>	<u>FACW</u>	Total Number of Dominant Species Across All Strata: <u>3</u> (B)	
3 _____	_____	_____	_____	Percent of Dominant Species That are OBL, FACW, or FAC: <u>67%</u> (A/B)	
4 _____	_____	_____	_____	Prevalence Index Worksheet:	
	<u>30</u>	= Total Cover		Total % Cover of _____ Multiply by: _____	
Sapling/Shrub Stratum (plot size: _____)				OBL Species _____ x 1 = <u>0</u>	
1 _____	_____	_____	_____	FACW species _____ x 2 = <u>0</u>	
2 _____	_____	_____	_____	FAC Species _____ x 3 = <u>0</u>	
3 _____	_____	_____	_____	FACU Species _____ x 4 = <u>0</u>	
4 _____	_____	_____	_____	UPL Species _____ x 5 = <u>0</u>	
5 _____	_____	_____	_____	Column Totals <u>0</u> (A) <u>0</u> (B)	
	<u>0</u>	= Total Cover		Prevalence Index =B/A = <u>#DIV/0!</u>	
Herb Stratum (plot size: <u>5</u> )				Hydrophytic Vegetation Indicators:	
1 <u>Poa sp</u>	<u>70</u>	<u>X</u>	<u>(FAC)</u>	1- Rapid Test for Hydrophytic Vegetation	
2 <u>Trifolium repens</u>	<u>10</u>	_____	<u>FAC</u>	<u>X</u> 2- Dominance Test is >50%	
3 <u>Anthoxanthum odoratum</u>	<u>10</u>	_____	<u>FACU</u>	3-Prevalence Index is ≤ 3.0 <sup>1</sup>	
4 <u>Stellaria media</u>	<u>5</u>	_____	<u>FACU</u>	4-Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet)	
5 <u>Hypochaeris radicata</u>	<u>5</u>	_____	<u>FACU</u>	5- Wetland Non-Vascular Plants <sup>1</sup>	
6 _____	_____	_____	_____	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
7 _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8 _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
	<u>100</u>	= Total Cover			
Woody Vine Stratum (plot size: _____)					
1 _____	_____	_____	_____		
2 _____	_____	_____	_____		
	<u>0</u>	= Total Cover			
% Bare Ground in Herb Stratum <u>0</u>					

Remarks: **Vegetation is disturbed, mowed lawn.**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-10	10YR 3/2	78	10YR 3/4	2	C	M	Silty Clay Loam	Fine
10-14	2.5YR 4/1	15	10YR 5/6	1	C	M	Silty Clay Loam	Fine
10-14	2.5Y 5/2	30	10YR 5/6	1	C	M	Silty Clay Loam	Fine
10-14	10YR 3/2	50	10YR 5/6	3	C	M	Silty Clay Loam	Fine

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if present):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No **X**

Remarks:

**Soil has a mixed matrix and is located near a storm drain inlet at the bottom of swale; likely a storm feature.**

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water stained Leaves (B9) (Except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water stained Leaves (B9) (MLRA1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Fac-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No **X** Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No **X** Depth (inches): **>14**  
 Saturation Present? Yes **X** No \_\_\_\_\_ Depth (inches): **0-1;>14**  
 (includes capillary fringe)

**Wetland Hydrology Present?**

Yes \_\_\_\_\_ No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**Saturation not associated with high water table.**

# Appendix C

## Site Photos





Photo A:  
Looking south at Wetland A and  
Sample Points 3 and 4.



Photo B:  
Looking northeast at Wetland A  
and Sample Point 2 with Sample  
Point 1 in the background.

Project #6940  
Date 4/22/20



Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

Photo documentation  
Parkway Woods—Wilsonville, OR  
Photos taken April 1, 2020



Photo C:  
Looking southeast at Wetland B  
and Sample Points 7 and 8.



Photo D:  
Looking northwest at Wetland C  
in a managed lawn area.

Project #6940  
Date 4/22/20



Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

Photo documentation  
Parkway Woods—Wilsonville, OR  
Photos taken April 1, 2020





Photo E:

Looking southwest at the tributary to Coffee Lake Creek, where it enters a culvert under Xerox Drive.

Photo F

Looking south at the tributary to Coffee Lake Creek where it enters the study area through a culvert under Printer Parkway.



Project #6940  
Date 4/22/20



Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

Photo documentation  
Parkway Woods—Wilsonville, OR

Photos taken April 1, 2020



Photo G:

Looking northeast at Sample Point 6 in an upland forested area north of Xerox Drive.

Photo H:

Looking east at Sample Point 17 in an upland area near an existing storm drain in the northwest study area.



Project #6940  
Date 4/22/20



Pacific Habitat Services, Inc.  
9450 SW Commerce Circle, Suite 180  
Wilsonville, OR 97070

Photo documentation  
Parkway Woods—Wilsonville, OR  
Photos taken April 23, 2020



17. DIRECTIONS TO THE SITE

From I-5 South take exit 289 and turn east (left) on to Elligson Road, turn south (right) onto SW Parkway Center Drive, which turns into SW Parkway Avenue. From SW Parkway Avenue, head south for 0.3 miles to Printer Parkway. The site is on the east side of SW Parkway Avenue, and the south side of Printer Parkway.

18. Nature of Activity (Description of project, include all features)

The proposed project is the redevelopment of a 393,802 sf building and parking lot at the Parkway Woods Business Park in Wilsonville, Clackamas County, Oregon (Figures 1-4, all Figures are in Attachment 2). The Owner/Applicant is proposing improvements to the existing building (i.e. installation of new entries, loading doors and windows) as well as functional/aesthetic improvements to the site consisting of a reconfiguration and expansion of the surface parking lot and construction of an outdoor plaza. The development of the industrial park will unavoidably impact 414 sf / 0.01 acre of palustrine emergent wetland with the discharge of 43 cubic yards of clean sand/gravel/native soil material. Each component of proposed improvement is described in more detail in Attachment 1.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

The purpose of the proposed project is to redevelop the existing Parkway Woods Industrial Business Park, which will address the changing demands in the City of Wilsonville by enhancing the existing improvements and tenant base through significant investment in capital improvements that are designed to cater to growing demand from light industrial, manufacturing, and R&D tenants. After an acquisition of the site in 2015, initial plans were to convert the property into an office park. This marked the inception of the Parkway Woods Business Park development. A joint venture in 2020 is acquiring Parkway Woods and plans to redevelop the property to meet the needs of existing and potential tenants.

See Attachment 1 for further details.

**USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED**

20. Reason(s) for Discharge

Forty-three (43) cubic yards of clean fill is proposed to be placed in 0.01 acre (414 sf) of wetland to support redevelopment at Parkway Woods Industrial Park. The wetland impact is required for an expanded loading area within the proposed redevelopment. Though this portion of wetland will be filled, hydrology to the wetland off site to the south, beyond the project area, will be maintained by treating stormwater from the proposed loading area and connecting it to the existing culvert that outfalls into the off site wetland. More information is provided in the attached stormwater report and SLOPES form (Attachment 3).

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards
Clean Sand/Gravel/Soil, 43 cubic yards		

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres 0.01 acres. See attached form for further details  
or  
Linear Feet

23. Description of Avoidance, Minimization, and Compensation (see instructions)

Properties that are viable candidates for industrial development within the City of Wilsonville are not common without large proposed impacts to sensitive buffer areas jurisdictional at the local level. As this property was already under the ownership of the applicant, and has minimal wetland impacts, no alternative site locations were pursued. One design alternative was created with more wetland impact, with the preferred option the one discussed in this application. Wetland impacts are less than 0.10 acres and therefore, mitigation is not required.

24. Is Any Portion of the Work Already Complete?  Yes  No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address- Xerox Corporation Tax Dept Xerox Square 040A

City - Rochester State - NY Zip - 14644

b. Address- Mentor Graphics Corp 8005 SW Boeckman Rd

City - Wilsonville State - OR Zip - 97070

c. Address- Wilsonville 2006 SE LLC 3326 160th Ave SE STE 150

City - Bellevue State - WA Zip - 98008

d. Address- ESS Inc 26440 SW Parkway Ave

City - Wilsonville State - OR Zip - 97070

e. Address-

City - State - Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
City of Wilsonville	Land Use				
DEQ	Water Quality Cert				

\* Would include but is not restricted to zoning, building, and flood plain permits

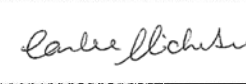
27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.



SIGNATURE OF APPLICANT

5/27/20

DATE



SIGNATURE OF AGENT

5/30/2020

DATE

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.



# Attachment 1

## Supplmental Permit Information



## **Supplemental Permit Information:**

Applicant: PWII Owner, LLC – Matt Morvai  
222 SW Columbia St., STE #700  
Portland, OR 97201  
Phone: 503.783.6260  
Email: [mmorvai@skbcos.com](mailto:mmorvai@skbcos.com)

Project: Parkway Woods Business Park  
PHS #6940

Purpose: Redevelopment of the Existing Building and Parking Area

## **BACKGROUND INFORMATION**

Property: The subject property currently consists of three tax lots that make up parcel 3 of Partition Plat No. 2018-109 containing 88.28 acres. The site is irregularly shaped and is generally bordered by SW Printer Parkway/SW Wiedemann Road (not constructed) on the north, SW Canyon Creek Road on the east, SW Xerox Drive on the south and SW Parkway Avenue on the west.

The property is zoned Planned Development Industrial (PDI).

Ownership: At one time the subject property was the headquarters of the Tektronix Corporation. Xerox acquired the subject property approximately 20 years ago when it purchased for Tektronix's color printing business.

In 2015, Xerox sold a portion of the original property to Portland real estate investment firm ScanlanKemperBard (SKB). SKB's initial plans were to convert the property into an office park. This marked the inception of the Parkway Woods Business Park development. Over the next several years, SKB implemented major improvements consisting of a lobby renovation, the addition of a tenant lounge and fitness area, upgrades to a majority of the building's systems, the addition of a 9-hole disc golf course, and significant landscaping and improvements to signage.

In 2020, SKB announced a joint venture with RGA ReCap Incorporated (ReCap Real Estate Investments) on behalf of Reinsurance Group of America, Incorporated (RGA), to acquire Parkway Woods Business Park.

Leasing History: Over the last five plus years, the Applicant has had some success in leasing various portions of the building. At the present time, the building contains primary tenants: 1) 3D systems and 2) Dealer Spike. In addition, the Xerox Corporation leases a small portion of the building. Due to changing market demands, however, this has proven to be increasingly difficult given the current building configuration and access.



Market Demand: To address the changing demands, the Company intends on enhancing the existing improvements and tenant base through significant investment in capital improvements that are designed to cater to growing demand from light industrial, manufacturing, and R&D tenants.

## **PROPOSED PROJECT**

The Owner/Applicant is proposing improvements to the existing building (i.e. installation of new entries, loading doors and windows) as well as functional/aesthetic improvements to the site consisting of a reconfiguration and expansion of the surface parking lot and construction of an outdoor plaza.

More specifically, each of the components is described below:

Building Improvements (*No Wetland Impact*): The improvements are being proposed in order to facilitate industrial flex space (IFS). This is a type of use that can be used as office, warehouse or a combination of both. These types of uses are generally characterized as single story, industrial-type buildings that are generally 25-100 percent office space. Ceiling heights are 14 to 16 feet and the parking ratio is usually four to one, in case the building goes 100 percent office.

The proposed modifications to the building consists of five new pedestrian entries into the development: 1) one new entry along the northwest corner of the building; 2) one new storefront entry along the southwest portion of the building and 2) three new entries off plaza along the south side of the building. In addition to the new entries, new windows will be added to the west and south facades of the building, primarily located on the west end of the development. Finally, new loading doors/berths will be added to provide truck and freight service to each space.

Surface Parking Lot Reconfiguration and Improvements (*Wetland Impact*): While there will be no net increase in the amount of parking, the existing surface parking areas will be reconfigured to improve circulation for industrial flex space (IFS). The reconstructed parking areas will include new landscape islands and include tree preservation or new tree plantings and landscaping.

To enhance the new development areas, the site will be landscaped with native and ornamental plants and will encompass stormwater improvements in accordance with City of Wilsonville's standards. Below is a summary of the proposed lot coverage (at ground level).

The original development plans included buildings in the southeast corner of the property. In order to limit the impact to sensitive areas the building was removed from the development plan and parking relocated out of the wetland areas. The remaining wetland impact, 0.01 acre / 414 square feet, is for a loading area which is one of the primary functions of the redevelopment plan and repurposing of the existing building. The following are the specifics for the proposed wetland impact:

**Proposed Permanent Impacts:**

Wetland Name: Wetland A

Area of fill: 0.01 acre / 414 square feet

Volume / Material: 43 cy / Clean sand/gravel/soil

Stormwater Management: The existing stormwater management system does not provide water quality or quantity treatment. The system discharges to a single location south of Xerox Drive; however, the existing wetland hydrology will not change with the proposed development due to the following:

1. The westerly wetland area, south of Xerox Drive: hydrology will be maintained by treating the stormwater from the proposed loading area and connecting it to the existing culvert that currently provides stormwater to that wetland.
2. The southeasterly wetlands: hydrology is provided primarily from properties north of Printer Parkway. The Owner is dedicating over 30 acres of open space north of Printer Parkway that will assure continued hydrology to this wetland.

Water quality treatment for the reconfigured parking area will be provided primarily through a series of rain gardens installed throughout the parking area. The rain gardens have been sized to provide both water quality and quantity to meet current regulatory requirements (See Preliminary Stormwater Management Plan – Attachment 3). In addition, the upgraded landscaping provides additional tree cover throughout the parking area. In areas where it was not practicable to install a rain garden, storm filter catch basins are being installed to provide water quality treatment to these areas.

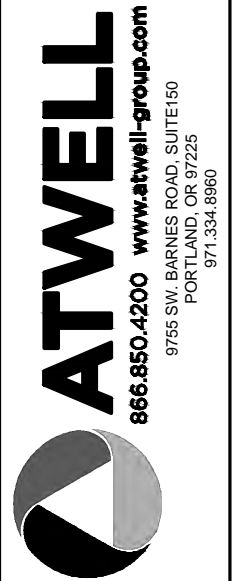
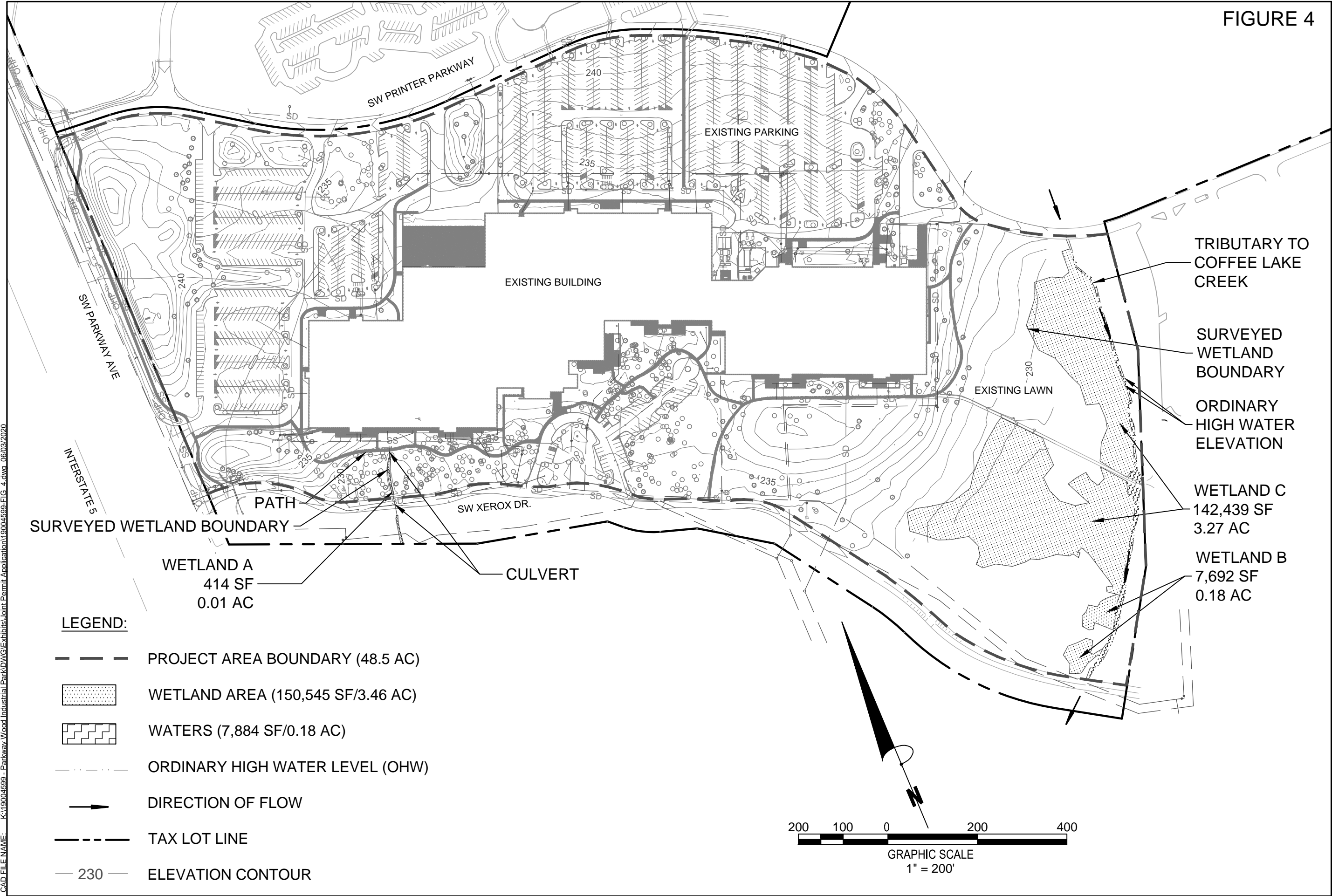
The ultimate stormwater conveyance and discharge is unchanged under the development plan. The rain gardens will drain to the existing conveyance system and discharge south of Xerox Drive, which will not be modified except for reducing the amount of discharge.

# Attachment 2

## Figures



FIGURE 4



PARKWAY WOODS BUSINESS PARK  
 WILSONVILLE, OREGON  
**EXISTING CONDITIONS**

WETLAND A  
 414 SF  
 0.01 AC

EXISTING LAWN

TRIBUTARY TO  
 COFFEE LAKE  
 CREEK

SURVEYED  
 WETLAND  
 BOUNDARY

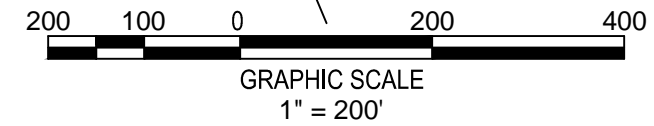
ORDINARY  
 HIGH WATER  
 ELEVATION

WETLAND C  
 142,439 SF  
 3.27 AC

WETLAND B  
 7,692 SF  
 0.18 AC

**LEGEND:**

- PROJECT AREA BOUNDARY (48.5 AC)
- [Stippled Box] WETLAND AREA (150,545 SF/3.46 AC)
- [Hatched Box] WATERS (7,884 SF/0.18 AC)
- - - ORDINARY HIGH WATER LEVEL (OHW)
- DIRECTION OF FLOW
- TAX LOT LINE
- 230 — ELEVATION CONTOUR



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JOB #	19004599
DATE	6/03/2020
SCALE	AS SHOWN
DRAWN	BLB
SHT	1 OF 8

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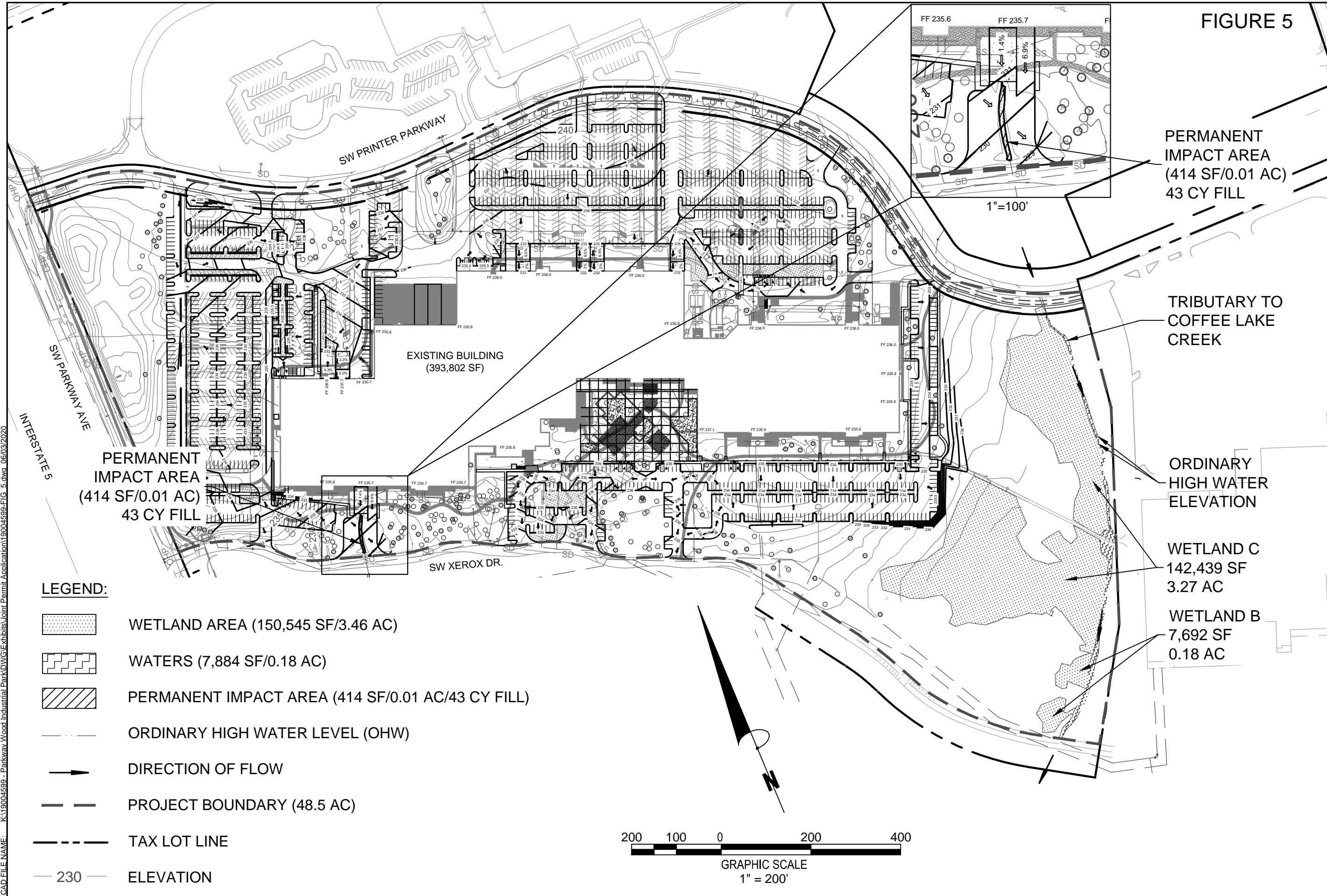


FIGURE 5

PERMANENT  
IMPACT AREA  
(414 SF/0.01 AC)  
43 CY FILL

1"=100'

TRIBUTARY TO  
COFFEE LAKE  
CREEK

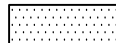


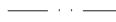




ORDINARY  
HIGH WATER  
ELEVATION

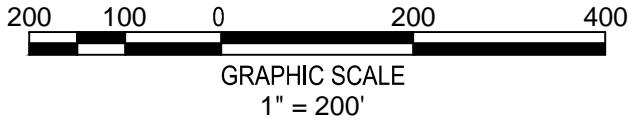
WETLAND C  
142,439 SF  
3.27 AC

WETLAND B  
7,692 SF  
0.18 AC

EXISTING BUILDING  
(393,802 SF)

PERMANENT  
IMPACT AREA  
(414 SF/0.01 AC)  
43 CY FILL

- LEGEND:**
-  WETLAND AREA (150,545 SF/3.46 AC)
  -  WATERS (7,884 SF/0.18 AC)
  -  PERMANENT IMPACT AREA (414 SF/0.01 AC/43 CY FILL)
  -  ORDINARY HIGH WATER LEVEL (OHW)
  -  DIRECTION OF FLOW
  -  PROJECT BOUNDARY (48.5 AC)
  -  TAX LOT LINE
  -  230 ELEVATION

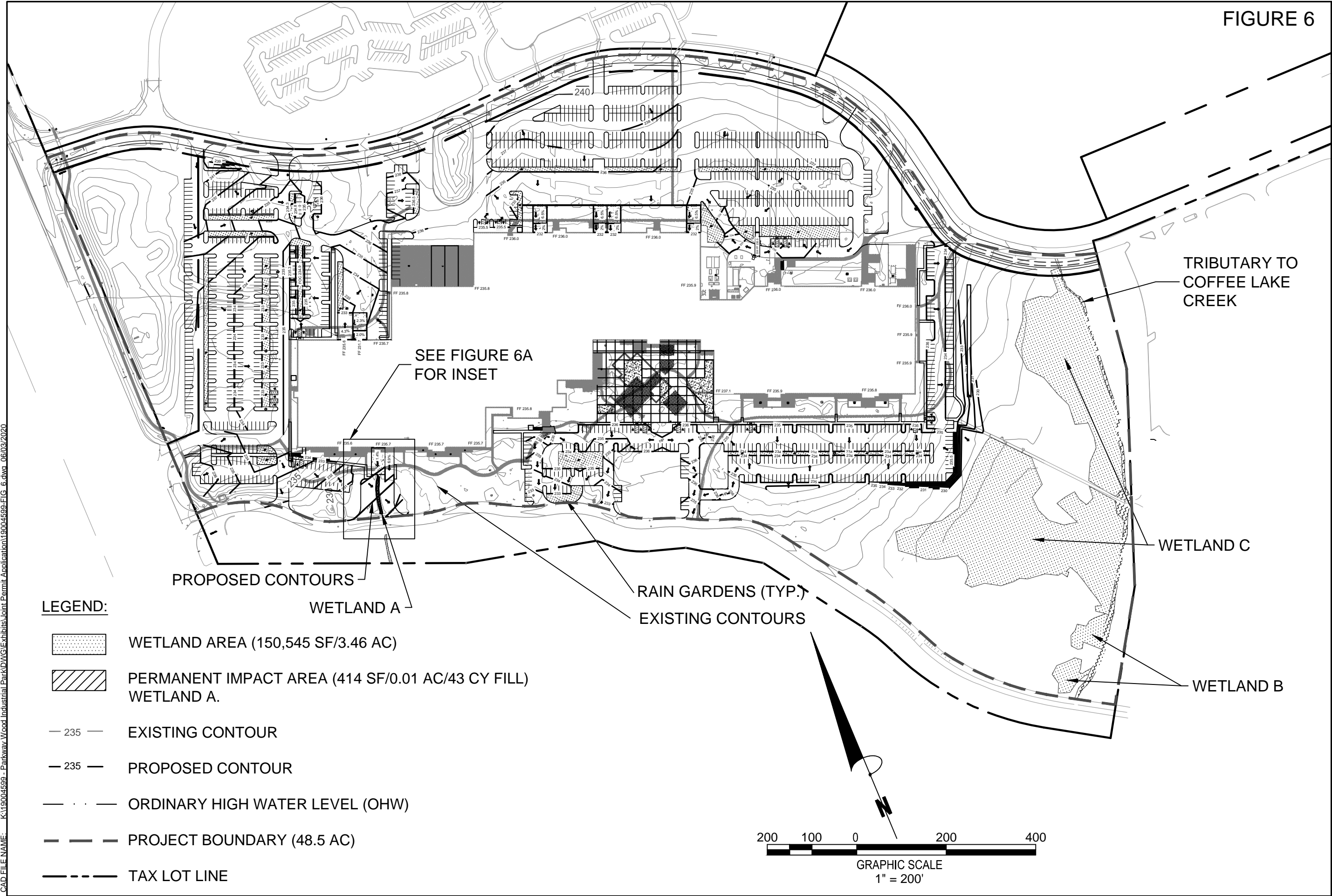


PARKWAY WOODS BUSINESS PARK  
WILSONVILLE, OREGON  
**SITE PLAN**

JOB #	19004599
DATE	6/03/2020
SCALE	AS SHOWN
DRAWN	BLB
SHT	2 OF 8

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FIGURE 6






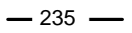



SEE FIGURE 6A FOR INSET

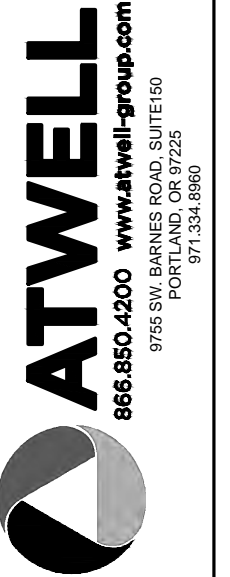
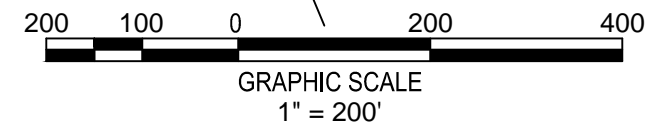
TRIBUTARY TO COFFEE LAKE CREEK

WETLAND C

WETLAND B

**LEGEND:**

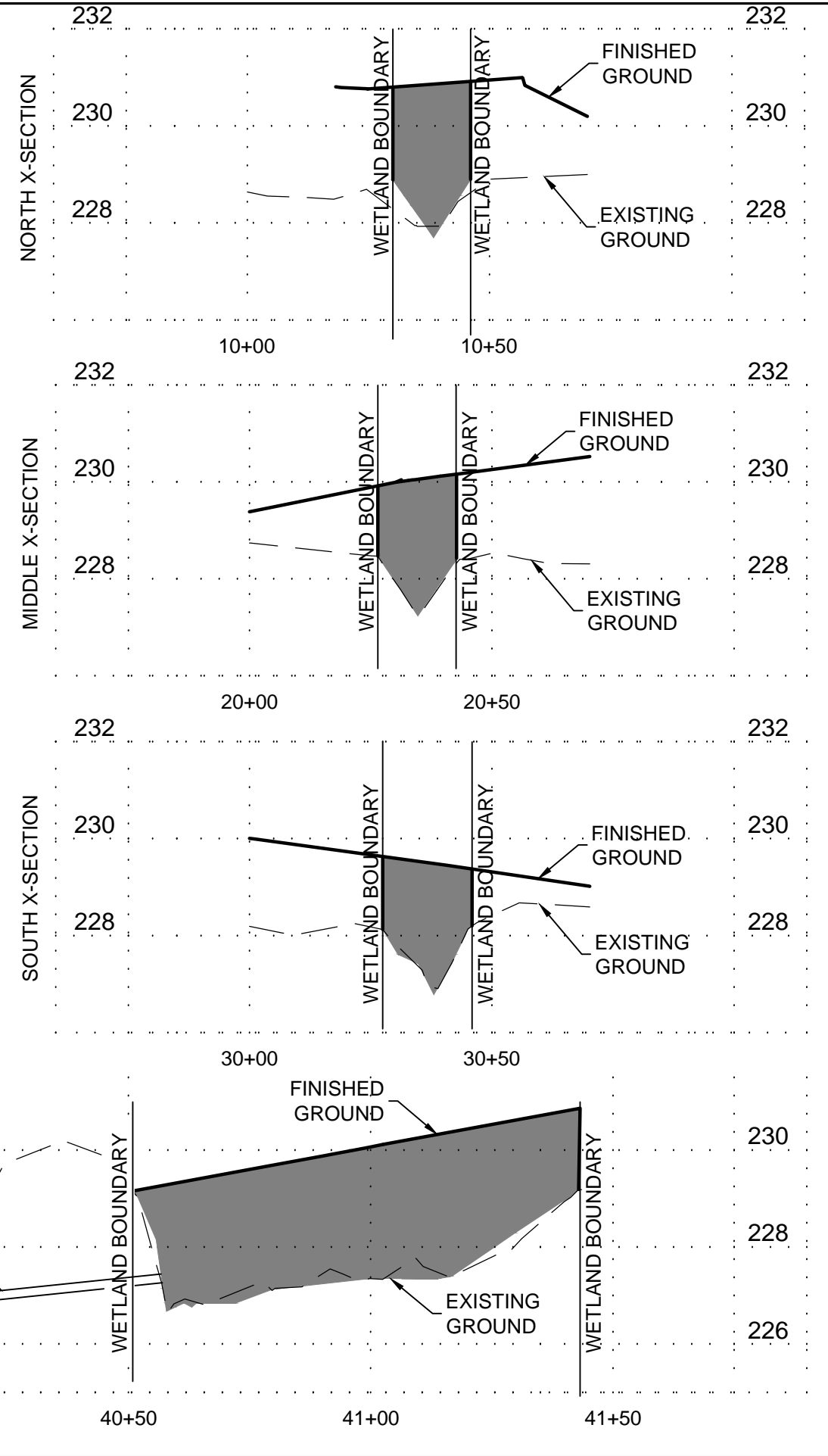
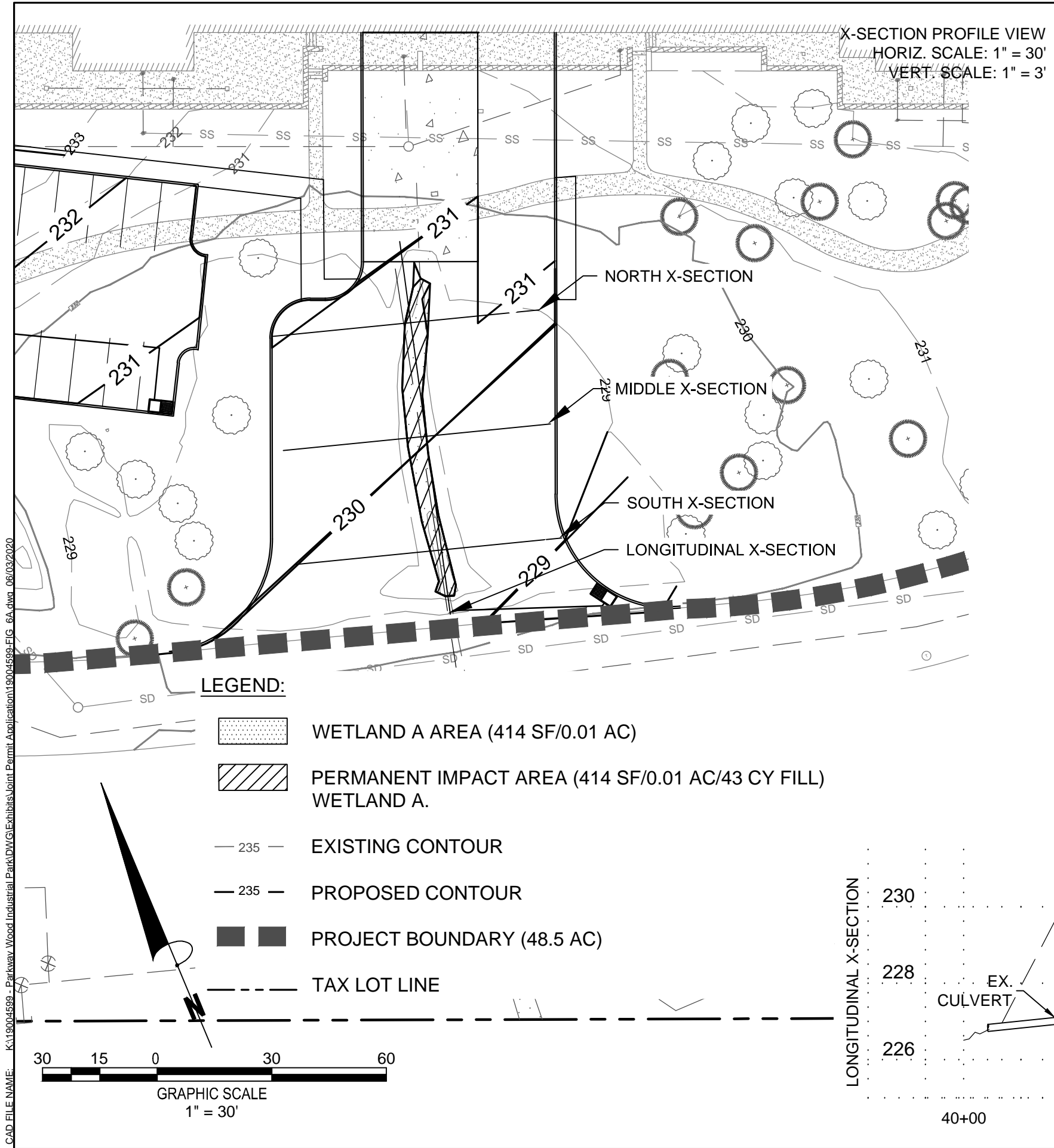
-  WETLAND AREA (150,545 SF/3.46 AC)
-  PERMANENT IMPACT AREA (414 SF/0.01 AC/43 CY FILL) WETLAND A.
-  - 235 - EXISTING CONTOUR
-  - 235 - PROPOSED CONTOUR
-  - . . . - ORDINARY HIGH WATER LEVEL (OHW)
-  - - - - PROJECT BOUNDARY (48.5 AC)
-  - - - - TAX LOT LINE



PARKWAY WOODS BUSINESS PARK  
 WILSONVILLE, OREGON  
**GRADING PLAN**

JOB #	19004599
DATE	5/03/2020
SCALE	AS SHOWN
DRAWN	BLB
SHT	3 OF 8

FIGURE 6A

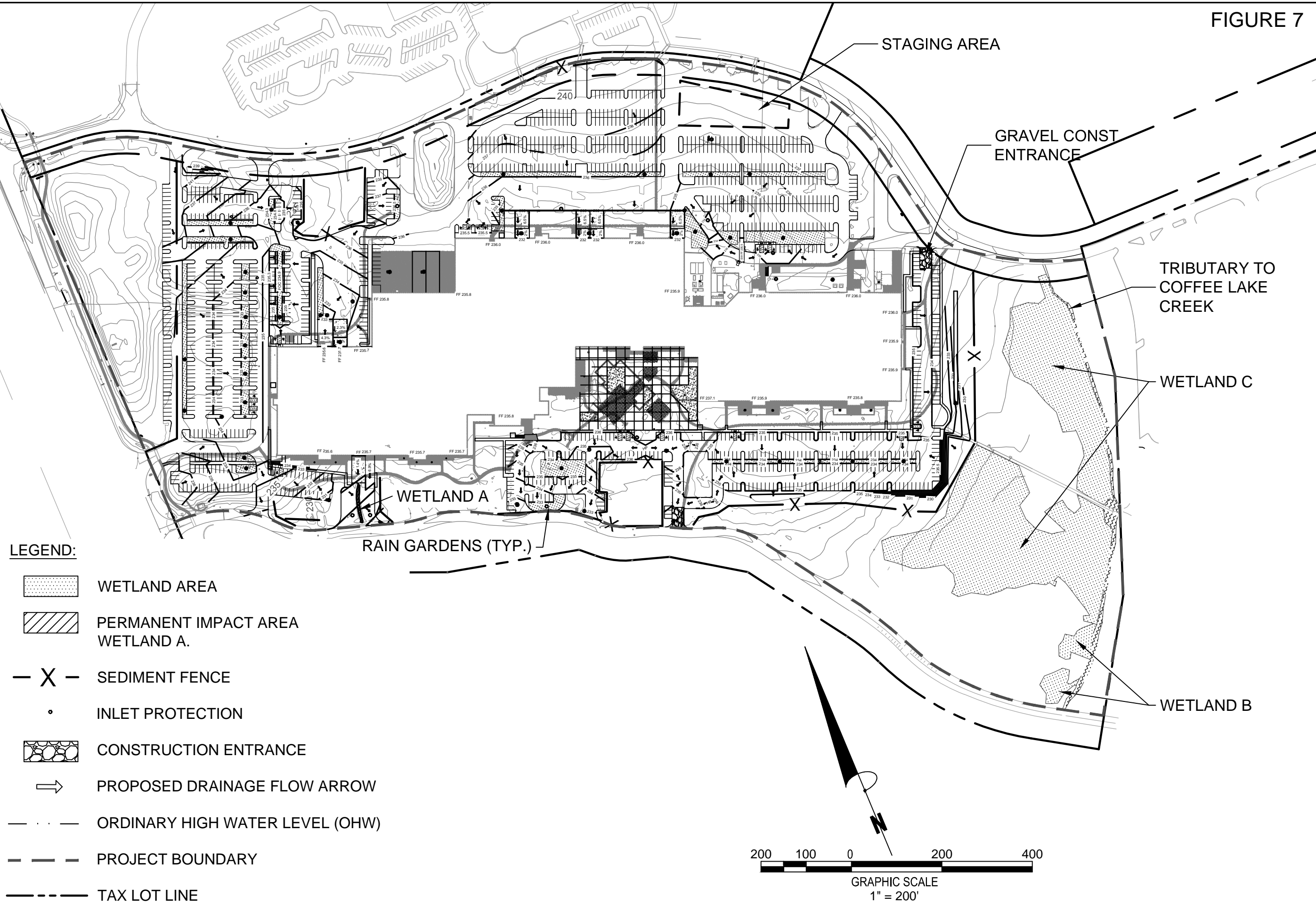


**PARKWAY WOODS BUSINESS PARK**  
 WILSONVILLE, OREGON  
**GRADING CROSS SECTIONS**

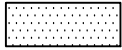
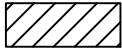




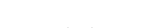


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DATE	6/03/2020
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SHT	4 OF 8


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FIGURE 7



LEGEND:

-  WETLAND AREA
-  PERMANENT IMPACT AREA WETLAND A.
-  SEDIMENT FENCE
-  INLET PROTECTION
-  CONSTRUCTION ENTRANCE
-  PROPOSED DRAINAGE FLOW ARROW
-  ORDINARY HIGH WATER LEVEL (OHW)
-  PROJECT BOUNDARY
-  TAX LOT LINE



**ATWELL**  
 866.850.4200 www.atwell-group.com  
 9755 SW BARNES ROAD, SUITE 150  
 PORTLAND, OR 97225  
 971.334.8660

PARKWAY WOODS BUSINESS PARK  
 WILSONVILLE, OREGON  
 EROSION/SEDIMENT CONTROL PLAN

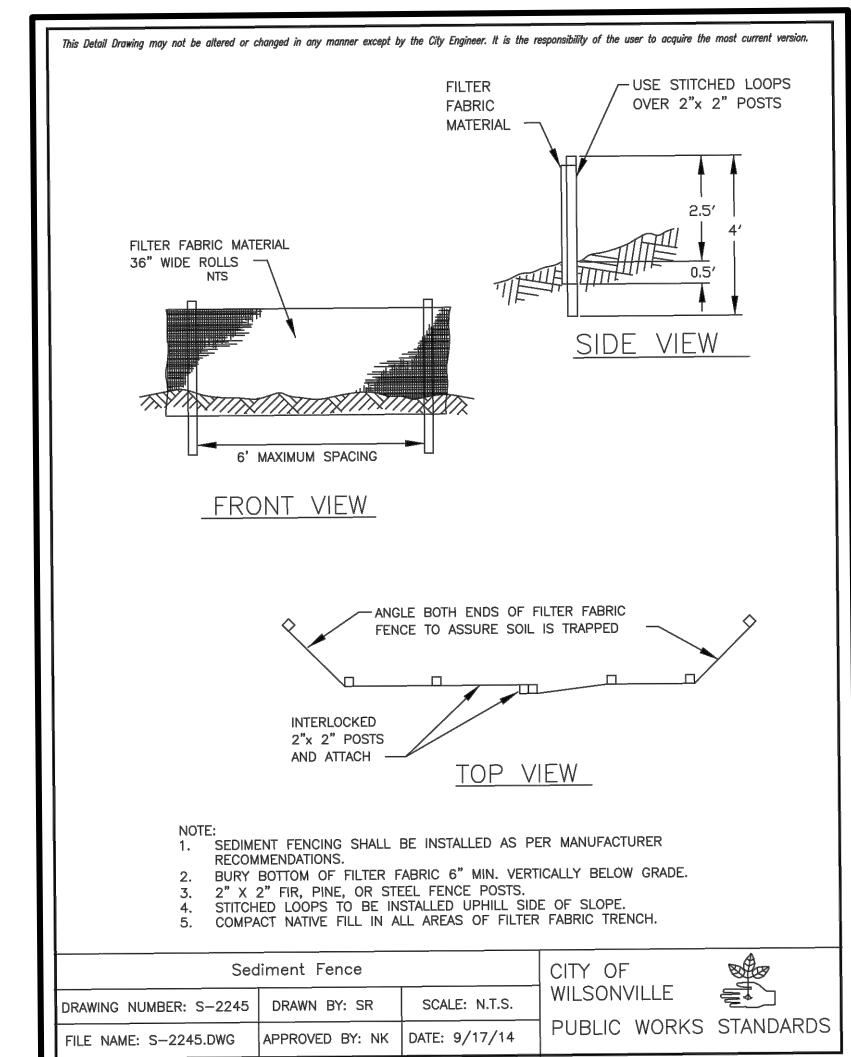
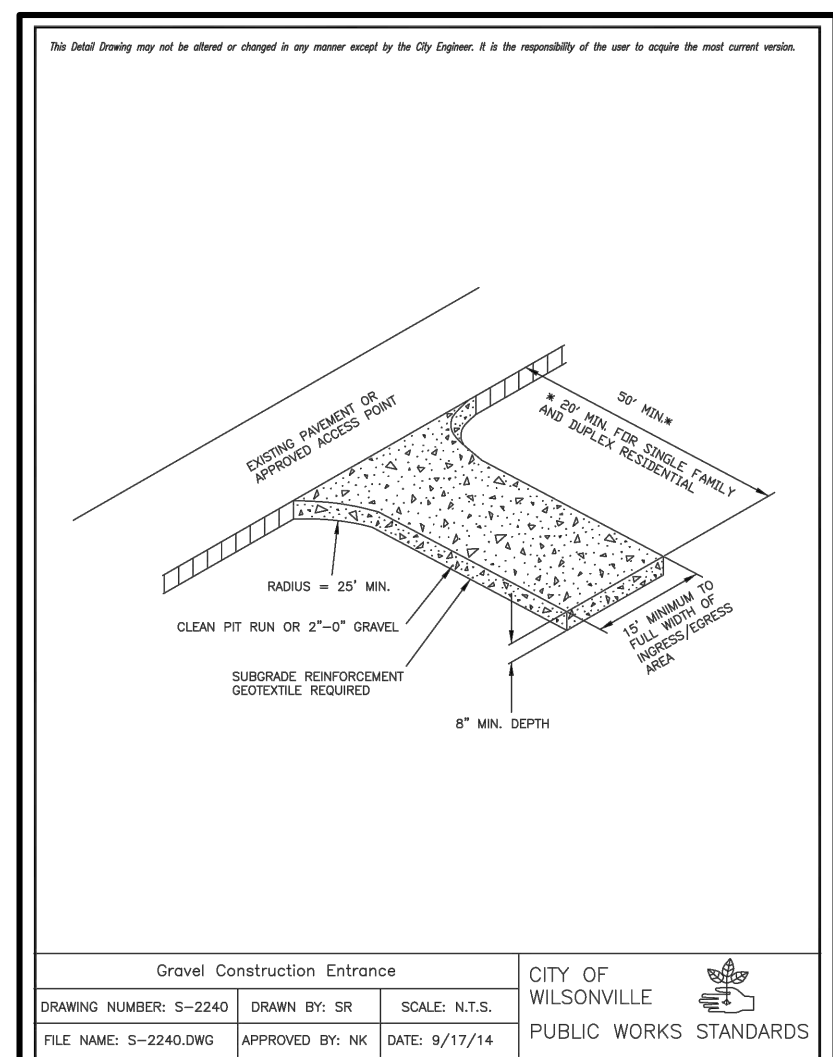
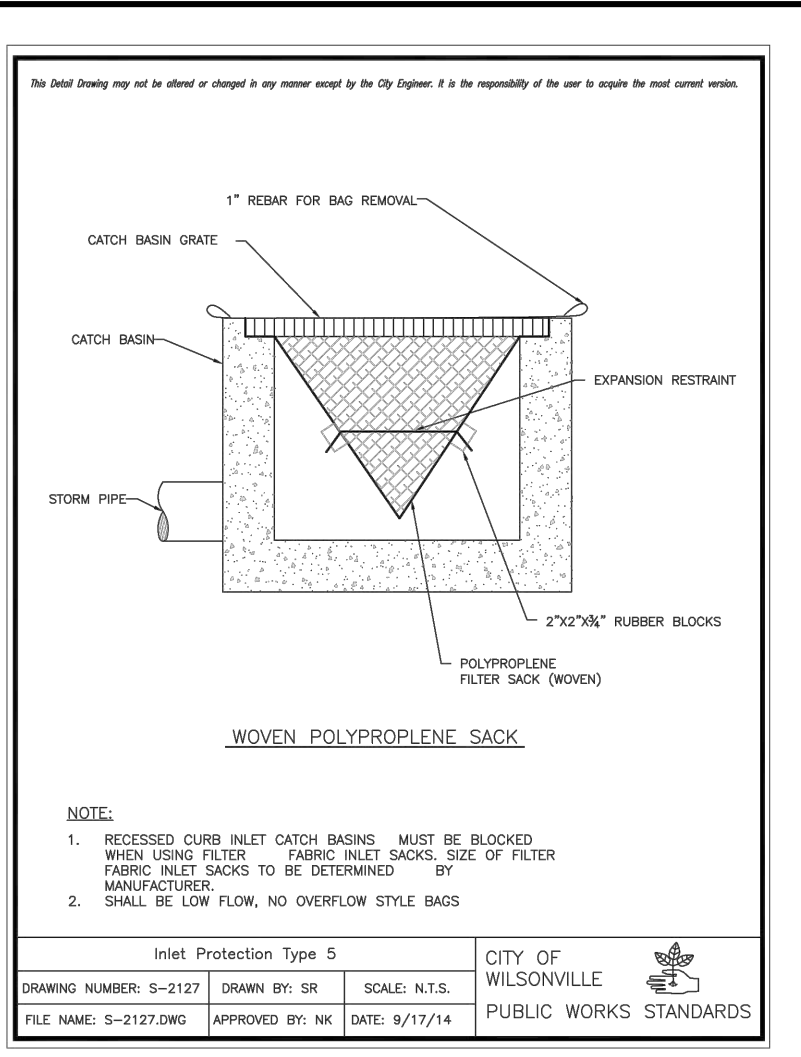
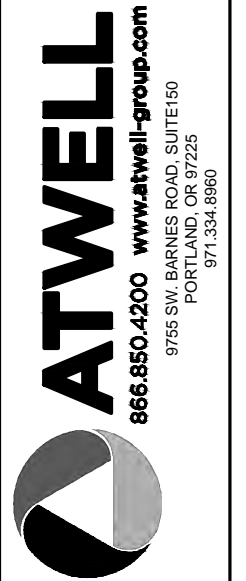
JOB #	19004599
DATE	6/03/2020
SCALE	AS SHOWN
DRAWN	BLB
SHT	5 OF 8



FIGURE 7A

STANDARD EROSION AND SEDIMENT CONTROL PLAN DRAWING NOTES:

- HOLD A PRE-CONSTRUCTION MEETING OF PROJECT CONSTRUCTION PERSONNEL THAT INCLUDES THE INSPECTOR TO DISCUSS EROSION AND SEDIMENT CONTROL MEASURES AND CONSTRUCTION LIMITS. (SCHEDULE A.8.C.I.(3))
- ALL INSPECTIONS MUST BE MADE IN ACCORDANCE WITH DEQ 1200-C PERMIT REQUIREMENTS. (SCHEDULE A.12.B AND SCHEDULE B.1)
- INSPECTION LOGS MUST BE KEPT IN ACCORDANCE WITH DEQ'S 1200-C PERMIT REQUIREMENTS. (SCHEDULE B.1.C AND B.2)
- RETAIN A COPY OF THE ESCP AND ALL REVISIONS ON SITE AND MAKE IT AVAILABLE ON REQUEST TO DEQ, AGENT, OR THE LOCAL MUNICIPALITY, DURING INACTIVE PERIODS OF GREATER THAN SEVEN (7) CONSECUTIVE CALENDAR DAYS, THE ABOVE RECORDS MUST BE RETAINED BY THE PERMIT REGISTRANT BUT DO NOT NEED TO BE AT THE CONSTRUCTION SITE. (SCHEDULE B.2.C)
- ALL PERMIT REGISTRANTS MUST IMPLEMENT THE ESCP. FAILURE TO IMPLEMENT ANY OF THE CONTROL MEASURES OR PRACTICES DESCRIBED IN THE ESCP IS A VIOLATION OF THE PERMIT. (SCHEDULE A.8.A)
- THE ESCP MUST BE ACCURATE AND REFLECT SITE CONDITIONS. (SCHEDULE A.12.C.I)
- SUBMISSION OF ALL ESCP REVISIONS IS NOT REQUIRED. SUBMITTAL OF THE ESCP REVISIONS IS ONLY UNDER SPECIFIC CONDITIONS. SUBMIT ALL NECESSARY REVISION TO DEQ OR AGENT WITHIN 10 DAYS. (SCHEDULE A.12.C.IV AND V)
- PHASE CLEARING AND GRADING TO THE MAXIMUM EXTENT PRACTICAL TO PREVENT EXPOSED INACTIVE AREAS FROM BECOMING A SOURCE OF EROSION. (SCHEDULE A.7.A.III)
- IDENTIFY, MARK, AND PROTECT (BY CONSTRUCTION FENCING OR OTHER MEANS) CRITICAL RIPARIAN AREAS AND VEGETATION INCLUDING IMPORTANT TREES AND ASSOCIATED ROOTING ZONES, AND VEGETATION AREAS TO BE PRESERVED. IDENTIFY VEGETATIVE BUFFER ZONES BETWEEN THE SITE AND SENSITIVE AREAS (E.G., WETLANDS), AND OTHER AREAS TO BE PRESERVED, ESPECIALLY IN PERIMETER AREAS. (SCHEDULE A.8.C.I.(1) AND (2))
- PRESERVE EXISTING VEGETATION WHEN PRACTICAL AND RE-VEGETATE OPEN AREAS. RE-VEGETATE OPEN AREAS WHEN PRACTICABLE BEFORE AND AFTER GRADING OR CONSTRUCTION. IDENTIFY THE TYPE OF VEGETATIVE SEED MIX USED. (SCHEDULE A.7.A.V)
- MAINTAIN AND DELINEATE ANY EXISTING NATURAL BUFFER WITHIN THE 50-FOOT OF WATERS OF THE STATE. (SCHEDULE A.7.B.I AND (2)(A)(B))
- INSTALL PERIMETER SEDIMENT CONTROL, INCLUDING STORM DRAIN INLET PROTECTION AS WELL AS ALL SEDIMENT BASINS, TRAPS, AND BARRIERS PRIOR TO LAND DISTURBANCE. (SCHEDULE A.8.C.I.(5))
- CONTROL BOTH PEAK FLOW RATES AND TOTAL STORMWATER VOLUME, TO MINIMIZE EROSION AT OUTLETS AND DOWNSTREAM CHANNELS AND STREAMBANKS. (SCHEDULE A.7.C)
- CONTROL SEDIMENT AS NEEDED ALONG THE SITE PERIMETER AND AT ALL OPERATIONAL INTERNAL STORM DRAIN INLETS AT ALL TIMES DURING CONSTRUCTION, BOTH INTERNALLY AND AT THE SITE BOUNDARY. (SCHEDULE A.7.D.I)
- ESTABLISH CONCRETE TRUCK AND OTHER CONCRETE EQUIPMENT WASHOUT AREAS BEFORE BEGINNING CONCRETE WORK. (SCHEDULE A.8.C.I.(6))
- APPLY TEMPORARY AND/OR PERMANENT SOIL STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS AS GRADING PROGRESSES. TEMPORARY OR PERMANENT STABILIZATIONS MEASURES ARE NOT REQUIRED FOR AREAS THAT ARE INTENDED TO BE LEFT UNVEGETATED, SUCH AS DIRT ACCESS ROADS OR UTILITY POLE PADS. (SCHEDULE A.8.C.II.(3))
- ESTABLISH MATERIAL AND WASTE STORAGE AREAS, AND OTHER NON-STORMWATER CONTROLS. (SCHEDULE A.8.C.I.(7))
- PREVENT TRACKING OF SEDIMENT ONTO PUBLIC OR PRIVATE ROADS USING BMPs SUCH AS: CONSTRUCTION ENTRANCE, GRAVELED (OR PAVED) EXITS AND PARKING AREAS, GRAVEL ALL UNPAVED ROADS LOCATED ONSITE, OR USE AN EXIT TIRE WASH. THESE BMPs MUST BE IN PLACE PRIOR TO LAND-DISTURBING ACTIVITIES. (SCHEDULE A.7.D.II AND A.8.C.I.(4))
- WHEN TRUCKING SATURATED SOILS FROM THE SITE, EITHER USE WATER-TIGHT TRUCKS OR DRAIN LOADS ON SITE. (SCHEDULE A.7.D.II.(5))
- CONTROL PROHIBITED DISCHARGES FROM LEAVING THE CONSTRUCTION SITE, I.E., CONCRETE WASH-OUT, WASTEWATER FROM CLEANOUT OF STUCCO, PAINT AND CURING COMPOUNDS. (SCHEDULE A.6)
- USE BMPs TO PREVENT OR MINIMIZE STORMWATER EXPOSURE TO POLLUTANTS FROM SPILLS; VEHICLE AND EQUIPMENT FUELING, MAINTENANCE, AND STORAGE; OTHER CLEANING AND MAINTENANCE ACTIVITIES; AND WASTE HANDLING ACTIVITIES. THESE POLLUTANTS INCLUDE FUEL, HYDRAULIC FLUID, AND OTHER OILS FROM VEHICLES AND MACHINERY, AS WELL AS DEBRIS, FERTILIZER, PESTICIDES AND HERBICIDES, PAINTS, SOLVENTS, CURING COMPOUNDS AND ADHESIVES FROM CONSTRUCTION OPERATIONS. (SCHEDULE A.7.E.I.(2))
- IMPLEMENT THE FOLLOWING BMPs WHEN APPLICABLE: WRITTEN SPILL PREVENTION AND RESPONSE PROCEDURES, EMPLOYEE TRAINING ON SPILL PREVENTION AND PROPER DISPOSAL PROCEDURES, SPILL KITS IN ALL VEHICLES, REGULAR MAINTENANCE SCHEDULE FOR VEHICLES AND MACHINERY, MATERIAL DELIVERY AND STORAGE CONTROLS, TRAINING AND SIGNAGE, AND COVERED STORAGE AREAS FOR WASTE AND SUPPLIES. (SCHEDULE A.7.E.III)
- USE WATER, SOIL-BINDING AGENT OR OTHER DUST CONTROL TECHNIQUE AS NEEDED TO AVOID WIND-BLOWN SOIL. (SCHEDULE A.7.A.IV)
- THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW MANUFACTURER'S RECOMMENDATIONS TO MINIMIZE NUTRIENT RELEASES TO SURFACE WATERS. EXERCISE CAUTION WHEN USING TIME-RELEASE FERTILIZERS WITHIN ANY WATERWAY RIPARIAN ZONE. (SCHEDULE A.9.B.III)
- IF AN ACTIVE TREATMENT SYSTEM (FOR EXAMPLE, ELECTRO-COAGULATION, FLOCCULATION, FILTRATION, ETC.) FOR SEDIMENT OR OTHER POLLUTANT REMOVAL IS EMPLOYED, SUBMIT AN OPERATION AND MAINTENANCE PLAN (INCLUDING SYSTEM SCHEMATIC, LOCATION OF SYSTEM, LOCATION OF INLET, LOCATION OF DISCHARGE, DISCHARGE DISPERSION DEVICE DESIGN, AND A SAMPLING PLAN AND FREQUENCY) BEFORE OPERATING THE TREATMENT SYSTEM. OBTAIN PLAN APPROVAL BEFORE OPERATING THE TREATMENT SYSTEM. OPERATE AND MAINTAIN THE TREATMENT SYSTEM ACCORDING TO MANUFACTURER'S SPECIFICATIONS. (SCHEDULE A.9.D)
- TEMPORARILY STABILIZE SOILS AT THE END OF THE SHIFT BEFORE HOLIDAYS AND WEEKENDS, IF NEEDED. THE REGISTRANT IS RESPONSIBLE FOR ENSURING THAT SOILS ARE STABLE DURING RAIN EVENTS AT ALL TIMES OF THE YEAR. (SCHEDULE A.7.B)
- AS NEEDED BASED ON WEATHER CONDITIONS, AT THE END OF EACH WORKDAY SOIL STOCKPILES MUST BE STABILIZED OR COVERED, OR OTHER BMPs MUST BE IMPLEMENTED TO PREVENT DISCHARGES TO SURFACE WATERS OR CONVEYANCE SYSTEMS LEADING TO SURFACE WATERS. (SCHEDULE A.7.E.II.(2))
- CONSTRUCTION ACTIVITIES MUST AVOID OR MINIMIZE EXCAVATION AND BARE GROUND ACTIVITIES DURING WET WEATHER. (SCHEDULE A.7.A.I)
- SEDIMENT FENCE: REMOVE TRAPPED SEDIMENT BEFORE IT REACHES ONE THIRD OF THE ABOVE GROUND FENCE HEIGHT AND BEFORE FENCE REMOVAL. (SCHEDULE A.9.C.I)
- OTHER SEDIMENT BARRIERS (SUCH AS BIOBAGS): REMOVE SEDIMENT BEFORE IT REACHES TWO INCHES DEPTH ABOVE GROUND HEIGHT AND BEFORE BMP REMOVAL. (SCHEDULE A.9.C.I)
- CATCH BASINS: CLEAN BEFORE RETENTION CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT. SEDIMENT BASINS AND SEDIMENT TRAPS: REMOVE TRAPPED SEDIMENTS BEFORE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT AND AT COMPLETION OF PROJECT. (SCHEDULE A.9.C.III.IV)
- WITHIN 24 HOURS, SIGNIFICANT SEDIMENT THAT HAS LEFT THE CONSTRUCTION SITE, MUST BE REMEDIATED. INVESTIGATE THE CAUSE OF THE SEDIMENT RELEASE AND IMPLEMENT STEPS TO PREVENT A RECURRENCE OF THE DISCHARGE WITHIN THE SAME 24 HOURS. ANY IN-STREAM CLEAN-UP OF SEDIMENT SHALL BE PERFORMED ACCORDING TO THE OREGON DIVISION OF STATE LANDS REQUIRED TIMEFRAME. (SCHEDULE A.9.B.I)
- THE INTENTIONAL WASHING OF SEDIMENT INTO STORM SEWERS OR DRAINAGE WAYS MUST NOT OCCUR. VACUUMING OR DRY SWEEPING AND MATERIAL PICKUP MUST BE USED TO CLEANUP RELEASED SEDIMENTS. (SCHEDULE A.9.B.II)
- THE ENTIRE SITE MUST BE TEMPORARILY STABILIZED USING VEGETATION OR A HEAVY MULCH LAYER, TEMPORARY SEEDING, OR OTHER METHOD SHOULD ALL CONSTRUCTION ACTIVITIES CEASE FOR 30 DAYS OR MORE. (SCHEDULE A.7.F.I)
- PROVIDE TEMPORARY STABILIZATION FOR THAT PORTION OF THE SITE WHERE CONSTRUCTION ACTIVITIES CEASE FOR 14 DAYS OR MORE WITH A COVERING OF BLOWN STRAW AND A TACKIFIER, LOOSE STRAW, OR AN ADEQUATE COVERING OF COMPOST MULCH UNTIL WORK RESUMES ON THAT PORTION OF THE SITE. (SCHEDULE A.7.F.II)
- DO NOT REMOVE TEMPORARY SEDIMENT CONTROL PRACTICES UNTIL PERMANENT VEGETATION OR OTHER COVER OF EXPOSED AREAS IS ESTABLISHED. ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED, ALL TEMPORARY EROSION CONTROLS AND RETAINED SOILS MUST BE REMOVED AND DISPOSED OF PROPERLY, UNLESS DOING SO CONFLICTS WITH LOCAL REQUIREMENTS. (SCHEDULE A.8.C.III.(1) AND D.3.C.II AND III)

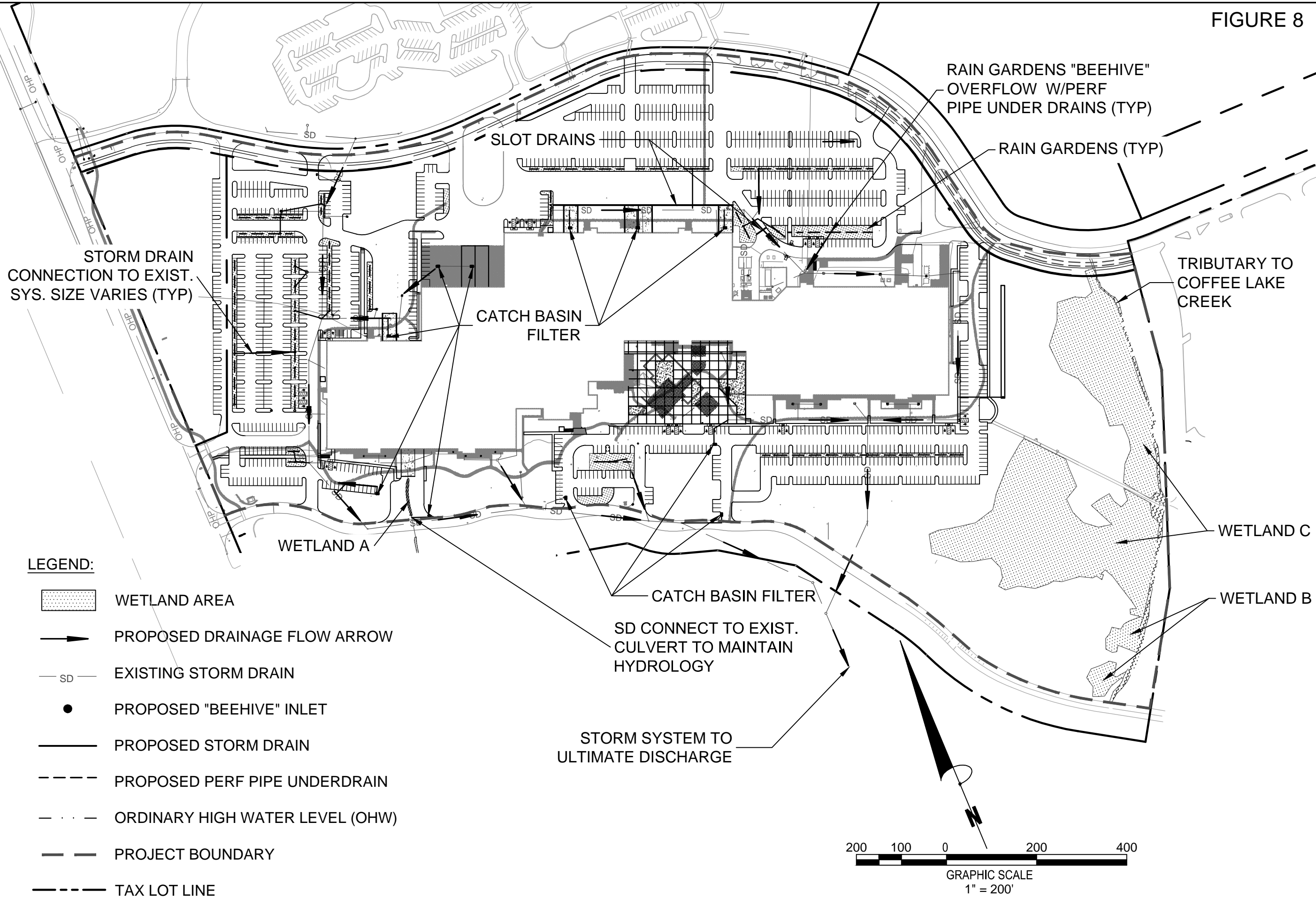


PARKWAY WOODS BUSINESS PARK  
WILSONVILLE, OREGON  
EROSION/SEDIMENT CONTROL DETAILS

JOB #	19004599
DATE	6/03/2020
SCALE	NTS
DRAWN	BLB
SHT	6 OF 8

CAD FILE NAME: K:\19004599 - Parkway Wood Industrial Park\DWG\Exhibits\Joint Permit Application\19004599-FIG-7A.dwg 06/03/2020

FIGURE 8



STORM DRAIN CONNECTION TO EXIST. SYS. SIZE VARIES (TYP)

SLOT DRAINS

RAIN GARDENS "BEEHIVE" OVERFLOW W/PERF PIPE UNDER DRAINS (TYP)

RAIN GARDENS (TYP)

TRIBUTARY TO COFFEE LAKE CREEK

CATCH BASIN FILTER

WETLAND A

CATCH BASIN FILTER

WETLAND C

WETLAND B

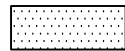
SD CONNECT TO EXIST. CULVERT TO MAINTAIN HYDROLOGY

STORM SYSTEM TO ULTIMATE DISCHARGE

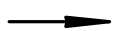


GRAPHIC SCALE  
1" = 200'

LEGEND:



WETLAND AREA



PROPOSED DRAINAGE FLOW ARROW



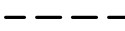
EXISTING STORM DRAIN



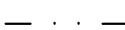
PROPOSED "BEEHIVE" INLET



PROPOSED STORM DRAIN



PROPOSED PERF PIPE UNDERDRAIN



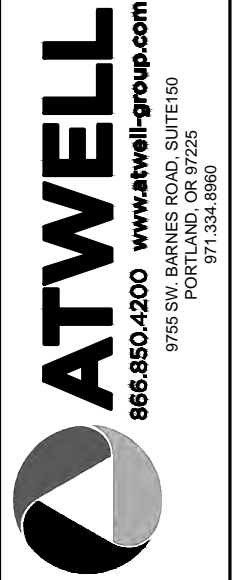
ORDINARY HIGH WATER LEVEL (OHW)



PROJECT BOUNDARY



TAX LOT LINE

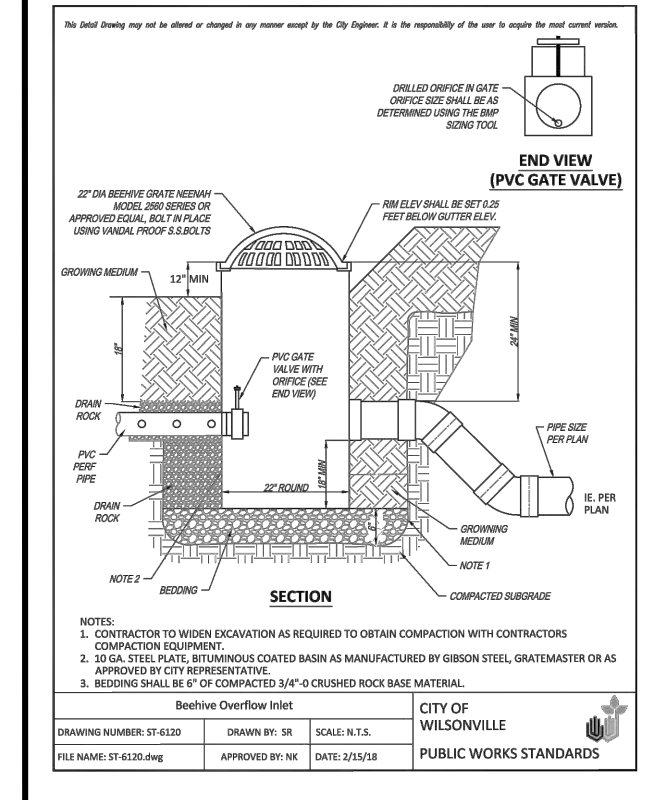
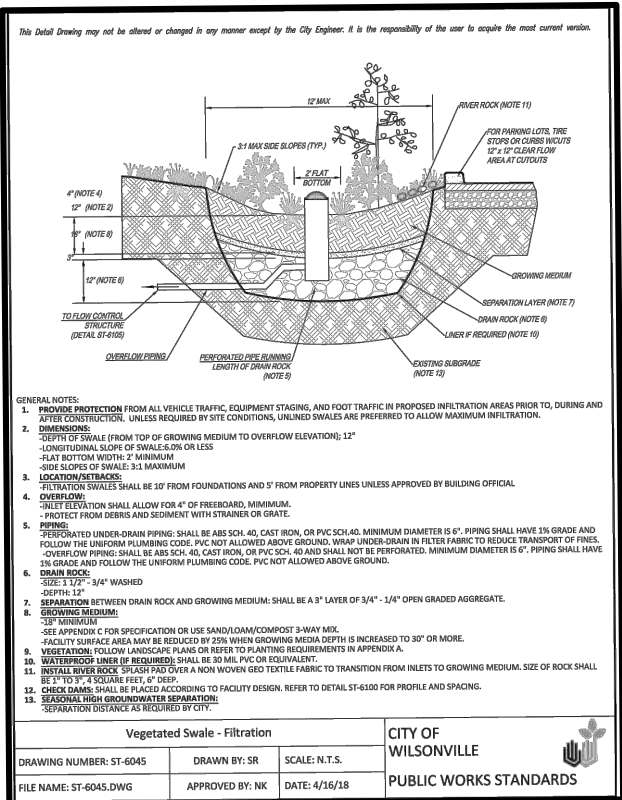
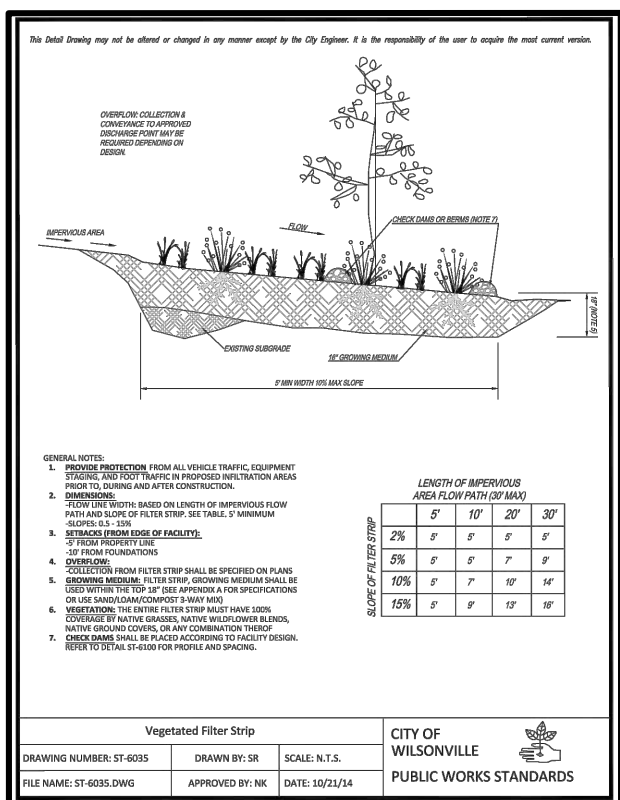
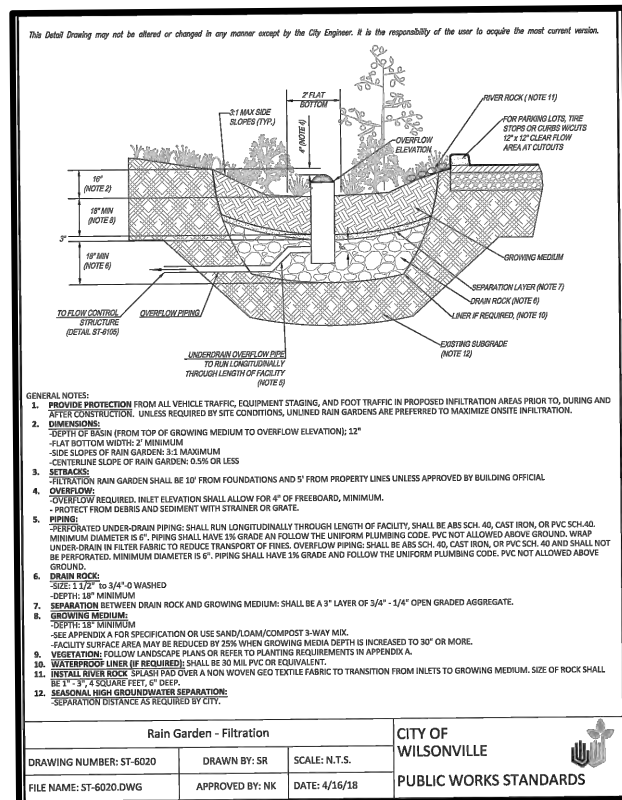


PARKWAY WOODS BUSINESS PARK  
WILSONVILLE, OREGON  
STORMWATER PLAN

JOB #	19004599
DATE	6/03/2020
SCALE	AS SHOWN
DRAWN	BLB
SHT	7 OF 8

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FIGURE 8A

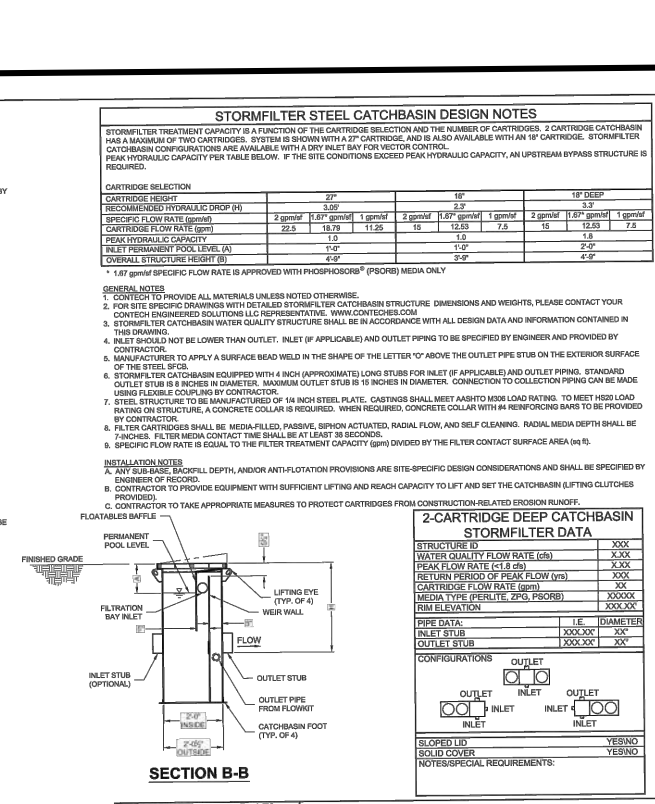
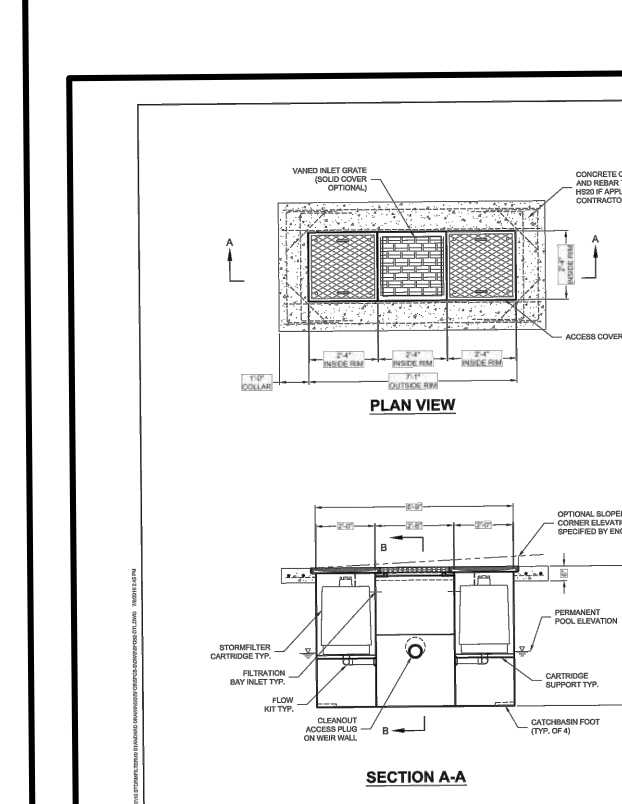


**TABLE A-2: STORMWATER FACILITY PLANT LISTS: RAIN GARDENS AND SWALES (INFILTRATION AND FILTRATION)**

Plant Name	Zone	Origin	Type/Size	Context Factors
<b>Herbaceous Plants</b>				
<i>Carex obovata</i> , Slough sedge			D 48" 12"	
<i>Carex lasiocoma</i> , New Zealand orange sedge			D 24" 12"	
<i>Deschampsia cespitosa</i> , Tufted hair grass			D 36" 12"	
<i>Elymus glaucus</i> , Blue wild rye			E 24" 12"	
<i>Juncus acrocephalus</i> , Dagger-leaf rush			D 10" 12"	
<i>Juncus patens</i> , Spreading rush			E 36" 12"	
<i>Scirpus microcarpus</i> , Small fruited bulrush			E 24" 12"	
<b>Small Shrubs/Grass</b>				
<i>Arctostaphylos uva-ursi</i> , Kinnikinnick			E 6" 12"	
<i>Cornus sericea</i> 'Kelsey', Kelsey dogwood			D 2" 12"	
<i>Fragaria chiloensis</i> , Coastal strawberry			E 6" 12"	
<i>Mahonia aquifolium</i> , Oregon grape			E 6" 3"	
<i>Physocarpus opulifolius</i> , Pacific ninebark			D 6" 3"	
<i>Polystichum munitum</i> , Sword fern			E 2" 2"	
<i>Spiraea betulifolia</i> , Birchleaf spiraea			D 2" 2"	
<i>Symphoricarpos alba</i> , Snowberry			D 3" 3"	
<b>Large Shrubs/Small Trees</b>				
<i>Cornus sericea</i> , Red-Twig dogwood			D 6" 4"	
<i>Holodiscus discolor</i> , Western serviceberry			D 6" 4"	
<i>Rosa nutkana</i> , Nootka rose			D 6" 4"	
<i>Ombifera cerasiformis</i> , Indian plum			D 6" 4"	
<i>Ribes sanguineum</i> , Red flowering currant			D 6" 4"	
<i>Salix alba</i> , Sitka willow			D 15" 9"	
<i>Spiraea douglasii</i> , Douglas spiraea			D 7" 4"	
<b>Trees</b>				
<i>Acer circinatum</i> , Vine maple			D 15" 8"	
<i>Alnus rubra</i> , Red alder			D 80" 20"	
<i>Cornus nuttallii</i> , Pacific dogwood			D 20" 10"	
<i>Fraxinus latifolia</i> , Oregon ash			D 30" 25"	
<i>Malus fusca</i> , Pacific crabapple			D 30" 10"	
<i>Pseudotsuga menziesii</i> , Douglas fir			E 200" 30"	
<i>Thuja plicata</i> , Western red cedar			E 150" 20"	

**TABLE A-4: STORMWATER FACILITY PLANT LISTS: VEGETATED FILTER STRIPS**

Plant Name	Zone	Origin	Type/Size	Context Factors
<b>Herbaceous Plants</b>				
<i>Aster suspiratus</i> , Douglas' aster			D 36" 12"	
<i>Cassia quinquemaculata</i> , Cassia fly			D 24" 12"	
<i>Deschampsia cespitosa</i> , Tufted hair grass			D 36" 12"	
<i>Festuca rubra</i> , Red fescue			E 24" 12"	
<i>Elymus glaucus</i> , Blue wild rye			E 24" 12"	
<i>Juncus patens</i> , Spreading rush			E 36" 12"	
<i>Lupinus polyphyllos</i> , Large-leaved lupine			D 36" 12"	
<i>Sedum oregonum</i> , Oregon stonecrop			E 4" 12"	
<i>Silybum latifolium</i> , Yellow-eyed grass			E 4" 12"	
<i>Veronica livanensis</i> , Speedwell			D 2" 12"	
<b>Small Shrubs/Grass</b>				
<i>Cornus sericea</i> 'Kelsey', Kelsey dogwood			D 2" 12"	
<i>Fragaria chiloensis</i> , Coastal strawberry			E 6" 12"	
<i>Gaultheria shallon</i> , Salal			E 24" 24"	
<i>Mahonia aquifolium</i> , Oregon grape			E 6" 3"	
<i>Physocarpus opulifolius</i> , Pacific ninebark			D 6" 3"	
<i>Polystichum munitum</i> , Sword fern			E 2" 2"	
<i>Rosa pilocarpa</i> , Swamp rose			D 6" 3"	
<i>Spiraea betulifolia</i> , Birchleaf spiraea			D 2" 2"	
<i>Symphoricarpos alba</i> , Snowberry			D 3" 3"	
<b>Large Shrubs/Small Trees</b>				
<i>Cornus sericea</i> , Red-Twig dogwood			D 6" 4"	
<i>Holodiscus discolor</i> , Western serviceberry			D 6" 4"	
<i>Ombifera cerasiformis</i> , Indian plum			D 6" 4"	
<i>Ribes sanguineum</i> , Red flowering currant			D 6" 4"	
<i>Salix alba</i> , Sitka willow			D 15" 9"	
<i>Salix purpurea</i> , Blue arctic willow			D 8" 6"	
<i>Ceanothus sanguineum</i> , Redstem ceanothus			E 7" 3"	



PARKWAY WOODS BUSINESS PARK  
WILSONVILLE, OREGON  
STORM DETAILS

JOB #	19004599
DATE	6/03/2020
SCALE	NTS
DRAWN	BLB
SHT	8 OF 8



# Attachment 3

## Stormwater Report





**Parkway Woods Industrial  
Preliminary  
Stormwater Management Plan**

**Job No. 19004599  
Land Use: 2020-xxxx**

**Prepared for:**

Owner:  
**Scanlan Kemper Bard**  
26600 SW Parkway Ave.  
Wilsonville, Clackamas Co., Oregon, 97070

Prepared by:

**Atwell, LLC**  
9755 SW Barnes Road, Suite 150  
Portland, OR 97225  
Brady L. Berry, P.E.

May 14, 2020

Rev 1 -

Rev 2 -







**Parkway Woods Industrial  
Preliminary Stormwater Management Plan  
TABLE OF CONTENTS**

1.0	INTRODUCTION/PROJECT DESCRIPTION.....	1
1.1	PROJECT ADDRESS.....	1
1.2	GENERAL TOPOGRAPHY AND GENERAL HYDROLOGY .....	1
2.0	EXISTING CONDITIONS .....	1
3.0	ON-SITE ANALYSIS .....	3
3.1	EXISTING ON-SITE FLOW CHARACTERISTICS.....	3
3.2	IMPERVIOUS AREAS .....	3
3.3	METHODOLOGY AND CRITERIA .....	4
3.4	GROWING MEDIUM .....	6
3.5	SITE ULTIMATE OUTFALL .....	7
4.0	CONSTRUCTION EROSION CONTROL.....	7
5.0	OPERATION AND MAINTENANCE.....	7
6.0	SUMMARY AND CONCLUSIONS .....	7
7.0	REFERENCES .....	8

## APPENDIX A

VICINITY MAP  
TOPOGRAPHIC SURVEY/EXISTING CONDITIONS  
SOIL INFORMATION  
INFILTRATION TESTING INFORMATION

## APPENDIX B

PRE-DEVELOPMENT BASIN MAP  
POST DEVELOPMENT BASIN MAP

## APPENDIX C

SLOPES – STORMWATER INFORMATION FORM  
WES BMP SIZING REPORT  
STORMFILTER CATCH BASIN CALCULATIONS

## APPENDIX D

BMP INFORMATION  
WILSONVILLE STANDARD DETAILS  
GROWING MEDIUM CUT SHEETS  
GROWING MEDIUM SPECIFICATIONS  
OPERATION AND MAINTENANCE SCHEDULE

## APPENDIX E

GRADING AND DRAINAGE PLAN

## **1.0 INTRODUCTION/PROJECT DESCRIPTION**

Scanlan Kemper Bard (SKB) is the owner of an existing industrial property (Tax Lot 0301W12 00511 & 00581) in Wilsonville Oregon. The project is to repurpose the existing building to provide for additional tenants in the existing building footprint. This includes adding additional loading docks and reconfiguring the parking to allow for better access to the reconfigured building. The reconfiguration requires additional impervious area as well as filling a minor wetland to the south of the existing building.

The City of Wilsonville 2015 Stormwater & Surface Water Design & Construction Standards will be used as the basis of design for redevelopment.

The project requires a joint United States Army Corps of Engineers (Corp)/Department of State Lands (DSL) fill permit to fill the isolated wetland to the south of the building which triggers the stormwater requirements under The Standard Local Operating Procedures for Endangered Species (SLOPES V) and Oregon DEQ 401 Certification.

### **1.1 PROJECT ADDRESS**

The property is located at 26600 SW Parkway Avenue, Wilsonville, Clackamas County, Oregon, 97070.

### **1.2 GENERAL TOPOGRAPHY AND GENERAL HYDROLOGY**

The area generally slopes to the southeast and the storm water is collected in a private piped stormwater network and routed to the South Tributary to Boeckman Creek south of the property.

## **2.0 EXISTING CONDITIONS**

The property is currently a developed industrial area with a large industrial building and supporting parking areas and infrastructure.

### Topography:

The site is relatively flat with elevations from 225 to 235 and a building finish floor of elevation 236. Previous development work has created discrete basins for collection and removal of stormwater to the south of the property.

Land Cover and Land Use:

The property is currently covered with a large footprint building (387,453 SF), paved parking areas (545,287 SF), a paved path network, landscaping, natural grass areas and a large number of trees. The property is currently utilized as an industrial campus.

Abutting Uses:

The property is surrounded by properties of similar Planned Development Industrial (PDI) zoning.

Offsite Drainage:

The property has a drainage on the easterly edge of the property (South Tributary to Boeckman Creek) that drains property to the north.

The property accepts drainage through the on-site underground storm sewer system from the property to the north that was once part of this tax lot. It crosses underneath Printer Parkway on the west side of the subject property.

Natural and Constructed Channels:

As described above, the site has an existing channel that is on the east side of the property. No new drainage channels are proposed with this redevelopment.

Wetlands:

A wetland study has been conducted to establish the sensitive area boundaries on the property. The topographic survey in Appendix A illustrates the location of these areas and the Developed Basin Map in Appendix B illustrates the location of these areas with respect to the proposed development. As previously indicated, it is the intent of this proposal to fill a minor isolated wetland to the south of the existing building.

Soil Type(s):

The existing soil types are:

- 1A Aloha silt loam (NRCS Hydrologic group C/D)

Existing Drainage Features:

The property is currently drained through a series of roof drains, catch basins and piping with the ultimate discharge to the South Tributary of Boeckman Creek. No change of piping network or discharge locations is proposed.

### 3.0 ON-SITE ANALYSIS

#### 3.1 EXISTING ON-SITE FLOW CHARACTERISTICS

The current site does not provide for any on-site retention or water quality facilities. The property is served by an adequate stormwater collection system which will be utilized as-is with the introduction of best management practices (BMP's) to provide flow control and water quality treatment for the proposed redevelopment.

#### 3.2 IMPERVIOUS AREAS

The proposed redevelopment adds or replaces impervious area in excess of 5,000 SF and therefore triggers City of Wilsonville requirements for stormwater treatment and flow control. In addition, the wetland fill also triggers SLOPES V and Oregon DEQ 401 Water Quality Certification.

**Table 1 – Impervious Areas**

Drainage Management Area (DMA)*	Area in SF (in AC)	Exist. Imp. Area in SF (in AC)	Prop. Imp. Area in SF (in AC)
N1	30,114 (0.69)	19,410 (0.45)	29,926 (0.62)
N2	8,208 (0.19)	5,957 (0.14)	6,814 (0.16)
N3	33,562 (0.77)	31,708 (0.73)	33,562 (0.77)
N4	72,685 (1.67)	61,831 (1.4)	63,116 (1.5)
N5	26,396 (0.61)	19,116 (0.44)	25,253 (0.58)
N6	110,607 (2.54)	95,917 (2.2)	98,604 (2.3)
N7	74,541 (1.71)	65,896 (1.5)	67,309 (1.5)
E1	27,970 (0.64)	1,943 (0.045)	24,750 (0.57)
S1	11,229 (0.26)	0	11,229 (0.26)
S2	10,319 (0.24)	0	10,319 (0.24)
S3	38,183 (0.88)	0	27,242 (0.63)
S4	6,754 (0.16)	16,856 (0.39)	6,754 (0.16)
S5	66,744 (1.53)	143 (0)	58,753 (1.4)
W1	28,022 (0.64)	18,260 (0.42)	23,339 (0.53)
W2	88,795 (2.04)	75,964 (1.7)	846,303 (1.8)
W3	36,687 (0.84)	23,520 (0.54)	29,186 (0.67)
W4	16,216 (0.37)	9,976 (0.23)	12,870 (0.29)
W5	12,946 (0.30)	163.46 (0)	10,942 (0.25)
<b>Total</b>	<b>699,979 (16.07)</b>	<b>414,952 (9.5)</b>	<b>1,383,270 (32)</b>

\*Does not include existing building, as it is not new or replaced impervious area.

See Appendix B for Pre and Post Development Basin Maps.

### **3.3 METHODOLOGY AND CRITERIA**

Runoff from the proposed condition will maintain existing flow patterns. Site stormwater will be routed through a series of rain gardens which will overflow into the existing storm system. Where a rain garden could not be incorporated into the design due to loading or existing tree constraints, a Contech Stormfilter catch basin has been proposed for water quality treatment.

The design criteria for treatment is the more stringent of the two methods; 1. City of Wilsonville and 2. SLOPES V:

#### Water Quality:

##### **City of Wilsonville:**

1" over 24 hours – Capture and treat 80% of the average annual runoff volume with the goal of 70% total suspended solids (TSS) removal.

##### **SLOPES V:**

50% of 2-yr 24hr event

- 2-yr 24hr for Wilsonville is 2.5" therefore 1.25 inches for SLOPES V

Per paragraph 36. e. of the SLOPES V criteria "A continuous rainfall/runoff model may be used instead of runoff depths to calculate water quality treatment depth. The WES BMP calculator was developed using continuous rainfall modeling and therefore meets the criteria for SLOPES V.

#### Flow Control/Water Quantity:

##### **City of Wilsonville:**

The duration of peak flow rates from post-development conditions shall be less than or equal to the duration of peak flows rates from pre-developed conditions for all peak flows between 42% of the 2-Yr storm up to the 10-yr peak flow rate.

##### **SLOPES V:**

The duration of peak flow rates from post-development conditions shall be less than or equal to the duration of peak flows rates from pre-developed conditions for all peak flows between 50% of the 2-Yr storm up to the 10-yr peak flow rate. (Continuous model)

The City of Wilsonville criteria meets the SLOPES V criteria, so using the WES BMP Calculator meets both design criteria.

Input Parameters/Analysis:

The City of Wilsonville utilizes the Clackamas County Water Environmental Services (WES) Best Management Practices (BMP) Sizing Tool to determine stormwater treatment facilities. As described above, the tool is based upon continuous rainfall data and therefore meets City and SLOPES V criteria.

The input criteria for the BMP Sizing tool are as follows:

Soil Group All DMA's	C/D
Facility Infiltration Rate	C1 (0.35-0.49 in/hr.)
BMP Type	Rain Garden (Treatment & Flow Control)

Infiltration testing was conducted at five locations within the work limits with resulting infiltration rates between 0.25-1.0 in/hr. (see GeoEngineers report in Appendix A). A factor of safety of 2 was applied to determine the design infiltration rate of between 0.12-0.5 in/hr. which corresponds to the BMP calculator category C1 indicated above.

Precipitation Data was obtained from the NOAA Atlas 2 and Hydrograph Method Guidelines from the City of Wilsonville Standards:

NOAA 2-yr -24hr Prec.	2.50 In.
Design Storm 50%	1.25 In. (Used for stormfilters)
SCS Rainfall Depths: (24hr)	
2-yr	2.50 In.
5-yr	3.00 In.
10-yr	3.45 In.
25-yr	3.90 In.
100-yr	4.50 In.

The site discharge values and water quality flows to the catchbasin filters were analyzed using hydrograph and flow data derived using the Santa Barbara Urban Hydrograph (SBUH) method with a NRCS Type 1A 24-hr storm distribution.

The rain garden design parameters from the Wilsonville Standards are as follows:

<u>Standard</u>	<u>Design Value</u>
Width (2' Min Max)	Varies
Side Slopes (3:1 Max)	3:1
Slope (0.5% max)	Varies, 0.5% max
Piping	6" underdrain at min. 1%
Overflow (18" Beehive)	18" w/orifice from underdrain

The BMP Sizing Tool output and water quality calculations for the stormfilter catch basins is included in Appendix C and summarized in Table 2.

**Table 2 – BMP Treatment**

Drainage Management Area (DMA)	BMP	Treatment Req'd (SF or # Cartridges)	Treatment Provided (SF or # Cartridges)
N1	Rain Garden	1,205	1,249
N2	Rain Garden	328	640
N3	Catch Basin Filter	7 cartridges	-
N4	Rain Garden	2,907	3,713
N5	Rain Garden	1,056	1,143
N6	Rain Garden	4,424	8,193
N7	Vegetated Swale	2,982	3,008
E1	Filter Strip	1,119	2,000
S1	Catch Basin Filter	3 cartridges	-
S2	Catch Basin Filter	2 cartridges	-
S3	Rain Garden	1,497	5,677
S4	Catch Basin Filter	2 cartridges	-
S5	Rain Garden	2,670	3,829
W1	Rain Garden	1,121	3,266
W2	Rain Garden	3,552	4,843
W3	Rain Garden	1,467	3,671
W4	Rain Garden	649	2,210
W5	Rain Garden	518	1,490

New pipes were sized for a minimum velocity of 3 fps using the SBUH Runoff for a 25-yr event. (See Appendix B for results)

### 3.4 GROWING MEDIUM

The City of Wilsonville Stormwater and Surface Water Standards Appendix A provides standards for stormwater facility Growing Medium which requires a sand/loam/compost 3-way mix to provide for plant establishment. The suggested growing medium mix for the project is “Storm Water Blend 2.3” as manufactured by Pro-Gro Mixes and Materials in Sherwood, Oregon. Specification sheets on the soil blend.



This soil blend provides for filtration through the media to the gravel underdrain/perforated pipe discharge. This provides the desired filtration prior to discharge through the underdrain piping which is connected to the outfall.

### **3.5 SITE ULTIMATE OUTFALL**

There is no change in the ultimate stormwater outfall for the updated plan. The existing stormwater piping system is being utilized and the outfall unchanged. The introduction of the BMP treatments on the project will reduce the flow from the site over most storm events, particularly those through the 10-yr storm.

### **4.0 CONSTRUCTION EROSION CONTROL**

The construction erosion control requirements will meet City of Wilsonville guidelines for grading and erosion control.

### **5.0 OPERATION AND MAINTENANCE**

The City of Wilsonville operation and maintenance guidelines are to be implemented with the proposed rain garden installations. Drawing Number ST-6030 of the 2015 Stormwater & Surface Water Design & Construction of the City of Wilsonville provides the Operations and Maintenance Plan for the proposed installation. A draft Operations and Maintenance log based in Appendix D of this report.

### **6.0 SUMMARY AND CONCLUSIONS**

The redevelopment of the Parkway Woods property abides by the City of Wilsonville and SLOPES V stormwater requirements:

- The selected Rain Garden BMP's provide both treatment and flow control to meet the required standards.
- Operation and maintenance will be per the City of Wilsonville standard and a maintenance and access agreement for the rain gardens will be established for the property.

## **7.0 REFERENCES**

1. City of Wilsonville, 2015. *Stormwater & Surface Water Design and Construction Standards, Section 3 – Public Works Standards.*
2. City of Wilsonville/City of Oregon City, 2017. *User's Guide for BMP Sizing Tool.*
3. United States Department of Commerce, National Oceanic Atmospheric Administration, National Marine Fisheries Service, Western Region, March 14, 2014. NWR-2013-10411. *Revised Standard Local Operating Procedures for Endangered Species to Administer Maintenance of Improvement of Stormwater, Transportation, and Utility Actions Authorized or Carried Out by the U.S. Army Corps of Engineers in Oregon (SLOPES for Stormwater, Transportation or Utilities).*

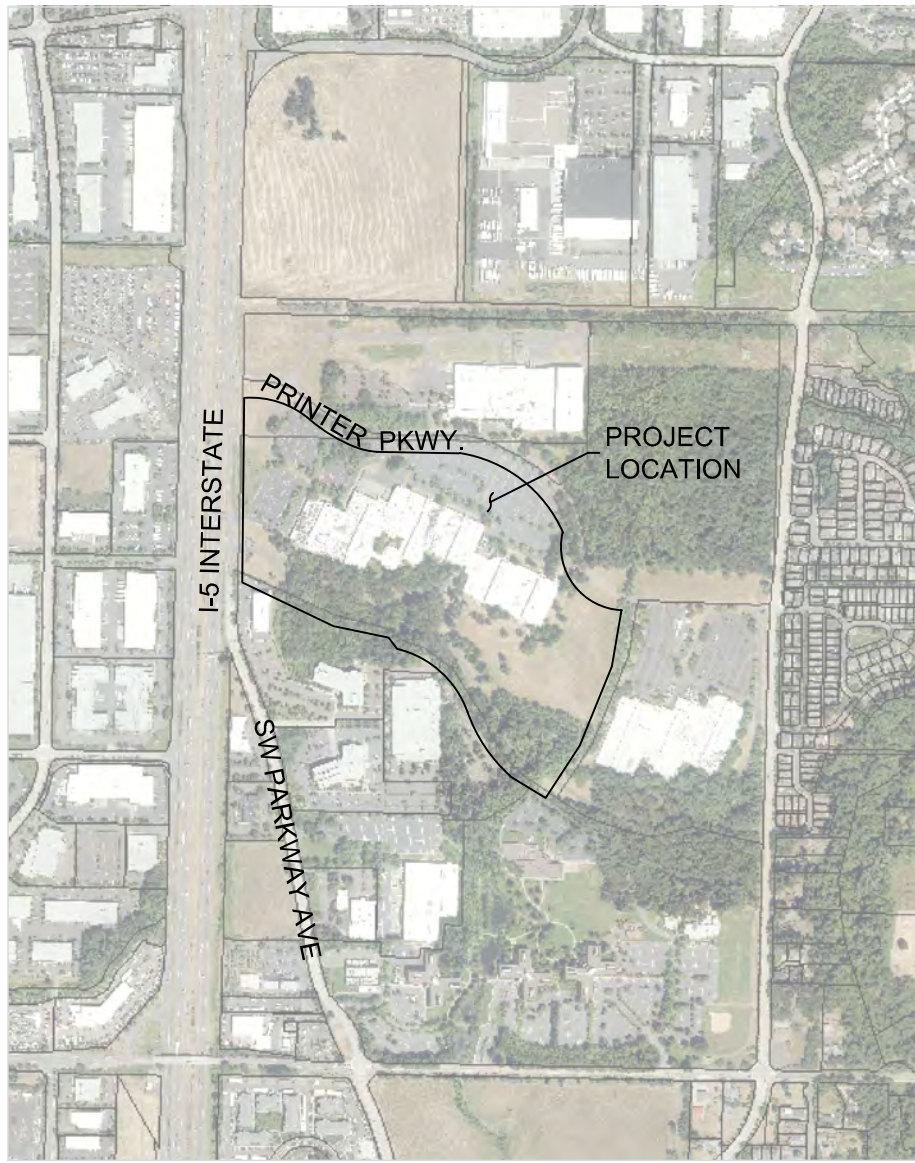
# APPENDIX A

VICINITY MAP

TOPOGRAPHIC SURVEY/EXISTING CONDITIONS

SOIL INFORMATION

INFILTRATION TESTING INFORMATION



VICINITY MAP  
NOT TO SCALE



PARKWAY WOODS INDUSTRIAL PARK  
WILSONVILLE, OR  
SW MANAGEMENT PLAN

JOB #	19004599
DATE	05/07/20
SCALE	N.T.S.
DRAWN	BLB
SHT 1 OF 1	



- 1 SITE NOTES
- 7 ADA PARKING AREA
- 11 WETLAND
- 12 WETLAND AREA TO BE FILLED
- 13 STORM DRAIN INFRASTRUCTURE
- 14 WATER INFRASTRUCTURE
- 15 TRUCK DOCK LOADING AREA
- 16 BIKE PARKING
- 17 BUILDING ENTRANCE
- 18 WETLAND BUFFER
- 19 SEWER INFRASTRUCTURE
- 20 SIDEWALK
- 21 SOLID WASTE COLLECTION AND RECYCLING
- 22 MOTORCYCLE PARKING
- 23 BUS STOP

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE CONSULTING ENGINEER. THE CONSULTING ENGINEER SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCURRED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND RESERVE ANY AND ALL UNDERGROUND UTILITIES.

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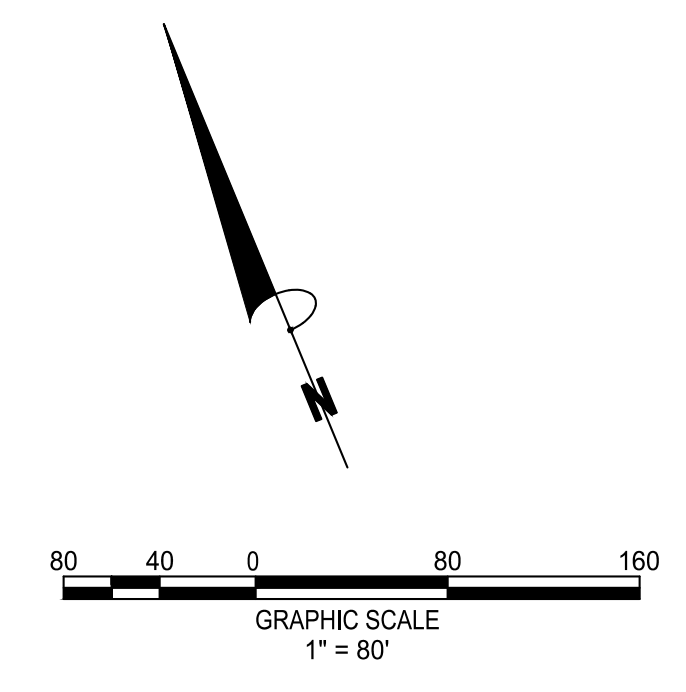
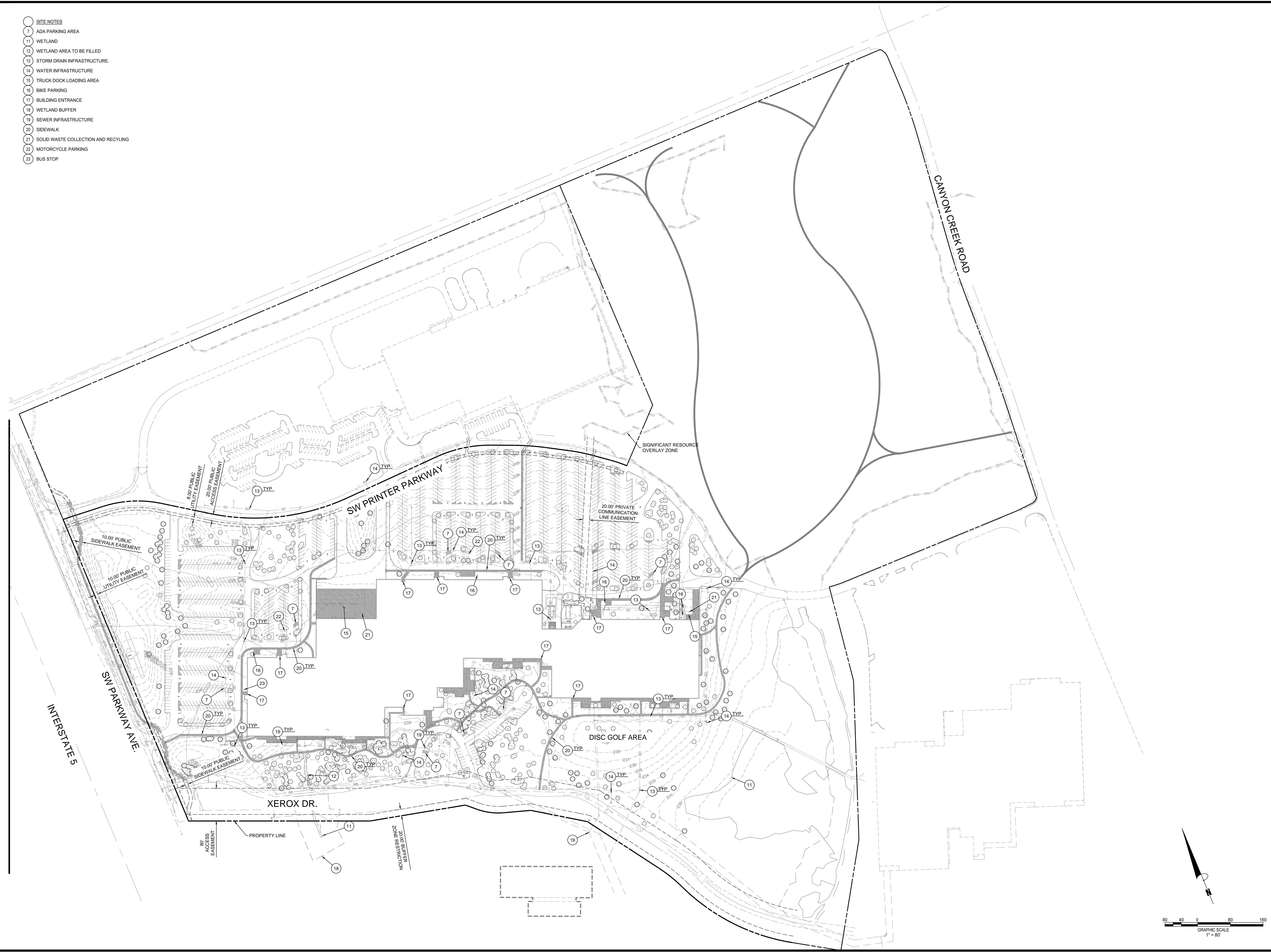


EXISTING CONDITIONS PLAN  
PRELIMINARY IMPROVEMENT PLANS  
PARKWAY WOODS INDUSTRIAL PARK  
WILSONVILLE, OREGON



REVISIONS:


PM.	B. BERRY
DR.	J. GLUECK
JOB NO.	19004599
FILE NO.	19004599-TS02



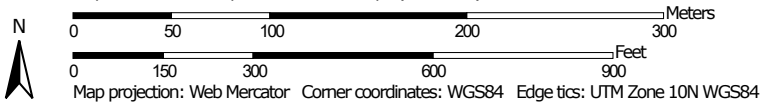
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K:\19004599 - parkway woods industrial park\mxd\plan sheets\preliminary\19004599-ts02.dwg Plot Date: 5/14/2020



Soil Map—Clackamas County Area, Oregon  
(Parkway Woods)



Map Scale: 1:3,840 if printed on A landscape (11" x 8.5") sheet.





## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### Water Features



Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

**Warning:** Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Clackamas County Area, Oregon

Survey Area Data: Version 15, Sep 10, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 1, 2019—Sep 12, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1A	Aloha silt loam, 0 to 3 percent slopes	66.4	93.9%
21	Concord silt loam	1.0	1.4%
2225A	Huberly silt loam, 0 to 3 percent slopes	3.4	4.8%
<b>Totals for Area of Interest</b>		<b>70.8</b>	<b>100.0%</b>



- Measured infiltration rates were generally less than 1 inch per hour (0.25 to 1 in/hr) in the Willamette Silts as summarized in Section 5.0 of this report. In general, soils with infiltration rates less than 2 in/hr are not well suited as the sole means of stormwater disposal for sites. In addition, relatively shallow groundwater levels limit the depth to which infiltration facilities can be extended.
- Typical infiltration facilities require at least 5 feet of separation between the base of the facility and the seasonal high groundwater level. That would limit infiltration facility depth to 2 to 4 feet bgs.
- On-site near-surface soils generally consist of medium stiff silt. The silt soils will become significantly disturbed from earthwork occurring during periods of wet weather, or when the moisture content of the soil is more than a few percentage points above optimum. Wet weather construction practices will be required unless earthwork occurs during the dry summer months (typically mid-July to mid-September).
- Proposed structures can be satisfactorily supported on continuous and isolated shallow foundations supported on the firm native soils, or on imported select structural fill that extends to the firm native soils.
- Based on proposed development, our foundation recommendations are based on maximum anticipated loads of 75 kips or less for columns, 4 klf or less for walls, and floor loads of 125 psf or less. Based on these design loads, we estimate total settlement to be less than 1 inch. If larger structural loads are anticipated, we should review and reassess the estimated settlement.
- Fill material encountered at subgrade elevation should be evaluated by GeoEngineers during construction. Soft fill or fill with significant debris or unsuitable material should be removed to native stiff or firmer material and replaced with compacted structural fill.
- Slabs-on-grade will be satisfactorily supported on medium dense native soils with a minimum 6-inch layer of compacted crushed rock base overlying approved subgrade or on structural fill over medium stiff native soils.
- Pavement design considered two options: (1) new pavement or pavement replacement; and (2) an overlay section. We did not consider a grind and inlay section as the relatively thin pavement section would likely be completely demolished by grinding efforts.
- Standard pavement sections prepared as described in this report will suitably support the estimated traffic loads provided the site subgrade is prepared as recommended.

## 5.0 INFILTRATION TESTING

As requested by the project team, we conducted infiltration tests on site to assist in evaluating the potential capacity of on-site soils for design of stormwater infiltration areas at three locations. Tests were performed in general accordance with the encased falling head methods outlined for Professional Method Infiltration testing in the Clackamas County Service District No. 1 (CCSD#1) Stormwater Standards – Appendix E. On-site testing was performed at depths between approximately 3 to 4 feet bgs. Each test location was pre-soaked over a 4-hour period by repeated addition of water into the embedded pipe when necessary.

After the saturation period, the hole was filled with clean water to at least 12 inches above the soil in the bottom of the boring. The drop-in water level was measured over a period of time after the soak period, and refilled to repeat the test a minimum of three times. In the case where the water level falls during the time-

measured testing, infiltration rates diminish as a result of less head from the water column in the test. Field test results are summarized in Table 1.

**TABLE 1. INFILTRATION RESULTS**

Infiltration Test No.	Depth (feet)	USCS Material Type	Soil Description	Field Measured Infiltration Rate <sup>1</sup> (inches/hour)
IT-1-20	4	ML	Yellow-brown silt	0.75
IT-2-20	4	ML	Light gray silt	0.25
IT-3-20	3	ML	Yellow-brown silt	0.25
IT-4-20	4	ML	Yellow-brown silt	1
IT-5-20	3	ML	Yellow-brown silt	0.35

Notes:

<sup>1</sup> Appropriate factors should be applied to the field-measured infiltration rate, based on the design methodology and specific system used.

USCS = Unified Soil Classification System

Infiltration rates shown in Table 1 represent a field-measured infiltration rate. This measurement represents a short-term testing rate, and factors of safety have not been applied for the type of infiltration system being considered, or for variability that may be present across large areas in the on-site soil. In our opinion, and consistent with the state of the practice, correction factors should be applied to this measured rate to reflect the localized area of testing relative to the field sizes.

Appropriate correction factors should also be applied by the project civil engineer to account for long-term infiltration parameters. From a geotechnical perspective, we recommend a factor of safety (correction factor) of at least 2 be applied to the field infiltration values to account for potential soil variability with depth and location within the area tested. In addition, the stormwater system design engineer should determine and apply appropriate remaining correction factor values, or factors of safety, to account for repeated wetting and drying that occur in this area, degree of in-system filtration, frequency and type of system maintenance, vegetation, potential for siltation and bio-fouling, etc., as well as system design correction factors for overflow or redundancy, and base and facility size.

The actual depths, lateral extent and estimated infiltration rates can vary from the values presented above. Field testing/confirmation during construction is often required in large or long systems or other situations where soil conditions may vary within the area where the system is constructed. The results of this field testing might necessitate that the infiltration locations be modified to achieve the design infiltration rate.

The infiltration flow rate of a focused stormwater system, such as a drywell or small infiltration box or pond, typically diminishes over time as suspended solids and precipitates in the stormwater further clog the void spaces between the soil particles or cake on the infiltration surface or in the engineered media. The serviceable life of an infiltration media in a stormwater system can be extended by pre-filtering or with on-going accessible maintenance. Eventually, most systems will fail and will need to be replaced or have media regenerated or replaced.

Because of the very limited infiltration potential of the on-site soils with shallow groundwater conditions, we recommend that infiltration systems include an overflow that is connected to a suitable discharge point.

Also, infiltration systems can cause localized, high groundwater levels and should not be located near basement walls, retaining walls, or other embedded structures unless these are specifically designed to account for the resulting hydrostatic pressure. Infiltration locations should not be located on sloping ground, unless it is approved by a geotechnical engineer, and should not be infiltrated at a location that allows for flow to travel laterally toward a slope face, such as a mounded water condition or too close to a slope face that could cause instability of the slope.

### **5.1. Suitability of Infiltration System**

Successful design and implementation of stormwater infiltration systems and whether a system is suitable for a development depend on several site-specific factors. Stormwater infiltration systems are generally best suited for sites having sandy or gravelly soil with saturated hydraulic conductivities greater than 2 in/hr. That is not the case at this site. Sites with silty/clayey soil such as those encountered at this site, and sites with fine sand, silty sand, or gravel that has a high percentage of silt or clay in the matrix, or sites with relatively shallow underlying decomposed rock (residual soil), are generally not well suited for exclusive stormwater infiltration. Even soils that have fine-grained matrices are susceptible to volumetric change and softening during wetting and drying cycles. Fine-grained soils also have large variations in the magnitude of infiltration rates because of bedding and stratification that occurs during deposition and often has thin layers of less permeable or impermeable soil within a larger layer.

As discussed in Section 3.4 of this report, shallow groundwater was observed at 7 to 9 feet below the existing ground surface. Typical infiltration facilities require a minimum of 5 feet of separation between the facility base and the high groundwater level, which may be as shallow as 5 feet at this site during wet times of the year. Some jurisdictions require up to 10 feet of separation. This would limit the maximum depth of the facility to at least between 3 and 5 feet below the existing ground surface and that is only if 5 feet of separation or less is permitted.

As a result of fine-grained soil conditions, the relatively low measured infiltration rates, and the relatively shallow groundwater levels, we recommend infiltration of stormwater not be used as the sole method of stormwater management at this site unless those design factors can be otherwise accounted for by increasing infiltration area or coupling with other methods of stormwater disposal. Our recommendation is not intended to preclude the use of on-site infiltration, but to provide a framework for the limited capacity for long-term infiltration of any type of facility based on subsurface conditions observed during our exploration and testing.

## **6.0 EARTHWORK RECOMMENDATIONS**

### **6.1. Site Preparation**

#### **6.1.1. General**

In general, site preparation and earthwork for site development will include demolition and removal of existing structures and hardscapes, removal or relocation of existing site utilities where present beneath proposed buildings, excavation for removal of existing foundation elements, hardscape, tree and tree root removal, stripping and grubbing, grading the site and excavating for utilities and foundations. General site grading for building construction in the northwest corner will include removal of an existing 4- to 5-foot-high landscape berm. It is likely that soil placed to build the berm was not structural fill quality and/or not



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**Notes:**

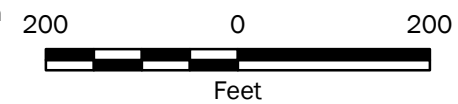
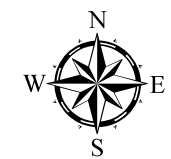
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Clarity

Projection: NAD 1983 StatePlane Oregon North FIPS 3601 Feet Intl

**Legend**

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li> Boring Number and Approximate Location (GeoEngineers 2020)</li> <li> Core Number and Approximate Location (GeoEngineers 2020)</li> <li> Hand Auger Number and Approximate Location (GeoEngineers 2020)</li> <li> Infiltration Number and Approximate Location (GeoEngineers 2020)</li> </ul> | <ul style="list-style-type: none"> <li> Boring Number and Approximate Location (GeoEngineers 2019)</li> <li> Core Number and Approximate Location (GeoEngineers 2019)</li> <li> Infiltration Test Number and Approximate Location (GeoEngineers 2019)</li> </ul> |
|--|--|



<b>Site Plan</b>	
Parkway Woods Business Park Wilsonville, Oregon	
	<b>Figure 2</b>






Drilled	Start 3/31/2020	End 3/31/2020	Total Depth (ft)	3	Logged By Checked By	JLL	Driller	Dan Fischer Drilling	Drilling Method	Solid-stem Auger	
Surface Elevation (ft) Vertical Datum			Undetermined NAVD88		Hammer Data		Rope & Cathead 140 (lbs) / 30 (in) Drop		Drilling Equipment		Buck Rogers Trailer
Easting (X) Northing (Y)			System Datum		OR State Plane North NAD83 (feet)		Groundwater not observed at time of exploration				
Notes:											

Elevation (feet)	FIELD DATA					Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing						
0						AC	3-inch-thick asphalt concrete pavement				
						GM	11-inch-thick aggregate base				
						ML	Light gray silt, low to moderate plasticity (medium stiff, moist) (Willamette silt)				
					1						

Note: See Figure A-1 for explanation of symbols.  
Coordinates Data Source: Horizontal approximated based on Google Earth. Vertical approximated based on Google Earth.

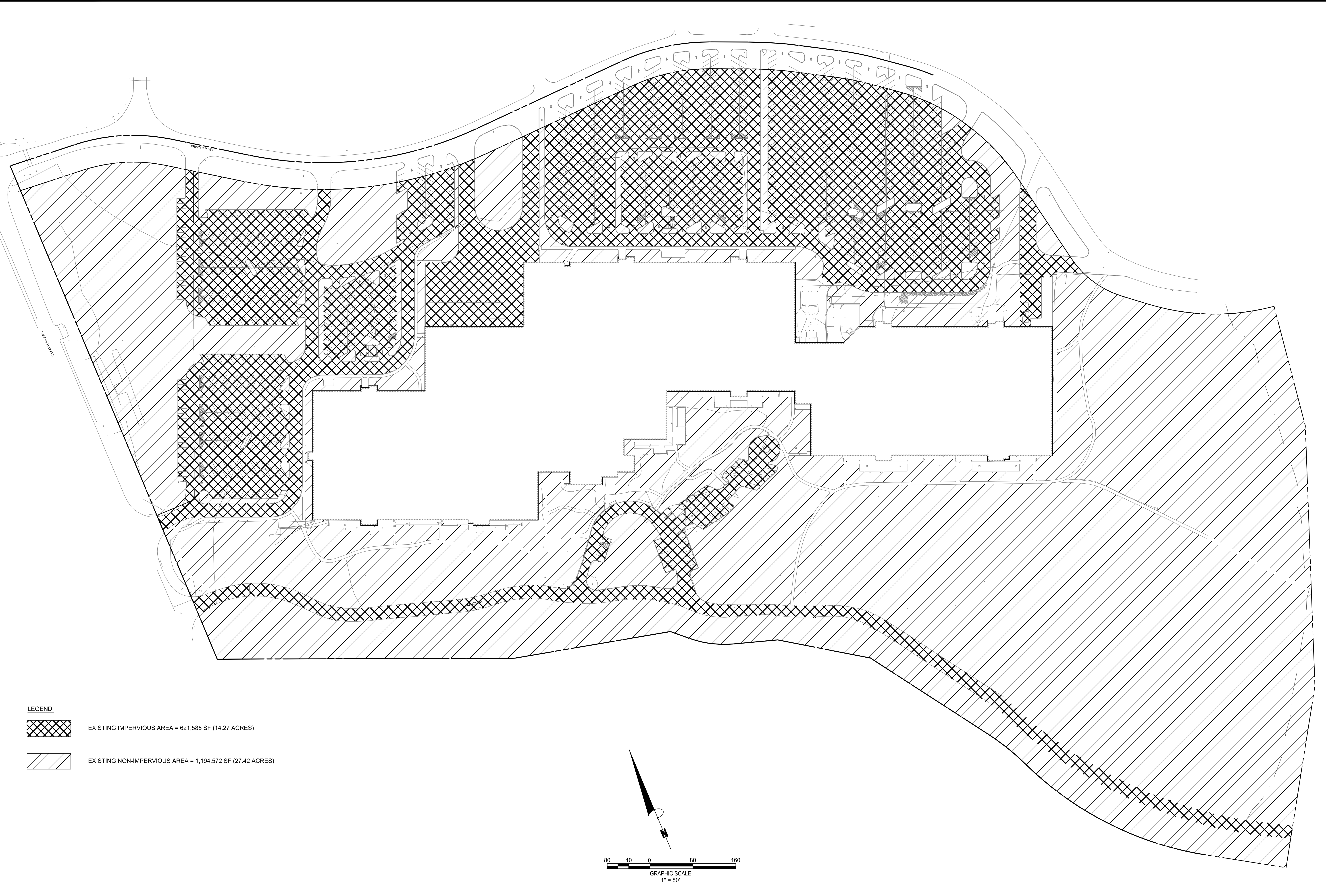
Date: 4/17/20 Path: C:\USERS\CESTES\DOCUMENTS\SHAREPOINT DRAFTS\2375400-01\GP1 DBLibrary\Library\GEOENGINEERS\_DF\_STD\_US\_JUNE\_2017\GLB\GEB\_GEOTECH\_STANDARD\_MF\_NO\_GW

<b>Log of Boring IT-2-20</b>		
	Project: Parkway Woods Business Park Parking	
	Project Location: Wilsonville, Oregon	
	Project Number: 23754-001-01	
	Figure A-15 Sheet 1 of 1	


## APPENDIX B


PRE-DEVELOPMENT BASIN MAP  
POST DEVELOPMENT BASIN MAP

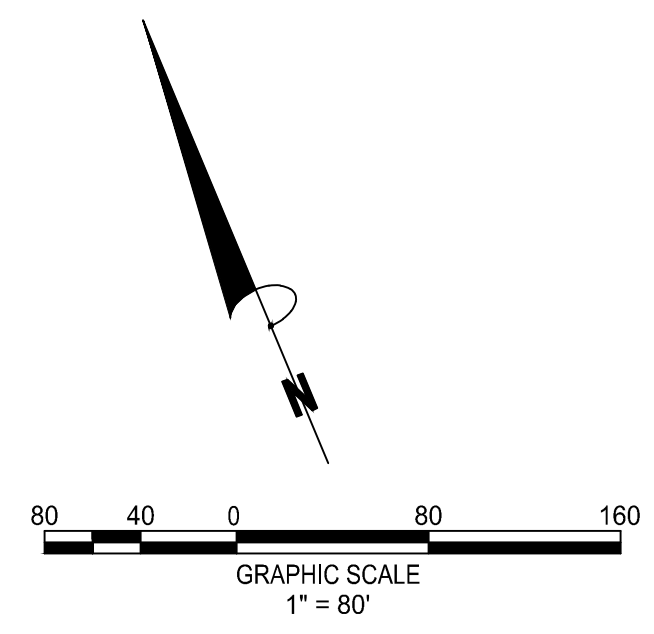
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**LEGEND:**

 EXISTING IMPERVIOUS AREA = 621,585 SF (14.27 ACRES)

 EXISTING NON-IMPERVIOUS AREA = 1,194,572 SF (27.42 ACRES)



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**EXISTING BASIN MAP**  
SW MANAGEMENT PLAN  
**PARKWAY WOODS**  
WILSONVILLE, OR



REVISIONS:

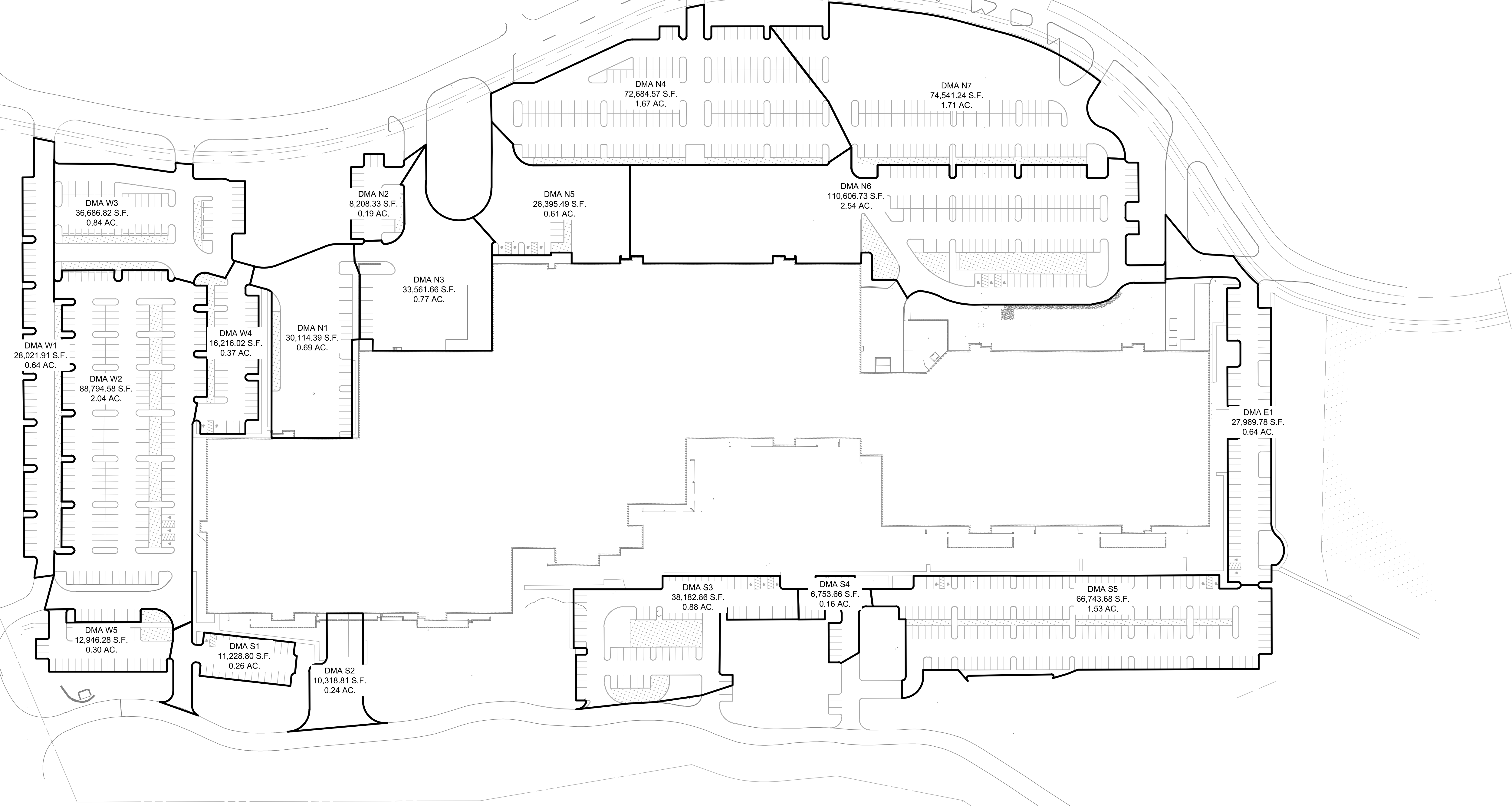

PM.	BLB
DR.	JLG
JOB NO.	14004599
FILE NO.	

SHEET NO.  
**1 OF 2**

P20WS00005, DP19-0313



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**STORMWATER MGMT PLAN**  
PRE-DEVELOPMENT DRAINAGE MAP  
**PARKWAY WOODS**  
WILSONVILLE, OR



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DR.	JLG
JOB NO.	19004599
FILE NO.	

SHEET NO.  
**1 OF 2**

P20WS00005, DP19-0313

## APPENDIX C

SLOPES – STORMWATER INFORMATION FORM  
WES BMP SIZING REPORT  
STORMFILTER CATCHBASIN CALCULATIONS

# SLOPES for Stormwater, Transportation and Utilities

(NMFS# NWR-2013-10411)

## Stormwater Information Form

If you are submitting a project that includes a stormwater plan for review under SLOPES for Stormwater, Transportation and Utilities please fill out the following cover sheet **to be included with** stormwater management plan, and any other supporting materials.

Also include a drawing of the stormwater treatment area including drainage areas, direction of flow, BMP locations and types, contributing areas, other drainage features, receiving water/location, etc.

Project Information			
	Corps of Engineers permit #		
	Name of Project:		
	Type of project (i.e., residential, commercial, industrial, or combination)		
	Nearest receiving water occupied by ESA-listed species or designated critical habitat		
	Lat/Long (DDD.dddd) of Project Location:		
	Have you contacted anyone at NMFS regarding this project?		
	Applicant/Consultant name:		
	Applicant/Consultant email:		
Stormwater Designer and/or Engineer Contact Information			
	Name:		
	Phone:		
	Email:		
Summary of Design Elements			
1.	24-hour design storm:                  Inches	50%* of 2-yr, 24-hr storm fully treated:    Yes    No	
		If no, project may not meet the SLOPES programmatic criteria	
		*May be greater than 50% - see PDC 36.e. for geographically based percentage	
2.	2 year, 24 hour storm from NOAA Precipitation Atlas: <a href="http://www.nws.noaa.gov/ohd/hdsc/noaaatlas2.htm">http://www.nws.noaa.gov/ohd/hdsc/noaaatlas2.htm</a>		Inches
3.	<b>Total</b> contributing impervious area including all contiguous surface (e.g. roads, driveways, parking lots, sidewalks, roofs, and similar surfaces)		Acres
	Proposed new		Acres
	Existing		Acres
	Acres of total impervious area	x	design storm =                  ft <sup>3</sup> to be treated
4.	Peak discharge of design storm:	see explanation	cfs
5.	Total stormwater to be treated:	on item #7	ft <sup>3</sup> cfs
6.	Stormwater Design Manual Used and Year/Version: (example: City of Portland, Clean Water Services, King County, Western Washington)		
	Describe which elements of your stormwater plan came from this manual:		

7.	<p>Have you treated all stormwater to the design storm within the contributing impervious area?          Yes No          If no, why not and how will you offset the effects from remaining stormwater?</p>	
Water Quality		
8.	<p>Low Impact Development methods incorporated? Yes No          (e.g. site layout, vegetation and soil protection, reforestation, integrated management practices such as amended soils, bioretention, permeable pavement, rainwater collection, tree retention)          Please describe:</p> <p>How much of total stormwater is treated using LID:</p>	
9.	<p>Treatment train, including pretreatment and bioretention methods used to treat water quality:</p> <p>Why this treatment train was chosen for the project site:</p> <p>Page in stormwater plan where more details can be found:</p>	
Water Quantity		
10.	<p>Does the project discharge directly into a major water body (see PDC 36.c.iii)? Yes No</p>	
11.	<p>Pre-development runoff rate          (i.e., before human-induced changes to the unimproved property)          2-yr, 24-hour storm: <a href="#">see explanation on item #7</a>          10-yr storm: <a href="#">see explanation on item #7</a></p>	<p>Post-development runoff rate          (i.e., after proposed developments)          2-yr, 24-hour storm: <a href="#">see explanation on item #7</a>          10-yr storm: <a href="#">see explanation on item #7</a></p>
<b>Post-development runoff rate must be less than or equal to pre-development runoff rate</b>		
12.	<p>Methods used to treat water quantity:</p> <p>Page in stormwater plan where more details can be found:</p>	



Maintenance and Inspection Plan

13. Have you included a stormwater maintenance plan with a description of the onsite stormwater system, inspection schedule and process, maintenance activities, legal and financial responsibility, and inspection and maintenance logs?      Yes      No\*

\*Projects cannot be submitted for review under SLOPES without a maintenance and inspection plan.

Page in stormwater plan where plan can be found:

14. Contact information for the party/parties that will be legally responsible for performing the inspections and maintenance or the stormwater facilities:

Name: \_\_\_\_\_

Phone number: \_\_\_\_\_

Email: \_\_\_\_\_

Name: \_\_\_\_\_

Phone number: \_\_\_\_\_

Email: \_\_\_\_\_

Name: \_\_\_\_\_

Phone number: \_\_\_\_\_

Email: \_\_\_\_\_

Page in stormwater plan where more details can be found:



## WES BMP Sizing Report

### Project Information

Project Name	MParkway Woods
Project Type	Addition
Location	
Stormwater Management Area	700000
Project Applicant	Atwell, LLC
Jurisdiction	CCSD1NCSA

### Drainage Management Area

Name	Area (sq-ft)	Pre-Project Cover	Post-Project Cover	DMA Soil Type	BMP
DMA W1	28,022	Forested	ConventionalConcrete	D	BMP - W1
DMA - W2	88,795	Forested	ConventionalConcrete	D	BMP - W2
DMA - W3	36,687	Forested	ConventionalConcrete	D	BMP - W3
DMA - W4	16,216	Forested	ConventionalConcrete	D	BMP - W4
DMA - W5	12,946	Forested	ConventionalConcrete	D	BMP - W5
DMA - N1	30,114	Forested	ConventionalConcrete	D	BMP - N1
DMA - N2	8,208	Forested	ConventionalConcrete	D	BMP - N2
DMA - N4	72,685	Forested	ConventionalConcrete	D	BMP - N4
DMA - N5	26,396	Forested	ConventionalConcrete	D	BMP - N5
DMA - N7	74,541	Forested	ConventionalConcrete	D	BMP - N7
DMA - N6	110,607	Forested	ConventionalConcrete	D	BMP - N6
DMA - E1	27,970	Grass	ConventionalConcrete	D	BMP - E1
DMA - S3	38,183	Forested	ConventionalConcrete	D	BMP - S3
DMA - S5	66,744	Grass	ConventionalConcrete	D	BMP - S5

## LID Facility Sizing Details

LID ID	Design Criteria	BMP Type	Facility Soil Type	Minimum Area (sq-ft)	Planned Areas (sq-ft)	Orifice Diameter (in)
BMP - W3	FlowControlAndTreatment	Rain Garden - Filtration	C1	1,467.5	3,671.1	1.9
BMP - W1	FlowControlAndTreatment	Rain Garden - Filtration	C1	1,120.9	3,266.1	1.7
BMP - W2	FlowControlAndTreatment	Rain Garden - Filtration	C1	3,551.8	4,843.3	3.0
BMP - W4	FlowControlAndTreatment	Rain Garden - Filtration	C1	648.6	2,209.5	1.3
BMP - W5	FlowControlAndTreatment	Rain Garden - Filtration	C1	517.8	1,489.9	1.1
BMP - S3	FlowControlAndTreatment	Rain Garden - Filtration	C1	1,527.3	5,648.3	2.0
BMP - S5	FlowControlAndTreatment	Rain Garden - Filtration	C1	2,669.8	3,829.3	2.6
BMP - N6	FlowControlAndTreatment	Rain Garden - Filtration	C1	4,424.3	8,193.4	3.3
BMP - N5	FlowControlAndTreatment	Rain Garden - Filtration	C1	1,055.8	1,142.5	1.6
BMP - N4	FlowControlAndTreatment	Rain Garden - Filtration	C1	2,907.4	3,713.5	2.7
BMP - N2	FlowControlAndTreatment	Rain Garden - Filtration	C1	328.3	640.0	0.9
BMP - N1	FlowControlAndTreatment	Rain Garden - Filtration	C1	1,204.6	1,249.2	1.7
BMP - E1	FlowControlAndTreatment	Vegetated Swale - Filtration	C1	1,118.8	2,000.0	1.9
BMP - N7	FlowControlAndTreatment	Vegetated Swale - Filtration	C1	2,981.6	3,007.8	3.0

## Pond Sizing Details

1. FCWQT = Flow control and water quality treatment, WQT = Water quality treatment only
2. Depth is measured from the bottom of the facility and includes the three feet of media (drain rock, separation layer and growing media).
3. Maximum volume of the facility. Includes the volume occupied by the media at the bottom of the facility.
4. Maximum water storage volume of the facility. Includes water storage in the three feet of soil media assuming a 40 percent porosity.



<b>Stomrfilter Catch Basin Calculations</b>		
<b>Project Name:</b>	19004599 Parkway Woods Industrial Park	Date: 4/28/2020
<b>Computed By:</b>	JLG	
<b>Company:</b>	Atwell Group, Inc.	
<b>Address:</b>	26600 SW Parkway Avenue, Wilsonville, OR	

**\*See Appendix C for Basin Areas**

CONTRIBUTING BASINS:

BASIN	IMPERVIOUS AREA (SF)	IMPERVIOUS AREA (ACRES)	TREATMENT FACILITY
N3	33,562	0.77	WQ CB #1
S1	11,229	0.26	WQ CB #2
S2	10,319	0.24	WQ CB #3
S4	6,754	0.16	WQ CB #4

**WATER QUALITY CALCULATIONS**

**Water Quality flow (Q)**

N3 - Q1 =           **0.21 cfs**  
S1 - Q2 =           **0.07 cfs**  
S2 - Q3 =           **0.06 cfs**  
S4 - Q4 =           **0.04 cfs**

**StormFilter Cartridges required:**

Water quality flow x (449gpm/cfs) / (15gpm/cartridge)

	Impervious area (SF)	Impervious area (Acres)	WQ Flow Rate (CFS)	Cartridges Required with 2.3' drop
N3 - WQ CB #1	33,562	0.77	N3 - Q1 = 0.21	7.00 cartridges
S1 - WQ CB #2	11,229	0.26	S1 - Q2 = 0.07	3.00 cartridges
S2 - WQ CB #3	10,319	0.24	S2 - Q3 = 0.06	2.00 cartridges
S4 - WQ CB #4	6,754	0.16	S4 - Q4 = 0.04	2.00 cartridges

## APPENDIX D

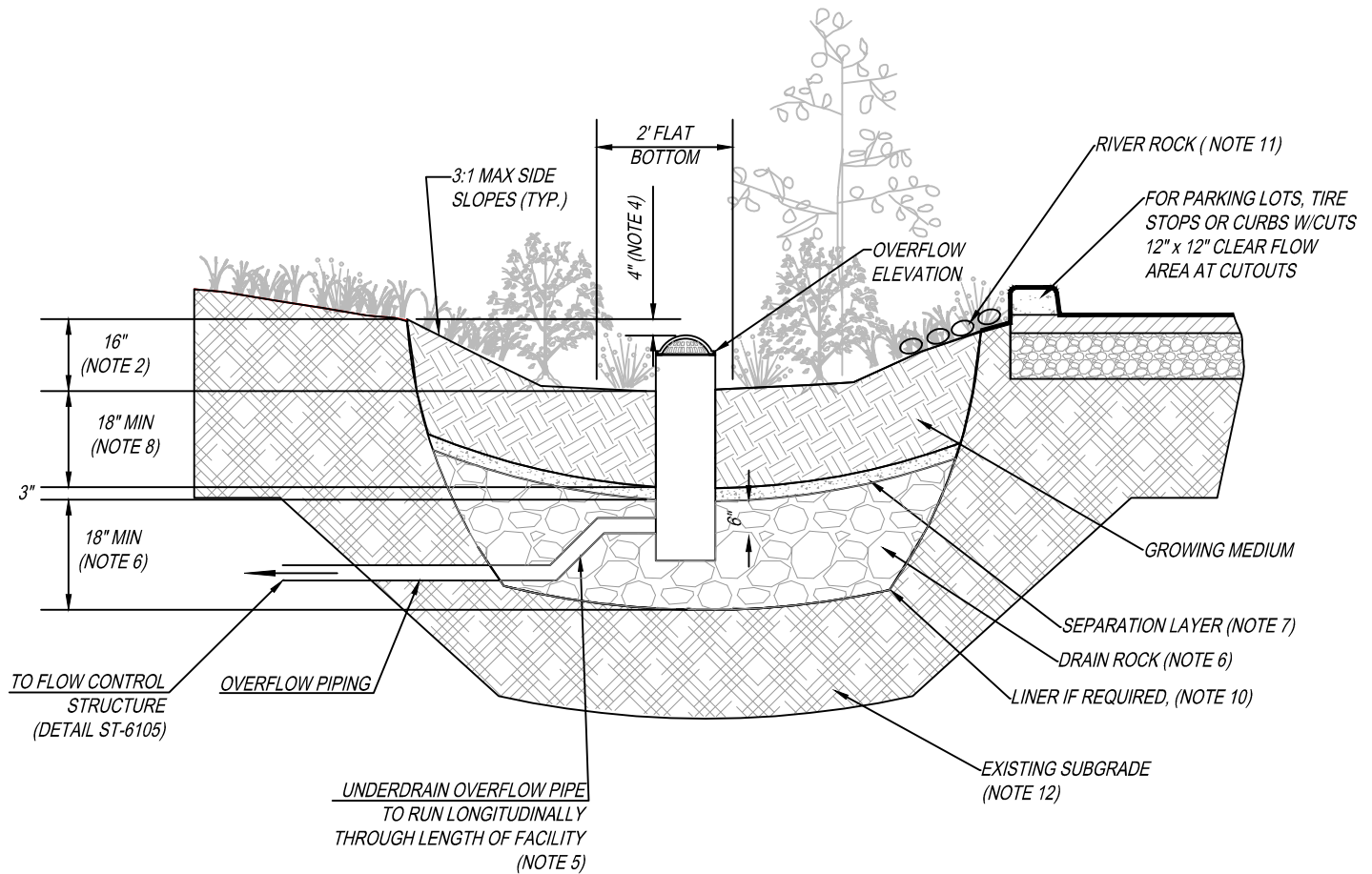
BMP INFORMATION

WILSONVILLE STANDARD DETAILS

GROWING MEDIUM CUT SHEETS

GROWING MEDIUM SPECIFICATIONS

OPERATION AND MAINTENANCE SCHEDULE



GENERAL NOTES:

1. **PROVIDE PROTECTION** FROM ALL VEHICLE TRAFFIC, EQUIPMENT STAGING, AND FOOT TRAFFIC IN PROPOSED INFILTRATION AREAS PRIOR TO, DURING AND AFTER CONSTRUCTION. UNLESS REQUIRED BY SITE CONDITIONS, UNLINED RAIN GARDENS ARE PREFERRED TO MAXIMIZE ONSITE INFILTRATION.
2. **DIMENSIONS:**
  - DEPTH OF BASIN (FROM TOP OF GROWING MEDIUM TO OVERFLOW ELEVATION); 12"
  - FLAT BOTTOM WIDTH: 2' MINIMUM
  - SIDE SLOPES OF RAIN GARDEN: 3:1 MAXIMUM
  - CENTERLINE SLOPE OF RAIN GARDEN: 0.5% OR LESS
3. **SETBACKS:**
  - FILTRATION RAIN GARDEN SHALL BE 10' FROM FOUNDATIONS AND 5' FROM PROPERTY LINES UNLESS APPROVED BY BUILDING OFFICIAL
4. **OVERFLOW:**
  - OVERFLOW REQUIRED. INLET ELEVATION SHALL ALLOW FOR 4" OF FREEBOARD, MINIMUM.
  - PROTECT FROM DEBRIS AND SEDIMENT WITH STRAINER OR GRATE.
5. **PIPING:**
  - PERFORATED UNDER-DRAIN PIPING: SHALL RUN LONGITUDINALLY THROUGH LENGTH OF FACILITY, SHALL BE ABS SCH. 40, CAST IRON, OR PVC SCH.40. MINIMUM DIAMETER IS 6". PIPING SHALL HAVE 1% GRADE AND FOLLOW THE UNIFORM PLUMBING CODE. PVC NOT ALLOWED ABOVE GROUND. WRAP UNDER-DRAIN IN FILTER FABRIC TO REDUCE TRANSPORT OF FINES. OVERFLOW PIPING: SHALL BE ABS SCH. 40, CAST IRON, OR PVC SCH. 40 AND SHALL NOT BE PERFORATED. MINIMUM DIAMETER IS 6". PIPING SHALL HAVE 1% GRADE AND FOLLOW THE UNIFORM PLUMBING CODE. PVC NOT ALLOWED ABOVE GROUND.
6. **DRAIN ROCK:**
  - SIZE: 1 1/2" to 3/4"-0 WASHED
  - DEPTH: 18" MINIMUM
7. **SEPARATION** BETWEEN DRAIN ROCK AND GROWING MEDIUM: SHALL BE A 3" LAYER OF 3/4" - 1/4" OPEN GRADED AGGREGATE.
8. **GROWING MEDIUM:**
  - DEPTH: 18" MINIMUM
  - SEE APPENDIX A FOR SPECIFICATION OR USE SAND/LOAM/COMPOST 3-WAY MIX.
  - FACILITY SURFACE AREA MAY BE REDUCED BY 25% WHEN GROWING MEDIA DEPTH IS INCREASED TO 30" OR MORE.
9. **VEGETATION:** FOLLOW LANDSCAPE PLANS OR REFER TO PLANTING REQUIREMENTS IN APPENDIX A.
10. **WATERPROOF LINER (IF REQUIRED):** SHALL BE 30 MIL PVC OR EQUIVALENT.
11. **INSTALL RIVER ROCK** SPLASH PAD OVER A NON WOVEN GEO TEXTILE FABRIC TO TRANSITION FROM INLETS TO GROWING MEDIUM. SIZE OF ROCK SHALL BE 1" - 3", 4 SQUARE FEET, 6" DEEP.
12. **SEASONAL HIGH GROUNDWATER SEPARATION:**
  - SEPARATION DISTANCE AS REQUIRED BY CITY.

Rain Garden - Filtration

CITY OF  
WILSONVILLE



DRAWING NUMBER: ST-6020

DRAWN BY: SR

SCALE: N.T.S.

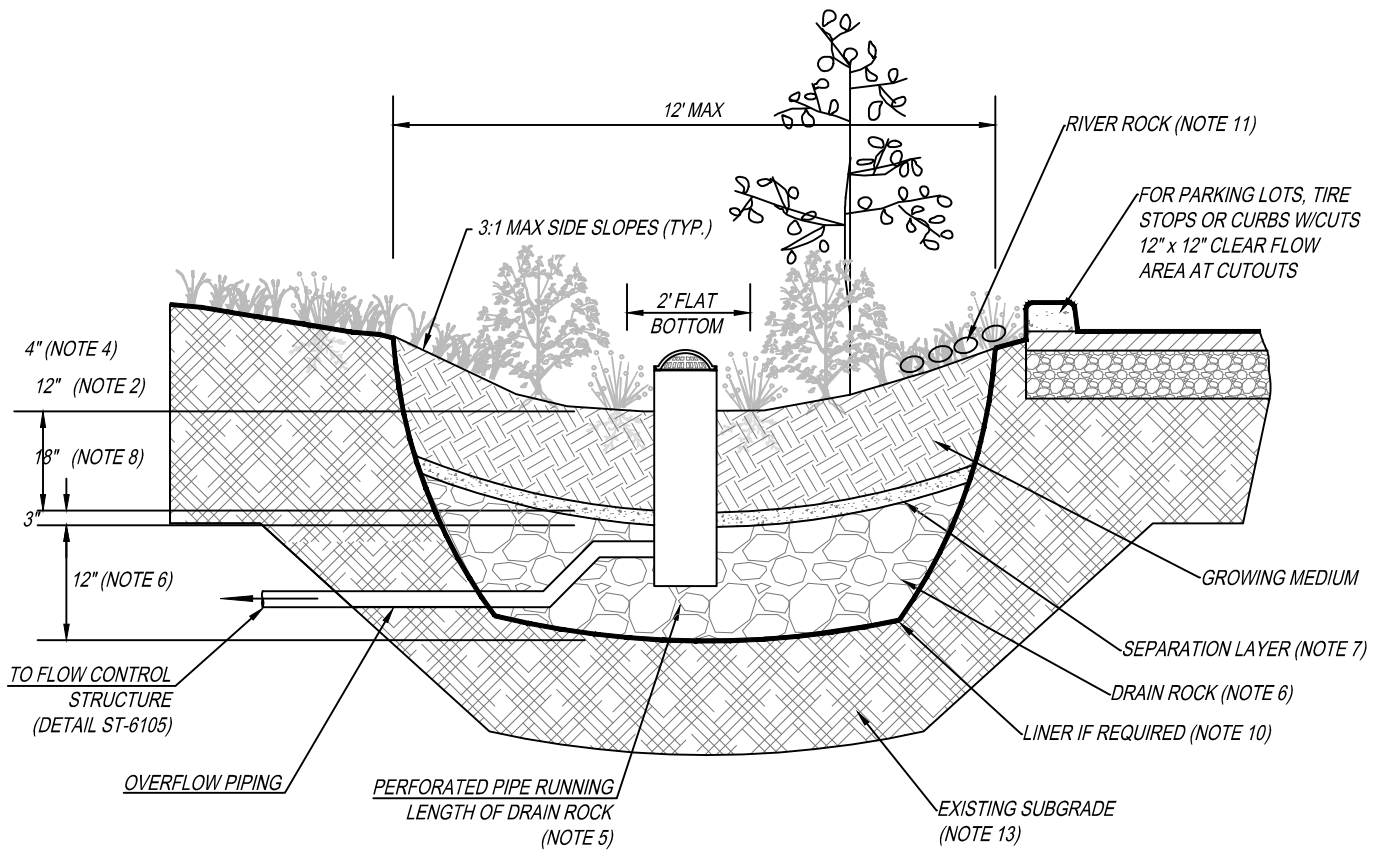
FILE NAME: ST-6020.DWG

APPROVED BY: NK

DATE: 4/16/18

PUBLIC WORKS STANDARDS





**GENERAL NOTES:**

1. **PROVIDE PROTECTION** FROM ALL VEHICLE TRAFFIC, EQUIPMENT STAGING, AND FOOT TRAFFIC IN PROPOSED INFILTRATION AREAS PRIOR TO, DURING AND AFTER CONSTRUCTION. UNLESS REQUIRED BY SITE CONDITIONS, UNLINED SWALES ARE PREFERRED TO ALLOW MAXIMUM INFILTRATION.
2. **DIMENSIONS:**
  - DEPTH OF SWALE (FROM TOP OF GROWING MEDIUM TO OVERFLOW ELEVATION); 12"
  - LONGITUDINAL SLOPE OF SWALE: 6.0% OR LESS
  - FLAT BOTTOM WIDTH: 2' MINIMUM
  - SIDE SLOPES OF SWALE: 3:1 MAXIMUM
3. **LOCATION/SETBACKS:**
  - FILTRATION SWALES SHALL BE 10' FROM FOUNDATIONS AND 5' FROM PROPERTY LINES UNLESS APPROVED BY BUILDING OFFICIAL
4. **OVERFLOW:**
  - INLET ELEVATION SHALL ALLOW FOR 4" OF FREEBOARD, MINIMUM.
  - PROTECT FROM DEBRIS AND SEDIMENT WITH STRAINER OR GRATE.
5. **PIPING:**
  - PERFORATED UNDER-DRAIN PIPING: SHALL BE ABS SCH. 40, CAST IRON, OR PVC SCH. 40. MINIMUM DIAMETER IS 6". PIPING SHALL HAVE 1% GRADE AND FOLLOW THE UNIFORM PLUMBING CODE. PVC NOT ALLOWED ABOVE GROUND. WRAP UNDER-DRAIN IN FILTER FABRIC TO REDUCE TRANSPORT OF FINES.
  - OVERFLOW PIPING: SHALL BE ABS SCH. 40, CAST IRON, OR PVC SCH. 40 AND SHALL NOT BE PERFORATED. MINIMUM DIAMETER IS 6". PIPING SHALL HAVE 1% GRADE AND FOLLOW THE UNIFORM PLUMBING CODE. PVC NOT ALLOWED ABOVE GROUND.
6. **DRAIN ROCK:**
  - SIZE: 1 1/2" - 3/4" WASHED
  - DEPTH: 12"
7. **SEPARATION** BETWEEN DRAIN ROCK AND GROWING MEDIUM: SHALL BE A 3" LAYER OF 3/4" - 1/4" OPEN GRADED AGGREGATE.
8. **GROWING MEDIUM:**
  - 18" MINIMUM
  - SEE APPENDIX C FOR SPECIFICATION OR USE SAND/LOAM/COMPOST 3-WAY MIX.
  - FACILITY SURFACE AREA MAY BE REDUCED BY 25% WHEN GROWING MEDIA DEPTH IS INCREASED TO 30" OR MORE.
9. **VEGETATION:** FOLLOW LANDSCAPE PLANS OR REFER TO PLANTING REQUIREMENTS IN APPENDIX A.
10. **WATERPROOF LINER (IF REQUIRED):** SHALL BE 30 MIL PVC OR EQUIVALENT.
11. **INSTALL RIVER ROCK** SPLASH PAD OVER A NON WOVEN GEO TEXTILE FABRIC TO TRANSITION FROM INLETS TO GROWING MEDIUM. SIZE OF ROCK SHALL BE 1" TO 3", 4 SQUARE FEET, 6" DEEP.
12. **CHECK DAMS:** SHALL BE PLACED ACCORDING TO FACILITY DESIGN. REFER TO DETAIL ST-6100 FOR PROFILE AND SPACING.
13. **SEASONAL HIGH GROUNDWATER SEPARATION:**
  - SEPARATION DISTANCE AS REQUIRED BY CITY.

**Vegetated Swale - Filtration**

**CITY OF  
WILSONVILLE**



DRAWING NUMBER: ST-6045

DRAWN BY: SR

SCALE: N.T.S.

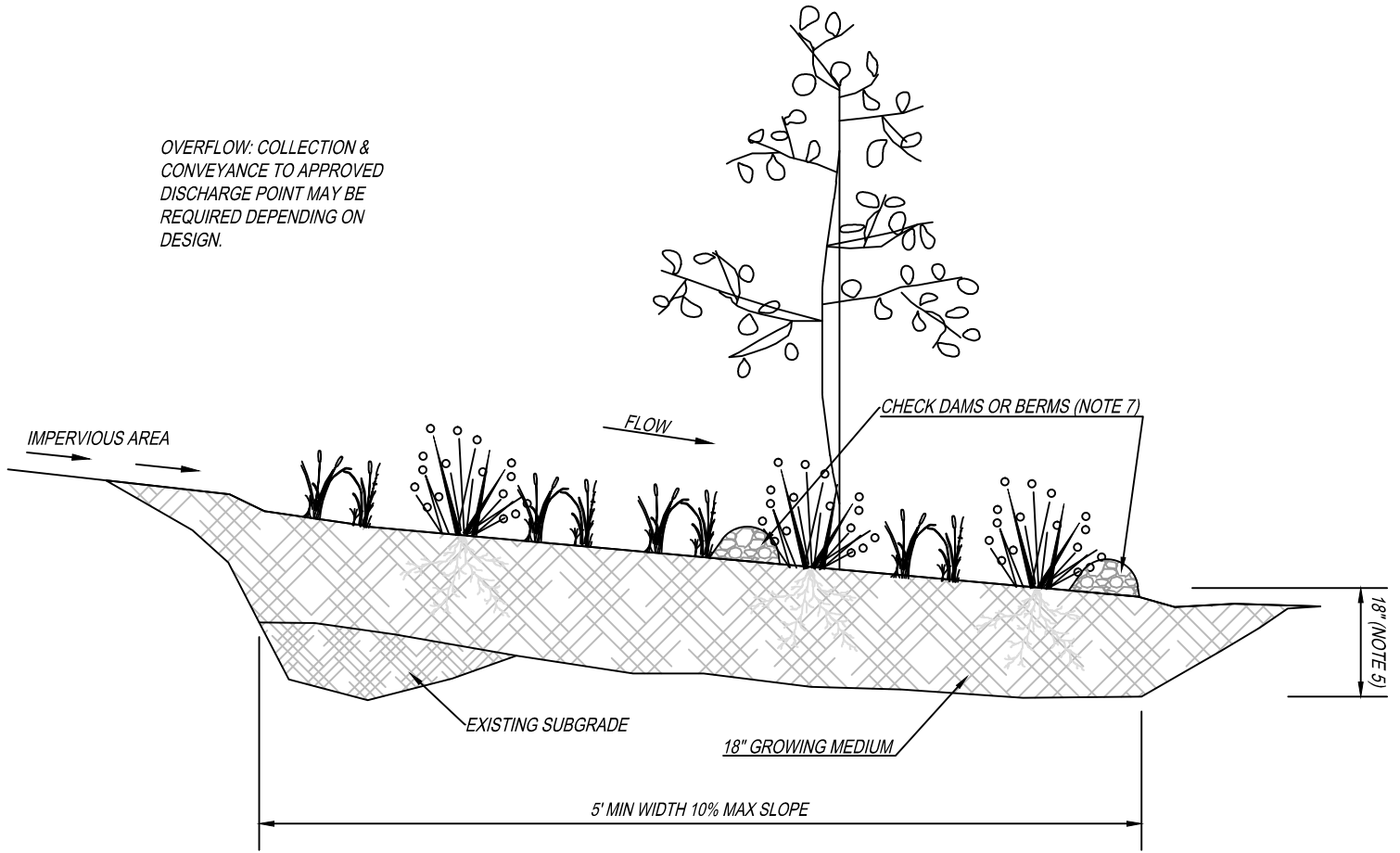
FILE NAME: ST-6045.DWG

APPROVED BY: NK

DATE: 4/16/18

**PUBLIC WORKS STANDARDS**

This Detail Drawing may not be altered or changed in any manner except by the City Engineer. It is the responsibility of the user to acquire the most current version.



OVERFLOW: COLLECTION & CONVEYANCE TO APPROVED DISCHARGE POINT MAY BE REQUIRED DEPENDING ON DESIGN.

GENERAL NOTES:

1. **PROVIDE PROTECTION** FROM ALL VEHICLE TRAFFIC, EQUIPMENT STAGING, AND FOOT TRAFFIC IN PROPOSED INFILTRATION AREAS PRIOR TO, DURING AND AFTER CONSTRUCTION.
2. **DIMENSIONS:**  
 -FLOW LINE WIDTH: BASED ON LENGTH OF IMPERVIOUS FLOW PATH AND SLOPE OF FILTER STRIP. SEE TABLE. 5' MINIMUM  
 -SLOPES: 0.5 - 15%
3. **SETBACKS (FROM EDGE OF FACILITY):**  
 -5' FROM PROPERTY LINE  
 -10' FROM FOUNDATIONS
4. **OVERFLOW:**  
 -COLLECTION FROM FILTER STRIP SHALL BE SPECIFIED ON PLANS
5. **GROWING MEDIUM:** FILTER STRIP, GROWING MEDIUM SHALL BE USED WITHIN THE TOP 18" (SEE APPENDIX A FOR SPECIFICATIONS OR USE SAND/LOAM/COMPOST 3-WAY MIX)
6. **VEGETATION:** THE ENTIRE FILTER STRIP MUST HAVE 100% COVERAGE BY NATIVE GRASSES, NATIVE WILDFLOWER BLENDS, NATIVE GROUND COVERS, OR ANY COMBINATION THEROF
7. **CHECK DAMS** SHALL BE PLACED ACCORDING TO FACILITY DESIGN. REFER TO DETAIL ST-6100 FOR PROFILE AND SPACING.

LENGTH OF IMPERVIOUS AREA FLOW PATH (30' MAX)

SLOPE OF FILTER STRIP	LENGTH OF IMPERVIOUS AREA FLOW PATH (30' MAX)			
	5'	10'	20'	30'
2%	5'	5'	5'	5'
5%	5'	5'	7'	9'
10%	5'	7'	10'	14'
15%	5'	9'	13'	16'

Vegetated Filter Strip

DRAWING NUMBER: ST-6035	DRAWN BY: SR	SCALE: N.T.S.
FILE NAME: ST-6035.DWG	APPROVED BY: NK	DATE: 10/21/14

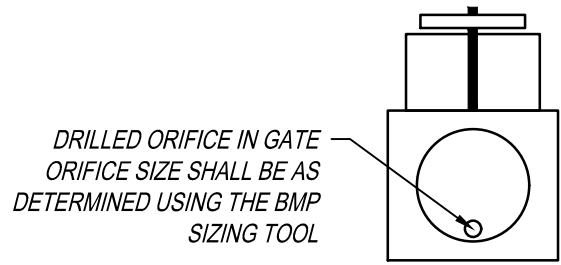
CITY OF WILSONVILLE



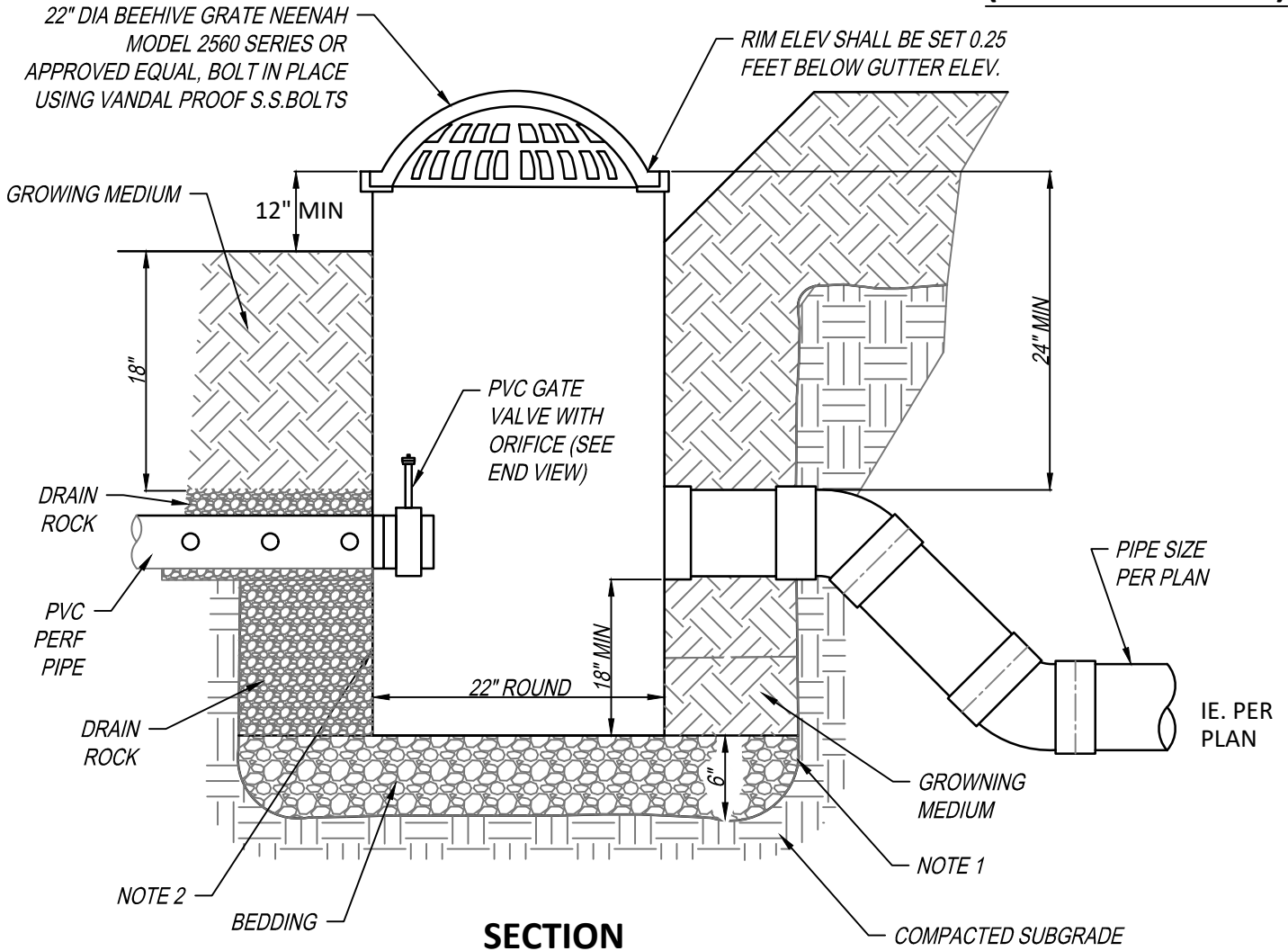
PUBLIC WORKS STANDARDS



This Detail Drawing may not be altered or changed in any manner except by the City Engineer. It is the responsibility of the user to acquire the most current version.




**END VIEW  
(PVC GATE VALVE)**



**NOTES:**

1. CONTRACTOR TO WIDEN EXCAVATION AS REQUIRED TO OBTAIN COMPACTION WITH CONTRACTORS COMPACTION EQUIPMENT.
2. 10 GA. STEEL PLATE, BITUMINOUS COATED BASIN AS MANUFACTURED BY GIBSON STEEL, GRATEMASTER OR AS APPROVED BY CITY REPRESENTATIVE.
3. BEDDING SHALL BE 6" OF COMPACTED 3/4"-0 CRUSHED ROCK BASE MATERIAL.

<b>Beehive Overflow Inlet</b>			<b>CITY OF WILSONVILLE</b>    <b>PUBLIC WORKS STANDARDS</b>
DRAWING NUMBER: ST-6120	DRAWN BY: SR	SCALE: N.T.S.	
FILE NAME: ST-6120.dwg	APPROVED BY: NK	DATE: 2/15/18	



**TABLE A-2: STORMWATER FACILITY PLANT LISTS:  
RAIN GARDENS AND SWALES (INFILTRATION AND FILTRATION)**

Rain Gardens and Swales (infiltration and filtration)	Zone		Origin			Type/Size		Context Factors					
	Moisture zone (A) Uniformly wet to moist	Moisture zone (B) Drier transitional area	NW native	NW native cultivar	Non-native adapted	(E)vergreen/(D)eciduous	Potential height	Typical on center spacing	Facilities < 3 feet wide	Fully-lined facility	Parking areas	Streets	Adjacent to buildings
<b>Plant Name</b> <i>Botanical, common</i>													
<b>Herbaceous Plants</b>													
<i>Carex obnupta</i> , Slough sedge	•		•			E	48"	12"		•	•	•	•
<i>Carex testacea</i> , New Zealand orange sedge	•				•	D	24"	12"		•	•	•	•
<i>Deschampsia cespitosa</i> , Tufted hair grass	•		•			D	36"	12"	•	•	•	•	•
<i>Elymus glaucus</i> , Blue wild rye	•	•	•			E	24"	12"	•	•	•	•	•
<i>Juncus ensifolius</i> , Dagger-leaf rush	•				•	D	10"	12"	•	•	•	•	•
<i>Juncus patens</i> , Spreading rush	•	•			•	E	36"	12"	•	•	•	•	•
<i>Scirpus microcarpus</i> , Small fruited bulrush	•		•			E	24"	12"	•	•	•	•	•
<b>Small Shrubs/Groundcover</b>													
<i>Arctostaphylos uva-ursi</i> , Kinnickinnick		•	•			E	6"	12"	•	•	•	•	•
<i>Cornus sericea 'Kelsey'</i> , Kelsey dogwood	•	•		•		D	2'	12"	•	•	•	•	•
<i>Fragaria chiloensis</i> , Coastal strawberry		•	•			E	6"	12"	•	•	•	•	•
<i>Mahonia aquifolium</i> , Oregon grape	•	•	•			E	5'	3'		•	•	•	•
<i>Physocarpus capitatus</i> , Pacific ninebark	•		•			D	6'	3'		•			
<i>Polystichum munitum</i> , Sword fern	•	•	•			E	2'	2'	•	•	•	•	•
<i>Spiraea betulifolia</i> , Birchleaf spiraea	•	•	•			D	2'	2'	•	•	•	•	•
<i>Symphoricarpos alba</i> , Snowberry	•	•	•			D	3'	3'	•	•	•	•	•
<b>Large Shrubs/Small Trees</b>													
<i>Cornus sericea</i> , Red-Twig dogwood	•	•	•			D	6'	4'					
<i>Holodiscus discolor</i> , Western serviceberry	•	•	•			D	6'	4'		•	•	•	
<i>Rosa nutkana</i> , Nootka rose	•	•	•			D	8'	4'		•		•	
<i>Omleria cerasiformis</i> , Indian plum	•		•			D	6'	4'		•	•	•	
<i>Ribes sanguineum</i> , Red flowering currant	•	•	•			D	8'	4'		•	•	•	•
<i>Salix sitchensis</i> , Sitka willow	•		•			D	15'	5'					
<i>Spiraea douglasii</i> , Douglas spiraea		•	•			D	7'	4'		•	•	•	•
<b>Trees</b>													
<i>Acer circinatum</i> , Vine maple	•	•	•			D	15'	8'	•	•	•	•	•
<i>Alnus rubra</i> , Red alder	•	•	•			D	80'	20'					•
<i>Cornus nuttallii</i> , Pacific dogwood	•	•	•			D	20'	10'	•	•	•	•	•
<i>Fraxinus latifolia</i> , Oregon ash	•		•			D	30'	25'					
<i>Malus fusca</i> , Pacific crabapple	•		•			D	30'	10'	•	•			•
<i>Pseudotsuga menziesii</i> , Douglas fir	•	•	•			E	200'	30'					
<i>Thuja plicata</i> , Western red cedar	•	•	•			E	150'	20'			•		

**TABLE A-4: STORMWATER FACILITY PLANT LISTS:  
VEGETATED FILTER STRIPS**

Vegetated Filter Strips	Zone	Origin			Type/Size			Context Factors						
		Moisture zone (A/B) Dry to moist on slope	NW native	NW native cultivar	Non-native adapted	(E)vergreen/(D)eciduous	Potential height	Typical on center spacing	Facilities < 3' wide	Fully-lined facility	Parking areas	Streets	Adjacent to buildings	In buffer area
<b>Plant Name Botanical, Common</b>														
<b>Herbaceous Plants</b>														
<i>Aster suspicatus</i> , Douglas' aster	•	•			D	36"	12"	•	•	•	•	•	•	•
<i>Camassia quamash</i> , Camas lily	•	•			D	24"	12"	•	•	•	•	•	•	•
<i>Deschampsia caespitosa</i> , Tufted hair grass	•	•			D	36"	12"	•	•	•	•	•	•	•
<i>Festuca rubra</i> , Red fescue	•	•			E	24"	12"	•	•	•	•	•	•	•
<i>Elymus glaucus</i> , Blue wild rye	•	•			E	24"	12"	•	•	•	•	•	•	•
<i>Juncus patens</i> , Spreading rush	•			•	E	36"	12"	•	•	•	•	•	•	
<i>Lupinus polyhyllus</i> , Large-leaved lupine	•	•			D	36"	12"	•	•	•	•	•	•	•
<i>Sedum oregonum</i> , Oregon stonecrop	•	•			E	4"	12"	•	•	•	•	•	•	•
<i>Sisyrinchium californicum</i> , Yellow-eyed grass	•	•			E	4"	12"	•	•	•	•	•	•	•
<i>Veronica liwanensis</i> , Speedwell	•			•	D	2"	12"	•	•	•	•	•	•	
<b>Small Shrubs/Groundcover</b>														
<i>Cornus sericea</i> 'Kelsey', Kelsey dogwood	•		•		D	2'	12"	•	•	•	•	•	•	
<i>Fragaria chiloensis</i> , Coastal strawberry	•	•			E	6"	12"	•	•	•	•	•	•	•
<i>Gaultheria shallon</i> , Salal	•	•			E	24"	24"	•	•	•	•	•	•	•
<i>Mahonia aquifolium</i> , Oregon grape	•	•			E	5'	3'		•	•	•	•	•	•
<i>Physocarpus capitatus</i> , Pacific ninebark	•	•			D	6'	3'		•					•
<i>Polystichum munitum</i> , Sword fern	•	•			E	2'	2'	•	•	•	•	•	•	•
<i>Rosa pisocarpa</i> , Swamp rose	•	•			D	8'	3'		•	•				•
<i>Spiraea betulifolia</i> , Birchleaf spiraea	•	•			D	2'	2'	•	•	•	•	•	•	•
<i>Symphoricarpos alba</i> , Snowberry	•	•			D	3'	3'	•	•	•	•	•	•	•
<b>Large Shrubs/Small Trees</b>														
<i>Cornus sericea</i> , Red-Twig dogwood	•	•			D	6'	4'							•
<i>Holodiscus discolor</i> , Western serviceberry	•	•			D	6'	4'		•	•	•			•
<i>Omleria cerasiformis</i> , Indian plum	•	•			D	6'	4'		•	•	•			•
<i>Ribes Sanguineum</i> , Red flowering currant	•	•			D	8'	4'		•	•	•	•	•	•
<i>Salix stichensis</i> , Sitka willow	•	•			D	15'	5'							•
<i>Salix purpurea nana</i> , Blue arctic willow	•			•	D	8'	6'			•	•	•	•	
<i>Ceanothus sanguineum</i> , Redstem ceanothus	•	•			E	7'	3'		•	•	•	•	•	•

**TABLE A-4: STORMWATER FACILITY PLANT LISTS:  
VEGETATED FILTER STRIPS**

Vegetated Filter Strips	Zone	Origin			Type/Size			Context Factors						
		Moisture zone (A/B) Dry to moist on slope	NW native	NW native cultivar	Non-native adapted	(E)vergreen/(D)eciduous	Potential height	Typical on center spacing	Facilities < 3' wide	Fully-lined facility	Parking areas	Streets	Adjacent to buildings	In buffer area
<b>Plant Name</b> <b>Botanical, Common</b>														
<b>Trees</b>														
<i>Acer circinatum</i> , Vine maple	•	•			D	15'	8'	•	•	•	•	•	•	
<i>Alnus Rubra</i> , Red alder	•	•			D	80'	20'					•	•	
<i>Cornus nuttallii</i> , Pacific dogwood	•	•			D	20'	10'	•	•	•	•	•	•	
<i>Fraxinus Latifolia</i> , Oregon ash	•	•			D	30'	25'						•	
<i>Malus Fusca</i> , Pacific crabapple	•	•			D	30'	10'	•	•			•	•	
<i>Pseudotsuga menziesii</i> , Douglas fir	•	•			E	200'	30'						•	
<i>Thuja plicata</i> , Western red cedar	•	•			E	150'	20'			•			•	





- (d) Plant tagging for identification
  - (e) Plant protection
  - (f) Seeding mix, methods, rates, and areas
3. Irrigation plan and specifications, including identification of water source, and, maintenance of the system.
  4. Maintenance schedule; including responsible party and contact information, dates of inspection (minimum three per growing season and one prior to onset of growing season) and estimated maintenance schedule (as necessary) over the 2-year monitoring period.
  5. Access points for installation and maintenance including vehicle access if required.
  6. Standard drawing details (north arrow, scale bar, property boundaries, project name, drawing date, name of designer and Property Owner).

**A.4.00 Stormwater Facility Growing Medium**

Furnish imported growing medium for vegetated stormwater management facilities conforming to the following:

- a. Standard Blend: Use this blend for all vegetated stormwater management facilities, except those in the right-of-way where compaction from foot traffic is a concern.
  1. General Composition: The medium shall be a blend of loamy soil, sand, and compost that is 30 to 40 percent compost (by volume) and meets the criteria in this specification.
  2. Analysis Requirements for the Blended Material:
    - (a) Particle Gradation: A particle gradation analysis of the blended material, including compost, shall be conducted in conformance with ASTM C1 17/C136 (AASHTO T1 1/T27). The analysis shall include the following sieve sizes: 1 inch, 3/8 inch, #4, #10, #20, #40, #60, #100, and #200. The gradation of the blend shall meet the following gradation criteria.

Sieve Size	Percent Passing
1 inch	100
# 4	60 -100
# 10	40-100
# 40	15-50

# 100	5-25
# 200	3-5

- (b) The blend shall have a Coefficient of Uniformity (D60/D10) equal to or greater than 6 to ensure that it is well graded (has a broad range of particle sizes). The coefficient is the ratio of two particle diameters on a grain-size distribution curve; it is the particle diameter at 60 percent passing divided by the particle diameter at 10 percent passing.
3. **Organic Matter Content:** An analysis of soil organic matter content shall be conducted in conformance with ASTM D2974 (loss on ignition test). The soil organic matter content shall be a minimum of 10 percent, as reported by that test.
  4. **Measured pH:** The blended material shall be tested and have a pH of 5.5 to 7.
- b. **Infiltration Blend for the Right-of-Way:** Use this blend for facilities in the right-of-way where compaction from foot traffic is a concern. Approval is required.
1. **General Composition:** The medium shall be a mix of sand and compost, blended by volume. The medium shall consist of 60 to 70 percent sand and 30 to 40 percent compost (by volume).
  2. **Analysis Requirements:** The requirements are the same as those specified in Section A.4.00.a for the “Standard Blend.” The single difference is the particle gradation criteria, which are as follows.

<b>Sieve Size</b>	<b>Percent Passing</b>
1 inch	100
# 4	60-100
# 10	40-100
# 40	15-50
# 100	5-20
# 200	3-5

c. General Requirements for the Blended Material:

1. The material shall be loose and friable.
2. It shall be well mixed and homogenous.
3. It shall be free of wood pieces, plastic, screened and free of stones 1 inch (25 mm) or larger in any dimension; free of roots, plants, sod, clods, clay lumps, pockets of coarse sand, paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials harmful to plant growth; free of weeds and invasive plants including but not limited to:
  - (a) *Cirsium arvense* (Canadian Thistle)
  - (b) *Convolvulus* spp. (Morning Glory)
  - (c) *Cytisus scoparius* (Scotch Broom)
  - (d) *Dipsacus sylvestris* (Common Teasel)
  - (e) *Festuca arundinaceae* (Tall Fescue)
  - (f) *Hedera helix* (English Ivy)
  - (g) *Holcus canatus* (Velvet Grass)
  - (h) *Lolium* spp. (Rye Grasses)
  - (i) *Lotus corniculatus* (Bird's Foot Trefoil)
  - (j) *Lythrium salicaria* (Purple Loose Strife)
  - (k) *Melilotus* spp. (Sweet Clover)
  - (l) *Myriophyllum spicatum* (Eurasian Milfoil)
  - (m) *Phalaris arundinaceae* (Reed Canary Grass)
  - (n) *Rubus discolor* (Himalayan Blackberry)
  - (o) *Solanum* spp. (Nightshade)
  - (p) *Trifolium* spp. (Clovers), and
  - (q) Not infested with nematodes, grubs, other pests, pest eggs, or other undesirable organisms and disease-causing plant pathogens; friable and with sufficient structure to give good tilth and aeration. Continuous, air-filled, pore-space content on a volume/volume basis shall be at least 15 percent when

moisture is present at field capacity. Soil shall have a field capacity of at least 15 percent on a dry weight basis.

4. It shall have no visible free water.
  5. It shall be obtained from naturally well drained construction or mining sites where topsoil occurs at least 4 inches deep; it shall not be obtained from bogs, wetlands, or marshes.
- d. Compost: The compost shall be derived from plant material and provided by a member of the U.S. Composting Council Seal of Testing Assurance (STA) program. See [www.compostingcouncil.org](http://www.compostingcouncil.org) for a list of providers in Portland.
1. The compost shall be the result of the biological degradation and transformation of plant- derived materials under conditions designed to promote aerobic decomposition. The material shall be well composted, free of viable weed seeds, and stable with regard to oxygen consumption and carbon dioxide generation. The compost shall have no visible free water and produce no dust when handled. It shall meet the following criteria, as reported by the U.S. Composting Council STA Compost Technical Data Sheet provided by the vendor:
    - (a) 100 percent of the material must pass through a 1/2-inch screen.
    - (b) The pH of the material shall be between 6 and 8.
    - (c) Manufactured inert material (plastic, concrete, ceramics, metal, etc.) shall be less than 1.0 percent by weight.
    - (d) The organic matter content shall be between 35 and 65 percent.
    - (e) The soluble salt content shall be less than 6.0 mmhos/cm.
    - (f) Germination (an indicator of maturity) shall be greater than 80 percent.
    - (g) The stability shall be between classes 5-7.
    - (h) The carbon/nitrogen ratio shall be less than 25:1.
    - (i) The trace metals test result = “pass.”
- e. Submittals: At least 14 working days in advance of construction, submit the following:
1. Documentation for the three analyses (particle gradation with calculated coefficient of uniformity; organic matter content; pH) described in this specification. The analyses shall be performed by an accredited laboratory with certification maintained current. The date of the analyses shall be no more than 90 calendar days prior to the date of the submittal. The report shall include the following information:

- (a) Name and address of the laboratory
  - (b) Phone contact and e-mail address for the laboratory
  - (c) Test data, including the date and name of the test procedure
2. A compost technical data sheet from the vendor of the compost. The analysis and report must be consistent with the sampling and reporting requirements of the U.S. Composting Council STA program. The analysis shall be performed and reported by an approved independent STA program laboratory.
  3. The date of the analysis shall be no more than 90 calendar days prior to the date of the submittal.
  4. A description of the location, equipment, and method proposed to mix the material.
- f. Stormwater Management Facility Growing Medium Installation
1. Protection of the Growing Medium: The growing medium shall be protected from all sources of contamination, including weed seeds, while at the supplier, in conveyance, and at the project site.
  2. Placement of the Growing Medium: The medium shall be placed in loose lifts, not to exceed 8 inches and each lift shall be compacted with a water-filled landscape roller. The material shall not otherwise be mechanically compacted.
  3. Timing of Plant Installation: Weather permitting, plants shall be installed as soon as possible after placing and grading the growing medium in order to minimize erosion and further compaction.
  4. Erosion Control: Temporary erosion control measures are required until permanent stabilization measures are functional, including protection of overflow structures.
  5. Protection of the Facility: In all cases, the facility must be protected from foot or equipment traffic that is unrelated to the construction of the facility. Temporary fencing or walkways should be installed as needed to keep workers, pedestrians, and equipment out of the facility. Under no circumstances should materials and equipment be stored in the facility.
  6. Stormwater management facilities shall be kept clean and shall not be used as erosion and sediment control structures during construction.
  7. Wet and Winter Conditions: Placement of the growing medium will not be allowed when the ground is frozen or saturated or when the weather is determined to be too wet.
- g. Watering, Fertilizing, and Mulching

1. Water all plants during establishment to maintain all plantings in a healthy thriving condition.
2. Fertilizers should generally be avoided in stormwater facilities. Fertilize all plants during establishment as needed with slow release, organic (low yield) material.
3. The purpose of mulching soils is to conserve moisture, hold plantings and topsoil in place, limit weed establishment and moderate soil temperatures.
4. Mulch for Vegetated Stormwater Facilities: The use of mulch in frequently inundated areas shall be limited to avoid any possible water quality impacts including the leaching of tannins and nutrients, and the migration of mulch into waterways. Mulches to be used shall be a stable and inert (non-leaching) matter of sufficient mass and density that it will not float in standard flows. Mulch cover should be maintained throughout the life of the stormwater facility with minimum thickness of 2 inches in depth.

#### h. Stormwater Facility Plant Lists

1. The plant lists provided in the following tables are separated by facility type (such as planters, rain gardens, green roof, etc.). Each facility list includes a suitability matrix for limiting contextual factors (such as moisture zones and width of facility) as well as a listing of specific characteristics for each species, such as native to the area, if it is an evergreen, its average height and the on-center spacing.
2. The following characteristics are included in plant matrices to aid in plant selection:
  - (a) Botanical name, Common Name: Plants are listed by their botanical name first, in italics, followed by a generally accepted common name. Note that common names vary, so use of the botanical name is recommended to ensure proper plant selection
  - (b) Zone: Denotes the planting moisture zone as noted in the facility diagrams in Figure A-1. Some plants work in multiple moisture zones, and others only in a particular dry, moist, or wet condition.
  - (c) Origin: The distinction between Northwest native plants, cultivated varieties of Northwest Natives, and plants that are non-native but adapted to our specific climate.
  - (d) Type/Size: A range of factors to aid in plant selection showing individual plant characteristics:
    - (1) (E)vergreen/(D)eciduous: Identifies the characteristic of a plant to keep foliage during winter months. Planting placement and selection should maintain a balance of evergreen and deciduous materials.

- (2) Potential Height: Maximum size at maturity to use as a design guideline.
- (3) On-Center Spacing: Optimum spacing for new plantings. This is to be used as a guideline and may vary slightly depending on site conditions.

(e) Context Factors

- (1) Facilities less than 3 feet wide: Narrow conditions require plants that are not too large and will outgrow or have potential for roots to damage, narrow planters.
- (2) Fully Lined Facility: Limit larger material or plants with aggressive roots.
- (3) Parking Area: Use plant materials that do not limit necessary line of sight visibility.
- (4) Streets: Use plant materials that do not limit necessary line of sight visibility.
- (5) Adjacent to Buildings: Limit plants that are too large for areas next to buildings and would not be compatible with building footings, windows or other systems.







# Storm Water Blend 2.3

PLANTING SOIL SPECIALISTS SINCE 1968

## **PRO-GRO STORM WATER BLEND 2.3 CONTAINS:**

**Screened Sand, Soil Life, Type 1, Compost, Screened Sandy loam**

This product meets the City of Portland Storm Water Specifications.

### **Sandy Loam – A natural, clean source located in Oregon**

This is a true Willamette Valley Sandy Loam, not a clay and sand blend.

This naturally occurring material is harvested within 10 miles from Pro-Gro Mixes production facility.

### **Soil Life Compost – Green waste compost produced in Oregon**

The compost is derived from plant material and provided by a member of the US Composting Council Seal of Testing Assurance (STA) program. The compost percentage in the blend is 30% to 40% by volume.

This Organic, OMRI listed, compost is produced within 50 miles from the Pro-Gro Mixes production facility.

### **Screened Sand – A local source of Graded Sand**

This is clean, washed, sand that is screened to meet the gradation specifications.

The material supplier is located less than 50 miles from Pro-Gro Mixes production Facility.

### **Finished Blend has a PH range between 6 and 8**

### **Pro-Gro Mixes Production Facility is located at:**

26045 SW Grahams Ferry Road  
Sherwood, Oregon 97140  
503-682-3500

## TECHNICAL REPORT

**Report To:** Mr. Dave Andrews  
 Pro Gro Mixes & Materials  
 PO Box 1127  
 Tualatin, Oregon 97062

**Date:** 2/2/18

**Lab No.:** 18-023

**Project:** Laboratory Testing

**Project No.:** 2413.1.1

**Report of:** Sieve analysis – Stormwater

### Sample Identification

As requested, NTI provided sieve analysis on one sample delivered to our laboratory on January 31, 2018 by a Pro Gro Mixes & Materials representative. All testing was performed in general accordance with the methods indicated. Our laboratory's test results are summarized on the following table.

### Laboratory Test Results

Sieve Analysis of Aggregate (AASHTO T27/T11)		
Sieve Size	Percent Passing	Specification
3/8"	100	--
1/4"	100	--
#4	98	75 – 100
#8	82	--
#10	79	40 – 100
#16	70	--
#30	57	--
#40	46	15 – 50
#50	32	--
#100	14	5 – 25
#200	7.1	5 – 15

**Copies:** Addressee



**Turf & Soil Diagnostics**

Pro-Gro Mixes & Materials  
 Dave Andrews  
 26045 SW Grahams Ferry Road  
 Tualatin, OR 97062

Date Received Aug-12-2016  
 Date Reported Aug-25-2016  
 Facility Product Development

**Maximum Media Density for Dead Load Analysis of Green Roof Systems †**

Lab ID#	Sample Name	Water Permeability (Saturated Hydraulic Conductivity)		Initial Media Density (Application Density)		Maximum Media Density (Saturated Density)		Maximum Media Water Retention (%)	Dry Media Density	
		(in/hr)	(mm/min)	(lb/ft <sup>3</sup> )	(g/cm <sup>3</sup> )	(lb/ft <sup>3</sup> )	(g/cm <sup>3</sup> )		(lb/ft <sup>3</sup> )	(g/cm <sup>3</sup> )
16080070-2	Storm Water	24.0	10.2	92.6	1.48	113.6	1.82	52	81.7	1.31

Lab ID#	Sample Name	Initial Sample Wt. (Kg)	Sample Volume (m <sup>3</sup> )	Initial Sample Height (cm)	Final Sample Height (cm)	Sample Wt. After Draining (Kg)	Total Pore Space (%)	Air-filled Porosity** (%)	pH***	Electrical Conductivity mmhos/cm	Organic Matter** (%)
16080070-2	Storm Water	2.708	0.0018	10.1	10.3	3.3	51	-1	6.6	0.1	6.2

**Particle Size Evaluation\***

Lab ID#	Sample Name	% Sand 2.0 - 0.063 mm	% Silt 0.063-0.002 mm	% Clay < 0.002mm	% Passing US sieve (mm)					
					Gravel 3/8"	Gravel 1/8" (3.17)	Gravel 10 (2.0)	V. Coarse 18 (1.0)	Medium 60 (0.25)	V. Fine 230 (0.063)
16080070-2	Storm Water	63.0	7.4	4.0	100.0	85.7	74.4	64.4	26.5	11.1

† ASTM E2399 †† At Maximum Media Density (Water-holding Capacity)

\*\*\* ASTM D4972 w CaCl<sub>2</sub> (not screened)

\* ASTM F1632 Method B

\*\* Ashed at 550° C (FLL Guidelines)

Samples were tested as received and comments pertain only to the samples shown.  
 This report may not be reproduced in part, but only in full.  
 Sample condition upon receipt was normal.  
 Samples were received with a transmittal letter.

**Duane Otto**

Digitally signed by Duane Otto  
 DN: cn=Duane Otto, o=Turf and  
 Soil Diagnostics, ou,  
 email=duane@turfdiag.com, c=US  
 Date: 2016.08.25 17:37:36 -05'00'

Reviewed by \_\_\_\_\_



## Rain Gardens Operations & Maintenance Plan

What to Look For	What to Do
<b>Structural Components, including inlets and outlets/overflows, shall freely convey stormwater.</b>	
Clogged inlets or outlets	-Remove sediment and debris from catch basins, trench drains and curb inlets and pipes to maintain at least 50% conveyance capacity at all times.
Cracked Drain Pipes	-Repair/seal cracks. Replace when repair is insufficient.
Check Dams	-Maintain 4 to 10 inch deep rock check dams at design intervals.
<b>Vegetation</b>	
Dead or strained vegetation	-Replant per original planting plan, or substitute from Appendix A. -Irrigate as needed. Mulch banks annually. DO NOT apply fertilizers, herbicides, or pesticides.
Tall Grass and Vegetation	-Cut back grass and prune overgrowth 1-2 times per year. Remove cuttings
Weeds	-Manually remove weeds. Remove all plant debris.
<b>Growing/Filter Medium, including soil and gravels, shall sustain healthy plant cover and infiltrate within 72 hours.</b>	
Gullies	-Fill, lightly compact, and plant vegetation to disperse flow.
Erosion	-Replace splash blocks or inlet gravel/rock.
Slope Slippage	-Stabilize 3:1 slopes/banks with plantings from Appendix A
Ponding	-Rake, till, or amend to restore infiltration rate.

### Annual Maintenance Schedule:

*Summer.* Make any structural repairs. Improve filter medium as needed. Clear drain. Irrigate as needed.

*Fall.* Replant exposed soil and replace dead plants. Remove sediment and plant debris.

*Winter.* Monitor infiltration/flow-through rates. Clear inlets and outlets/overflows to maintain conveyance.

*Spring.* Remove sediment and plant debris. Replant exposed soil and replace dead plants. Mulch.

*All seasons.* Weed as necessary.

*Maintenance Records:* Record date, description, and contractor (if applicable) for all structural repairs, landscape maintenance, and facility cleanout activities. Keep work orders and invoices on file and make available upon request of the inspector.

*Access:* Maintain ingress/egress to design standards.

*Infiltration/Flow Control:* All facilities shall drain within 72 hours. Record time/date, weather, and site conditions when ponding occurs.

*Pollution Prevention:* All sites shall implement best management practices to prevent hazardous or solid wastes or excessive oil and sediment from contaminating stormwater. Contact \_\_\_\_\_ for immediate assistance responding to spills. Record time/date, weather, and site conditions if site activities contaminate stormwater.

*Vectors (Mosquitoes & Rodents):* Stormwater facilities shall not harbor mosquito larvae or rats that pose a threat to public health or that undermine the facility structure. Monitor standing water for small wiggling sticks perpendicular to the water's surface. Note holes/burrows in and around facilities. Call Clackamas County Vector Control for immediate assistance to eradicate vectors. Record time/date, weather, and site conditions when vector activity observed.

### Rain Garden O & M Plan

DRAWING NUMBER: ST-6030

DRAWN BY: SR

SCALE: N.T.S.

FILE NAME: ST-6030.DWG

APPROVED BY: NK

DATE: 10/15/14

CITY OF  
WILSONVILLE



PUBLIC WORKS STANDARDS

## Vegetated Swales Operations & Maintenance Plan

What to Look For	What to Do
<b>Structural Components, including inlets and outlets/overflows, shall freely convey stormwater.</b>	
Clogged inlets or outlets	-Remove sediment and debris from catch basins, trench drains, curb inlets and pipes to maintain at least 50% conveyance capacity at all times.
Cracked Drain Pipes	-Replace/seal cracks. Replace when repair is insufficient.
Check Dams	-Maintain 4 - 10 inch deep rock check dams at design intervals.
<b>Vegetation</b>	
Dead or strained vegetation	-Replant per original planting plan, or substitute from Appendix A. -Irrigate as needed. Mulch banks annually. DO NOT apply fertilizers, herbicides, or pesticides.
Tall Grass and Vegetation	-Cut back to 4-6 inches, 1-2 times per year. Remove cuttings
Weeds	-Manually remove weeds. Remove all plant debris.
<b>Growing/Filter Medium, including soil and gravels, shall sustain healthy plant cover and infiltrate within 72 hours.</b>	
Gullies	-Fill, lightly compact, and plant vegetation to disperse flow.
Erosion	-Restore or create outfalls, checkdams, or splash blocks where necessary.
Slope Sippage	-Stabilize Slope.
Ponding	-Rake, till, or amend to restore infiltration rate.

### Annual Maintenance Schedule:

*Summer.* Make any structural repairs. Improve filter medium as needed. Clear drain. Irrigate as needed.

*Fall.* Replant exposed soil and replace dead plants. Remove sediment and plant debris.

*Winter.* Monitor infiltration/flow-through rates. Clear inlets and outlets/overflows to maintain conveyance.

*Spring.* Remove sediment and plant debris. Replant exposed soil and replace dead plants. Mulch.

*All seasons.* Weed as necessary.

*Maintenance Records:* Record date, description, and contractor (if applicable) for all structural repairs, landscape maintenance, and facility cleanout activities. Keep work orders and invoices on file and make available upon request of the inspector.

*Access:* Maintain ingress/egress to design standards.

*Infiltration/Flow Control:* All facilities shall drain within 72 hours. Record time/date, weather, and site conditions when ponding occurs.

*Pollution Prevention:* All sites shall implement best management practices to prevent hazardous or solid wastes or excessive oil and sediment from contaminating stormwater. Contact \_\_\_\_\_ for immediate assistance responding to spills. Record time/date, weather, and site conditions if site activities contaminate stormwater.

*Vectors (Mosquitoes & Rodents):* Stormwater facilities shall not harbor mosquito larvae or rats that pose a threat to public health or that undermine the facility structure. Monitor standing water for small wiggling sticks perpendicular to the water's surface.

Note holes/burrows in and around facilities. Call Clackamas County Vector Control for immediate assistance to eradicate vectors. Record time/date, weather, and site conditions when vector activity observed.

### Vegetated Swale O & M Plan

DRAWING NUMBER: ST-6055

DRAWN BY: SR

SCALE: N.T.S.

FILE NAME: ST-6055.DWG

APPROVED BY: NK

DATE: 10/8/14

CITY OF  
WILSONVILLE



PUBLIC WORKS STANDARDS

## Vegetated Filter Strips Operations & Maintenance Plan

What to Look For	What to Do
<b>Structural Components</b> , including inlets and outlets/overflows, shall freely convey stormwater.	
Clogged inlets or outlets	-Remove sediment and debris from trench drains and curb inlets to maintain at least 50% conveyance capacity at all times.
Ineffective flow-spreaders	-Clear accumulated silt
Check Dams	-Maintain 4 to 10 inch deep rock check dams at design intervals
<b>Vegetation</b>	
Dead or strained vegetation	-Replant per original planting plan, or substitute from Appendix A. -Irrigate as needed. DO NOT apply fertilizers, herbicides, or pesticides.
Tall Grass and Vegetation	-Cut back to 4-6 inches, 1-2 times per year. Remove cuttings
Weeds	-Manually remove weeds. Remove all plant debris.
<b>Growing/Filter Medium</b> , including soil and gravels, shall sustain healthy plant cover	
Ponding	-Rake, till, or amend to restore infiltration rate.
Gullies	-Fill, lightly compact, and plant vegetation to disperse flow.
Erosion	-Restore or create outfalls, checkdams, or splash blocks where necessary.
Slope Slippage	-Stabilize Slope

### Annual Maintenance Schedule:

*Summer.* Make any structural repairs. Improve filter medium as needed. Irrigate as needed.

*Fall.* Replant exposed soil and replace dead plants. Remove sediment and plant debris.

*Winter.* Monitor flow-through rates. Clear inlets to maintain conveyance.

*Spring.* Remove sediment and plant debris. Replant exposed soil and replace dead plants. Mulch.

All seasons. Weed as necessary.

*Maintenance Records:* Record date, description, and contractor (if applicable) for all structural repairs, landscape

maintenance, and facility cleanout activities. Keep work orders and invoices on file and make available upon request of the inspector.

*Access:* Maintain ingress/egress to design standards.

*Pollution Prevention:* All sites shall implement best management practices to prevent hazardous or solid wastes or excessive oil and sediment from contaminating stormwater. Contact \_\_\_\_\_ for immediate assistance responding to spills. Record time/date, weather, and site conditions if site activities contaminate stormwater.

*Vectors (Mosquitoes & Rodents):* Stormwater facilities shall not harbor mosquito larvae or rats that pose a threat to public health or that undermine the facility structure. Monitor standing water for small wiggling sticks perpendicular to the water's surface. Note holes/burrows in and around facilities. Call Clackamas County Vector Control for immediate assistance to eradicate vectors. Record time/date, weather, and site conditions when vector activity observed.

### Vegetated Filter Strips O & M Plan

DRAWING NUMBER: ST-6040

DRAWN BY: SR

SCALE: N.T.S.

FILE NAME: ST-6040.DWG

APPROVED BY: NK

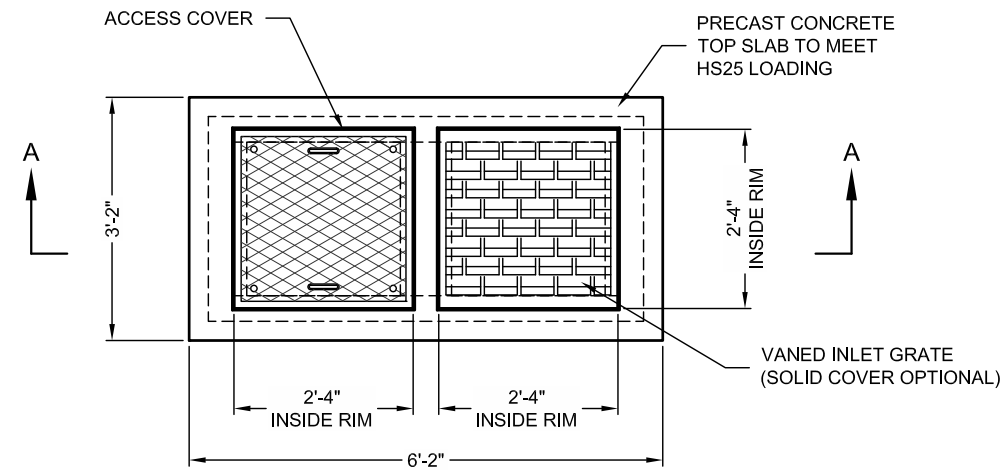
DATE: 10/8/14

CITY OF  
WILSONVILLE

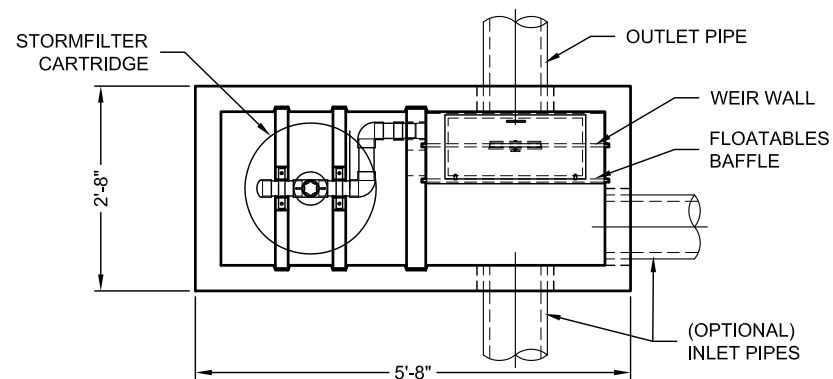


PUBLIC WORKS STANDARDS

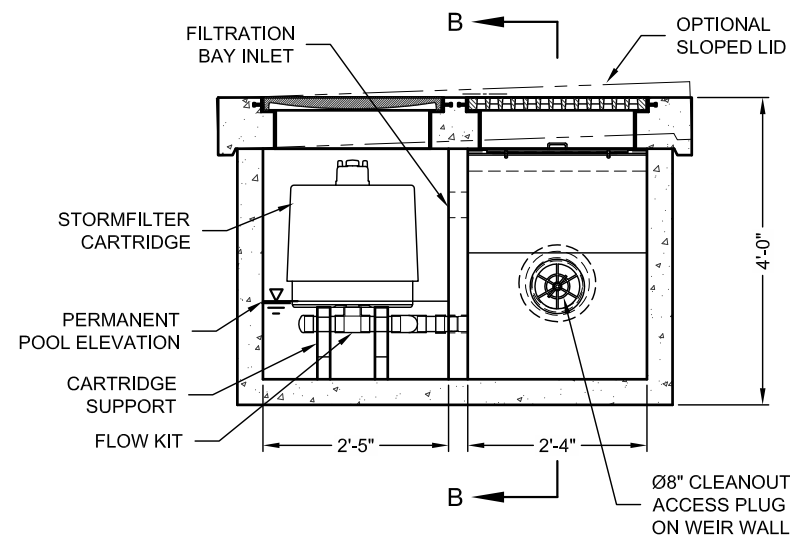




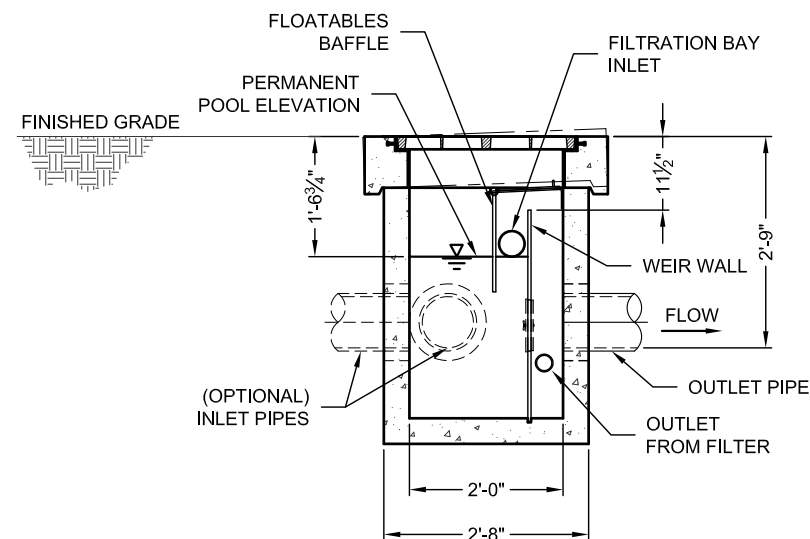
**PLAN VIEW**



**PLAN VIEW  
WITHOUT TOP SLAB**



**SECTION A-A**



**SECTION B-B**

**STORMFILTER CONCRETE CATCHBASIN DESIGN NOTES**

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. 1 CARTRIDGE CATCHBASIN HAS A MAXIMUM OF ONE CARTRIDGE. SYSTEM IS SHOWN WITH A 18" CARTRIDGE, AND IS ALSO AVAILABLE WITH AN 27" CARTRIDGE.

PEAK HYDRAULIC CAPACITY PER TABLE BELOW. IF THE SITE CONDITIONS EXCEED PEAK HYDRAULIC CAPACITY, A DOWNSTREAM BYPASS STRUCTURE IS REQUIRED.

**CARTRIDGE SELECTION**

CARTRIDGE HEIGHT	27"			18"			18" DEEP		
RECOMMENDED HYDRAULIC DROP (H)	3.05'			2.3'			3.5'		
SPECIFIC FLOW RATE (gpm/sf)	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	2 gpm/sf	1.67* gpm/sf	1 gpm/sf
CARTRIDGE FLOW RATE (gpm)	22.5	18.79	11.25	15	12.53	7.5	15	12.53	7.5
PEAK HYDRAULIC CAPACITY	1.0			1.0			1.8		
INLET PERMANENT POOL LEVEL (A)	1'-7"			1'-7"			2'-4"		
OVERALL STRUCTURE HEIGHT (B)	5'-0"			4'-0"			5'-0"		

\* 1.67 gpm/sf SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY

**GENERAL NOTES**

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- FOR SITE SPECIFIC DRAWINGS WITH DETAILED STORMFILTER CATCHBASIN STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. [www.ContechES.com](http://www.ContechES.com)
- STORMFILTER CATCHBASIN WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
- INLET SHOULD NOT BE LOWER THAN OUTLET. INLET (IF APPLICABLE) AND OUTLET PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR.
- CONCRETE STRUCTURE TO BE MANUFACTURED OF PRECAST CONCRETE TO MEET HS25 LOAD RATING. CASTINGS SHALL MEET AASHTO M306 LOAD RATING.
- FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
- SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).

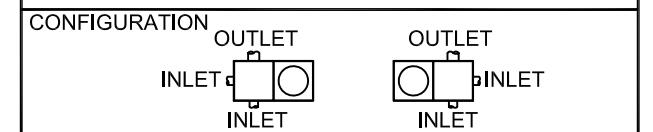
**INSTALLATION NOTES**

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CATCHBASIN (LIFTING CLUTCHES PROVIDED).
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

**1-CARTRIDGE CATCHBASIN  
STORMFILTER DATA**

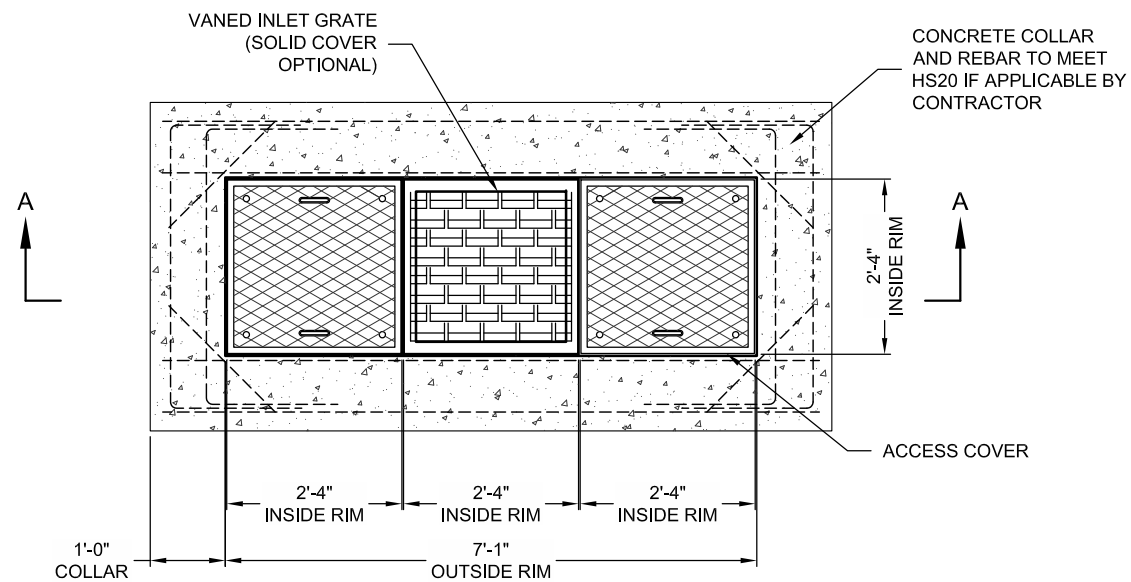
STRUCTURE ID	XXX
WATER QUALITY FLOW RATE (cfs)	X.XX
PEAK FLOW RATE (<1 cfs)	X.XX
RETURN PERIOD OF PEAK FLOW (yrs)	XXX
CARTRIDGE HEIGHT (27", 18", 18" DEEP)	XX
CARTRIDGE FLOW RATE (gpm)	XX
MEDIA TYPE (PERLITE, ZPG, PSORB)	XXXXX
RIM ELEVATION	XXX.XX'

PIPE DATA:	I.E.	DIAMETER
INLET STUB	XXX.XX'	XX"
OUTLET STUB	XXX.XX'	XX"

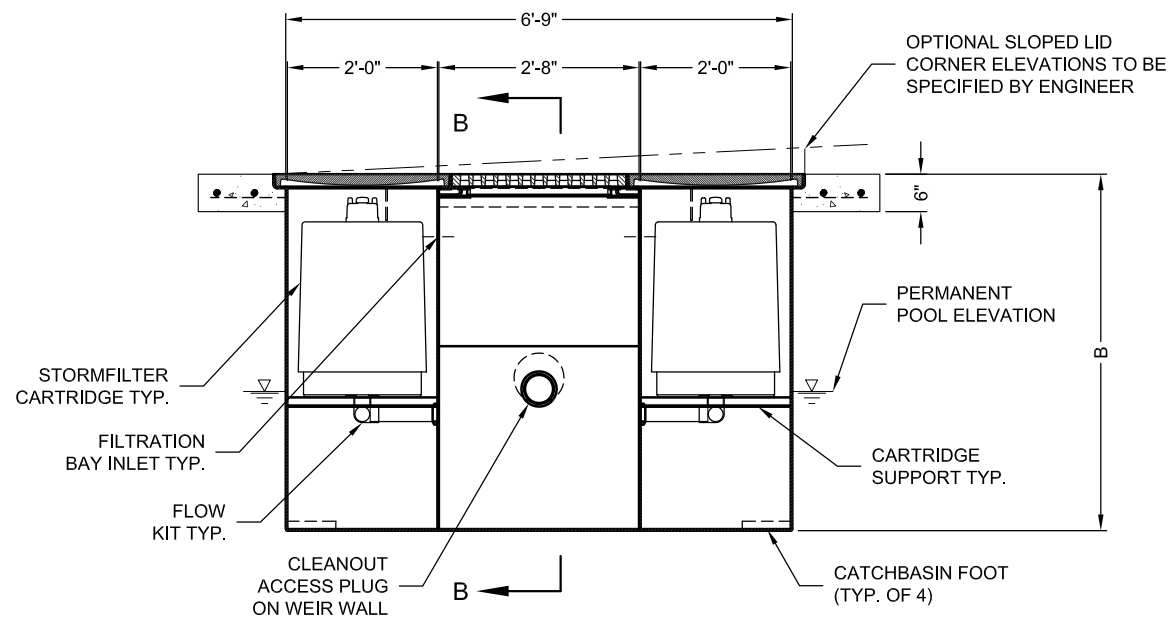


SLOPED LID	YES/NO
SOLID COVER	YES/NO

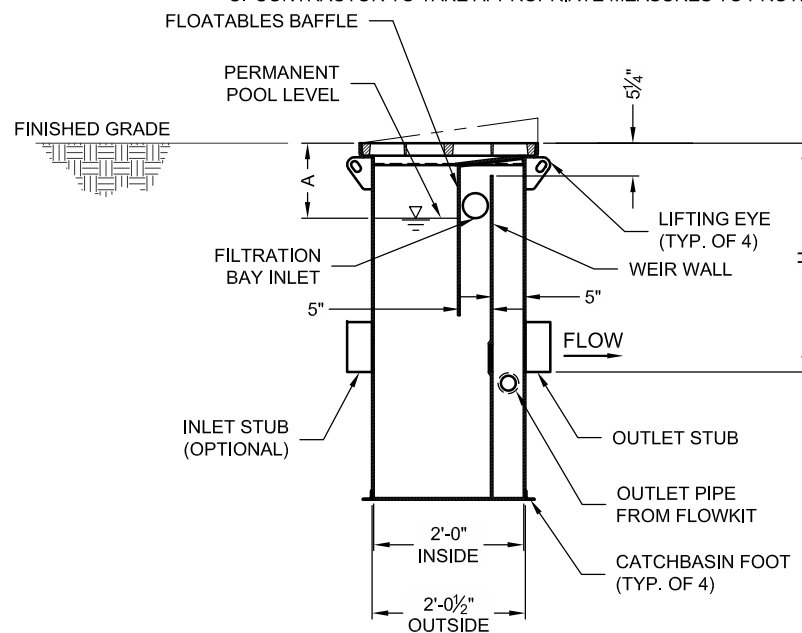
NOTES/SPECIAL REQUIREMENTS:



**PLAN VIEW**



**SECTION A-A**



**SECTION B-B**

**STORMFILTER STEEL CATCHBASIN DESIGN NOTES**

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. 2 CARTRIDGE CATCHBASIN HAS A MAXIMUM OF TWO CARTRIDGES. SYSTEM IS SHOWN WITH A 27" CARTRIDGE, AND IS ALSO AVAILABLE WITH AN 18" CARTRIDGE. STORMFILTER CATCHBASIN CONFIGURATIONS ARE AVAILABLE WITH A DRY INLET BAY FOR VECTOR CONTROL. PEAK HYDRAULIC CAPACITY PER TABLE BELOW. IF THE SITE CONDITIONS EXCEED PEAK HYDRAULIC CAPACITY, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

**CARTRIDGE SELECTION**

CARTRIDGE HEIGHT	27"			18"			18" DEEP		
RECOMMENDED HYDRAULIC DROP (H)	3.05'			2.3'			3.3'		
SPECIFIC FLOW RATE (gpm/sf)	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	2 gpm/sf	1.67* gpm/sf	1 gpm/sf
CARTRIDGE FLOW RATE (gpm)	22.5	18.79	11.25	15	12.53	7.5	15	12.53	7.5
PEAK HYDRAULIC CAPACITY	1.0			1.0			1.8		
INLET PERMANENT POOL LEVEL (A)	1'-0"			1'-0"			2'-0"		
OVERALL STRUCTURE HEIGHT (B)	4'-9"			3'-9"			4'-9"		

\* 1.67 gpm/sf SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY

**GENERAL NOTES**

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- FOR SITE SPECIFIC DRAWINGS WITH DETAILED STORMFILTER CATCHBASIN STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. WWW.CONTECHES.COM
- STORMFILTER CATCHBASIN WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
- INLET SHOULD NOT BE LOWER THAN OUTLET. INLET (IF APPLICABLE) AND OUTLET PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR.
- MANUFACTURER TO APPLY A SURFACE BEAD WELD IN THE SHAPE OF THE LETTER "O" ABOVE THE OUTLET PIPE STUB ON THE EXTERIOR SURFACE OF THE STEEL SFCB.
- STORMFILTER CATCHBASIN EQUIPPED WITH 4 INCH (APPROXIMATE) LONG STUBS FOR INLET (IF APPLICABLE) AND OUTLET PIPING. STANDARD OUTLET STUB IS 8 INCHES IN DIAMETER. MAXIMUM OUTLET STUB IS 15 INCHES IN DIAMETER. CONNECTION TO COLLECTION PIPING CAN BE MADE USING FLEXIBLE COUPLING BY CONTRACTOR.
- STEEL STRUCTURE TO BE MANUFACTURED OF 1/4 INCH STEEL PLATE. CASTINGS SHALL MEET AASHTO M306 LOAD RATING. TO MEET HS20 LOAD RATING ON STRUCTURE, A CONCRETE COLLAR IS REQUIRED. WHEN REQUIRED, CONCRETE COLLAR WITH #4 REINFORCING BARS TO BE PROVIDED BY CONTRACTOR.
- FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
- SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).

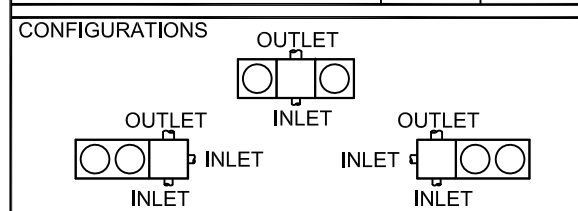
**INSTALLATION NOTES**

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CATCHBASIN (LIFTING CLUTCHES PROVIDED).
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

**2-CARTRIDGE DEEP CATCHBASIN STORMFILTER DATA**

STRUCTURE ID	XXX
WATER QUALITY FLOW RATE (cfs)	X.XX
PEAK FLOW RATE (<1.8 cfs)	X.XX
RETURN PERIOD OF PEAK FLOW (yrs)	XXX
CARTRIDGE FLOW RATE (gpm)	XX
MEDIA TYPE (PERLITE, ZPG, PSORB)	XXXXX
RIM ELEVATION	XXX.XX'

PIPE DATA:	I.E.	DIAMETER
INLET STUB	XXX.XX'	XX"
OUTLET STUB	XXX.XX'	XX"



SLOPED LID	YES/NO
SOLID COVER	YES/NO
NOTES/SPECIAL REQUIREMENTS:	

## STORMFILTER STEEL CATCHBASIN DESIGN NOTES

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. 3 CARTRIDGE CATCHBASIN HAS A MAXIMUM OF THREE CARTRIDGES. SYSTEM IS SHOWN WITH A 27" CARTRIDGE, AND IS ALSO AVAILABLE WITH AN 18" CARTRIDGE. STORMFILTER CATCHBASIN CONFIGURATIONS ARE AVAILABLE WITH A DRY INLET BAY FOR VECTOR CONTROL. PEAK HYDRAULIC CAPACITY PER TABLE BELOW. IF THE SITE CONDITIONS EXCEED PEAK HYDRAULIC CAPACITY, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

### CARTRIDGE SELECTION

CARTRIDGE HEIGHT	27"			18"			18" DEEP		
	3.05'			2.3'			3.3'		
RECOMMENDED HYDRAULIC DROP (H)	3.05'			2.3'			3.3'		
SPECIFIC FLOW RATE (gpm/sf)	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	2 gpm/sf	1.67* gpm/sf	1 gpm/sf
CARTRIDGE FLOW RATE (gpm)	22.5	18.79	11.25	15	12.53	7.5	15	12.53	7.5
PEAK HYDRAULIC CAPACITY	1.0			1.0			1.8		
INLET PERMANENT POOL LEVEL (A)	1'-0"			1'-0"			2'-0"		
OVERALL STRUCTURE HEIGHT (B)	4'-9"			3'-9"			4'-9"		

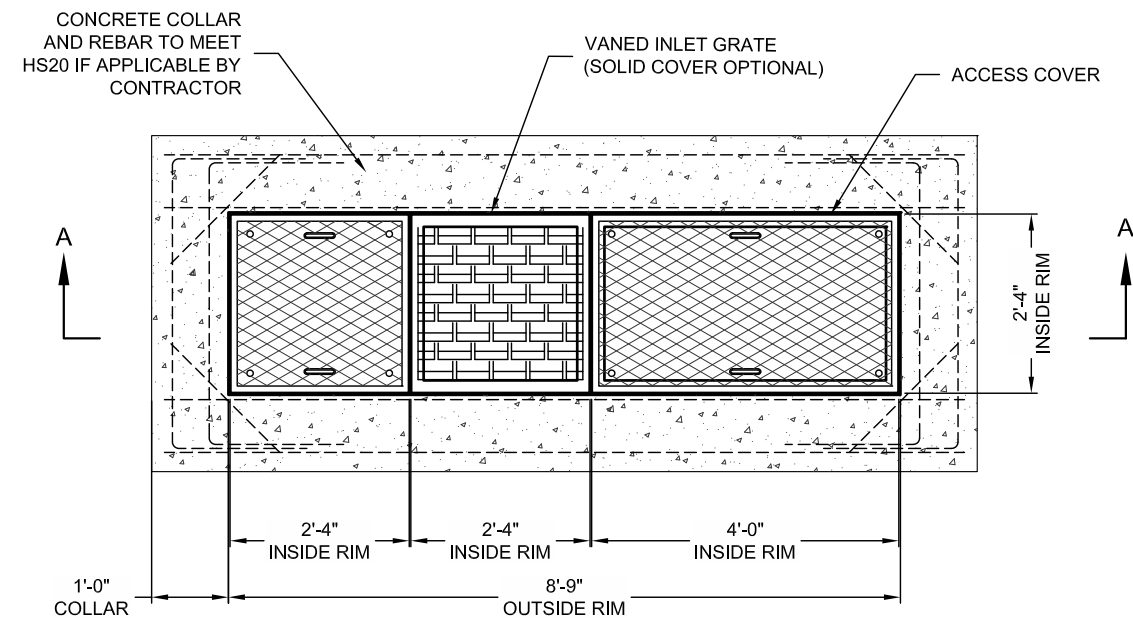
\* 1.67 gpm/sf SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY

### GENERAL NOTES

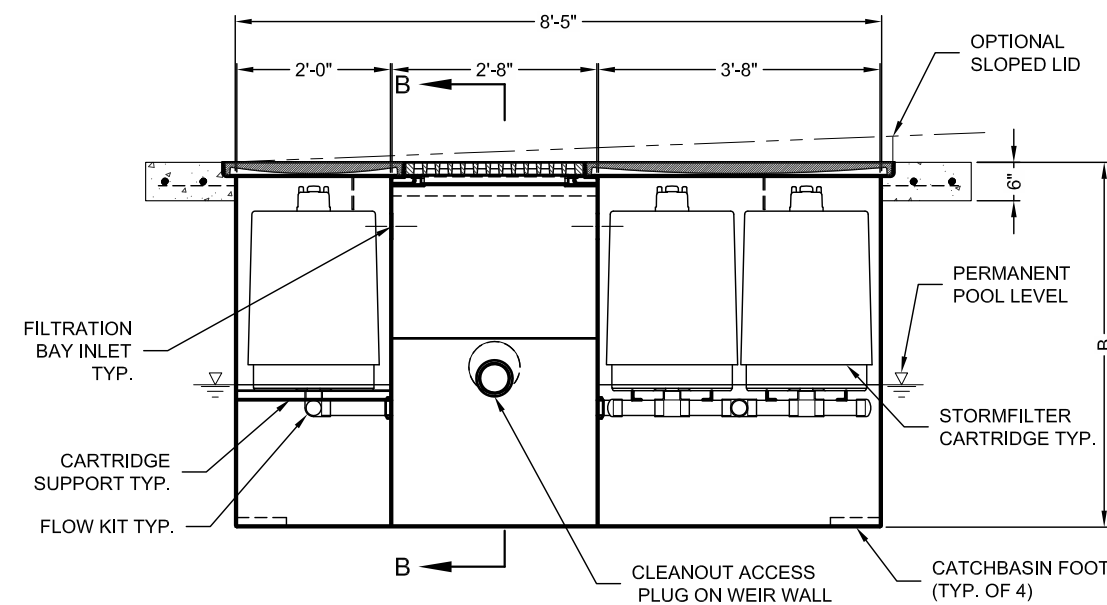
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- FOR SITE SPECIFIC DRAWINGS WITH DETAILED STORMFILTER CATCHBASIN STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. [www.contechES.com](http://www.contechES.com)
- STORMFILTER CATCHBASIN WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
- INLET SHOULD NOT BE LOWER THAN OUTLET. INLET (IF APPLICABLE) AND OUTLET PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR.
- MANUFACTURER TO APPLY A SURFACE BEAD WELD IN THE SHAPE OF THE LETTER "O" ABOVE THE OUTLET PIPE STUB ON THE EXTERIOR SURFACE OF THE STEEL SFCB.
- STORMFILTER CATCHBASIN EQUIPPED WITH 4 INCH (APPROXIMATE) LONG STUBS FOR INLET (IF APPLICABLE) AND OUTLET PIPING. STANDARD OUTLET STUB IS 8 INCHES IN DIAMETER. MAXIMUM OUTLET STUB IS 15 INCHES IN DIAMETER. CONNECTION TO COLLECTION PIPING CAN BE MADE USING FLEXIBLE COUPLING BY CONTRACTOR.
- STEEL STRUCTURE TO BE MANUFACTURED OF 1/4 INCH STEEL PLATE. CASTINGS SHALL MEET AASHTO M306 LOAD RATING. TO MEET HS20 LOAD RATING ON STRUCTURE, A CONCRETE COLLAR IS REQUIRED. WHEN REQUIRED, CONCRETE COLLAR WITH #4 REINFORCING BARS TO BE PROVIDED BY CONTRACTOR.
- FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
- SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).

### INSTALLATION NOTES

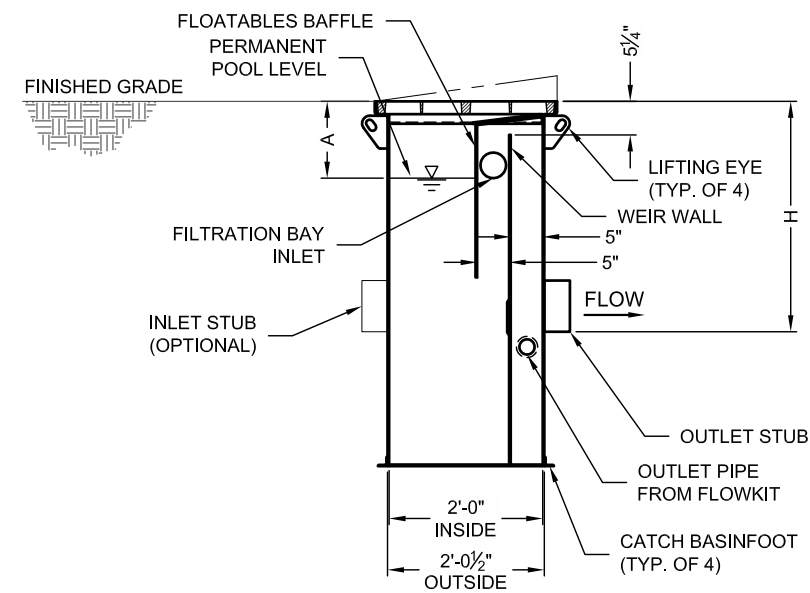
- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CATCHBASIN (LIFTING CLUTCHES PROVIDED).
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.



PLAN VIEW



SECTION A-A



SECTION B-B

### 3-CARTRIDGE CATCHBASIN STORMFILTER DATA

STRUCTURE ID	XXX
WATER QUALITY FLOW RATE (cfs)	X.XX
PEAK FLOW RATE (<1 cfs)	X.XX
RETURN PERIOD OF PEAK FLOW (yrs)	XXX
CARTRIDGE FLOW RATE (gpm)	XX
MEDIA TYPE (PERLITE, ZPG, PSORB)	XXXXX
RIM ELEVATION	XXX.XX'

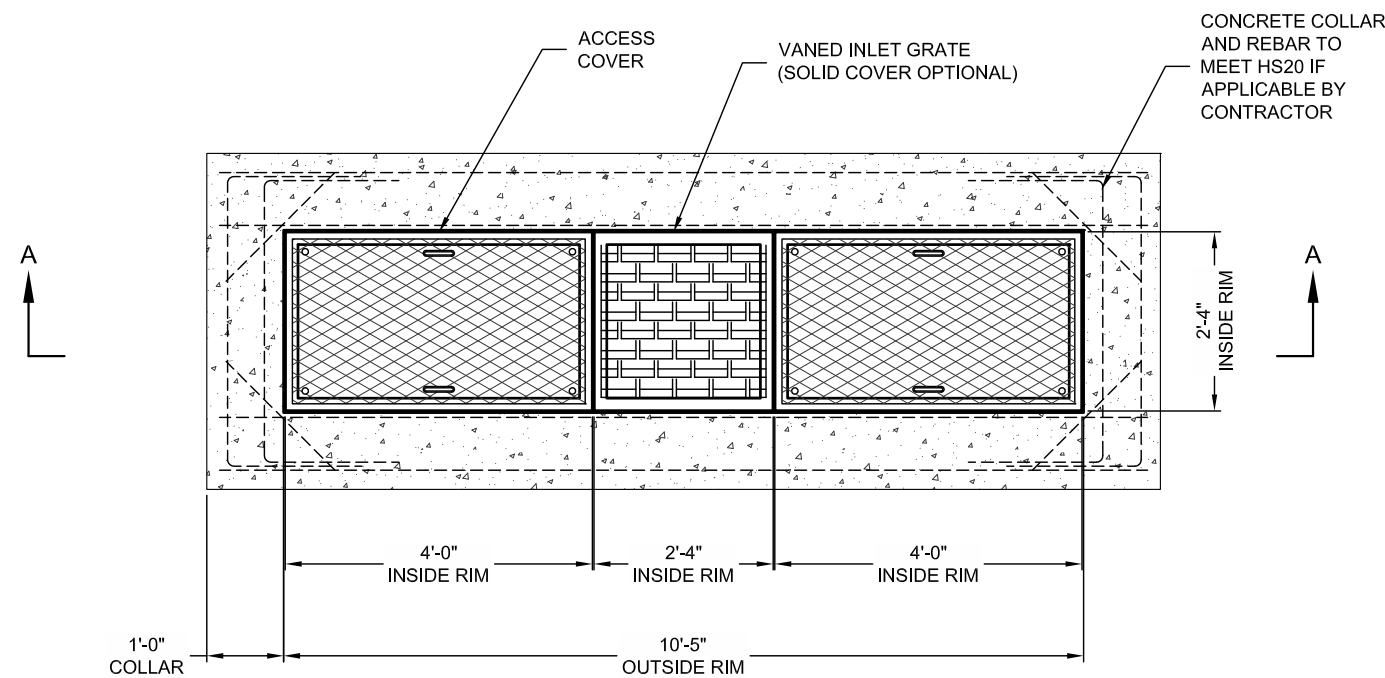
PIPE DATA:	I.E.	DIAMETER
INLET STUB	XXX.XX'	XX"
OUTLET STUB	XXX.XX'	XX"

### CONFIGURATION

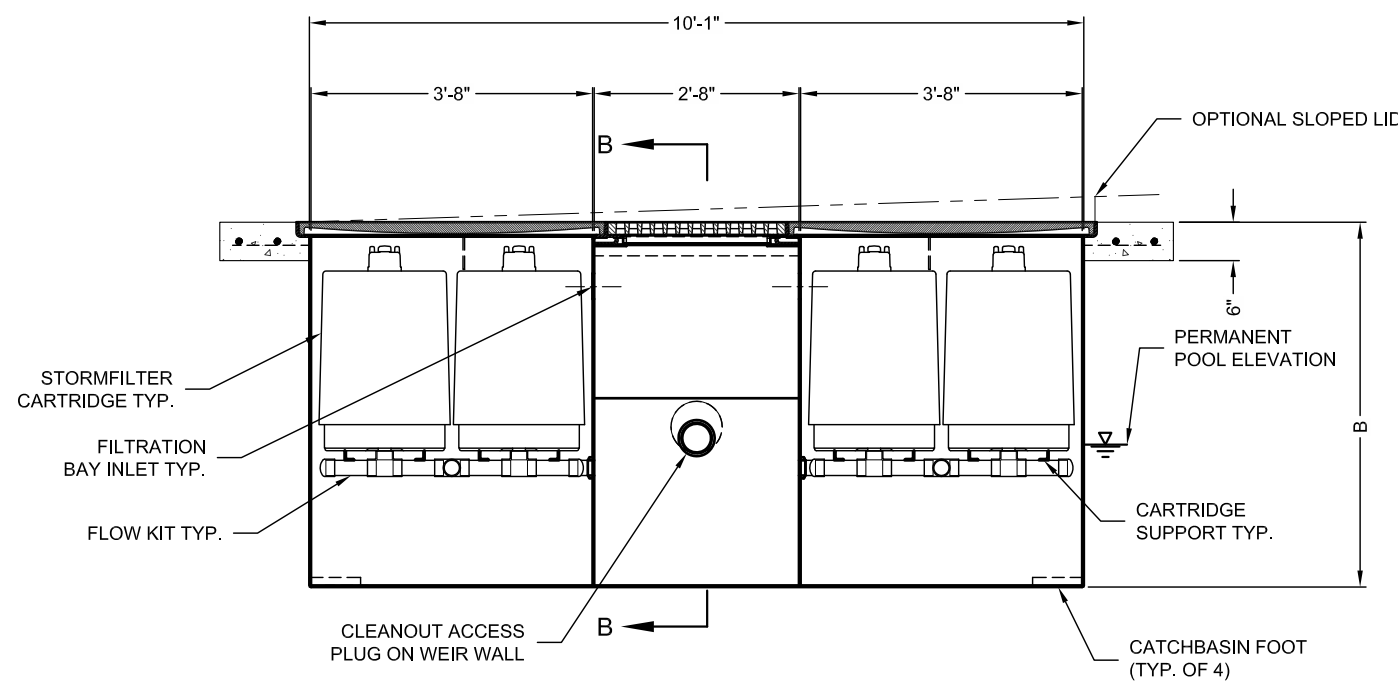


SLOPED LID	YES/NO
SOLID COVER	YES/NO

NOTES/SPECIAL REQUIREMENTS:



**PLAN VIEW**  
27" CARTRIDGES



**SECTION A-A**

**STORMFILTER STEEL CATCHBASIN DESIGN NOTES**

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. 4 CARTRIDGE CATCHBASIN HAS A MAXIMUM OF FOUR CARTRIDGES. SYSTEM IS SHOWN WITH A 27" CARTRIDGE, AND IS ALSO AVAILABLE WITH AN 18" CARTRIDGE. STORMFILTER CATCHBASIN CONFIGURATIONS ARE AVAILABLE WITH A DRY INLET BAY FOR VECTOR CONTROL. PEAK HYDRAULIC CAPACITY PER TABLE BELOW. IF THE SITE CONDITIONS EXCEED PEAK HYDRAULIC CAPACITY, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

**CARTRIDGE SELECTION**

CARTRIDGE HEIGHT	27"			18"			18" DEEP		
RECOMMENDED HYDRAULIC DROP (H)	3.05'			2.3'			3.3'		
SPECIFIC FLOW RATE (gpm/sf)	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	2 gpm/sf	1.67* gpm/sf	1 gpm/sf
CARTRIDGE FLOW RATE (gpm)	22.5	18.79	11.25	15	12.53	7.5	15	12.53	7.5
PEAK HYDRAULIC CAPACITY	1.0			1.0			1.8		
INLET PERMANENT POOL LEVEL (A)	1'-0"			1'-0"			2'-0"		
OVERALL STRUCTURE HEIGHT (B)	4'-9"			3'-9"			4'-9"		

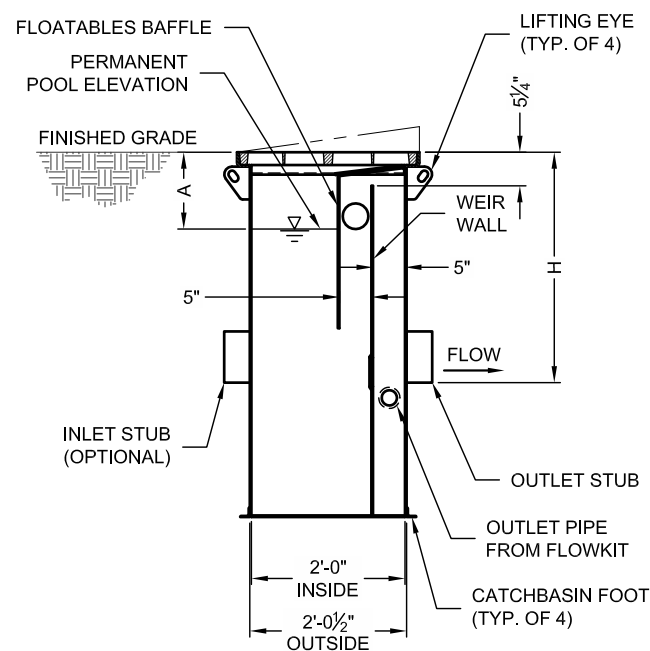
\* 1.67 gpm/sf SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY

**GENERAL NOTES**

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- FOR SITE SPECIFIC DRAWINGS WITH DETAILED STORMFILTER CATCHBASIN STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. [www.contechES.com](http://www.contechES.com)
- STORMFILTER CATCHBASIN WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
- INLET SHOULD NOT BE LOWER THAN OUTLET. INLET (IF APPLICABLE) AND OUTLET PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR.
- MANUFACTURER TO APPLY A SURFACE BEAD WELD IN THE SHAPE OF THE LETTER "O" ABOVE THE OUTLET PIPE STUB ON THE EXTERIOR SURFACE OF THE STEEL SFCB.
- STORMFILTER CATCHBASIN EQUIPPED WITH 4 INCH (APPROXIMATE) LONG STUBS FOR INLET (IF APPLICABLE) AND OUTLET PIPING. STANDARD OUTLET STUB IS 8 INCHES IN DIAMETER. MAXIMUM OUTLET STUB IS 15 INCHES IN DIAMETER. CONNECTION TO COLLECTION PIPING CAN BE MADE USING FLEXIBLE COUPLING BY CONTRACTOR.
- STEEL STRUCTURE TO BE MANUFACTURED OF 1/4 INCH STEEL PLATE. CASTINGS SHALL MEET AASHTO M306 LOAD RATING. TO MEET HS20 LOAD RATING ON STRUCTURE, A CONCRETE COLLAR IS REQUIRED. WHEN REQUIRED, CONCRETE COLLAR WITH #4 REINFORCING BARS TO BE PROVIDED BY CONTRACTOR.
- FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
- SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).

**INSTALLATION NOTES**

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CATCHBASIN (LIFTING CLUTCHES PROVIDED).
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

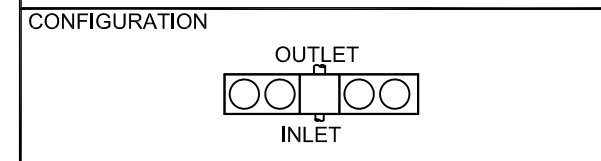


**SECTION C-C**

**4-CARTRIDGE CATCHBASIN  
STORMFILTER DATA**

STRUCTURE ID	XXX
WATER QUALITY FLOW RATE (cfs)	X.XX
PEAK FLOW RATE (<1 cfs)	X.XX
RETURN PERIOD OF PEAK FLOW (yrs)	XXX
CARTRIDGE FLOW RATE (gpm)	XX
MEDIA TYPE (PERLITE, ZPG, PSORB)	XXXXX
RIM ELEVATION	XXX.XX'

PIPE DATA:	I.E.	DIAMETER
INLET STUB	XXX.XX'	XX"
OUTLET STUB	XXX.XX'	XX"



SLOPED LID	YES/NO
SOLID COVER	YES/NO

NOTES/SPECIAL REQUIREMENTS:

\*PER ENGINEER OF RECORD

## CatchBasin StormFilter™

*Important: These guidelines should be used as a part of your site stormwater plan.*

### Overview

The CatchBasin StormFilter™ (CBSF) consists of a multi-chamber steel, concrete, or plastic catch basin unit that can contain up to four StormFilter cartridges. The steel CBSF is offered both as a standard and as a deep unit.

The CBSF is installed flush with the finished grade and is applicable for both constrained lot and retrofit applications. It can also be fitted with an inlet pipe for roof leaders or similar applications.

The CBSF unit treats peak water quality design flows up to 0.13 cfs, coupled with an internal weir overflow capacity of 1.0 cfs for the standard unit, and 1.8 cfs for the deep steel and concrete units. Plastic units have an internal weir overflow capacity of 0.5 cfs.

### Design Operation

The CBSF is installed as the primary receiver of runoff, similar to a standard, grated catch basin. The steel and concrete CBSF units have an H-20 rated, traffic bearing lid that allows the filter to be installed in parking lots, and for all practical purposes, takes up no land area. Plastic units can be used in landscaped areas and for other non-traffic-bearing applications.

The CBSF consists of a sumped inlet chamber and a cartridge chamber(s). Runoff enters the sumped inlet chamber either by sheet flow from a paved surface or from an inlet pipe discharging directly to the unit vault. The inlet chamber is equipped with an internal baffle, which traps debris and floating oil and grease, and an overflow weir. While in the inlet chamber, heavier solids are allowed to settle into the deep sump, while lighter solids and soluble pollutants are directed under the baffle and into the cartridge chamber through a port between the baffle and the overflow weir.

Once in the cartridge chamber, polluted water ponds and percolates horizontally through the media in the filter cartridges. Treated water collects in the cartridge's center tube from where it is directed by an under-drain manifold to the outlet pipe on the downstream side of the overflow weir and discharged.

When flows into the CBSF exceed the water quality design value, excess water spills over the overflow weir, bypassing the cartridge bay, and discharges to the outlet pipe.

### Applications

The CBSF is particularly useful where small flows are being treated or for sites that are flat and have little available hydraulic head to spare. The unit is ideal for applications in which standard catch basins are to be used. Both water quality and catchment issues can be resolved with the use of the CBSF.

### Retro-Fit

The retrofit market has many possible applications for the CBSF. The CBSF can be installed by replacing an existing catch basin without having to "chase the grade," thus reducing the high cost of re-piping the storm system.



## CatchBasin StormFilter™

### Maintenance Guidelines

Maintenance procedures for typical catch basins can be applied to the CatchBasin StormFilter (CBSF). The filter cartridges contained in the CBSF are easily removed and replaced during maintenance activities according to the following guidelines.

1. Establish a safe working area as per typical catch basin service activity.
2. Remove steel grate and diamond plate cover (weight 100 lbs. each).
3. Turn cartridge(s) counter-clockwise to disconnect from pipe manifold.
4. Remove 4" center cap from cartridge and replace with lifting cap.
5. Remove cartridge(s) from catch basin by hand or with vactor truck boom.
6. Remove accumulated sediment via vactor truck (min. clearance 13" x 24").
7. Remove accumulated sediment from cartridge bay. (min. clearance 9.25" x 11").
8. Rinse interior of both bays and vactor remaining water and sediment.
9. Install fresh cartridge(s) threading clockwise to pipe manifold.
10. Replace cover and grate.
11. Return original cartridges to Contech for cleaning.

Media may be removed from the filter cartridges using the vactor truck before the cartridges are removed from the catch basin structure. Empty cartridges can be easily removed from the catch basin structure by hand. Empty cartridges should be reassembled and returned to Contech as appropriate.

Materials required include a lifting cap, vactor truck and fresh filter cartridges. Contact Contech for specifications and availability of the lifting cap. The vactor truck must be equipped with a hose capable of reaching areas of restricted clearance. the owner may refresh spent cartridges. Refreshed cartridges are also available from Contech on an exchange basis. Contact the maintenance department of Contech at 503-258-3157 for more information.

Maintenance is estimated at 26 minutes of site time. For units with more than one cartridge, add approximately 5 minutes for each additional cartridge. Add travel time as required.

### Mosquito Abatement

In certain areas of the United States, mosquito abatement is desirable to reduce the incidence of vectors.

In BMPs with standing water, which could provide mosquito breeding habitat, certain abatement measures can be taken.

1. Periodic observation of the standing water to determine if the facility is harboring mosquito larvae.
2. Regular catch basin maintenance.
3. Use of larvicides containing *Bacillus thuringiensis israelensis* (BTI). BTI is a bacterium toxic to mosquito and black fly larvae.

In some cases, the presence of petroleum hydrocarbons may interrupt the mosquito growth cycle.

### Using Larvicides in the CatchBasin StormFilter

Larvicides should be used according to manufacturer's recommendations.

Two widely available products are Mosquito Dunks and Summit B.t.i. Briquets. For more information, visit [http://www.summitchemical.com/mos\\_ctrl/default.htm](http://www.summitchemical.com/mos_ctrl/default.htm).

The larvicide must be in contact with the permanent pool. The larvicide should also be fastened to the CatchBasin StormFilter by string or wire to prevent displacement by high flows. A magnet can be used with a steel catch basin.

For more information on mosquito abatement in stormwater BMPs, refer to the following: <http://www.ucmrp.ucdavis.edu/publications/managingmosquitoesstormwater8125.pdf>

## StormFilter Inspection and Maintenance Procedures



## Maintenance Guidelines

The primary purpose of the Stormwater Management StormFilter® is to filter and prevent pollutants from entering our waterways. Like any effective filtration system, periodically these pollutants must be removed to restore the StormFilter to its full efficiency and effectiveness.

Maintenance requirements and frequency are dependent on the pollutant load characteristics of each site. Maintenance activities may be required in the event of a chemical spill or due to excessive sediment loading from site erosion or extreme storms. It is a good practice to inspect the system after major storm events.

## Maintenance Procedures

Although there are many effective maintenance options, we believe the following procedure to be efficient, using common equipment and existing maintenance protocols. The following two-step procedure is recommended::

### 1. Inspection

- Inspection of the vault interior to determine the need for maintenance.

### 2. Maintenance

- Cartridge replacement
- Sediment removal

## Inspection and Maintenance Timing

At least one scheduled inspection should take place per year with maintenance following as warranted.

First, an inspection should be done before the winter season. During the inspection the need for maintenance should be determined and, if disposal during maintenance will be required, samples of the accumulated sediments and media should be obtained.

Second, if warranted, a maintenance (replacement of the filter cartridges and removal of accumulated sediments) should be performed during periods of dry weather.

In addition to these two activities, it is important to check the condition of the StormFilter unit after major storms for potential damage caused by high flows and for high sediment accumulation that may be caused by localized erosion in the drainage area. It may be necessary to adjust the inspection/maintenance schedule depending on the actual operating conditions encountered by the system. In general, inspection activities can be conducted at any time, and maintenance should occur, if warranted, during dryer months in late summer to early fall.

## Maintenance Frequency

The primary factor for determining frequency of maintenance for the StormFilter is sediment loading.

A properly functioning system will remove solids from water by trapping particulates in the porous structure of the filter media inside the cartridges. The flow through the system will naturally decrease as more and more particulates are trapped. Eventually the flow through the cartridges will be low enough to require replacement. It may be possible to extend the usable span of the cartridges by removing sediment from upstream trapping devices on a routine as-needed basis, in order to prevent material from being re-suspended and discharged to the StormFilter treatment system.

The average maintenance lifecycle is approximately 1-5 years. Site conditions greatly influence maintenance requirements. StormFilter units located in areas with erosion or active construction may need to be inspected and maintained more often than those with fully stabilized surface conditions.

Regulatory requirements or a chemical spill can shift maintenance timing as well. The maintenance frequency may be adjusted as additional monitoring information becomes available during the inspection program. Areas that develop known problems should be inspected more frequently than areas that demonstrate no problems, particularly after major storms. Ultimately, inspection and maintenance activities should be scheduled based on the historic records and characteristics of an individual StormFilter system or site. It is recommended that the site owner develop a database to properly manage StormFilter inspection and maintenance programs..







## Inspection Procedures

The primary goal of an inspection is to assess the condition of the cartridges relative to the level of visual sediment loading as it relates to decreased treatment capacity. It may be desirable to conduct this inspection during a storm to observe the relative flow through the filter cartridges. If the submerged cartridges are severely plugged, then typically large amounts of sediments will be present and very little flow will be discharged from the drainage pipes. If this is the case, then maintenance is warranted and the cartridges need to be replaced.

**Warning:** In the case of a spill, the worker should abort inspection activities until the proper guidance is obtained. Notify the local hazard control agency and Contech Engineered Solutions immediately.

To conduct an inspection:

**Important:** Inspection should be performed by a person who is familiar with the operation and configuration of the StormFilter treatment unit and the unit's role, relative to detention or retention facilities onsite.

1. If applicable, set up safety equipment to protect and notify surrounding vehicle and pedestrian traffic.
2. Visually inspect the external condition of the unit and take notes concerning defects/problems.
3. Open the access portals to the vault and allow the system vent.
4. Without entering the vault, visually inspect the inside of the unit, and note accumulations of liquids and solids.
5. Be sure to record the level of sediment build-up on the floor of the vault, in the forebay, and on top of the cartridges. If flow is occurring, note the flow of water per drainage pipe. Record all observations. Digital pictures are valuable for historical documentation.
6. Close and fasten the access portals.
7. Remove safety equipment.
8. If appropriate, make notes about the local drainage area relative to ongoing construction, erosion problems, or high loading of other materials to the system.
9. Discuss conditions that suggest maintenance and make decision as to whether or not maintenance is needed.

## Maintenance Decision Tree

The need for maintenance is typically based on results of the inspection. The following Maintenance Decision Tree should be used as a general guide. (Other factors, such as Regulatory Requirements, may need to be considered).

Please note Stormwater Management StormFilter devices installed downstream of, or integrated within, a stormwater storage facility typically have different operational parameters (i.e. draindown time). In these cases, the inspector must understand the relationship between the retention/detention facility and the treatment system by evaluating site specific civil engineering plans, or contacting the engineer of record, and make adjustments to the below guidance as necessary. Sediment deposition depths and patterns within the StormFilter are likely to be quite different compared to systems without upstream storage and therefore shouldn't be used exclusively to evaluate a need for maintenance.

1. Sediment loading on the vault floor.
  - a. If  $>4$ " of accumulated sediment, maintenance is required.
2. Sediment loading on top of the cartridge.
  - a. If  $>1/4$ " of accumulation, maintenance is required.
3. Submerged cartridges.
  - a. If  $>4$ " of static water above cartridge bottom for more than 24 hours after end of rain event, maintenance is required. (Catch basins have standing water in the cartridge bay.)
4. Plugged media.
  - a. While not required in all cases, inspection of the media within the cartridge may provide valuable additional information.
  - b. If pore space between media granules is absent, maintenance is required.
5. Bypass condition.
  - a. If inspection is conducted during an average rain fall event and StormFilter remains in bypass condition (water over the internal outlet baffle wall or submerged cartridges), maintenance is required.
6. Hazardous material release.
  - a. If hazardous material release (automotive fluids or other) is reported, maintenance is required.
7. Pronounced scum line.
  - a. If pronounced scum line (say  $\geq 1/4$ " thick) is present above top cap, maintenance is required.

## Maintenance

Depending on the configuration of the particular system, maintenance personnel will be required to enter the vault to perform the maintenance.

**Important:** If vault entry is required, OSHA rules for confined space entry must be followed.

Filter cartridge replacement should occur during dry weather. It may be necessary to plug the filter inlet pipe if base flows is occurring.

Replacement cartridges can be delivered to the site or customers facility. Information concerning how to obtain the replacement cartridges is available from Contech Engineered Solutions.

**Warning:** In the case of a spill, the maintenance personnel should abort maintenance activities until the proper guidance is obtained. Notify the local hazard control agency and Contech Engineered Solutions immediately.

To conduct cartridge replacement and sediment removal maintenance:

1. If applicable, set up safety equipment to protect maintenance personnel and pedestrians from site hazards.
2. Visually inspect the external condition of the unit and take notes concerning defects/problems.
3. Open the doors (access portals) to the vault and allow the system to vent.
4. Without entering the vault, give the inside of the unit, including components, a general condition inspection.
5. Make notes about the external and internal condition of the vault. Give particular attention to recording the level of sediment build-up on the floor of the vault, in the forebay, and on top of the internal components.
6. Using appropriate equipment offload the replacement cartridges (up to 150 lbs. each) and set aside.
7. Remove used cartridges from the vault using one of the following methods:

### Method 1:

- A. This activity will require that maintenance personnel enter the vault to remove the cartridges from the under drain manifold and place them under the vault opening for lifting (removal). Disconnect each filter cartridge from the underdrain connector by rotating counterclockwise 1/4 of a turn. Roll the loose cartridge, on edge, to a convenient spot beneath the vault access.

Using appropriate hoisting equipment, attach a cable from the boom, crane, or tripod to the loose cartridge. Contact Contech Engineered Solutions for suggested attachment devices.

- B. Remove the used cartridges (up to 250 lbs. each) from the vault.



**Important:** Care must be used to avoid damaging the cartridges during removal and installation. The cost of repairing components damaged during maintenance will be the responsibility of the owner.

- C. Set the used cartridge aside or load onto the hauling truck.
- D. Continue steps a through c until all cartridges have been removed.

### Method 2:

- A. This activity will require that maintenance personnel enter the vault to remove the cartridges from the under drain manifold and place them under the vault opening for lifting (removal). Disconnect each filter cartridge from the underdrain connector by rotating counterclockwise 1/4 of a turn. Roll the loose cartridge, on edge, to a convenient spot beneath the vault access.
- B. Unscrew the cartridge cap.
- C. Remove the cartridge hood and float.
- D. At location under structure access, tip the cartridge on its side.
- E. Empty the cartridge onto the vault floor. Reassemble the empty cartridge.
- F. Set the empty, used cartridge aside or load onto the hauling truck.
- G. Continue steps a through e until all cartridges have been removed.

8. Remove accumulated sediment from the floor of the vault and from the forebay. This can most effectively be accomplished by use of a vacuum truck.
9. Once the sediments are removed, assess the condition of the vault and the condition of the connectors.
10. Using the vacuum truck boom, crane, or tripod, lower and install the new cartridges. Once again, take care not to damage connections.
11. Close and fasten the door.
12. Remove safety equipment.
13. Finally, dispose of the accumulated materials in accordance with applicable regulations. Make arrangements to return the used **empty** cartridges to Contech Engineered Solutions.

## Related Maintenance Activities - Performed on an as-needed basis

StormFilter units are often just one of many structures in a more comprehensive stormwater drainage and treatment system.

In order for maintenance of the StormFilter to be successful, it is imperative that all other components be properly maintained. The maintenance/repair of upstream facilities should be carried out prior to StormFilter maintenance activities.

In addition to considering upstream facilities, it is also important to correct any problems identified in the drainage area. Drainage area concerns may include: erosion problems, heavy oil loading, and discharges of inappropriate materials.

## Material Disposal

The accumulated sediment found in stormwater treatment and conveyance systems must be handled and disposed of in accordance with regulatory protocols. It is possible for sediments to contain measurable concentrations of heavy metals and organic chemicals (such as pesticides and petroleum products). Areas with the greatest potential for high pollutant loading include industrial areas and heavily traveled roads.

Sediments and water must be disposed of in accordance with all applicable waste disposal regulations. When scheduling maintenance, consideration must be made for the disposal of solid and liquid wastes. This typically requires coordination with a local landfill for solid waste disposal. For liquid waste disposal a number of options are available including a municipal vacuum truck decant facility, local waste water treatment plant or on-site treatment and discharge.



# Inspection Report

Date: \_\_\_\_\_ Personnel: \_\_\_\_\_

Location: \_\_\_\_\_ System Size: \_\_\_\_\_ Months in Service: \_\_\_\_\_

System Type: Vault  Cast-In-Place  Linear Catch Basin  Manhole  Other: \_\_\_\_\_

Sediment Thickness in Forebay: \_\_\_\_\_ Date: \_\_\_\_\_

Sediment Depth on Vault Floor: \_\_\_\_\_

Sediment Depth on Cartridge Top(s): \_\_\_\_\_

Structural Damage: \_\_\_\_\_

Estimated Flow from Drainage Pipes (if available): \_\_\_\_\_

Cartridges Submerged: Yes  No  Depth of Standing Water: \_\_\_\_\_

StormFilter Maintenance Activities (check off if done and give description)

Trash and Debris Removal: \_\_\_\_\_

Minor Structural Repairs: \_\_\_\_\_

Drainage Area Report \_\_\_\_\_

Excessive Oil Loading: Yes  No  Source: \_\_\_\_\_

Sediment Accumulation on Pavement: Yes  No  Source: \_\_\_\_\_

Erosion of Landscaped Areas: Yes  No  Source: \_\_\_\_\_

Items Needing Further Work: \_\_\_\_\_

Owners should contact the local public works department and inquire about how the department disposes of their street waste residuals.

Other Comments:

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Review the condition reports from the previous inspection visits.

# StormFilter Maintenance Report

Date: \_\_\_\_\_ Personnel: \_\_\_\_\_

Location: \_\_\_\_\_ System Size: \_\_\_\_\_

System Type: Vault  Cast-In-Place  Linear Catch Basin  Manhole  Other: \_\_\_\_\_

List Safety Procedures and Equipment Used: \_\_\_\_\_

## System Observations

Months in Service: \_\_\_\_\_

Oil in Forebay (if present): Yes  No

Sediment Depth in Forebay (if present): \_\_\_\_\_

Sediment Depth on Vault Floor: \_\_\_\_\_

Sediment Depth on Cartridge Top(s): \_\_\_\_\_

Structural Damage: \_\_\_\_\_

## Drainage Area Report

Excessive Oil Loading: Yes  No  Source: \_\_\_\_\_

Sediment Accumulation on Pavement: Yes  No  Source: \_\_\_\_\_

Erosion of Landscaped Areas: Yes  No  Source: \_\_\_\_\_

## StormFilter Cartridge Replacement Maintenance Activities

Remove Trash and Debris: Yes  No  Details: \_\_\_\_\_

Replace Cartridges: Yes  No  Details: \_\_\_\_\_

Sediment Removed: Yes  No  Details: \_\_\_\_\_

Quantity of Sediment Removed (estimate?): \_\_\_\_\_

Minor Structural Repairs: Yes  No  Details: \_\_\_\_\_

Residuals (debris, sediment) Disposal Methods: \_\_\_\_\_

Notes:

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#### Support

- Drawings and specifications are available at [www.conteches.com](http://www.conteches.com).
- Site-specific design support is available from our engineers.

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# APPENDIX E

GRADING AND DRAINAGE PLAN









DEPARTMENT OF THE ARMY  
U.S. ARMY CORPS OF ENGINEERS, PORTLAND DISTRICT  
P.O. BOX 2946  
PORTLAND, OR 97208-2946

August 6, 2020

Regulatory Branch  
Corps No. NWP-2020-236

Carlee Michelson  
Pacific Habitat Services  
9450 Southwest Commerce Circle Suite 180  
Wilsonville, Oregon 97070  
cm@pacifichabitat.com

Dear Ms. Michelson:

The U.S. Army Corps of Engineers (Corps) received your request for an Approved Jurisdictional Determination (AJD) of the aquatic resources within the review area as shown on the enclosed drawings (Enclosure 1). The review area is located at 26600 Southwest Parkway Avenue in Wilsonville, Clackamas County, Oregon at Latitude/ Longitude: 45.3246°, -122.7671°. Other aquatic resources that may occur on this property or on adjacent properties outside the review area are not the subject of this determination.

The Corps has determined Wetland A are not waters of the U.S. The enclosed *Approved Jurisdictional Determination Form* (Enclosure 2) provides the basis for jurisdiction. A copy of the AJD Form can also be found on our website at <http://www.nwp.usace.army.mil/Missions/Regulatory/Appeals/>.

If you object to the enclosed AJD, you may request an administrative appeal under 33 CFR Part 331 as described in the enclosed *Notification of Administrative Appeal Options and Process and Request for Appeal (RFA)* form (Enclosure 3). To appeal this AJD, you must submit a completed *RFA* form to the Corps Northwestern Division (NWD) office at the address listed on the form. In order for the request for appeal to be accepted, the Corps must determine that the form is complete, that the request meets the criteria for appeal under 33 CFR Part 331.5, and the form must also be received by the NWD office within 60 days from the date on the form. It is not necessary to submit the form to the NWD office if you do not object to the enclosed AJD.

This AJD has been conducted to identify the Corps' jurisdictional limits of the Clean Water Act for the review area shown in Enclosure 1. This AJD may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are U.S. Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to initiating work.

This AJD is valid for a period of five years from the date of this letter unless new information warrants revisions of the determination.

We would like to hear about your experience working with the Portland District, Regulatory Branch. Please complete a customer service survey form at the following address: [https://corpsmapu.usace.army.mil/cm\\_apex/f?p=136:4](https://corpsmapu.usace.army.mil/cm_apex/f?p=136:4).

If you have any questions regarding our Regulatory Program or permit requirements for work in waters of the U.S., please contact Mr. Thomas Sentner by telephone at (503) 808-4959 or email at [thomas.f.sentner@usace.army.mil](mailto:thomas.f.sentner@usace.army.mil).

Sincerely,



Digitally signed by  
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Date: 2020.08.06 14:25:23  
-07'00'

For: William D. Abadie  
Chief, Regulatory Branch

Enclosures

cc with drawings:

Oregon Department of State Lands (Anita Huffman, [anita.huffman@state.or.us](mailto:anita.huffman@state.or.us))  
Pacific Habitat Services, Inc. (Carlee Michelson, [cm@pacifichabitat.com](mailto:cm@pacifichabitat.com))

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments
1126	red oak	<i>Quercus rubra</i>	28	32	good	fair	multiple leaders with included bark
1127	Douglas-fir	<i>Pseudotsuga menziesii</i>	27	26	good	good	
1128	red oak	<i>Quercus rubra</i>	16	21	fair	fair	excessive pruning
1148	Norway maple	<i>Acer platanoides</i>	16	26	good	good	
1150	Norway maple	<i>Acer platanoides</i>	20	25	fair	fair	multiple leaders with included bark, fused surface roots
1152	Oregon ash	<i>Fraxinus latifolia</i>	15	17	good	fair	multiple leaders
1154	Oregon ash	<i>Fraxinus latifolia</i>	10	9	fair	fair	one sided, epicormic growth on lower trunk
1156	Oregon ash	<i>Fraxinus latifolia</i>	10	16	good	fair	multiple leaders
1158	Oregon ash	<i>Fraxinus latifolia</i>	13	18	good	fair	multiple leaders, one sided
1158.1	ponderosa pine	<i>Pinus ponderosa</i>	29	19	good	fair	one sided
1203	Douglas-fir	<i>Pseudotsuga menziesii</i>	25	26	poor	poor	codominant at 15' with included bark, history of top failures, dead top
1205	Douglas-fir	<i>Pseudotsuga menziesii</i>	26	26	good	fair	moderately one sided
1264	Douglas-fir	<i>Pseudotsuga menziesii</i>	21	22	good	fair	moderately one sided
1266	Douglas-fir	<i>Pseudotsuga menziesii</i>	12	15	good	fair	one sided, moderately suppressed
1268	Douglas-fir	<i>Pseudotsuga menziesii</i>	36	22	good	fair	codominant at 20'
1278	red oak	<i>Quercus rubra</i>	18	21	good	fair	codominant at 10'
1436	Colorado blue	<i>Picea pungens</i>	7	7	good	good	
1438	Colorado blue	<i>Picea pungens</i>	7	6	good	good	
1440	Colorado blue	<i>Picea pungens</i>	6	7	good	good	
1442	Colorado blue	<i>Picea pungens</i>	7	6	good	good	
1554	Japanese black	<i>Pinus thunbergii</i>	15	18	good	good	
1556	Japanese black	<i>Pinus thunbergii</i>	19	19	good	fair	codominant at 5'
1558	Japanese black	<i>Pinus thunbergii</i>	13,7	15	good	fair	codominant at ground, multiple leaders in crown
1560	Japanese black	<i>Pinus thunbergii</i>	16	13	good	fair	codominant at 20'
1603	ponderosa pine	<i>Pinus ponderosa</i>	8	6	good	good	
1613	Japanese black	<i>Pinus thunbergii</i>	13	18	poor	poor	low vigor, thin crown
1651	Norway maple	<i>Acer platanoides</i>	12	12	fair	fair	stunted growth, multiple leaders
1653	Norway maple	<i>Acer platanoides</i>	10	9	fair	fair	stunted growth, codominant at 6'
1655	Norway maple	<i>Acer platanoides</i>	13	12	fair	fair	excessive crown raising, damaged surface roots
1657	Norway maple	<i>Acer platanoides</i>	14	13	good	fair	damaged surface roots
2043	Norway maple	<i>Acer platanoides</i>	11	13	fair	fair	stunted growth
2093	red oak	<i>Quercus rubra</i>	20	25	good	fair	codominant at 25' with included bark
2093.1	red oak	<i>Quercus rubra</i>	28	30	good	fair	one sided, multiple leaders with included bark
2093.2	red oak	<i>Quercus rubra</i>	18	27	good	fair	one sided
2093.3	red oak	<i>Quercus rubra</i>	25	30	good	good	
2093.4	red oak	<i>Quercus rubra</i>	27	26	good	fair	multiple leaders with included bark
2105	ponderosa pine	<i>Pinus ponderosa</i>	32	25	good	good	
2159	red oak	<i>Quercus rubra</i>	18	24	good	good	

**Key**

	Good
	Fair
	Poor
	Very Poor

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments
2207	Douglas-fir	<i>Pseudotsuga menziesii</i>	37	28	good	fair	one sided
2208	Douglas-fir	<i>Pseudotsuga menziesii</i>	29	29	good	fair	codominant at 12' with included bark
2210	Douglas-fir	<i>Pseudotsuga menziesii</i>	28	26	good	fair	codominant at 12' with included bark
2211	Douglas-fir	<i>Pseudotsuga menziesii</i>	28	27	good	fair	multiple leaders at 18', one sided
2215	Leyland cypress	<i>Cupressus × leylandii</i>	36	17	good	good	DBH estimated due to limited trunk access
2217	Leyland cypress	<i>Cupressus × leylandii</i>	28	19	good	good	DBH estimated due to limited trunk access
2218	Leyland cypress	<i>Cupressus × leylandii</i>	18,18	19	good	good	DBH estimated due to limited trunk access
2219	Leyland cypress	<i>Cupressus × leylandii</i>	32	18	good	good	DBH estimated due to limited trunk access
2315	Douglas-fir	<i>Pseudotsuga menziesii</i>	22	19	good	good	
2414	Austrian pine	<i>Pinus nigra</i>	16	15	good	fair	codominant at 15'
2427	Norway maple	<i>Acer platanooides</i>	14	15	good	good	
2439	Norway maple	<i>Acer platanooides</i>	13	14	fair	fair	top pruned out of tree
2509	red oak	<i>Quercus rubra</i>	19	25	good	good	
2564	Norway maple	<i>Acer platanooides</i>	10	13	good	fair	multiple leaders at 6'
2565	Norway maple	<i>Acer platanooides</i>	10	16	poor	poor	low vigor
2594	red oak	<i>Quercus rubra</i>	18	25	fair	fair	large pruning cuts at lower trunk
2660	red oak	<i>Quercus rubra</i>	15	16	poor	poor	top pruned out of tree
2708	red oak	<i>Quercus rubra</i>	17	22	poor	poor	excessive pruning, top pruned out of tree
2724	red oak	<i>Quercus rubra</i>	16	19	good	good	
2852	red oak	<i>Quercus rubra</i>	15	22	poor	poor	top pruned out of tree
2862	red oak	<i>Quercus rubra</i>	15	17	poor	poor	top pruned out of tree
2876	Norway maple	<i>Acer platanooides</i>	10	9	fair	fair	low vigor
2881	Norway maple	<i>Acer platanooides</i>	10	11	fair	fair	low vigor
2998	red oak	<i>Quercus rubra</i>	16	25	fair	fair	heavily pruned
3067	Norway maple	<i>Acer platanooides</i>	8	7	poor	poor	low vigor, top pruned out of tree
3124	pin oak	<i>Quercus palustris</i>	13	15	fair	fair	heavily pruned
3179	pin oak	<i>Quercus palustris</i>	12	17	fair	fair	codominant at 20' with included bark, heavily pruned
3179.1	red oak	<i>Quercus rubra</i>	15	15	poor	poor	heavily pruned, top pruned out of tree
3181	pin oak	<i>Quercus palustris</i>	9	10	poor	poor	low vigor, heavily pruned
3348	red oak	<i>Quercus rubra</i>	16	19	poor	poor	top pruned out of tree
3396	red oak	<i>Quercus rubra</i>	11	10	fair	fair	heavily pruned
3509	pin oak	<i>Quercus palustris</i>	10	16	fair	fair	one sided, significant pruning
3511	red oak	<i>Quercus rubra</i>	18	24	poor	poor	top pruned out of tree
3561	red oak	<i>Quercus rubra</i>	9	9	poor	poor	low vigor, excessive pruning
3765	Japanese black	<i>Pinus thunbergii</i>	16	19	fair	fair	chlorotic, multiple trunks
3767	ponderosa pine	<i>Pinus ponderosa</i>	8	7	good	good	
3768	Japanese black	<i>Pinus thunbergii</i>	17	13	good	good	
3770	Japanese black	<i>Pinus thunbergii</i>	11,9	19	good	fair	codominant at 1' with included bark

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments
3772	Japanese black	<i>Pinus thunbergii</i>	12	11	good	good	
3774	Japanese black	<i>Pinus thunbergii</i>	12	17	good	good	
3776	Japanese black	<i>Pinus thunbergii</i>	11	19	good	fair	codominant at 10'
3778	Japanese black	<i>Pinus thunbergii</i>	13	15	good	good	
3780	ponderosa pine	<i>Pinus ponderosa</i>	6	5	good	good	
3782	Japanese black	<i>Pinus thunbergii</i>	11	14	good	fair	codominant at 10'
3784	red oak	<i>Quercus rubra</i>	31	33	good	fair	multiple leaders at 15'
3786	red oak	<i>Quercus rubra</i>	35	35	good	fair	multiple leaders at 18'
3788	ponderosa pine	<i>Pinus ponderosa</i>	6	5	good	good	
3790	ponderosa pine	<i>Pinus ponderosa</i>	7	8	good	good	
3792	Norway maple	<i>Acer platanoides</i>	12	13	fair	fair	significant pruning
3794	ponderosa pine	<i>Pinus ponderosa</i>	24	22	good	fair	codominant at 15'
3796	ponderosa pine	<i>Pinus ponderosa</i>	17	13	good	fair	one sided, codominant at 8' with included bark
3798	Japanese black	<i>Pinus thunbergii</i>	12	6	poor	good	
3800	Japanese black	<i>Pinus thunbergii</i>	15	12	good	good	
3802	Japanese black	<i>Pinus thunbergii</i>	20	20	good	fair	multiple leaders
3804	Japanese black	<i>Pinus thunbergii</i>	15	16	good	good	
3806	ponderosa pine	<i>Pinus ponderosa</i>	6	5	fair	fair	excessive crown raising, sequoia pitch moth
3807	western	<i>Thuja plicata</i>	8,6,6	7	fair	fair	excessive crown raising, multiple leaders at ground level
3809	ponderosa pine	<i>Pinus ponderosa</i>	24	21	good	fair	multiple leaders
3811	ponderosa pine	<i>Pinus ponderosa</i>	21	16	good	fair	multiple leaders, moderately one sided
3813	ponderosa pine	<i>Pinus ponderosa</i>	21	20	good	fair	multiple leaders
4001	Oregon ash	<i>Fraxinus latifolia</i>	15,7	20	good	fair	codominant at ground level, one sided, overtopped by adjacent trees
4005	Oregon white	<i>Quercus garryana</i>	36	32	fair	fair	decay pocket at root crown behind lean
4009	n/a	n/a	n/a	n/a	n/a	n/a	stump
4044	Norway maple	<i>Acer platanoides</i>	11	17	good	good	
4050	Oregon ash	<i>Fraxinus latifolia</i>	71	43	poor	poor	stump sprout with decay at lower trunk
4056	Norway maple	<i>Acer platanoides</i>	15	20	good	fair	moderately one sided
4062	Norway maple	<i>Acer platanoides</i>	20	25	good	fair	multiple leaders at 7' with included bark
4079	oak	<i>Quercus sp.</i>	16	20	good	fair	multiple leaders with included bark
4087	Norway maple	<i>Acer platanoides</i>	15	16	good	good	
4090	red oak	<i>Quercus rubra</i>	21	22	good	fair	moderately one sided
4092	Oregon white	<i>Quercus garryana</i>	29	36	good	fair	branches with high aspect ratios
4094	sweet cherry	<i>Prunus avium</i>	21	26	good	fair	upright competing branches
4095	Oregon ash	<i>Fraxinus latifolia</i>	8	15	good	good	
4097	Oregon ash	<i>Fraxinus latifolia</i>	10	16	good	fair	codominant at 15' with included bark
4099	Oregon ash	<i>Fraxinus latifolia</i>	9	15	good	good	
4101	red oak	<i>Quercus rubra</i>	20	27	good	fair	large pruning cut at lower trunk

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments
4103	Oregon ash	<i>Fraxinus latifolia</i>	8	14	good	fair	codominant at 12' with included bark
4105	Oregon white	<i>Quercus garryana</i>	11	17	good	fair	one sided
4107	Oregon white	<i>Quercus garryana</i>	22	27	good	fair	moderately one sided
4107.1	Oregon white	<i>Quercus garryana</i>	18	20	good	fair	one sided, added to site map in approximate location by arborist
4111	English	<i>Crataegus monogyna</i>	7,5	11	fair	fair	codominant at ground level, overtopped by adjacent trees
4112	red oak	<i>Quercus rubra</i>	16	21	good	good	
4113	Oregon white	<i>Quercus garryana</i>	9	13	poor	poor	suppressed
4115	Oregon white	<i>Quercus garryana</i>	11	14	good	fair	one sided
4117	Oregon white	<i>Quercus garryana</i>	7	9	fair	fair	overtopped by adjacent trees
4119	Oregon white	<i>Quercus garryana</i>	32	30	good	fair	dominant, codominant at 25' with included bark
4122	red oak	<i>Quercus rubra</i>	26	36	good	fair	multiple leaders at 12' with included bark
4124	Oregon white	<i>Quercus garryana</i>	13	20	fair	fair	overtopped by adjacent trees, one sided, decay seam from root crown to upper trunk
4126	Oregon white	<i>Quercus garryana</i>	26	19	good	good	
4128	Oregon white	<i>Quercus garryana</i>	21	23	good	fair	60% live crown ratio
4130	Oregon ash	<i>Fraxinus latifolia</i>	19,13,9	25	poor	poor	multiple leaders at 2' with large decay pocket
4134	Oregon ash	<i>Fraxinus latifolia</i>	n/a	n/a	poor	poor	same as tree 4130
4136	Oregon white	<i>Quercus garryana</i>	39	39	good	fair	codominant at 3', one sided
4138	Oregon white	<i>Quercus garryana</i>	n/a	n/a	good	fair	same as tree 4136
4140	Oregon white	<i>Quercus garryana</i>	44	35	good	fair	codominant at 5' with included bark
4142	Oregon white	<i>Quercus garryana</i>	30	38	good	fair	one sided, codominant at 2' with included bark
4152	Oregon ash	<i>Fraxinus latifolia</i>	17	18	fair	fair	one sided, decay pocket in trunk, marginal trunk taper
4154	Oregon ash	<i>Fraxinus latifolia</i>	22	17	fair	poor	previous failures with multiple leaders and decay at 18'
4156	Oregon ash	<i>Fraxinus latifolia</i>	17	15	fair	fair	one sided, 40% live crown ratio
4158	English	<i>Crataegus monogyna</i>	7,6,6,6,	19	fair	fair	one sided, overtopped by adjacent trees
4160	Oregon white	<i>Quercus garryana</i>	29	42	fair	fair	severe bend in trunk, leans north with upright stems on bent trunk
4179	red oak	<i>Quercus rubra</i>	11	7	good	fair	multiple leaders at 15'
4312	red oak	<i>Quercus rubra</i>	13	14	fair	fair	top pruned out of tree
4370	pin oak	<i>Quercus palustris</i>	12	16	fair	fair	top pruned out of tree
4432	Norway maple	<i>Acer platanoides</i>	13	8	poor	poor	low vigor
4450	Norway maple	<i>Acer platanoides</i>	11	10	poor	poor	low vigor, significant pruning, sunscald on surface roots
4456	Norway maple	<i>Acer platanoides</i>	13	15	good	fair	multiple leaders at 7' with included bark, sunscald on surface roots
4481	red oak	<i>Quercus rubra</i>	30	32	fair	fair	top pruned out of tree
4545	red oak	<i>Quercus rubra</i>	16	22	good	fair	multiple leaders at 10'
4693	red oak	<i>Quercus rubra</i>	20	24	good	fair	codominant at 15' with included bark
4723	red oak	<i>Quercus rubra</i>	15	18	good	fair	multiple leaders at 15'
4840	Norway maple	<i>Acer platanoides</i>	16	16	good	good	
4855	Norway maple	<i>Acer platanoides</i>	21	21	good	fair	multiple leaders at 8'
4859	Norway maple	<i>Acer platanoides</i>	12	10	good	fair	codominant at 7'

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments
4861	Norway maple	<i>Acer platanoides</i>	15	13	good	fair	multiple leaders at 6'
4961	red oak	<i>Quercus rubra</i>	26	30	fair	fair	significant past pruning
4963	red oak	<i>Quercus rubra</i>	26	27	fair	fair	top pruned out of tree
5058	red oak	<i>Quercus rubra</i>	18	20	good	fair	codominant at 10'
5315	red oak	<i>Quercus rubra</i>	27	36	good	fair	40% live crown ratio
5417	red oak	<i>Quercus rubra</i>	18	22	good	fair	moderately one sided
5544	red oak	<i>Quercus rubra</i>	26	31	good	fair	codominant at 18'
5677	Norway maple	<i>Acer platanoides</i>	18	18	poor	poor	sunscauld on surface roots, top pruned out of tree
5692	red oak	<i>Quercus rubra</i>	23	28	good	fair	60% live crown ratio
5744	Norway maple	<i>Acer platanoides</i>	13	12	fair	fair	one sided, codominant at 6'
5746	Norway maple	<i>Acer platanoides</i>	14	14	poor	poor	significant sunscauld and decay at lower trunk
5856	red oak	<i>Quercus rubra</i>	19	21	good	good	
5886	red oak	<i>Quercus rubra</i>	28	32	good	good	
5887	Norway maple	<i>Acer platanoides</i>	11	11	poor	poor	one sided, significant decay at lower trunk
5930	Norway maple	<i>Acer platanoides</i>	14	14	good	good	
5933	Norway maple	<i>Acer platanoides</i>	13	12	poor	poor	sap rot, sloughing bark
5935	Norway maple	<i>Acer platanoides</i>	9	8	fair	fair	significant pruning, sunscauld on surface roots
6098	red oak	<i>Quercus rubra</i>	15	17	good	fair	codominant at 10'
6161	red oak	<i>Quercus rubra</i>	11	17	fair	fair	significant pruning
6224	red oak	<i>Quercus rubra</i>	9	8	poor	poor	excessive pruning
6323	red oak	<i>Quercus rubra</i>	14	18	good	good	
6377	red oak	<i>Quercus rubra</i>	11	13	poor	poor	excessive pruning
6433	red oak	<i>Quercus rubra</i>	11	15	fair	fair	significant pruning
6481	red oak	<i>Quercus rubra</i>	13	15	poor	poor	lost top
6600	Oregon white	<i>Quercus garryana</i>	32	34	good	fair	large pruning cut at lower trunk
6602	Oregon white	<i>Quercus garryana</i>	20	22	good	fair	one sided
6686	red oak	<i>Quercus rubra</i>	13	16	good	good	
6771	Norway maple	<i>Acer platanoides</i>	14	18	good	good	
6960	red oak	<i>Quercus rubra</i>	10	14	good	fair	one sided
6960.1	red oak	<i>Quercus rubra</i>	10	17	good	fair	one sided
6960.2	red oak	<i>Quercus rubra</i>	16	23	good	good	
6963	red oak	<i>Quercus rubra</i>	8	7	good	fair	one sided, codominant at 12' with included bark
6964	red oak	<i>Quercus rubra</i>	11	12	good	fair	moderately one sided
6970	ponderosa pine	<i>Pinus ponderosa</i>	40	29	good	fair	multiple leaders
6972	ponderosa pine	<i>Pinus ponderosa</i>	29	22	good	good	
7072	red oak	<i>Quercus rubra</i>	13	18	good	good	
7105	red oak	<i>Quercus rubra</i>	14	19	good	good	
7151	Norway maple	<i>Acer platanoides</i>	17	18	fair	fair	sunscauld on trunk and branches



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7152	red oak	<i>Quercus rubra</i>	11	18	good	good	
7153	ponderosa pine	<i>Pinus ponderosa</i>	33	31	good	good	
7154	Oregon white	<i>Quercus garryana</i>	21	28	good	good	
7193	ponderosa pine	<i>Pinus ponderosa</i>	27	23	good	fair	codominant at 30' with included bark
7194	ponderosa pine	<i>Pinus ponderosa</i>	33	29	good	good	
7259	ponderosa pine	<i>Pinus ponderosa</i>	29	30	good	fair	moderately one sided
7260	ponderosa pine	<i>Pinus ponderosa</i>	32	27	good	good	
7261	ponderosa pine	<i>Pinus ponderosa</i>	25	22	good	fair	moderately one sided
7300	Oregon white	<i>Quercus garryana</i>	17	25	good	fair	one sided
7301	English	<i>Crataegus monogyna</i>	9	9	good	fair	multiple leaders
7302	sweet cherry	<i>Prunus avium</i>	7	9	good	good	
7303	ponderosa pine	<i>Pinus ponderosa</i>	27	18	fair	good	moderate branch tip dieback
7304	Oregon white	<i>Quercus garryana</i>	17	26	good	fair	one sided
7305	Oregon white	<i>Quercus garryana</i>	9	16	poor	poor	suppressed
7305.1	Oregon white	<i>Quercus garryana</i>	12	12	fair	fair	one sided, overtopped by adjacent trees, added to site map in approximate location by
7307	Oregon white	<i>Quercus garryana</i>	9	12	good	fair	one sided
7308	ponderosa pine	<i>Pinus ponderosa</i>	32	22	good	fair	one sided
7309	black hawthorn	<i>Crataegus douglasii</i>	5	8	fair	fair	one sided, significant lean, overtopped by adjacent trees
7310	Oregon white	<i>Quercus garryana</i>	24	27	good	fair	one sided
7312	Oregon white	<i>Quercus garryana</i>	12	14	fair	fair	one sided, moderately suppressed
7312.1	Oregon white	<i>Quercus garryana</i>	6	6	fair	fair	one sided, overtopped by adjacent trees, added to site map in approximate location by
7313	Oregon white	<i>Quercus garryana</i>	22	25	good	fair	one sided
7314	ponderosa pine	<i>Pinus ponderosa</i>	16	12	very poor	very poor	dying from top down
7382	Oregon white	<i>Quercus garryana</i>	25	23	good	fair	leans southeast
7383	ponderosa pine	<i>Pinus ponderosa</i>	35	35	good	fair	lower branches with high aspect ratios, leans south, appears to be native
7384	Oregon white	<i>Quercus garryana</i>	11	13	good	fair	one sided
7385	English	<i>Crataegus monogyna</i>	8	13	very poor	very poor	suppressed, significant decay
7386	Oregon white	<i>Quercus garryana</i>	28	19	good	fair	one sided, codominant at 6' with included bark
7387	ponderosa pine	<i>Pinus ponderosa</i>	36	28	good	fair	one sided, codominant at 3' with included bark
7388	ponderosa pine	<i>Pinus ponderosa</i>	31	23	good	fair	moderately one sided
7389	Oregon white	<i>Quercus garryana</i>	28,23,9	28	fair	fair	stump sprout
7390	Oregon ash	<i>Fraxinus latifolia</i>	9	16	good	fair	one sided
7391	Oregon ash	<i>Fraxinus latifolia</i>	11	14	good	fair	one sided
7392	Oregon ash	<i>Fraxinus latifolia</i>	11	14	good	fair	one sided
7393	Oregon white	<i>Quercus garryana</i>	24	26	good	fair	crack/seam at lower trunk behind failed branch
7396	Oregon ash	<i>Fraxinus latifolia</i>	8	14	good	fair	one sided
7509	ponderosa pine	<i>Pinus ponderosa</i>	27	21	good	good	
7510	English	<i>Crataegus monogyna</i>	13	14	good	fair	one sided, codominant at 3' with included bark

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7511	Oregon ash	<i>Fraxinus latifolia</i>	8	9	good	fair	one sided
7513	red oak	<i>Quercus rubra</i>	19	26	good	good	
7515	Norway maple	<i>Acer platanoides</i>	15	25	good	fair	multiple leaders at 7'
7517	ponderosa pine	<i>Pinus ponderosa</i>	29	25	good	fair	multiple leaders at 20'
7518	ponderosa pine	<i>Pinus ponderosa</i>	27	22	good	fair	one sided, minor branch tip dieback, multiple leaders with included bark
7519	ponderosa pine	<i>Pinus ponderosa</i>	24	20	good	fair	one sided
7520	ponderosa pine	<i>Pinus ponderosa</i>	28	26	good	fair	one sided
7521	ponderosa pine	<i>Pinus ponderosa</i>	17	21	good	good	
7522	ponderosa pine	<i>Pinus ponderosa</i>	31	24	fair	good	moderate branch tip dieback
7527	ponderosa pine	<i>Pinus ponderosa</i>	29	24	fair	fair	one sided, lower branch dieback
7528	ponderosa pine	<i>Pinus ponderosa</i>	32	26	good	fair	codominant at 20', one sided
7529	ponderosa pine	<i>Pinus ponderosa</i>	29	20	good	fair	moderately one sided
7571	Oregon white	<i>Quercus garryana</i>	22	24	fair	fair	bent lower trunk, multiple upright stems on bent trunk
7571.1	Oregon white	<i>Quercus garryana</i>	15	15	fair	fair	codominant at 3', one sided
7573	sweet cherry	<i>Prunus avium</i>	7	7	good	fair	one sided
7575	Oregon white	<i>Quercus garryana</i>	17	19	good	fair	moderately one sided
7576	European birch	<i>Betula pendula</i>	10	7	very poor	very poor	dead top
7577	European birch	<i>Betula pendula</i>	9	0	very poor	very poor	dead
7578	English	<i>Crataegus monogyna</i>	12	13	good	fair	codominant at 2' with included bark
7579	Oregon white	<i>Quercus garryana</i>	24	11	poor	poor	extensive decay at lower trunk with standing water in decay pocket
7580	Oregon white	<i>Quercus garryana</i>	23	17	good	fair	one sided
7581	Oregon white	<i>Quercus garryana</i>	20	18	fair	fair	moderately suppressed, codominant at 3', 6" codominant stem is dying
7582	Oregon white	<i>Quercus garryana</i>	20	15	good	fair	35% live crown ratio, marginal trunk taper
7583	Oregon white	<i>Quercus garryana</i>	24	27	good	fair	one sided
7584	Oregon ash	<i>Fraxinus latifolia</i>	6	13	good	fair	one sided
7585	Oregon ash	<i>Fraxinus latifolia</i>	6	8	fair	fair	moderately suppressed, one sided
7586	Oregon white	<i>Quercus garryana</i>	28	13	fair	fair	moderately suppressed, codominant at 3' with included bark
7587	Oregon white	<i>Quercus garryana</i>	17	21	fair	fair	one sided
7588	English	<i>Crataegus monogyna</i>	10	15	good	fair	one sided, multiple leaders with included bark
7589	sweet cherry	<i>Prunus avium</i>	7	12	good	fair	one sided
7590	sweet cherry	<i>Prunus avium</i>	9	6	poor	poor	extensive sunscald at lower trunk
7591	sweet cherry	<i>Prunus avium</i>	15	20	good	fair	moderately one sided, partially uprooted but stable
7592	sweet cherry	<i>Prunus avium</i>	11	13	good	fair	one sided
7593	Oregon white	<i>Quercus garryana</i>	19	26	good	fair	one sided
7594	Oregon white	<i>Quercus garryana</i>	21	22	good	fair	moderately one sided, kinked lower trunk
7595	Oregon white	<i>Quercus garryana</i>	13	18	fair	fair	one sided, moderately suppressed, moderately thin crown
7596	Oregon white	<i>Quercus garryana</i>	24	22	good	fair	moderately one sided
7597	Oregon white	<i>Quercus garryana</i>	13,12,1	21	fair	fair	stump sprout, moderately one sided

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7598	black hawthorn	<i>Crataegus douglasii</i>	11	10	very poor	very poor	branch failures and internal decay
7599	Oregon white	<i>Quercus garryana</i>	24	18	good	fair	codominant at 3' with included bark
7600	Oregon white	<i>Quercus garryana</i>	17	14	fair	fair	one sided, codominant at 3' with dead 5" codominant stem
7660	ponderosa pine	<i>Pinus ponderosa</i>	26	23	fair	good	moderate branch tip dieback
7661	ponderosa pine	<i>Pinus ponderosa</i>	27	28	fair	good	moderate branch tip dieback
7665	ponderosa pine	<i>Pinus ponderosa</i>	16	17	fair	fair	thin crown, moderate branch tip dieback, codominant at 25'
7670	Norway maple	<i>Acer platanoides</i>	17	25	good	fair	multiple leaders with included bark
7671	ponderosa pine	<i>Pinus ponderosa</i>	23	26	fair	fair	codominant at 10' with included bark, moderately thin crown
7673	ponderosa pine	<i>Pinus ponderosa</i>	30	30	good	good	
7674	Himalayan birch	<i>Betula utilis</i>	10	15	poor	poor	suppressed
7675	Himalayan birch	<i>Betula utilis</i>	9	11	fair	fair	moderately suppressed
7685	ponderosa pine	<i>Pinus ponderosa</i>	19	14	fair	fair	multiple leaders, moderately suppressed
7697	ponderosa pine	<i>Pinus ponderosa</i>	30	30	good	fair	codominant at 30' with included bark
7699	ponderosa pine	<i>Pinus ponderosa</i>	31	35	fair	fair	moderately one sided, moderate branch tip dieback
7700	ponderosa pine	<i>Pinus ponderosa</i>	29	32	fair	fair	moderately one sided, moderate branch tip dieback
7702	ponderosa pine	<i>Pinus ponderosa</i>	30	21	good	fair	multiple leaders at 25' with included bark, swelling at root crown
7869	ponderosa pine	<i>Pinus ponderosa</i>	22	25	fair	fair	one sided, moderately thin crown
7899	pin oak	<i>Quercus palustris</i>	17	16	good	fair	codominant at 10' with included bark
7901	pin oak	<i>Quercus palustris</i>	24	25	good	fair	codominant at 10' and 20' with included bark
7905	ponderosa pine	<i>Pinus ponderosa</i>	34	28	good	fair	multiple leaders with included bark
7910	pin oak	<i>Quercus palustris</i>	27	35	good	fair	multiple leaders with included bark
7913	pin oak	<i>Quercus palustris</i>	24	23	fair	fair	decay pocket at 7' behind lean
7914	pin oak	<i>Quercus palustris</i>	20	22	good	fair	multiple leaders with included bark
7916	ponderosa pine	<i>Pinus ponderosa</i>	29	30	good	fair	moderately one sided
7917	ponderosa pine	<i>Pinus ponderosa</i>	30	31	good	fair	moderately one sided
7944	purpleleaf plum	<i>Prunus cerasifera</i>	21	25	fair	fair	multiple leaders with included bark, suckers at base of trunk
7959	ponderosa pine	<i>Pinus ponderosa</i>	28	26	fair	fair	multiple leaders with included bark, moderate branch tip dieback
7967	ponderosa pine	<i>Pinus ponderosa</i>	37	30	good	fair	multiple leaders
7992	red maple	<i>Acer rubrum</i>	23	24	fair	fair	multiple leaders with included bark, damaged surface roots
7993	western	<i>Thuja plicata</i>	8,8,6	11	good	fair	multiple leaders at ground level
7995	ponderosa pine	<i>Pinus ponderosa</i>	30	30	fair	fair	multiple leaders, moderate branch tip dieback
8006	ponderosa pine	<i>Pinus ponderosa</i>	21	18	good	fair	moderately one sided
8007	ponderosa pine	<i>Pinus ponderosa</i>	20,11	19	fair	fair	codominant at ground level, moderate branch tip dieback
8020	red maple	<i>Acer rubrum</i>	11	16	good	fair	multiple leaders with included bark
8022	red maple	<i>Acer rubrum</i>	16	24	good	fair	multiple leaders with included bark
8036	red maple	<i>Acer rubrum</i>	16	20	good	fair	multiple leaders with included bark
8038	ponderosa pine	<i>Pinus ponderosa</i>	29	26	good	fair	multiple leaders at 25'
8039	Leyland cypress	<i>Cupressus × leylandii</i>	20	17	good	good	

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8041	ponderosa pine	<i>Pinus ponderosa</i>	27	26	fair	fair	moderately one sided, moderate branch tip dieback
8042	ponderosa pine	<i>Pinus ponderosa</i>	29	25	fair	good	moderate branch tip dieback
8043	ponderosa pine	<i>Pinus ponderosa</i>	19	19	good	fair	moderately one sided
8051	purpleleaf plum	<i>Prunus cerasifera</i>	17	18	fair	fair	multiple leaders with included bark, suckers at base of trunk
8055	purpleleaf plum	<i>Prunus cerasifera</i>	15	18	fair	fair	multiple leaders with included bark, suckers at base of trunk
8056	purpleleaf plum	<i>Prunus cerasifera</i>	12	18	fair	fair	multiple leaders with included bark, suckers at base of trunk
8071	purpleleaf plum	<i>Prunus cerasifera</i>	18	20	fair	fair	multiple leaders with included bark, suckers at base of trunk
8083	ponderosa pine	<i>Pinus ponderosa</i>	35	30	good	fair	moderately one sided
8084	ponderosa pine	<i>Pinus ponderosa</i>	32	25	good	fair	moderately one sided
8085	ponderosa pine	<i>Pinus ponderosa</i>	28	25	good	fair	moderately one sided
8093	Himalayan birch	<i>Betula utilis</i>	7	15	good	fair	moderately one sided
8094	Himalayan birch	<i>Betula utilis</i>	12	23	good	good	
8100	Himalayan birch	<i>Betula utilis</i>	17	25	good	good	
8100.1	flowering cherry	<i>Prunus serrulata</i>	12	14	fair	fair	root suckers at base of trunk, significant lean
8149	flowering cherry	<i>Prunus serrulata</i>	9	5	very poor	very poor	extensive dieback and decay
8224	ponderosa pine	<i>Pinus ponderosa</i>	32	30	fair	good	minor dieback
8249	ponderosa pine	<i>Pinus ponderosa</i>	22	23	good	fair	moderately one sided
8250	ponderosa pine	<i>Pinus ponderosa</i>	28	30	good	fair	moderately one sided, multiple leaders at 30'
8251	ponderosa pine	<i>Pinus ponderosa</i>	35	36	good	fair	moderately one sided
8252	flowering cherry	<i>Prunus serrulata</i>	7	9	fair	fair	overtopped by adjacent trees, moderately suppressed
8252.1	flowering cherry	<i>Prunus serrulata</i>	10	18	good	good	
8328	ponderosa pine	<i>Pinus ponderosa</i>	27	20	fair	good	moderate branch tip dieback
8341	Oregon white	<i>Quercus garryana</i>	33	34	good	fair	moderately one sided
8386	ponderosa pine	<i>Pinus ponderosa</i>	28	17	good	good	
8387	Oregon white	<i>Quercus garryana</i>	11	10	good	good	
8416	Oregon white	<i>Quercus garryana</i>	18	21	good	good	
8419	Oregon white	<i>Quercus garryana</i>	14	19	good	fair	moderately one sided
8420	Oregon white	<i>Quercus garryana</i>	19	21	good	fair	moderately one sided
8421	Oregon white	<i>Quercus garryana</i>	18	25	good	good	
8472	ponderosa pine	<i>Pinus ponderosa</i>	28	22	good	good	
8473	ponderosa pine	<i>Pinus ponderosa</i>	26	24	good	good	
8475	ponderosa pine	<i>Pinus ponderosa</i>	28	20	good	good	
8476	ponderosa pine	<i>Pinus ponderosa</i>	24	18	good	good	
8477	oak	<i>Quercus sp.</i>	6	9	good	good	
8478	Oregon white	<i>Quercus garryana</i>	22	27	good	fair	one sided
8479	Oregon white	<i>Quercus garryana</i>	23	42	good	fair	one sided, history of lower branch failure
8480	Oregon white	<i>Quercus garryana</i>	22	22	good	fair	one sided, 35% live crown ratio, marginal trunk taper
8481	Oregon white	<i>Quercus garryana</i>	17	24	good	fair	one sided

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments
8482	Douglas-fir	<i>Pseudotsuga menziesii</i>	6	7	good	good	
8483	Oregon white	<i>Quercus garryana</i>	23	31	fair	fair	one sided, moderately thin crown
8486	Oregon white	<i>Quercus garryana</i>	33	31	good	fair	multiple leaders, history of branch failure
8487	Oregon white	<i>Quercus garryana</i>	33	19	good	fair	one sided, codominant at 3'
8488	Oregon white	<i>Quercus garryana</i>	28	13	fair	poor	25% live crown ratio, lower branch dieback and failures
8489	sweet cherry	<i>Prunus avium</i>	6	10	fair	fair	overtopped by adjacent trees
8490	sweet cherry	<i>Prunus avium</i>	14,5	25	good	fair	one sided, codominant at 1'
8491	Oregon white	<i>Quercus garryana</i>	5	9	poor	poor	suppressed
8492	Oregon white	<i>Quercus garryana</i>	19	20	fair	poor	25% live crown ratio, marginal trunk taper
8493	Oregon white	<i>Quercus garryana</i>	9	11	poor	poor	suppressed
8494	Oregon white	<i>Quercus garryana</i>	6	10	poor	poor	suppressed
8496	Douglas-fir	<i>Pseudotsuga menziesii</i>	13	8	fair	fair	one sided, overtopped by adjacent trees
8497	Oregon white	<i>Quercus garryana</i>	22	44	fair	fair	significant lean south, lower branch dieback
8498	Oregon white	<i>Quercus garryana</i>	26	31	good	fair	one sided
8498.1	Douglas-fir	<i>Pseudotsuga menziesii</i>	15	18	fair	fair	one sided, overtopped by adjacent trees, codominant at 10' with included bark
8499	Oregon white	<i>Quercus garryana</i>	53	47	good	fair	codominant at 5' with included bark
8500	Oregon white	<i>Quercus garryana</i>	10	7	fair	poor	15% live crown ratio, poor trunk taper
8501	Oregon ash	<i>Fraxinus latifolia</i>	7	11	good	good	
8502	Douglas-fir	<i>Pseudotsuga menziesii</i>	30	31	good	good	
8503	Scoulers willow	<i>Salix scouleriana</i>	5	9	poor	poor	one sided, significant decay at root crown
8505	Douglas-fir	<i>Pseudotsuga menziesii</i>	11	15	good	fair	one sided, overtopped by adjacent trees
8506	Douglas-fir	<i>Pseudotsuga menziesii</i>	31	24	good	fair	one sided
8507	Douglas-fir	<i>Pseudotsuga menziesii</i>	12	16	poor	poor	overtopped by adjacent trees, suppressed
8508	Douglas-fir	<i>Pseudotsuga menziesii</i>	31	35	good	good	
8509	Douglas-fir	<i>Pseudotsuga menziesii</i>	6	12	fair	fair	overtopped by adjacent trees
8510	Douglas-fir	<i>Pseudotsuga menziesii</i>	38	24	good	fair	50% live crown ratio, codominant at 50' with included bark
8511	Oregon white	<i>Quercus garryana</i>	19	19	fair	poor	significant lean southeast, 25% live crown ratio
8512	Oregon white	<i>Quercus garryana</i>	26	22	fair	fair	one sided, 35% live crown ratio, codominant at 4' with included bark, suppressed codominant
8513	Oregon white	<i>Quercus garryana</i>	15	8	fair	fair	one sided, 35% live crown ratio, marginal trunk taper
8514	Oregon white	<i>Quercus garryana</i>	16	24	fair	fair	one sided, marginal trunk taper
8515	Oregon white	<i>Quercus garryana</i>	13	10	poor	poor	suppressed
8516	Douglas-fir	<i>Pseudotsuga menziesii</i>	29	23	good	good	
8517	Douglas-fir	<i>Pseudotsuga menziesii</i>	17	17	fair	fair	one sided, marginal trunk taper
8518	Douglas-fir	<i>Pseudotsuga menziesii</i>	26	26	good	fair	moderately one sided
8519	Oregon white	<i>Quercus garryana</i>	6	4	poor	poor	suppressed
8520	Oregon white	<i>Quercus garryana</i>	15	13	poor	poor	suppressed
8521	Oregon white	<i>Quercus garryana</i>	27	24	good	fair	moderately one sided
8522	English	<i>Crataegus monogyna</i>	6	7	very poor	very poor	dying

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8523	Oregon white	<i>Quercus garryana</i>	25	25	good	fair	one sided, 40% live crown ratio, marginal trunk taper
8524	Oregon white	<i>Quercus garryana</i>	12	19	fair	fair	overtopped by adjacent trees, one sided, 33% live crown ratio
8525	Oregon white	<i>Quercus garryana</i>	21	34	fair	fair	one sided, 35% live crown ratio, marginal trunk taper
8526	Oregon white	<i>Quercus garryana</i>	6	4	poor	poor	suppressed
8527	Oregon white	<i>Quercus garryana</i>	35	23	good	fair	multiple leaders with included bark
8528	Oregon white	<i>Quercus garryana</i>	9	10	poor	poor	suppressed
8529	Oregon white	<i>Quercus garryana</i>	17	14	poor	poor	suppressed, poor trunk taper
8530	Oregon white	<i>Quercus garryana</i>	21	42	fair	poor	one sided, significant lean east, poor trunk taper
8531	Oregon white	<i>Quercus garryana</i>	25	24	good	poor	25% live crown ratio, marginal trunk taper
8532	Oregon white	<i>Quercus garryana</i>	19	19	fair	fair	one sided, marginal trunk taper
8533	Oregon white	<i>Quercus garryana</i>	20	18	fair	poor	codominant at 1', 33% live crown ratio, poor trunk taper, large stem failure with decay at 3'
8535	Oregon white	<i>Quercus garryana</i>	35	29	good	good	
8536	sweet cherry	<i>Prunus avium</i>	5	7	good	good	overtopped by adjacent trees
8558	Scoulers willow	<i>Salix scouleriana</i>	7	7	fair	fair	one sided
8608	sweet cherry	<i>Prunus avium</i>	10	12	fair	fair	overtopped by adjacent trees
8799	Himalayan birch	<i>Betula utilis</i>	17	20	good	fair	branches with high aspect ratios
8838	flowering cherry	<i>Prunus serrulata</i>	12	14	good	fair	one sided
8839	flowering cherry	<i>Prunus serrulata</i>	23	27	good	fair	pruned away from building
8880	flowering cherry	<i>Prunus serrulata</i>	15	14	good	fair	overtopped by adjacent trees, one sided
8903	Douglas-fir	<i>Pseudotsuga menziesii</i>	8	11	good	fair	overtopped by adjacent trees
8904	Oregon white	<i>Quercus garryana</i>	20	7	fair	fair	one sided from previous tree that was removed
8905	Douglas-fir	<i>Pseudotsuga menziesii</i>	10	10	good	fair	overtopped by adjacent trees
8906	Oregon white	<i>Quercus garryana</i>	26	32	good	fair	one sided from previous tree that was removed
8908	bigleaf maple	<i>Acer macrophyllum</i>	11	17	good	fair	one sided, multiple leaders
8909	Oregon white	<i>Quercus garryana</i>	21	26	fair	fair	one sided, marginal trunk taper
8910	Douglas-fir	<i>Pseudotsuga menziesii</i>	9	9	fair	fair	one sided, overtopped by adjacent trees
8913	Oregon white	<i>Quercus garryana</i>	10	8	poor	poor	suppressed
8915	Douglas-fir	<i>Pseudotsuga menziesii</i>	24	15	fair	fair	one sided from previous tree that was removed
8919	Douglas-fir	<i>Pseudotsuga menziesii</i>	22	27	fair	fair	one sided, overtopped by adjacent trees, previously lost top at 40'
8920	ponderosa pine	<i>Pinus ponderosa</i>	33	16	fair	fair	40% live crown ratio, scattered branch tip dieback
8921	Oregon white	<i>Quercus garryana</i>	6	20	poor	poor	overtopped by adjacent trees, suppressed
8922	Douglas-fir	<i>Pseudotsuga menziesii</i>	17	21	fair	fair	one sided, overtopped by adjacent trees, moderately thin crown
8923	Douglas-fir	<i>Pseudotsuga menziesii</i>	14	20	good	fair	one sided, overtopped by adjacent trees
8925	sweet cherry	<i>Prunus avium</i>	14	12	fair	poor	codominant at 30', 35% live crown ratio, decay at root crown
8926	Douglas-fir	<i>Pseudotsuga menziesii</i>	18	23	good	good	wound at lower trunk
8927	Douglas-fir	<i>Pseudotsuga menziesii</i>	16	13	fair	fair	one sided, overtopped by adjacent trees, marginal trunk taper
8928	Douglas-fir	<i>Pseudotsuga menziesii</i>	8	9	fair	good	overtopped by adjacent trees
8929	Scoulers willow	<i>Salix scouleriana</i>	15	17	poor	poor	one sided, history of branch failure

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8930	Douglas-fir	<i>Pseudotsuga menziesii</i>	23	20	good	fair	moderately one sided
8931	sweet cherry	<i>Prunus avium</i>	7	9	good	fair	overtopped by adjacent trees
8932	Scoulers willow	<i>Salix scouleriana</i>	14	14	poor	very poor	extensive decay in trunk
8933	Oregon white	<i>Quercus garryana</i>	28	41	good	fair	one sided, leans over building
8934	English	<i>Crataegus monogyna</i>	6	12	poor	poor	suppressed
8937	Douglas-fir	<i>Pseudotsuga menziesii</i>	16	14	good	fair	codominant at 35'
8951	ponderosa pine	<i>Pinus ponderosa</i>	21	20	good	fair	one sided
8953	Oregon white	<i>Quercus garryana</i>	25	29	good	fair	one sided
8954	ponderosa pine	<i>Pinus ponderosa</i>	35	19	poor	poor	significant branch dieback
8955	Douglas-fir	<i>Pseudotsuga menziesii</i>	5	7	fair	fair	overtopped by adjacent trees, lost top at 7', sweep in lower trunk
8957	Oregon white	<i>Quercus garryana</i>	9	8	poor	poor	suppressed
8957.1	Oregon ash	<i>Fraxinus latifolia</i>	7	10	fair	fair	one sided, overtopped by adjacent trees, added to site map in approximate location by
8958	Oregon white	<i>Quercus garryana</i>	19	24	good	fair	one sided
8959	Oregon white	<i>Quercus garryana</i>	21	27	good	fair	40% live crown ratio
8960	Oregon white	<i>Quercus garryana</i>	7	5	poor	poor	suppressed
8962	Douglas-fir	<i>Pseudotsuga menziesii</i>	22	27	good	fair	moderately one sided
8963	Oregon white	<i>Quercus garryana</i>	23	26	good	fair	one sided, codominant at 10'
8965	Douglas-fir	<i>Pseudotsuga menziesii</i>	11	18	good	fair	one sided
9107	Oregon white	<i>Quercus garryana</i>	31	28	good	fair	33% live crown ratio
9108	Oregon ash	<i>Fraxinus latifolia</i>	16	20	fair	fair	one sided, decay pocket at lower trunk
9109	sweet cherry	<i>Prunus avium</i>	5	10	poor	poor	one sided, overtopped by adjacent trees, significant lean
9110	English	<i>Crataegus monogyna</i>	6	6	poor	poor	suppressed
9111	Oregon white	<i>Quercus garryana</i>	11,6	12	poor	poor	suppressed, codominant at ground level, significant decay in 6" stem
9112	Oregon white	<i>Quercus garryana</i>	12	15	poor	poor	suppressed
9113	Douglas-fir	<i>Pseudotsuga menziesii</i>	6	7	poor	poor	suppressed
9115	Oregon ash	<i>Fraxinus latifolia</i>	10	6	good	fair	codominant at ground level, one sided
9117	sweet cherry	<i>Prunus avium</i>	11	15	good	good	
9118	sweet cherry	<i>Prunus avium</i>	5	10	good	good	
9151	Oregon white	<i>Quercus garryana</i>	24	19	good	fair	moderately one sided
9152	Oregon white	<i>Quercus garryana</i>	17	14	good	fair	one sided
9153	Oregon white	<i>Quercus garryana</i>	18	25	fair	fair	crown extension suppressed by adjacent trees, marginal trunk taper
9154	Douglas-fir	<i>Pseudotsuga menziesii</i>	17	18	good	fair	one sided, marginal trunk taper
9155	Oregon white	<i>Quercus garryana</i>	15	24	fair	fair	one sided, 50% live crown ratio, marginal trunk taper
9156	sweet cherry	<i>Prunus avium</i>	11	20	good	fair	moderately one sided
9157	Oregon white	<i>Quercus garryana</i>	10	18	poor	poor	top failed at 8'
9158	Scoulers willow	<i>Salix scouleriana</i>	20	12	poor	poor	history of branch failure, decay at lower trunk
9159	Oregon white	<i>Quercus garryana</i>	25	29	good	fair	one sided
9160	Douglas-fir	<i>Pseudotsuga menziesii</i>	11	14	good	fair	overtopped by adjacent trees

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9161	Oregon white	<i>Quercus garryana</i>	27	12	poor	poor	moderately suppressed, moderate branch dieback
9162	Oregon ash	<i>Fraxinus latifolia</i>	8	15	fair	fair	overtopped by adjacent trees
9163	Douglas-fir	<i>Pseudotsuga menziesii</i>	6	7	fair	fair	overtopped by adjacent trees
9164	ponderosa pine	<i>Pinus ponderosa</i>	28	27	fair	fair	one sided, moderately thin crown, codominant at 60'
9185	Oregon ash	<i>Fraxinus latifolia</i>	19	23	good	fair	one sided
9186	Oregon ash	<i>Fraxinus latifolia</i>	23	24	good	fair	one sided
9195	flowering cherry	<i>Prunus serrulata</i>	15	10	fair	fair	decay at lower trunk
9203	Japanese maple	<i>Acer palmatum</i>	12	19	good	fair	multiple leaders with included bark
9210	red oak	<i>Quercus rubra</i>	25	27	good	fair	one sided
9211	red oak	<i>Quercus rubra</i>	20	25	good	fair	one sided
9212	Oregon white	<i>Quercus garryana</i>	27	36	good	fair	moderately one sided
9322	Oregon white	<i>Quercus garryana</i>	25	25	poor	poor	moderate branch dieback, 33% live crown ratio
9322.1	Oregon white	<i>Quercus garryana</i>	20	23	poor	poor	suppressed
9324	Oregon ash	<i>Fraxinus latifolia</i>	20	23	good	good	
9325	Oregon white	<i>Quercus garryana</i>	26	36	fair	fair	overextended branches, moderately one sided
9326	Oregon ash	<i>Fraxinus latifolia</i>	18	22	good	fair	moderately one sided, overtopped by adjacent trees
9327	Oregon white	<i>Quercus garryana</i>	38	33	good	fair	large cavity at 30'
9338	Oregon ash	<i>Fraxinus latifolia</i>	21	18	good	good	
9339	Oregon white	<i>Quercus garryana</i>	25	22	good	fair	moderately one sided
9345	Oregon white	<i>Quercus garryana</i>	35	36	good	good	
9352	red oak	<i>Quercus rubra</i>	32	35	good	good	
9353	red oak	<i>Quercus rubra</i>	26	41	good	fair	one sided
9474	Douglas-fir	<i>Pseudotsuga menziesii</i>	27	19	very poor	very poor	<i>Phaeolus schweinitzii</i> conk at base of trunk
9671	Oregon ash	<i>Fraxinus latifolia</i>	29	42	fair	fair	large wound at lower trunk with decay, overextended branches
9672	Oregon white	<i>Quercus garryana</i>	7	7	fair	fair	overtopped by adjacent trees, moderately suppressed
9673	Oregon white	<i>Quercus garryana</i>	12	14	fair	fair	moderately suppressed, significant epicormic growth
9674	Oregon white	<i>Quercus garryana</i>	23	17	fair	fair	one sided, overextended branches
9675	Oregon white	<i>Quercus garryana</i>	9	10	poor	poor	overtopped by adjacent trees, suppressed
9676	Oregon white	<i>Quercus garryana</i>	9	7	poor	poor	overtopped by adjacent trees, suppressed
9677	Douglas-fir	<i>Pseudotsuga menziesii</i>	27	18	good	fair	bowed lower trunk, moderately one sided
9678	Oregon white	<i>Quercus garryana</i>	8	8	fair	fair	overtopped by adjacent trees, moderately suppressed
9679	Oregon white	<i>Quercus garryana</i>	22	22	fair	fair	one sided, 40% live crown ratio
9680	Oregon white	<i>Quercus garryana</i>	33	32	fair	poor	overextended branches, top dieback, one sided
9681	Oregon white	<i>Quercus garryana</i>	8	9	poor	poor	suppressed, significant decay at lower trunk
9684	Oregon white	<i>Quercus garryana</i>	15,11	14	fair	fair	codominant at ground level, moderately suppressed
9685	Oregon white	<i>Quercus garryana</i>	23	13	poor	poor	significant decay at lower and upper trunk
9686	Oregon white	<i>Quercus garryana</i>	21	28	fair	fair	40% live crown ratio, one sided, leans southeast
9694	Oregon white	<i>Quercus garryana</i>	19	25	fair	poor	25% live crown ratio



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9800	ponderosa pine	<i>Pinus ponderosa</i>	30	18	poor	poor	thin crown, 25% live crown ratio
9800.1	Hinoki cypress	<i>Chamaecyparis obtusa</i>	10	11	good	fair	one sided
9801	Oregon white	<i>Quercus garryana</i>	8	10	fair	fair	overtopped by adjacent trees, moderately suppressed
9802	Oregon white	<i>Quercus garryana</i>	10	4	poor	poor	lost top at 20'
9803	black	<i>Populus trichocarpa</i>	8	11	good	good	
9804	Oregon white	<i>Quercus garryana</i>	27	21	fair	fair	moderate dieback
9805	Oregon white	<i>Quercus garryana</i>	35	35	good	fair	one sided, codominant at 7' with included bark
9806	Oregon white	<i>Quercus garryana</i>	25	26	fair	fair	overextended branches
9807	Oregon ash	<i>Fraxinus latifolia</i>	9	12	fair	fair	overtopped by adjacent trees, damage at lower trunk
9837	ponderosa pine	<i>Pinus ponderosa</i>	32	23	fair	poor	moderately thin crown, 25% live crown ratio
9838	Oregon ash	<i>Fraxinus latifolia</i>	8	12	fair	fair	one sided, overtopped by adjacent trees
9839	Douglas-fir	<i>Pseudotsuga menziesii</i>	16	15	good	fair	one sided, overtopped by adjacent trees
9840	ponderosa pine	<i>Pinus ponderosa</i>	37	22	good	fair	40% live crown ratio
9841	Douglas-fir	<i>Pseudotsuga menziesii</i>	12	13	good	fair	one sided, overtopped by adjacent trees
9842	Douglas-fir	<i>Pseudotsuga menziesii</i>	9	9	fair	fair	overtopped by adjacent trees
9843	Douglas-fir	<i>Pseudotsuga menziesii</i>	5	9	good	fair	one sided, overtopped by adjacent trees, partially uprooted but stable
9844	Douglas-fir	<i>Pseudotsuga menziesii</i>	10	13	good	fair	overtopped by adjacent trees
9845	Oregon white	<i>Quercus garryana</i>	13	18	poor	poor	overtopped by adjacent trees, suppressed
9846	Oregon ash	<i>Fraxinus latifolia</i>	6	11	good	good	
9931	Douglas-fir	<i>Pseudotsuga menziesii</i>	14	13	fair	fair	bowed lower trunk, partially uprooted but appears stable
9932	bigleaf maple	<i>Acer macrophyllum</i>	6	11	good	fair	one sided
9933	black	<i>Populus trichocarpa</i>	21	14	fair	fair	moderately one sided, moderately thin crown
9934	Oregon ash	<i>Fraxinus latifolia</i>	7	8	good	good	
9935	Oregon white	<i>Quercus garryana</i>	20	15	fair	fair	overtopped by adjacent trees, moderately suppressed
9937	ponderosa pine	<i>Pinus ponderosa</i>	31	20	good	good	50% live crown ratio
9942	bigleaf maple	<i>Acer macrophyllum</i>	5	8	fair	fair	overtopped by adjacent trees, one sided
9943	Douglas-fir	<i>Pseudotsuga menziesii</i>	20	17	fair	poor	overtopped by adjacent trees
9944	Douglas-fir	<i>Pseudotsuga menziesii</i>	17	17	good	fair	overtopped by adjacent trees
9945	Douglas-fir	<i>Pseudotsuga menziesii</i>	15	18	good	fair	overtopped by adjacent trees
9946	Oregon white	<i>Quercus garryana</i>	35	33	fair	fair	moderately thin crown, codominant at 30'
9946.1	Oregon white	<i>Quercus garryana</i>	23	23	good	fair	one sided, codominant at 20' with included bark
9947	Oregon white	<i>Quercus garryana</i>	9	9	poor	poor	overtopped by adjacent trees, suppressed
9949	Oregon white	<i>Quercus garryana</i>	38	38	fair	poor	one sided, overextended branches
9950	Douglas-fir	<i>Pseudotsuga menziesii</i>	17	17	good	fair	one sided, overtopped by adjacent trees
9951	Oregon white	<i>Quercus garryana</i>	26	34	fair	poor	one sided, 33% live crown ratio
9952	English	<i>Crataegus monogyna</i>	5	5	fair	fair	overtopped by adjacent trees
9953	Oregon white	<i>Quercus garryana</i>	32	32	fair	fair	35% live crown ratio, overextended branches
9954	Douglas-fir	<i>Pseudotsuga menziesii</i>	14	16	good	fair	overtopped by adjacent trees

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments
9955	Oregon white	<i>Quercus garryana</i>	28	25	fair	fair	one sided, leans west
9956	Oregon ash	<i>Fraxinus latifolia</i>	5	11	poor	poor	suppressed
9957	Oregon ash	<i>Fraxinus latifolia</i>	8	15	fair	fair	one sided, overtopped by adjacent trees
9958	Oregon ash	<i>Fraxinus latifolia</i>	10	18	fair	fair	overtopped by adjacent trees, one sided
9959	bigleaf maple	<i>Acer macrophyllum</i>	10	16	fair	fair	one sided, moderately suppressed
9960	bigleaf maple	<i>Acer macrophyllum</i>	9	10	fair	fair	moderately suppressed
9961	bigleaf maple	<i>Acer macrophyllum</i>	6	9	fair	fair	moderately suppressed
9962	Douglas-fir	<i>Pseudotsuga menziesii</i>	16	17	fair	fair	one sided, previously lost top at 35' with new top
9963	Oregon white	<i>Quercus garryana</i>	20	16	poor	poor	suppressed
9964	bigleaf maple	<i>Acer macrophyllum</i>	11	22	good	fair	overtopped by adjacent trees
9966	Oregon ash	<i>Fraxinus latifolia</i>	6	9	poor	poor	suppressed, poor trunk taper
9968	Oregon white	<i>Quercus garryana</i>	22	24	fair	poor	25% live crown ratio
9969	ponderosa pine	<i>Pinus ponderosa</i>	24	17	good	poor	35% live crown ratio, marginal trunk taper
9970	Oregon white	<i>Quercus garryana</i>	21	20	fair	poor	20% live crown ratio
9971	Oregon white	<i>Quercus garryana</i>	26	24	fair	poor	20% live crown ratio
9973	bigleaf maple	<i>Acer macrophyllum</i>	6	6	poor	poor	suppressed
9974	Oregon white	<i>Quercus garryana</i>	20	19	poor	poor	moderately suppressed, codominant at 20'
9975	bigleaf maple	<i>Acer macrophyllum</i>	8	9	poor	poor	suppressed
9976	Douglas-fir	<i>Pseudotsuga menziesii</i>	14	9	fair	poor	15% live crown ratio, poor trunk taper
9977	Douglas-fir	<i>Pseudotsuga menziesii</i>	11	0	very poor	very poor	dead
9978	bigleaf maple	<i>Acer macrophyllum</i>	21	9	very poor	very poor	20' snag
9979	ponderosa pine	<i>Pinus ponderosa</i>	47	27	good	fair	33% live crown ratio, good trunk taper, codominant at 60'
9980	Douglas-fir	<i>Pseudotsuga menziesii</i>	18	14	good	fair	overtopped by adjacent trees, codominant at 30'
9985	Oregon ash	<i>Fraxinus latifolia</i>	7	11	poor	poor	suppressed
9986	Oregon white	<i>Quercus garryana</i>	24	20	fair	poor	33% live crown ratio, codominant at 30'
9987	Douglas-fir	<i>Pseudotsuga menziesii</i>	10	13	fair	fair	overtopped by adjacent trees
9988	Oregon white	<i>Quercus garryana</i>	11	10	poor	poor	suppressed
9989	bigleaf maple	<i>Acer macrophyllum</i>	10	14	poor	poor	suppressed
9990	Oregon ash	<i>Fraxinus latifolia</i>	8	7	poor	poor	suppressed
9991	Oregon white	<i>Quercus garryana</i>	14	4	poor	poor	suppressed
9992	bigleaf maple	<i>Acer macrophyllum</i>	10	5	fair	fair	one sided, overtopped by adjacent trees
9993	ponderosa pine	<i>Pinus ponderosa</i>	28	20	good	fair	35% live crown ratio, marginal trunk taper
9994	ponderosa pine	<i>Pinus ponderosa</i>	15	7	good	poor	15% live crown ratio, poor trunk taper
9995	Oregon ash	<i>Fraxinus latifolia</i>	6	6	poor	poor	suppressed
9996	bigleaf maple	<i>Acer macrophyllum</i>	11	12	good	fair	one sided, sweep in lower trunk
9997	Douglas-fir	<i>Pseudotsuga menziesii</i>	20	0	very poor	very poor	dead
10002	Oregon ash	<i>Fraxinus latifolia</i>	16,13	32	good	fair	one sided, codominant at ground level
10003	Oregon ash	<i>Fraxinus latifolia</i>	n/a	n/a	good	fair	same as tree 10002

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments
10004	ponderosa pine	<i>Pinus ponderosa</i>	21	12	good	poor	poor trunk taper
10005	Oregon ash	<i>Fraxinus latifolia</i>	7	8	poor	poor	suppressed
10006	Oregon ash	<i>Fraxinus latifolia</i>	5	6	poor	poor	suppressed
10007	Oregon white	<i>Quercus garryana</i>	25	31	fair	fair	moderately thin crown, 40% live crown ratio
10008	Oregon white	<i>Quercus garryana</i>	15	14	poor	poor	suppressed, significant lean, trunk decay
10009	Oregon ash	<i>Fraxinus latifolia</i>	8	12	fair	fair	one sided, overtopped by adjacent trees
10010	ponderosa pine	<i>Pinus ponderosa</i>	25	18	good	fair	one sided, 50% live crown ratio
10012	Oregon ash	<i>Fraxinus latifolia</i>	10	19	fair	fair	one sided, overtopped by adjacent trees
10013	Oregon white	<i>Quercus garryana</i>	39	36	fair	fair	moderately one sided, moderate branch dieback
10151	Oregon ash	<i>Fraxinus latifolia</i>	20	21	fair	fair	one sided, multiple leaders at 3', significant epicormic growth
10152	Oregon ash	<i>Fraxinus latifolia</i>	14	24	good	fair	multiple leaders at 3'
10152	sweet cherry	<i>Prunus avium</i>	6	10	good	good	
10153	Oregon ash	<i>Fraxinus latifolia</i>	20	20	fair	fair	codominant at 15' marginal trunk taper
10154	Oregon ash	<i>Fraxinus latifolia</i>	16	19	fair	poor	poor trunk taper, 33% live crown ratio
10155	Oregon ash	<i>Fraxinus latifolia</i>	10	12	good	poor	poor trunk taper
10156	Oregon ash	<i>Fraxinus latifolia</i>	15	19	fair	fair	one sided, overtopped by adjacent trees
10157	ponderosa pine	<i>Pinus ponderosa</i>	30	21	good	fair	marginal trunk taper, 40% live crown ratio
10158	Oregon white	<i>Quercus garryana</i>	12	11	fair	fair	one sided, moderately suppressed
10160	Oregon ash	<i>Fraxinus latifolia</i>	5	5	poor	poor	suppressed
10161	Douglas-fir	<i>Pseudotsuga menziesii</i>	13	15	fair	good	overtopped by adjacent trees
10161	Oregon white	<i>Quercus garryana</i>	27	29	good	fair	one sided
10163	Oregon white	<i>Quercus garryana</i>	36	33	fair	fair	upright crown, dead branches up to 8" diameter
10164	Oregon white	<i>Quercus garryana</i>	8	8	poor	poor	overtopped by adjacent trees, suppressed
10165	Oregon ash	<i>Fraxinus latifolia</i>	17	19	fair	fair	moderately suppressed, multiple leaders with included bark
10166	Oregon ash	<i>Fraxinus latifolia</i>	17	21	fair	fair	one sided, overextended branches
10167	Oregon ash	<i>Fraxinus latifolia</i>	20	27	good	fair	one sided, multiple leaders
10168	Oregon ash	<i>Fraxinus latifolia</i>	10	8	poor	poor	suppressed
10169	Oregon ash	<i>Fraxinus latifolia</i>	14	15	fair	fair	poor trunk taper, 35% live crown ratio
10170	sweet cherry	<i>Prunus avium</i>	8	9	fair	fair	overtopped by adjacent trees, moderately suppressed
10171	Oregon white	<i>Quercus garryana</i>	34	29	fair	fair	one sided, significant lean, 35% live crown ratio
10172	Douglas-fir	<i>Pseudotsuga menziesii</i>	12	10	fair	fair	overtopped by adjacent trees, moderately suppressed
10173	Oregon white	<i>Quercus garryana</i>	32	36	fair	fair	one sided, codominant at 10' with included bark, overextended branches
10174	Oregon ash	<i>Fraxinus latifolia</i>	10	20	poor	poor	one sided, suppressed, overextended branches
10175	Oregon ash	<i>Fraxinus latifolia</i>	17	28	fair	fair	one sided, overtopped by adjacent trees, significant lean
10177	Oregon ash	<i>Fraxinus latifolia</i>	12	18	fair	fair	overtopped by adjacent trees, moderately suppressed
10178	English	<i>Crataegus monogyna</i>	8	7	very poor	very poor	overtopped by adjacent trees, suppressed
10179	Oregon ash	<i>Fraxinus latifolia</i>	11	16	fair	fair	one sided, codominant at 25'
10180	Oregon ash	<i>Fraxinus latifolia</i>	11	11	fair	poor	poor trunk taper, 33% live crown ratio

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments
10181	Oregon ash	<i>Fraxinus latifolia</i>	9	12	fair	fair	one sided, damage at lower trunk

<sup>1</sup>DBH is the trunk diameter in inches measured per International Society of Arboriculture (ISA) standards.

<sup>2</sup>C-Rad is the approximate crown radius in feet.

<sup>3</sup>Condition and Structure ratings range from very poor, poor, fair, to good.



# TERAGAN & ASSOCIATES, INC. ARBORICULTURAL CONSULTANTS

## MEMORANDUM

**DATE:** June 30, 2020

**TO:** Brady Berry (Atwell LLC)

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

**RE:** Updated Tree Removal and Protection Recommendations for Parkway Woods Industrial Park

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### Summary

This memorandum provides updated tree removal and protection recommendations for the Parkway Woods Industrial Park parking lot construction project.

### Background

Atwell LLC is designing the creation of additional parking at the Parkway Woods Industrial Park at 26440 and 26600 SW Parkway Ave in Wilsonville, Oregon. The proposed site plan set with the existing trees to be removed and retained is provided in Attachment 1.

The assignment requested of our firm for this project was as follows:

1. Provide an assessment of the existing trees;
2. Provide recommendations for tree removal and retention based on the proposed site improvements; and
3. Provide protection recommendations for the trees to be retained.

### Tree Assessment

In February and March, 2020, I completed my assessment of the existing trees. The complete inventory data is provided in the tree inventory spreadsheet in Attachment 2. The data collected for each tree includes the tree number, species (common and scientific names), trunk diameter (DBH), crown radius, tree health condition, tree structural condition, pertinent comments, treatment (remove or retain), and applicability of mitigation requirements. The tree numbers in the tree inventory in Attachment 2 correspond to the tree numbers in the plan set in Attachment 1. The trees were also tagged with their corresponding numbers with metal tags in the field.

## Proposed Tree Removal

A typical minimum root protection zone allows encroachments no closer than a radius from a tree of .5 feet per inch of DBH as long as 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. This standard may need to be adjusted on a case by case basis due to tree health, species, root distribution, whether the tree will be impacted on multiple sides, the specific construction impacts, and other factors.

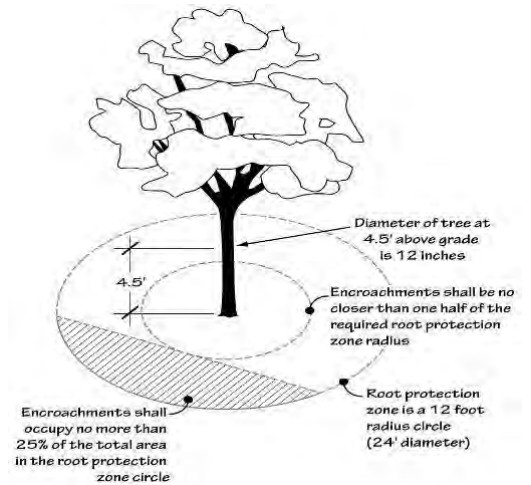


Figure 1: Typical minimum protection zone

The project requires the removal of trees for construction of the new parking, loading, and entry areas throughout the site. In addition, trees that are in poor or very poor condition are proposed for removal for safety purposes, and to improve the space, light, and growing conditions of the trees to be retained. Also, nuisance species which are non-native trees with the capacity to self propagate and outcompete native species including English hawthorn (*Crataegus monogyna*) European birch (*Betula pendula*), Norway maple (*Acer platanoides*), and sweet cherry (*Prunus avium*), are proposed for removal.

Based on the updated site plans in Attachment 1, 163 healthy, non-nuisance trees are proposed for removal due to construction impacts. An additional 149 trees that are nuisance species and/or in poor or very poor health condition are also proposed for removal. Note that 10 of the trees proposed for removal are less than 6-inch DBH. The remaining 293 assessed trees at the site will be retained.

Mitigation is required for the removal of the 302 trees over 6-inch DBH proposed for removal at a minimum ratio of 1:1. Attachment 2 includes the applicability of mitigation requirements for each tree. The proposed landscape plan for the project shall indicate the locations of 2-inch caliper mitigation trees in accordance with Section 4.620.00 of the City of Wilsonville Code.

Protection recommendations for the 293 trees to be retained at the site are provided in the next section of this report.

## Tree Protection Recommendations

The following recommendations apply to the trees to be retained:

- **Protection Fencing:** Establish tree protection fencing in the locations shown in Attachment 2. The intent of the tree protection fencing is to protect the minimum root protection zones detailed in Figure 1 where possible. In some cases the tree protection fencing will need to be modified for the construction of improvements under the onsite supervision of the project arborist.
- **Tree Removal:** The selected tree service should coordinate with the project arborist to determine the method that will be used to protect the trees to be retained during tree removal. The following options will be considered:

- **Directional Felling:** If there is a clear path to fell the trees away from the trees to be retained without contacting their crowns, the trees may be free-felled away from the retained trees.
- **Piece Removal:** If the trees cannot be directionally felled, they will need to be climbed, with branches and trunk sections cut off individually in pieces from the top down. If necessary, the pieces will be secured with ropes so they do not contact the crowns of the retained trees.

No heavy equipment is permitted within the fenced tree protection zones during tree removal operations.

- **Stump Removal:** The stumps of the trees to be removed from within the fenced tree protection zones shall be retained, carefully surface ground, or removed with a machine under the onsite supervision of the project arborist.
- **Curb Removal:** The project arborist shall oversee the removal and reconstruction of curbs adjacent to trees 2509, 4101, 4107, 4111, 4119, 4122, 4142, 7313, 8480, 8483, 8502, 8508, 8509, 8958, 9211, 9212, 9338, 9339, 9352, 9353, 9673, and 9674. The curbs and paving to be removed shall be carefully pulled away from the trees to be retained without disturbing their woody roots. Exposed soil areas shall be protected with tree protection fencing as shown in Attachment 1.
- **Modified Pavement Profile:** The proposed sidewalks and parking lot paving within the root zones of trees 4142, 7259, 7517, 7518, 7519, 7520, 7521, 7529, 7665, 8043, 8328, 8341, 8473, 8475, 8480, 8483, 8499, 8502, 8535, 9107, 9674, 9805, and 10166 need to be constructed using a modified pavement profile under arborist supervision as shown in Figure 1.

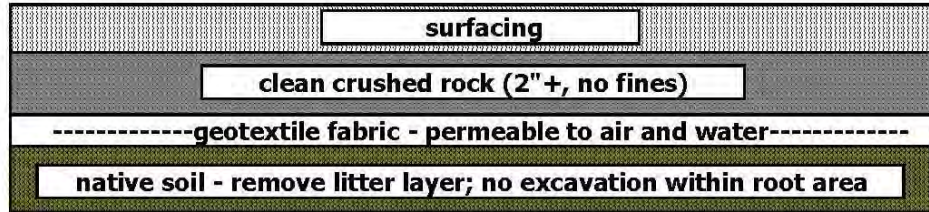


Figure 1. Sample profile for areas within Critical Root Zones. Depth of rock is dependent on grading. Technique based on best management practices.

Methods to minimize the depth of the modified pavement profile such as the use of concrete, reinforced pavement should be implemented. Also, methods to improve air and water exchange through the pavement such as the use of permeable paving materials or 4-inch diameter aeration holes at 10 feet on center should be used. Curbs constructed adjacent to the trees may need to be roll curbs or extruded curbs to minimize excavation where there are structural roots. Sidewalks should be meandered away from tree trunks and needed to avoid root impacts.

- **Adjust Stormwater Facility:** The proposed stormwater facility that encroaches within the tree protection zone of trees 9352 and 9353 shall be reconfigured so it is outside the tree protection zone.
- **Relocate Storm Drain:** The proposed storm drain shown on sheet 6 in Attachment 1 that encroaches within the tree protection zone of trees 7699 and 7700 shall be relocated so it is outside the tree protection zone.

- **Tree 2509:** Tree 2509 may need to be removed if a new curb is constructed within the existing landscape island and cannot be relocated to outside the island.
- **Protect Crowns of Trees:** The crowns of the trees may extend beyond the tree protection fencing. Care will need to be taken to not contact or otherwise damage the crowns of the trees during construction activities.
- **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 root zones, straw wattles shall be used on the soil surface.

Attachment 3 includes additional recommendations to adequately protect the trees during construction.

### Conclusion

One hundred sixty-three (163) healthy, non-nuisance trees are proposed for removal due to construction impacts. An additional 149 trees that are nuisance species and/or in poor or very poor health condition are also proposed for removal. Note that 10 of the trees proposed for removal are less than 6-inch DBH. The remaining 293 assessed trees at the site will be retained. The trees to be retained will be protected by adhering to the recommendations in this report.

Please contact me if you have questions, concerns, or need any 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*

Attachment 1:	Proposed Site Plan with Trees and Tree Protection
Attachment 2:	Tree Inventory
Attachment 3:	Additional Tree Protection Recommendations
Attachment 4:	Assumptions and Limiting Conditions



THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND ACCEPTS TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.



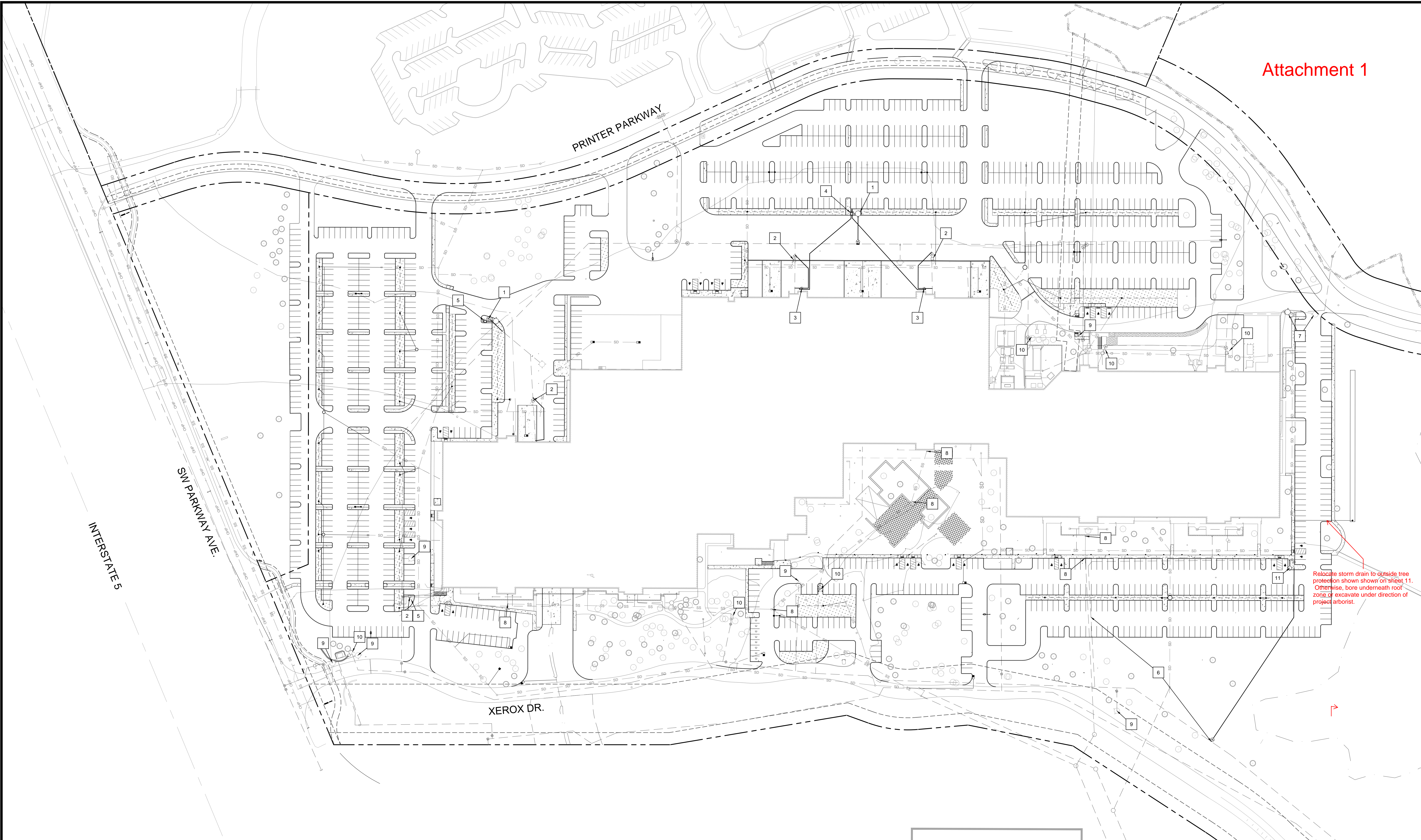
UTILITY PLAN  
PRELIMINARY IMPROVEMENT PLANS  
PARKWAY WOODS BUSINESS PARK  
WILSONVILLE, OREGON

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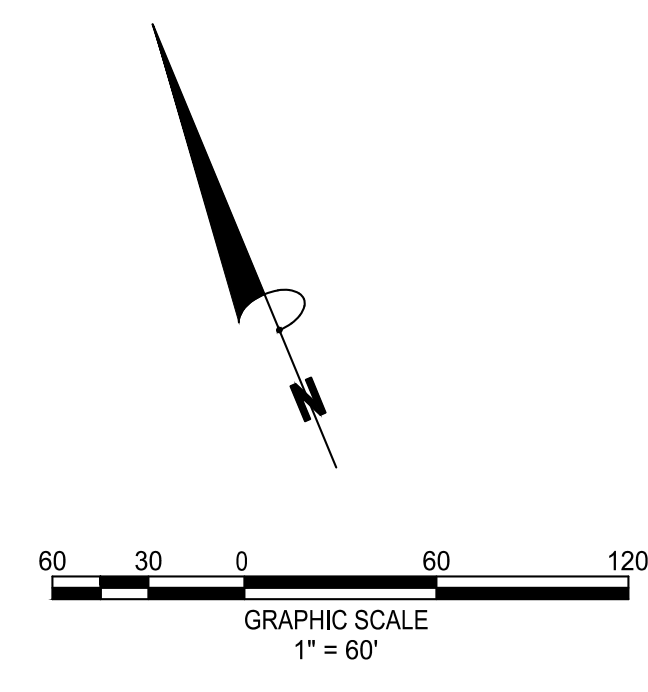
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DR.	J. GLUECK
JOB NO.	19004599
FILE NO.	19004599-UG06

SHEET NO.  
06 OF 29







Relocate storm drain to outside tree protection shown shown on sheet 11. Otherwise, bore underneath roof zones of excavate under direction of project arborist.

- WATER & SEWER NOTES
- 1 ISOLATE EXISTING FIRE MAIN AND CUT IN NEW FIRE HYDRANT.
- 2 REMOVE EXISTING PIV, BACKFLOW VALVE AND FDC.
- 3 INSTALL A TWO DOOR WAFER CHECK VALVE ON FIRE LINE IN 444 LA VAULT, UPSTREAM OF FDC CONNECTION. RE-ESTABLISH CONNECTION TO BUILDING FIRE LINE.
- 4 INSTALL TWO FDCS WITH WAFER CHECK VALVE WITH BALL DRIP IN 444 LA VAULT, LABEL FOR ZONE IDENTIFICATION.
- 5 INSTALL TWO DOOR WAFER CHECK VALVE ON FIRE LINE. WAFER CHECK VALVE WITH BALL DRIP ON FDC LINE IN 444 LA VAULT WITH NEW FDC.
- 6 POT HOLE EXISTING 12" FIRE LINE. IF PARKING LOT EXCAVATION CANNOT BE COMPLETED AS GRADED RELOCATE THE 12" FIRE LINE AS SHOWN.
- 7 RELOCATE EXISTING HYDRANT AS SHOWN.
- 8 ADJUST SANITARY SEWER MANHOLE AND CLEANOUTS TO GRADE.
- 9 EXISTING FIRE HYDRANT TO REMAIN
- 10 EXISTING FDC TO REMAIN
- 11 INSTALL NEW FIRE HYDRANT



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 171004599 - parkway woods industrial park preliminary tree plan 06/30/2020

**LEGEND**  
 TREE REMOVAL  
 EVERGREEN TREE  
 DECIDUOUS TREE  
 TREE CANOPY SPREAD



THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE CONSULTING ENGINEER. THE CONSULTING ENGINEER SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCURRED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND RESERVE ANY AND ALL UNDERGROUND UTILITIES.

**NOTICE:**  
 CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK OF PERSONS ENGAGED BY THE WORK OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

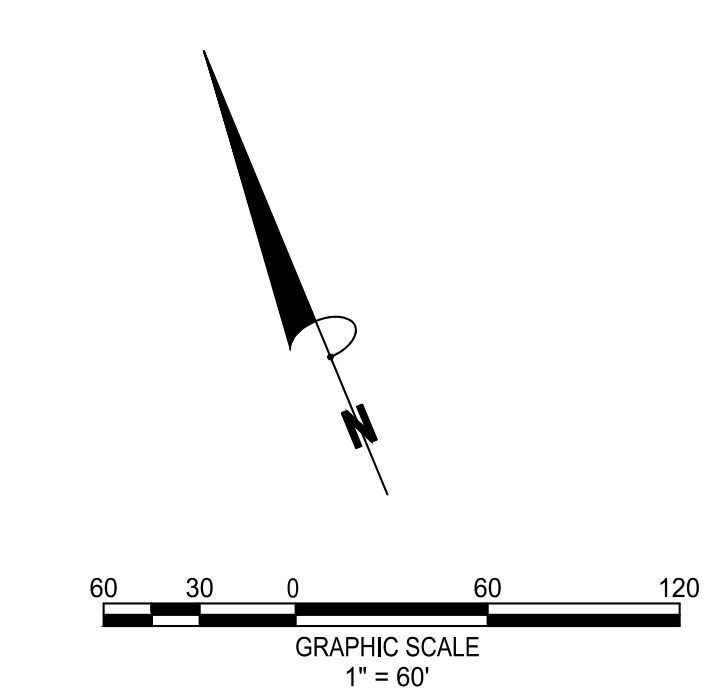


**TREE PROTECTION & REMOVAL - OVERALL**  
 PRELIMINARY IMPROVEMENT PLANS  
**PARKWAY WOODS INDUSTRIAL PARK**  
 WILSONVILLE, OREGON



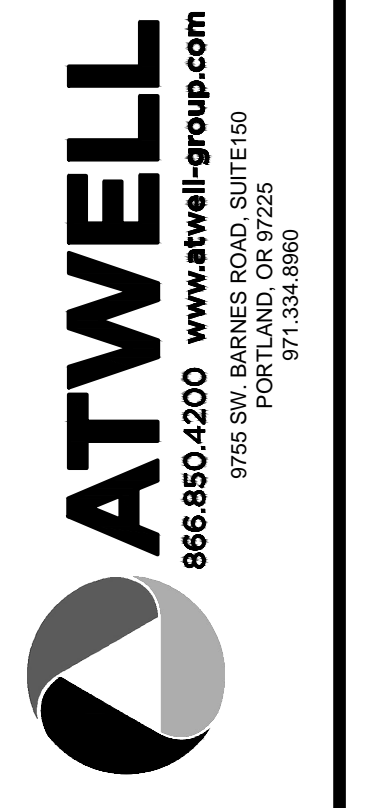
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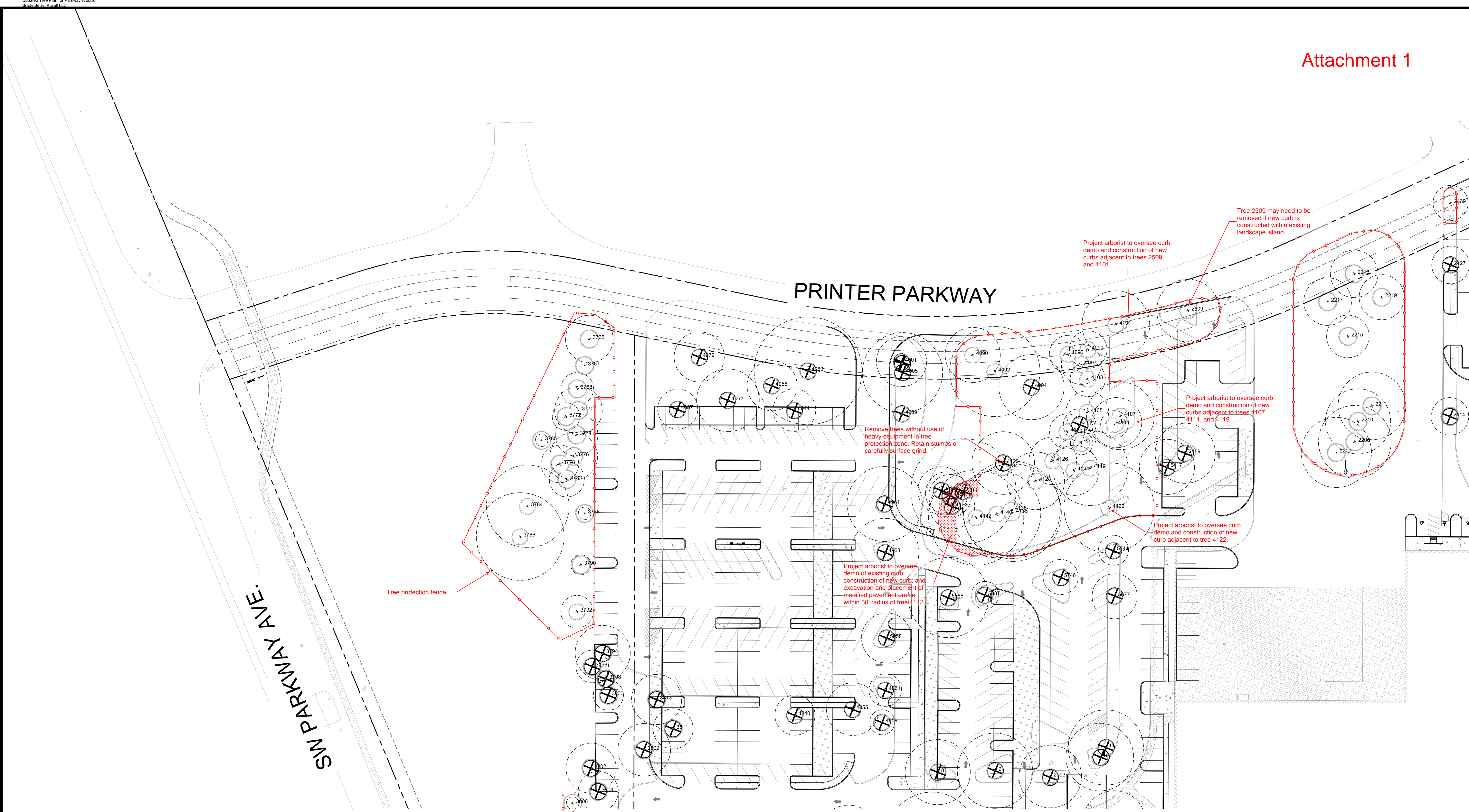


TREE PROTECTION & REMOVAL  
 PRELIMINARY IMPROVEMENT PLANS  
 PARKWAY WOODS INDUSTRIAL PARK  
 WILSONVILLE, OREGON



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JOB NO.	19004599
FILE NO.	19004599-TR08









Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments	Treatment	Mitigation <sup>4</sup>
1126	red oak	<i>Quercus rubra</i>	28	32	good	fair	multiple leaders with included bark	remove	yes
1127	Douglas-fir	<i>Pseudotsuga menziesii</i>	27	26	good	good		remove	yes
1128	red oak	<i>Quercus rubra</i>	16	21	fair	fair	excessive pruning	remove	yes
1148	Norway maple	<i>Acer platanoides</i>	16	26	good	good		remove	yes
1150	Norway maple	<i>Acer platanoides</i>	20	25	fair	fair	multiple leaders with included bark, fused surface roots	remove	yes
1152	Oregon ash	<i>Fraxinus latifolia</i>	15	17	good	fair	multiple leaders	remove	yes
1154	Oregon ash	<i>Fraxinus latifolia</i>	10	9	fair	fair	one sided, epicormic growth on lower trunk	retain	n/a
1156	Oregon ash	<i>Fraxinus latifolia</i>	10	16	good	fair	multiple leaders	retain	n/a
1158	Oregon ash	<i>Fraxinus latifolia</i>	13	18	good	fair	multiple leaders, one sided	retain	n/a
1158.1	ponderosa pine	<i>Pinus ponderosa</i>	29	19	good	fair	one sided	retain	n/a
1203	Douglas-fir	<i>Pseudotsuga menziesii</i>	25	26	poor	poor	codominant at 15' with included bark, history of top failures, dead top	remove	yes
1205	Douglas-fir	<i>Pseudotsuga menziesii</i>	26	26	good	fair	moderately one sided	remove	yes
1264	Douglas-fir	<i>Pseudotsuga menziesii</i>	21	22	good	fair	moderately one sided	remove	yes
1266	Douglas-fir	<i>Pseudotsuga menziesii</i>	12	15	good	fair	one sided, moderately suppressed	remove	yes
1268	Douglas-fir	<i>Pseudotsuga menziesii</i>	36	22	good	fair	codominant at 20'	remove	yes
1278	red oak	<i>Quercus rubra</i>	18	21	good	fair	codominant at 10'	remove	yes
1436	Colorado blue spruce	<i>Picea pungens</i>	7	7	good	good		retain	n/a
1438	Colorado blue spruce	<i>Picea pungens</i>	7	6	good	good		retain	n/a
1440	Colorado blue spruce	<i>Picea pungens</i>	6	7	good	good		retain	n/a
1442	Colorado blue spruce	<i>Picea pungens</i>	7	6	good	good		retain	n/a
1554	Japanese black pine	<i>Pinus thunbergii</i>	15	18	good	good		remove	yes
1556	Japanese black pine	<i>Pinus thunbergii</i>	19	19	good	fair	codominant at 5'	remove	yes
1558	Japanese black pine	<i>Pinus thunbergii</i>	13,7	15	good	fair	codominant at ground, multiple leaders in crown	remove	yes
1560	Japanese black pine	<i>Pinus thunbergii</i>	16	13	good	fair	codominant at 20'	retain	n/a
1603	ponderosa pine	<i>Pinus ponderosa</i>	8	6	good	good		retain	n/a

Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments	Treatment	Mitigation <sup>4</sup>
1613	Japanese black pine	<i>Pinus thunbergii</i>	13	18	poor	poor	low vigor, thin crown	remove	yes
1651	Norway maple	<i>Acer platanoides</i>	12	12	fair	fair	stunted growth, multiple leaders	remove	yes
1653	Norway maple	<i>Acer platanoides</i>	10	9	fair	fair	stunted growth, codominant at 6'	remove	yes
1655	Norway maple	<i>Acer platanoides</i>	13	12	fair	fair	excessive crown raising, damaged surface roots	remove	yes
1657	Norway maple	<i>Acer platanoides</i>	14	13	good	fair	damaged surface roots	remove	yes
2043	Norway maple	<i>Acer platanoides</i>	11	13	fair	fair	stunted growth	remove	yes
2093	red oak	<i>Quercus rubra</i>	20	25	good	fair	codominant at 25' with included bark	remove	yes
2093.1	red oak	<i>Quercus rubra</i>	28	30	good	fair	one sided, multiple leaders with included bark	remove	yes
2093.2	red oak	<i>Quercus rubra</i>	18	27	good	fair	one sided	remove	yes
2093.3	red oak	<i>Quercus rubra</i>	25	30	good	good		remove	yes
2093.4	red oak	<i>Quercus rubra</i>	27	26	good	fair	multiple leaders with included bark	remove	yes
2105	ponderosa pine	<i>Pinus ponderosa</i>	32	25	good	good		remove	yes
2159	red oak	<i>Quercus rubra</i>	18	24	good	good		remove	yes
2207	Douglas-fir	<i>Pseudotsuga menziesii</i>	37	28	good	fair	one sided	retain	n/a
2208	Douglas-fir	<i>Pseudotsuga menziesii</i>	29	29	good	fair	codominant at 12' with included bark	retain	n/a
2210	Douglas-fir	<i>Pseudotsuga menziesii</i>	28	26	good	fair	codominant at 12' with included bark	retain	n/a
2211	Douglas-fir	<i>Pseudotsuga menziesii</i>	28	27	good	fair	multiple leaders at 18', one sided	retain	n/a
2215	Leyland cypress	<i>Cupressus × leylandii</i>	36	17	good	good	DBH estimated due to limited trunk access	retain	n/a
2217	Leyland cypress	<i>Cupressus × leylandii</i>	28	19	good	good	DBH estimated due to limited trunk access	retain	n/a
2218	Leyland cypress	<i>Cupressus × leylandii</i>	18,18	19	good	good	DBH estimated due to limited trunk access	retain	n/a
2219	Leyland cypress	<i>Cupressus × leylandii</i>	32	18	good	good	DBH estimated due to limited trunk access	retain	n/a
2315	Douglas-fir	<i>Pseudotsuga menziesii</i>	22	19	good	good		remove	yes
2414	Austrian pine	<i>Pinus nigra</i>	16	15	good	fair	codominant at 15'	remove	yes
2427	Norway maple	<i>Acer platanoides</i>	14	15	good	good		remove	yes
2439	Norway maple	<i>Acer platanoides</i>	13	14	fair	fair	top pruned out of tree	retain	n/a
2509	red oak	<i>Quercus rubra</i>	19	25	good	good		retain	n/a
2564	Norway maple	<i>Acer platanoides</i>	10	13	good	fair	multiple leaders at 6'	remove	yes
2565	Norway maple	<i>Acer platanoides</i>	10	16	poor	poor	low vigor	remove	yes



Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments	Treatment	Mitigation <sup>4</sup>
2594	red oak	<i>Quercus rubra</i>	18	25	fair	fair	large pruning cuts at lower trunk	retain	n/a
2660	red oak	<i>Quercus rubra</i>	15	16	poor	poor	top pruned out of tree	remove	yes
2708	red oak	<i>Quercus rubra</i>	17	22	poor	poor	excessive pruning, top pruned out of tree	remove	yes
2724	red oak	<i>Quercus rubra</i>	16	19	good	good		retain	n/a
2852	red oak	<i>Quercus rubra</i>	15	22	poor	poor	top pruned out of tree	remove	yes
2862	red oak	<i>Quercus rubra</i>	15	17	poor	poor	top pruned out of tree	remove	yes
2876	Norway maple	<i>Acer platanoides</i>	10	9	fair	fair	low vigor	remove	yes
2881	Norway maple	<i>Acer platanoides</i>	10	11	fair	fair	low vigor	remove	yes
2998	red oak	<i>Quercus rubra</i>	16	25	fair	fair	heavily pruned	retain	n/a
3067	Norway maple	<i>Acer platanoides</i>	8	7	poor	poor	low vigor, top pruned out of tree	remove	yes
3124	pin oak	<i>Quercus palustris</i>	13	15	fair	fair	heavily pruned	remove	yes
3179	pin oak	<i>Quercus palustris</i>	12	17	fair	fair	codominant at 20' with included bark, heavily pruned	remove	yes
3179.1	red oak	<i>Quercus rubra</i>	15	15	poor	poor	heavily pruned, top pruned out of tree	remove	yes
3181	pin oak	<i>Quercus palustris</i>	9	10	poor	poor	low vigor, heavily pruned	remove	yes
3348	red oak	<i>Quercus rubra</i>	16	19	poor	poor	top pruned out of tree	remove	yes
3396	red oak	<i>Quercus rubra</i>	11	10	fair	fair	heavily pruned	remove	yes
3509	pin oak	<i>Quercus palustris</i>	10	16	fair	fair	one sided, significant pruning	remove	yes
3511	red oak	<i>Quercus rubra</i>	18	24	poor	poor	top pruned out of tree	remove	yes
3561	red oak	<i>Quercus rubra</i>	9	9	poor	poor	low vigor, excessive pruning	remove	yes
3765	Japanese black pine	<i>Pinus thunbergii</i>	16	19	fair	fair	chlorotic, multiple trunks	retain	n/a
3767	ponderosa pine	<i>Pinus ponderosa</i>	8	7	good	good		retain	n/a
3768	Japanese black pine	<i>Pinus thunbergii</i>	17	13	good	good		retain	n/a
3770	Japanese black pine	<i>Pinus thunbergii</i>	11,9	19	good	fair	codominant at 1' with included bark	retain	n/a
3772	Japanese black pine	<i>Pinus thunbergii</i>	12	11	good	good		retain	n/a
3774	Japanese black pine	<i>Pinus thunbergii</i>	12	17	good	good		retain	n/a
3776	Japanese black pine	<i>Pinus thunbergii</i>	11	19	good	fair	codominant at 10'	retain	n/a
3778	Japanese black pine	<i>Pinus thunbergii</i>	13	15	good	good		retain	n/a
3780	ponderosa pine	<i>Pinus ponderosa</i>	6	5	good	good		retain	n/a

Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments	Treatment	Mitigation <sup>4</sup>
3782	Japanese black pine	<i>Pinus thunbergii</i>	11	14	good	fair	codominant at 10'	retain	n/a
3784	red oak	<i>Quercus rubra</i>	31	33	good	fair	multiple leaders at 15'	retain	n/a
3786	red oak	<i>Quercus rubra</i>	35	35	good	fair	multiple leaders at 18'	retain	n/a
3788	ponderosa pine	<i>Pinus ponderosa</i>	6	5	good	good		retain	n/a
3790	ponderosa pine	<i>Pinus ponderosa</i>	7	8	good	good		retain	n/a
3792	Norway maple	<i>Acer platanoides</i>	12	13	fair	fair	significant pruning	retain	n/a
3794	ponderosa pine	<i>Pinus ponderosa</i>	24	22	good	fair	codominant at 15'	remove	yes
3796	ponderosa pine	<i>Pinus ponderosa</i>	17	13	good	fair	one sided, codominant at 8' with	remove	yes
3798	Japanese black pine	<i>Pinus thunbergii</i>	12	6	poor	good		remove	yes
3800	Japanese black pine	<i>Pinus thunbergii</i>	15	12	good	good		remove	yes
3802	Japanese black pine	<i>Pinus thunbergii</i>	20	20	good	fair	multiple leaders	remove	yes
3804	Japanese black pine	<i>Pinus thunbergii</i>	15	16	good	good		remove	yes
3806	ponderosa pine	<i>Pinus ponderosa</i>	6	5	fair	fair	excessive crown raising, sequoia pitch moth	retain	n/a
3807	western redcedar	<i>Thuja plicata</i>	8,6,6	7	fair	fair	excessive crown raising, multiple leaders at ground level	retain	n/a
3809	ponderosa pine	<i>Pinus ponderosa</i>	24	21	good	fair	multiple leaders	remove	yes
3811	ponderosa pine	<i>Pinus ponderosa</i>	21	16	good	fair	multiple leaders, moderately one sided	remove	yes
3813	ponderosa pine	<i>Pinus ponderosa</i>	21	20	good	fair	multiple leaders	remove	yes
4001	Oregon ash	<i>Fraxinus latifolia</i>	15,7	20	good	fair	codominant at ground level, one sided, overtopped by adjacent trees	remove	yes
4005	Oregon white oak	<i>Quercus garryana</i>	36	32	fair	fair	decay pocket at root crown behind lean	remove	yes
4009	n/a	n/a	n/a	n/a	n/a	n/a	stump	n/a	n/a
4044	Norway maple	<i>Acer platanoides</i>	11	17	good	good		remove	yes
4050	Oregon ash	<i>Fraxinus latifolia</i>	71	43	poor	poor	stump sprout with decay at lower trunk	remove	yes
4056	Norway maple	<i>Acer platanoides</i>	15	20	good	fair	moderately one sided	remove	yes
4062	Norway maple	<i>Acer platanoides</i>	20	25	good	fair	multiple leaders at 7' with included bark	remove	yes
4079	oak	<i>Quercus sp.</i>	16	20	good	fair	multiple leaders with included bark	remove	yes

Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments	Treatment	Mitigation <sup>4</sup>
4087	Norway maple	<i>Acer platanoides</i>	15	16	good	good		remove	yes
4090	red oak	<i>Quercus rubra</i>	21	22	good	fair	moderately one sided	retain	n/a
4092	Oregon white oak	<i>Quercus garryana</i>	29	36	good	fair	branches with high aspect ratios	retain	n/a
4094	sweet cherry	<i>Prunus avium</i>	21	26	good	fair	upright competing branches	remove	yes
4095	Oregon ash	<i>Fraxinus latifolia</i>	8	15	good	good		retain	n/a
4097	Oregon ash	<i>Fraxinus latifolia</i>	10	16	good	fair	codominant at 15' with included bark	retain	n/a
4099	Oregon ash	<i>Fraxinus latifolia</i>	9	15	good	good		retain	n/a
4101	red oak	<i>Quercus rubra</i>	20	27	good	fair	large pruning cut at lower trunk	retain	n/a
4103	Oregon ash	<i>Fraxinus latifolia</i>	8	14	good	fair	codominant at 12' with included bark	retain	n/a
4105	Oregon white oak	<i>Quercus garryana</i>	11	17	good	fair	one sided	retain	n/a
4107	Oregon white oak	<i>Quercus garryana</i>	22	27	good	fair	moderately one sided	retain	n/a
4107.1	Oregon white oak	<i>Quercus garryana</i>	18	20	good	fair	one sided, added to site map in approximate location by arborist	remove	yes
4111	English hawthorn	<i>Crataegus monogyna</i>	7,5	11	fair	fair	codominant at ground level, overtopped by adjacent trees	remove	yes
4112	red oak	<i>Quercus rubra</i>	16	21	good	good		remove	yes
4113	Oregon white oak	<i>Quercus garryana</i>	9	13	poor	poor	suppressed	remove	yes
4115	Oregon white oak	<i>Quercus garryana</i>	11	14	good	fair	one sided	retain	n/a
4117	Oregon white oak	<i>Quercus garryana</i>	7	9	fair	fair	overtopped by adjacent trees	retain	n/a
4119	Oregon white oak	<i>Quercus garryana</i>	32	30	good	fair	dominant, codominant at 25' with included bark	retain	n/a
4122	red oak	<i>Quercus rubra</i>	26	36	good	fair	multiple leaders at 12' with included bark	retain	n/a
4124	Oregon white oak	<i>Quercus garryana</i>	13	20	fair	fair	overtopped by adjacent trees, one sided, decay seam from root crown to upper trunk	retain	n/a
4126	Oregon white oak	<i>Quercus garryana</i>	26	19	good	good		retain	n/a
4128	Oregon white oak	<i>Quercus garryana</i>	21	23	good	fair	60% live crown ratio	retain	n/a

Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments	Treatment	Mitigation <sup>4</sup>
4130	Oregon ash	<i>Fraxinus latifolia</i>	19,13, 9	25	poor	poor	multiple leaders at 2' with large decay pocket	remove	yes
4134	n/a	n/a	n/a	n/a	n/a	n/a	same as tree 4130	n/a	n/a
4136	Oregon white oak	<i>Quercus garryana</i>	39	39	good	fair	codominant at 3', one sided	retain	n/a
4138	n/a	n/a	n/a	n/a	n/a	n/a	same as tree 4136	n/a	n/a
4140	Oregon white oak	<i>Quercus garryana</i>	44	35	good	fair	codominant at 5' with included bark	retain	n/a
4142	Oregon white oak	<i>Quercus garryana</i>	30	38	good	fair	one sided, codominant at 2' with included bark	retain	n/a
4152	Oregon ash	<i>Fraxinus latifolia</i>	17	18	fair	fair	one sided, decay pocket in trunk, marginal trunk taper	remove	yes
4154	Oregon ash	<i>Fraxinus latifolia</i>	22	17	fair	poor	previous failures with multiple leaders and decay at 18'	remove	yes
4156	Oregon ash	<i>Fraxinus latifolia</i>	17	15	fair	fair	one sided, 40% live crown ratio	remove	yes
4158	English hawthorn	<i>Crataegus monogyna</i>	7,6,6, 5	19	fair	fair	one sided, overtopped by adjacent trees	remove	yes
4160	Oregon white oak	<i>Quercus garryana</i>	29	42	fair	fair	severe bend in trunk, leans north with upright stems on bent trunk	remove	yes
4179	red oak	<i>Quercus rubra</i>	11	7	good	fair	multiple leaders at 15'	retain	n/a
4312	red oak	<i>Quercus rubra</i>	13	14	fair	fair	top pruned out of tree	remove	yes
4370	pin oak	<i>Quercus palustris</i>	12	16	fair	fair	top pruned out of tree	remove	yes
4432	Norway maple	<i>Acer platanoides</i>	13	8	poor	poor	low vigor	remove	yes
4450	Norway maple	<i>Acer platanoides</i>	11	10	poor	poor	low vigor, significant pruning, sunscald on surface roots	remove	yes
4456	Norway maple	<i>Acer platanoides</i>	13	15	good	fair	multiple leaders at 7' with included bark, sunscald on surface roots	remove	yes
4481	red oak	<i>Quercus rubra</i>	30	32	fair	fair	top pruned out of tree	remove	yes
4545	red oak	<i>Quercus rubra</i>	16	22	good	fair	multiple leaders at 10'	remove	yes
4693	red oak	<i>Quercus rubra</i>	20	24	good	fair	codominant at 15' with included bark	remove	yes
4723	red oak	<i>Quercus rubra</i>	15	18	good	fair	multiple leaders at 15'	remove	yes
4840	Norway maple	<i>Acer platanoides</i>	16	16	good	good		remove	yes
4855	Norway maple	<i>Acer platanoides</i>	21	21	good	fair	multiple leaders at 8'	remove	yes
4859	Norway maple	<i>Acer platanoides</i>	12	10	good	fair	codominant at 7'	remove	yes
4861	Norway maple	<i>Acer platanoides</i>	15	13	good	fair	multiple leaders at 6'	remove	yes
4961	red oak	<i>Quercus rubra</i>	26	30	fair	fair	significant past pruning	remove	yes
4963	red oak	<i>Quercus rubra</i>	26	27	fair	fair	top pruned out of tree	remove	yes

Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments	Treatment	Mitigation <sup>4</sup>
5058	red oak	<i>Quercus rubra</i>	18	20	good	fair	codominant at 10'	remove	yes
5315	red oak	<i>Quercus rubra</i>	27	36	good	fair	40% live crown ratio	remove	yes
5417	red oak	<i>Quercus rubra</i>	18	22	good	fair	moderately one sided	remove	yes
5544	red oak	<i>Quercus rubra</i>	26	31	good	fair	codominant at 18'	remove	yes
5677	Norway maple	<i>Acer platanoides</i>	18	18	poor	poor	sunscauld on surface roots, top pruned out of tree	remove	yes
5692	red oak	<i>Quercus rubra</i>	23	28	good	fair	60% live crown ratio	retain	n/a
5744	Norway maple	<i>Acer platanoides</i>	13	12	fair	fair	one sided, codominant at 6'	remove	yes
5746	Norway maple	<i>Acer platanoides</i>	14	14	poor	poor	significant sunscauld and decay at lower trunk	remove	yes
5856	red oak	<i>Quercus rubra</i>	19	21	good	good		remove	yes
5886	red oak	<i>Quercus rubra</i>	28	32	good	good		remove	yes
5887	Norway maple	<i>Acer platanoides</i>	11	11	poor	poor	one sided, significant decay at lower trunk	remove	yes
5930	Norway maple	<i>Acer platanoides</i>	14	14	good	good		remove	yes
5933	Norway maple	<i>Acer platanoides</i>	13	12	poor	poor	sap rot, sloughing bark	remove	yes
5935	Norway maple	<i>Acer platanoides</i>	9	8	fair	fair	significant pruning, sunscauld on surface roots	remove	yes
6098	red oak	<i>Quercus rubra</i>	15	17	good	fair	codominant at 10'	retain	n/a
6161	red oak	<i>Quercus rubra</i>	11	17	fair	fair	significant pruning	retain	n/a
6224	red oak	<i>Quercus rubra</i>	9	8	poor	poor	excessive pruning	remove	yes
6323	red oak	<i>Quercus rubra</i>	14	18	good	good		retain	n/a
6377	red oak	<i>Quercus rubra</i>	11	13	poor	poor	excessive pruning	remove	yes
6433	red oak	<i>Quercus rubra</i>	11	15	fair	fair	significant pruning	retain	n/a
6481	red oak	<i>Quercus rubra</i>	13	15	poor	poor	lost top	remove	yes
6600	Oregon white oak	<i>Quercus garryana</i>	32	34	good	fair	large pruning cut at lower trunk	retain	n/a
6602	Oregon white oak	<i>Quercus garryana</i>	20	22	good	fair	one sided	retain	n/a
6686	red oak	<i>Quercus rubra</i>	13	16	good	good		remove	yes
6771	Norway maple	<i>Acer platanoides</i>	14	18	good	good		retain	n/a
6960	red oak	<i>Quercus rubra</i>	10	14	good	fair	one sided	retain	n/a
6960.1	red oak	<i>Quercus rubra</i>	10	17	good	fair	one sided	retain	n/a
6960.2	red oak	<i>Quercus rubra</i>	16	23	good	good		retain	n/a
6963	red oak	<i>Quercus rubra</i>	8	7	good	fair	one sided, codominant at 12' with included bark	retain	n/a
6964	red oak	<i>Quercus rubra</i>	11	12	good	fair	moderately one sided	retain	n/a
6970	ponderosa pine	<i>Pinus ponderosa</i>	40	29	good	fair	multiple leaders	retain	n/a
6972	ponderosa pine	<i>Pinus ponderosa</i>	29	22	good	good		retain	n/a

Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments	Treatment	Mitigation <sup>4</sup>
7072	red oak	<i>Quercus rubra</i>	13	18	good	good		remove	yes
7105	red oak	<i>Quercus rubra</i>	14	19	good	good		remove	yes
7151	Norway maple	<i>Acer platanoides</i>	17	18	fair	fair	sunscald on trunk and branches	remove	yes
7152	red oak	<i>Quercus rubra</i>	11	18	good	good		remove	yes
7153	ponderosa pine	<i>Pinus ponderosa</i>	33	31	good	good		retain	n/a
7154	Oregon white oak	<i>Quercus garryana</i>	21	28	good	good		retain	n/a
7193	ponderosa pine	<i>Pinus ponderosa</i>	27	23	good	fair	codominant at 30' with included bark	retain	n/a
7194	ponderosa pine	<i>Pinus ponderosa</i>	33	29	good	good		retain	n/a
7259	ponderosa pine	<i>Pinus ponderosa</i>	29	30	good	fair	moderately one sided	retain	n/a
7260	ponderosa pine	<i>Pinus ponderosa</i>	32	27	good	good		remove	yes
7261	ponderosa pine	<i>Pinus ponderosa</i>	25	22	good	fair	moderately one sided	retain	n/a
7300	Oregon white oak	<i>Quercus garryana</i>	17	25	good	fair	one sided	remove	yes
7301	English hawthorn	<i>Crataegus monogyna</i>	9	9	good	fair	multiple leaders	remove	yes
7302	sweet cherry	<i>Prunus avium</i>	7	9	good	good		remove	yes
7303	ponderosa pine	<i>Pinus ponderosa</i>	27	18	fair	good	moderate branch tip dieback	retain	n/a
7304	Oregon white oak	<i>Quercus garryana</i>	17	26	good	fair	one sided	retain	n/a
7305	Oregon white oak	<i>Quercus garryana</i>	9	16	poor	poor	suppressed	remove	yes
7305.1	Oregon white oak	<i>Quercus garryana</i>	12	12	fair	fair	one sided, overtopped by adjacent trees, added to site map in approximate location by arborist	remove	yes
7307	Oregon white oak	<i>Quercus garryana</i>	9	12	good	fair	one sided	retain	n/a
7308	ponderosa pine	<i>Pinus ponderosa</i>	32	22	good	fair	one sided	retain	n/a
7309	black hawthorn	<i>Crataegus douglasii</i>	5	8	fair	fair	one sided, significant lean, overtopped by adjacent trees	retain	n/a
7310	Oregon white oak	<i>Quercus garryana</i>	24	27	good	fair	one sided	retain	n/a
7312	Oregon white oak	<i>Quercus garryana</i>	12	14	fair	fair	one sided, moderately suppressed	retain	n/a
7312.1	Oregon white oak	<i>Quercus garryana</i>	6	6	fair	fair	one sided, overtopped by adjacent trees, added to site map in approximate location by arborist	retain	n/a

Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments	Treatment	Mitigation <sup>4</sup>
7313	Oregon white oak	<i>Quercus garryana</i>	22	25	good	fair	one sided	retain	n/a
7314	ponderosa pine	<i>Pinus ponderosa</i>	16	12	very poor	very poor	dying from top down	remove	yes
7382	Oregon white oak	<i>Quercus garryana</i>	25	23	good	fair	leans southeast	retain	n/a
7383	ponderosa pine	<i>Pinus ponderosa</i>	35	35	good	fair	lower branches with high aspect ratios, leans south, appears to be native	retain	n/a
7384	Oregon white oak	<i>Quercus garryana</i>	11	13	good	fair	one sided	retain	n/a
7385	English hawthorn	<i>Crataegus monogyna</i>	8	13	very poor	very poor	suppressed, significant decay	remove	yes
7386	Oregon white oak	<i>Quercus garryana</i>	28	19	good	fair	one sided, codominant at 6' with included bark	retain	n/a
7387	ponderosa pine	<i>Pinus ponderosa</i>	36	28	good	fair	one sided, codominant at 3' with included bark	retain	n/a
7388	ponderosa pine	<i>Pinus ponderosa</i>	31	23	good	fair	moderately one sided	retain	n/a
7389	Oregon white oak	<i>Quercus garryana</i>	28,23,9	28	fair	fair	stump sprout	retain	n/a
7390	Oregon ash	<i>Fraxinus latifolia</i>	9	16	good	fair	one sided	retain	n/a
7391	Oregon ash	<i>Fraxinus latifolia</i>	11	14	good	fair	one sided	retain	n/a
7392	Oregon ash	<i>Fraxinus latifolia</i>	11	14	good	fair	one sided	retain	n/a
7393	Oregon white oak	<i>Quercus garryana</i>	24	26	good	fair	crack/seam at lower trunk behind failed branch	retain	n/a
7396	Oregon ash	<i>Fraxinus latifolia</i>	8	14	good	fair	one sided	retain	n/a
7509	ponderosa pine	<i>Pinus ponderosa</i>	27	21	good	good		retain	n/a
7510	English hawthorn	<i>Crataegus monogyna</i>	13	14	good	fair	one sided, codominant at 3' with included bark	remove	yes
7511	Oregon ash	<i>Fraxinus latifolia</i>	8	9	good	fair	one sided	retain	n/a
7513	red oak	<i>Quercus rubra</i>	19	26	good	good		remove	yes
7515	Norway maple	<i>Acer platanoides</i>	15	25	good	fair	multiple leaders at 7'	remove	yes
7517	ponderosa pine	<i>Pinus ponderosa</i>	29	25	good	fair	multiple leaders at 20'	retain	n/a
7518	ponderosa pine	<i>Pinus ponderosa</i>	27	22	good	fair	one sided, minor branch tip dieback, multiple leaders with included bark	retain	n/a
7519	ponderosa pine	<i>Pinus ponderosa</i>	24	20	good	fair	one sided	retain	n/a
7520	ponderosa pine	<i>Pinus ponderosa</i>	28	26	good	fair	one sided	retain	n/a
7521	ponderosa pine	<i>Pinus ponderosa</i>	17	21	good	good		retain	n/a
7522	ponderosa pine	<i>Pinus ponderosa</i>	31	24	fair	good	moderate branch tip dieback	remove	yes
7527	ponderosa pine	<i>Pinus ponderosa</i>	29	24	fair	fair	one sided, lower branch dieback	remove	yes

Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments	Treatment	Mitigation <sup>4</sup>
7528	ponderosa pine	<i>Pinus ponderosa</i>	32	26	good	fair	codominant at 20', one sided	retain	n/a
7529	ponderosa pine	<i>Pinus ponderosa</i>	29	20	good	fair	moderately one sided	retain	n/a
7571	Oregon white oak	<i>Quercus garryana</i>	22	24	fair	fair	bent lower trunk, multiple upright stems on bent trunk	retain	n/a
7571.1	Oregon white oak	<i>Quercus garryana</i>	15	15	fair	fair	codominant at 3', one sided	retain	n/a
7573	sweet cherry	<i>Prunus avium</i>	7	7	good	fair	one sided	remove	yes
7575	Oregon white oak	<i>Quercus garryana</i>	17	19	good	fair	moderately one sided	remove	yes
7576	European birch	<i>Betula pendula</i>	10	7	very poor	very poor	dead top	remove	yes
7577	European birch	<i>Betula pendula</i>	9	0	very poor	very poor	dead	remove	yes
7578	English hawthorn	<i>Crataegus monogyna</i>	12	13	good	fair	codominant at 2' with included bark	remove	yes
7579	Oregon white oak	<i>Quercus garryana</i>	24	11	poor	poor	extensive decay at lower trunk with standing water in decay pocket	remove	yes
7580	Oregon white oak	<i>Quercus garryana</i>	23	17	good	fair	one sided	retain	n/a
7581	Oregon white oak	<i>Quercus garryana</i>	20	18	fair	fair	moderately suppressed, codominant at 3', 6" codominant stem is dying	retain	n/a
7582	Oregon white oak	<i>Quercus garryana</i>	20	15	good	fair	35% live crown ratio, marginal trunk taper	retain	n/a
7583	Oregon white oak	<i>Quercus garryana</i>	24	27	good	fair	one sided	retain	n/a
7584	Oregon ash	<i>Fraxinus latifolia</i>	6	13	good	fair	one sided	retain	n/a
7585	Oregon ash	<i>Fraxinus latifolia</i>	6	8	fair	fair	moderately suppressed, one sided	retain	n/a
7586	Oregon white oak	<i>Quercus garryana</i>	28	13	fair	fair	moderately suppressed, codominant at 3' with included bark	retain	n/a
7587	Oregon white oak	<i>Quercus garryana</i>	17	21	fair	fair	one sided	retain	n/a
7588	English hawthorn	<i>Crataegus monogyna</i>	10	15	good	fair	one sided, multiple leaders with included bark	remove	yes
7589	sweet cherry	<i>Prunus avium</i>	7	12	good	fair	one sided	remove	yes
7590	sweet cherry	<i>Prunus avium</i>	9	6	poor	poor	extensive sunscald at lower trunk	remove	yes
7591	sweet cherry	<i>Prunus avium</i>	15	20	good	fair	moderately one sided, partially uprooted but stable	remove	yes



Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments	Treatment	Mitigation <sup>4</sup>
7592	sweet cherry	<i>Prunus avium</i>	11	13	good	fair	one sided	remove	yes
7593	Oregon white oak	<i>Quercus garryana</i>	19	26	good	fair	one sided	retain	n/a
7594	Oregon white oak	<i>Quercus garryana</i>	21	22	good	fair	moderately one sided, kinked lower trunk	retain	n/a
7595	Oregon white oak	<i>Quercus garryana</i>	13	18	fair	fair	one sided, moderately suppressed, moderately thin crown	retain	n/a
7596	Oregon white oak	<i>Quercus garryana</i>	24	22	good	fair	moderately one sided	retain	n/a
7597	Oregon white oak	<i>Quercus garryana</i>	13,12,10,8	21	fair	fair	stump sprout, moderately one sided	retain	n/a
7598	black hawthorn	<i>Crataegus douglasii</i>	11	10	very poor	very poor	branch failures and internal decay	remove	yes
7599	Oregon white oak	<i>Quercus garryana</i>	24	18	good	fair	codominant at 3' with included bark	retain	n/a
7600	Oregon white oak	<i>Quercus garryana</i>	17	14	fair	fair	one sided, codominant at 3' with dead 5" codominant stem	retain	n/a
7660	ponderosa pine	<i>Pinus ponderosa</i>	26	23	fair	good	moderate branch tip dieback	retain	n/a
7661	ponderosa pine	<i>Pinus ponderosa</i>	27	28	fair	good	moderate branch tip dieback	remove	yes
7665	ponderosa pine	<i>Pinus ponderosa</i>	16	17	fair	fair	thin crown, moderate branch tip dieback, codominant at 25'	retain	n/a
7670	Norway maple	<i>Acer platanoides</i>	17	25	good	fair	multiple leaders with included bark	remove	yes
7671	ponderosa pine	<i>Pinus ponderosa</i>	23	26	fair	fair	codominant at 10' with included bark, moderately thin crown	remove	yes
7673	ponderosa pine	<i>Pinus ponderosa</i>	30	30	good	good		retain	n/a
7674	Himalayan birch	<i>Betula utilis</i>	10	15	poor	poor	suppressed	remove	yes
7675	Himalayan birch	<i>Betula utilis</i>	9	11	fair	fair	moderately suppressed	retain	n/a
7685	ponderosa pine	<i>Pinus ponderosa</i>	19	14	fair	fair	multiple leaders, moderately suppressed	remove	yes
7697	ponderosa pine	<i>Pinus ponderosa</i>	30	30	good	fair	codominant at 30' with included bark	retain	n/a
7699	ponderosa pine	<i>Pinus ponderosa</i>	31	35	fair	fair	moderately one sided, moderate branch tip dieback	remove	yes
7700	ponderosa pine	<i>Pinus ponderosa</i>	29	32	fair	fair	moderately one sided, moderate branch tip dieback	retain	n/a
7702	ponderosa pine	<i>Pinus ponderosa</i>	30	21	good	fair	multiple leaders at 25' with included bark, swelling at root crown	retain	n/a

Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments	Treatment	Mitigation <sup>4</sup>
7869	ponderosa pine	<i>Pinus ponderosa</i>	22	25	fair	fair	one sided, moderately thin crown	retain	n/a
7899	pin oak	<i>Quercus palustris</i>	17	16	good	fair	codominant at 10' with included bark	retain	n/a
7901	pin oak	<i>Quercus palustris</i>	24	25	good	fair	codominant at 10' and 20' with included bark	retain	n/a
7905	ponderosa pine	<i>Pinus ponderosa</i>	34	28	good	fair	multiple leaders with included bark	retain	n/a
7910	pin oak	<i>Quercus palustris</i>	27	35	good	fair	multiple leaders with included bark	remove	yes
7913	pin oak	<i>Quercus palustris</i>	24	23	fair	fair	decay pocket at 7' behind lean	remove	yes
7914	pin oak	<i>Quercus palustris</i>	20	22	good	fair	multiple leaders with included bark	remove	yes
7916	ponderosa pine	<i>Pinus ponderosa</i>	29	30	good	fair	moderately one sided	remove	yes
7917	ponderosa pine	<i>Pinus ponderosa</i>	30	31	good	fair	moderately one sided	remove	yes
7944	purpleleaf plum	<i>Prunus cerasifera</i>	21	25	fair	fair	multiple leaders with included bark, suckers at base of trunk	remove	yes
7959	ponderosa pine	<i>Pinus ponderosa</i>	28	26	fair	fair	multiple leaders with included bark, moderate branch tip dieback	retain	n/a
7967	ponderosa pine	<i>Pinus ponderosa</i>	37	30	good	fair	multiple leaders	retain	n/a
7992	red maple	<i>Acer rubrum</i>	23	24	fair	fair	multiple leaders with included bark, damaged surface roots	retain	n/a
7993	western redcedar	<i>Thuja plicata</i>	8,8,6	11	good	fair	multiple leaders at ground level	retain	n/a
7995	ponderosa pine	<i>Pinus ponderosa</i>	30	30	fair	fair	multiple leaders, moderate branch tip dieback	retain	n/a
8006	ponderosa pine	<i>Pinus ponderosa</i>	21	18	good	fair	moderately one sided	remove	yes
8007	ponderosa pine	<i>Pinus ponderosa</i>	20,11	19	fair	fair	codominant at ground level, moderate branch tip dieback	remove	yes
8020	red maple	<i>Acer rubrum</i>	11	16	good	fair	multiple leaders with included bark	retain	n/a
8022	red maple	<i>Acer rubrum</i>	16	24	good	fair	multiple leaders with included bark	retain	n/a
8036	red maple	<i>Acer rubrum</i>	16	20	good	fair	multiple leaders with included bark	retain	n/a
8038	ponderosa pine	<i>Pinus ponderosa</i>	29	26	good	fair	multiple leaders at 25'	retain	n/a
8039	Leyland cypress	<i>Cupressus × leylandii</i>	20	17	good	good		retain	n/a
8041	ponderosa pine	<i>Pinus ponderosa</i>	27	26	fair	fair	moderately one sided, moderate branch tip dieback	retain	n/a
8042	ponderosa pine	<i>Pinus ponderosa</i>	29	25	fair	good	moderate branch tip dieback	retain	n/a
8043	ponderosa pine	<i>Pinus ponderosa</i>	19	19	good	fair	moderately one sided	retain	n/a

Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments	Treatment	Mitigation <sup>4</sup>
8051	purpleleaf plum	<i>Prunus cerasifera</i>	17	18	fair	fair	multiple leaders with included bark, suckers at base of trunk	remove	yes
8055	purpleleaf plum	<i>Prunus cerasifera</i>	15	18	fair	fair	multiple leaders with included bark, suckers at base of trunk	remove	yes
8056	purpleleaf plum	<i>Prunus cerasifera</i>	12	18	fair	fair	multiple leaders with included bark, suckers at base of trunk	remove	yes
8071	purpleleaf plum	<i>Prunus cerasifera</i>	18	20	fair	fair	multiple leaders with included bark, suckers at base of trunk	remove	yes
8083	ponderosa pine	<i>Pinus ponderosa</i>	35	30	good	fair	moderately one sided	retain	n/a
8084	ponderosa pine	<i>Pinus ponderosa</i>	32	25	good	fair	moderately one sided	retain	n/a
8085	ponderosa pine	<i>Pinus ponderosa</i>	28	25	good	fair	moderately one sided	retain	n/a
8093	Himalayan birch	<i>Betula utilis</i>	7	15	good	fair	moderately one sided	remove	yes
8094	Himalayan birch	<i>Betula utilis</i>	12	23	good	good		remove	yes
8100	Himalayan birch	<i>Betula utilis</i>	17	25	good	good		retain	n/a
8100.1	flowering cherry	<i>Prunus serrulata</i>	12	14	fair	fair	root suckers at base of trunk,	retain	n/a
8149	flowering cherry	<i>Prunus serrulata</i>	9	5	very poor	very poor	extensive dieback and decay	remove	yes
8224	ponderosa pine	<i>Pinus ponderosa</i>	32	30	fair	good	minor dieback	retain	n/a
8249	ponderosa pine	<i>Pinus ponderosa</i>	22	23	good	fair	moderately one sided	retain	n/a
8250	ponderosa pine	<i>Pinus ponderosa</i>	28	30	good	fair	moderately one sided, multiple leaders at 30'	retain	n/a
8251	ponderosa pine	<i>Pinus ponderosa</i>	35	36	good	fair	moderately one sided	retain	n/a
8252	flowering cherry	<i>Prunus serrulata</i>	7	9	fair	fair	overtopped by adjacent trees, moderately suppressed	retain	n/a
8252.1	flowering cherry	<i>Prunus serrulata</i>	10	18	good	good		retain	n/a
8328	ponderosa pine	<i>Pinus ponderosa</i>	27	20	fair	good	moderate branch tip dieback	retain	n/a
8341	Oregon white oak	<i>Quercus garryana</i>	33	34	good	fair	moderately one sided	retain	n/a
8386	ponderosa pine	<i>Pinus ponderosa</i>	28	17	good	good		retain	n/a
8387	Oregon white oak	<i>Quercus garryana</i>	11	10	good	good		retain	n/a
8416	Oregon white oak	<i>Quercus garryana</i>	18	21	good	good		retain	n/a
8419	Oregon white oak	<i>Quercus garryana</i>	14	19	good	fair	moderately one sided	retain	n/a
8420	Oregon white oak	<i>Quercus garryana</i>	19	21	good	fair	moderately one sided	retain	n/a
8421	Oregon white oak	<i>Quercus garryana</i>	18	25	good	good		retain	n/a

Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments	Treatment	Mitigation <sup>4</sup>
8472	ponderosa pine	<i>Pinus ponderosa</i>	28	22	good	good		retain	n/a
8473	ponderosa pine	<i>Pinus ponderosa</i>	26	24	good	good		retain	n/a
8475	ponderosa pine	<i>Pinus ponderosa</i>	28	20	good	good		retain	n/a
8476	ponderosa pine	<i>Pinus ponderosa</i>	24	18	good	good		remove	yes
8477	oak	<i>Quercus sp.</i>	6	9	good	good		retain	n/a
8478	Oregon white oak	<i>Quercus garryana</i>	22	27	good	fair	one sided	remove	yes
8479	Oregon white oak	<i>Quercus garryana</i>	23	42	good	fair	one sided, history of lower branch failure	remove	yes
8480	Oregon white oak	<i>Quercus garryana</i>	22	22	good	fair	one sided, 35% live crown ratio, marginal trunk taper	retain	n/a
8481	Oregon white oak	<i>Quercus garryana</i>	17	24	good	fair	one sided	retain	n/a
8482	Douglas-fir	<i>Pseudotsuga menziesii</i>	6	7	good	good		retain	n/a
8483	Oregon white oak	<i>Quercus garryana</i>	23	31	fair	fair	one sided, moderately thin crown	retain	n/a
8486	Oregon white oak	<i>Quercus garryana</i>	33	31	good	fair	multiple leaders, history of branch failure	remove	yes
8487	Oregon white oak	<i>Quercus garryana</i>	33	19	good	fair	one sided, codominant at 3'	remove	yes
8488	Oregon white oak	<i>Quercus garryana</i>	28	13	fair	poor	25% live crown ratio, lower branch dieback and failures	remove	yes
8489	sweet cherry	<i>Prunus avium</i>	6	10	fair	fair	overtopped by adjacent trees	remove	yes
8490	sweet cherry	<i>Prunus avium</i>	14,5	25	good	fair	one sided, codominant at 1'	remove	yes
8491	Oregon white oak	<i>Quercus garryana</i>	5	9	poor	poor	suppressed	remove	no (<6inchDBH)
8492	Oregon white oak	<i>Quercus garryana</i>	19	20	fair	poor	25% live crown ratio, marginal trunk taper	retain	n/a
8493	Oregon white oak	<i>Quercus garryana</i>	9	11	poor	poor	suppressed	remove	yes
8494	Oregon white oak	<i>Quercus garryana</i>	6	10	poor	poor	suppressed	remove	yes
8496	Douglas-fir	<i>Pseudotsuga menziesii</i>	13	8	fair	fair	one sided, overtopped by adjacent trees	retain	n/a
8497	Oregon white oak	<i>Quercus garryana</i>	22	44	fair	fair	significant lean south, lower branch dieback	retain	n/a
8498	Oregon white oak	<i>Quercus garryana</i>	26	31	good	fair	one sided	remove	yes

Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments	Treatment	Mitigation <sup>4</sup>
8498.1	Douglas-fir	<i>Pseudotsuga menziesii</i>	15	18	fair	fair	one sided, overtopped by adjacent trees, codominant at 10' with included bark	retain	n/a
8499	Oregon white oak	<i>Quercus garryana</i>	53	47	good	fair	codominant at 5' with included bark	retain	n/a
8500	Oregon white oak	<i>Quercus garryana</i>	10	7	fair	poor	15% live crown ratio, poor trunk taper	retain	n/a
8501	Oregon ash	<i>Fraxinus latifolia</i>	7	11	good	good		retain	n/a
8502	Douglas-fir	<i>Pseudotsuga menziesii</i>	30	31	good	good		retain	n/a
8503	Scoulers willow	<i>Salix scouleriana</i>	5	9	poor	poor	one sided, significant decay at root crown	remove	no (<6inchDBH)
8505	Douglas-fir	<i>Pseudotsuga menziesii</i>	11	15	good	fair	one sided, overtopped by adjacent trees	retain	n/a
8506	Douglas-fir	<i>Pseudotsuga menziesii</i>	31	24	good	fair	one sided	remove	yes
8507	Douglas-fir	<i>Pseudotsuga menziesii</i>	12	16	poor	poor	overtopped by adjacent trees, suppressed	remove	yes
8508	Douglas-fir	<i>Pseudotsuga menziesii</i>	31	35	good	good		retain	n/a
8509	Douglas-fir	<i>Pseudotsuga menziesii</i>	6	12	fair	fair	overtopped by adjacent trees	retain	n/a
8510	Douglas-fir	<i>Pseudotsuga menziesii</i>	38	24	good	fair	50% live crown ratio, codominant at 50' with included bark	retain	n/a
8511	Oregon white oak	<i>Quercus garryana</i>	19	19	fair	poor	significant lean southeast, 25% live crown ratio	retain	n/a
8512	Oregon white oak	<i>Quercus garryana</i>	26	22	fair	fair	one sided, 35% live crown ratio, codominant at 4' with included bark, suppressed codominant stem	retain	n/a
8513	Oregon white oak	<i>Quercus garryana</i>	15	8	fair	fair	one sided, 35% live crown ratio, marginal trunk taper	retain	n/a
8514	Oregon white oak	<i>Quercus garryana</i>	16	24	fair	fair	one sided, marginal trunk taper	retain	n/a
8515	Oregon white oak	<i>Quercus garryana</i>	13	10	poor	poor	suppressed	remove	yes
8516	Douglas-fir	<i>Pseudotsuga menziesii</i>	29	23	good	good		retain	n/a
8517	Douglas-fir	<i>Pseudotsuga menziesii</i>	17	17	fair	fair	one sided, marginal trunk taper	retain	n/a
8518	Douglas-fir	<i>Pseudotsuga menziesii</i>	26	26	good	fair	moderately one sided	retain	n/a
8519	Oregon white oak	<i>Quercus garryana</i>	6	4	poor	poor	suppressed	remove	yes
8520	Oregon white oak	<i>Quercus garryana</i>	15	13	poor	poor	suppressed	remove	yes

Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments	Treatment	Mitigation <sup>4</sup>
8521	Oregon white oak	<i>Quercus garryana</i>	27	24	good	fair	moderately one sided	retain	n/a
8522	English hawthorn	<i>Crataegus monogyna</i>	6	7	very poor	very poor	dying	remove	yes
8523	Oregon white oak	<i>Quercus garryana</i>	25	25	good	fair	one sided, 40% live crown ratio, marginal trunk taper	retain	n/a
8524	Oregon white oak	<i>Quercus garryana</i>	12	19	fair	fair	overtopped by adjacent trees, one sided, 33% live crown ratio	retain	n/a
8525	Oregon white oak	<i>Quercus garryana</i>	21	34	fair	fair	one sided, 35% live crown ratio, marginal trunk taper	retain	n/a
8526	Oregon white oak	<i>Quercus garryana</i>	6	4	poor	poor	suppressed	remove	yes
8527	Oregon white oak	<i>Quercus garryana</i>	35	23	good	fair	multiple leaders with included bark	retain	n/a
8528	Oregon white oak	<i>Quercus garryana</i>	9	10	poor	poor	suppressed	remove	yes
8529	Oregon white oak	<i>Quercus garryana</i>	17	14	poor	poor	suppressed, poor trunk taper	remove	yes
8530	Oregon white oak	<i>Quercus garryana</i>	21	42	fair	poor	one sided, significant lean east, poor trunk taper	retain	n/a
8531	Oregon white oak	<i>Quercus garryana</i>	25	24	good	poor	25% live crown ratio, marginal trunk taper	retain	n/a
8532	Oregon white oak	<i>Quercus garryana</i>	19	19	fair	fair	one sided, marginal trunk taper	remove	yes
8533	Oregon white oak	<i>Quercus garryana</i>	20	18	fair	poor	codominant at 1', 33% live crown ratio, poor trunk taper, large stem failure with decay at 3'	remove	yes
8535	Oregon white oak	<i>Quercus garryana</i>	35	29	good	good		retain	n/a
8536	sweet cherry	<i>Prunus avium</i>	5	7	good	good	overtopped by adjacent trees	remove	no (<6inchDBH)
8558	Scoulers willow	<i>Salix scouleriana</i>	7	7	fair	fair	one sided	retain	n/a
8608	sweet cherry	<i>Prunus avium</i>	10	12	fair	fair	overtopped by adjacent trees	remove	yes
8799	Himalayan birch	<i>Betula utilis</i>	17	20	good	fair	branches with high aspect ratios	remove	yes
8838	flowering cherry	<i>Prunus serrulata</i>	12	14	good	fair	one sided	remove	yes
8839	flowering cherry	<i>Prunus serrulata</i>	23	27	good	fair	pruned away from building	remove	yes
8880	flowering cherry	<i>Prunus serrulata</i>	15	14	good	fair	overtopped by adjacent trees, one sided	remove	yes
8903	Douglas-fir	<i>Pseudotsuga menziesii</i>	8	11	good	fair	overtopped by adjacent trees	remove	yes
8904	Oregon white oak	<i>Quercus garryana</i>	20	7	fair	fair	one sided from previous tree that was removed	remove	yes

Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments	Treatment	Mitigation <sup>4</sup>
8905	Douglas-fir	<i>Pseudotsuga menziesii</i>	10	10	good	fair	overtopped by adjacent trees	remove	yes
8906	Oregon white oak	<i>Quercus garryana</i>	26	32	good	fair	one sided from previous tree that was removed	remove	yes
8908	bigleaf maple	<i>Acer macrophyllum</i>	11	17	good	fair	one sided, multiple leaders	remove	yes
8909	Oregon white oak	<i>Quercus garryana</i>	21	26	fair	fair	one sided, marginal trunk taper	remove	yes
8910	Douglas-fir	<i>Pseudotsuga menziesii</i>	9	9	fair	fair	one sided, overtopped by adjacent trees	remove	yes
8913	Oregon white oak	<i>Quercus garryana</i>	10	8	poor	poor	suppressed	remove	yes
8915	Douglas-fir	<i>Pseudotsuga menziesii</i>	24	15	fair	fair	one sided from previous tree that was removed	retain	n/a
8919	Douglas-fir	<i>Pseudotsuga menziesii</i>	22	27	fair	fair	one sided, overtopped by adjacent trees, previously lost top at 40'	remove	yes
8920	ponderosa pine	<i>Pinus ponderosa</i>	33	16	fair	fair	40% live crown ratio, scattered branch tip dieback	remove	yes
8921	Oregon white oak	<i>Quercus garryana</i>	6	20	poor	poor	overtopped by adjacent trees, suppressed	remove	yes
8922	Douglas-fir	<i>Pseudotsuga menziesii</i>	17	21	fair	fair	one sided, overtopped by adjacent trees, moderately thin crown	remove	yes
8923	Douglas-fir	<i>Pseudotsuga menziesii</i>	14	20	good	fair	one sided, overtopped by adjacent trees	remove	yes
8925	sweet cherry	<i>Prunus avium</i>	14	12	fair	poor	codominant at 30', 35% live crown ratio, decay at root crown	remove	yes
8926	Douglas-fir	<i>Pseudotsuga menziesii</i>	18	23	good	good	wound at lower trunk	remove	yes
8927	Douglas-fir	<i>Pseudotsuga menziesii</i>	16	13	fair	fair	one sided, overtopped by adjacent trees, marginal trunk taper	remove	yes
8928	Douglas-fir	<i>Pseudotsuga menziesii</i>	8	9	fair	good	overtopped by adjacent trees	remove	yes
8929	Scoulers willow	<i>Salix scouleriana</i>	15	17	poor	poor	one sided, history of branch failure	remove	yes
8930	Douglas-fir	<i>Pseudotsuga menziesii</i>	23	20	good	fair	moderately one sided	retain	n/a
8931	sweet cherry	<i>Prunus avium</i>	7	9	good	fair	overtopped by adjacent trees	remove	yes
8932	Scoulers willow	<i>Salix scouleriana</i>	14	14	poor	very poor	extensive decay in trunk	remove	yes
8933	Oregon white oak	<i>Quercus garryana</i>	28	41	good	fair	one sided, leans over building	remove	yes
8934	English hawthorn	<i>Crataegus monogyna</i>	6	12	poor	poor	suppressed	remove	yes
8937	Douglas-fir	<i>Pseudotsuga menziesii</i>	16	14	good	fair	codominant at 35'	remove	yes

Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments	Treatment	Mitigation <sup>4</sup>
8951	ponderosa pine	<i>Pinus ponderosa</i>	21	20	good	fair	one sided	remove	yes
8953	Oregon white oak	<i>Quercus garryana</i>	25	29	good	fair	one sided	remove	yes
8954	ponderosa pine	<i>Pinus ponderosa</i>	35	19	poor	poor	significant branch dieback	remove	yes
8955	Douglas-fir	<i>Pseudotsuga menziesii</i>	5	7	fair	fair	overtopped by adjacent trees, lost top at 7', sweep in lower trunk	remove	no (<6inchDBH)
8957	Oregon white oak	<i>Quercus garryana</i>	9	8	poor	poor	suppressed	remove	yes
8957.1	Oregon ash	<i>Fraxinus latifolia</i>	7	10	fair	fair	one sided, overtopped by adjacent trees, added to site map in approximate location by arborist	remove	yes
8958	Oregon white oak	<i>Quercus garryana</i>	19	24	good	fair	one sided	retain	n/a
8959	Oregon white oak	<i>Quercus garryana</i>	21	27	good	fair	40% live crown ratio	remove	yes
8960	Oregon white oak	<i>Quercus garryana</i>	7	5	poor	poor	suppressed	remove	yes
8962	Douglas-fir	<i>Pseudotsuga menziesii</i>	22	27	good	fair	moderately one sided	remove	yes
8963	Oregon white oak	<i>Quercus garryana</i>	23	26	good	fair	one sided, codominant at 10'	remove	yes
8965	Douglas-fir	<i>Pseudotsuga menziesii</i>	11	18	good	fair	one sided	remove	yes
9107	Oregon white oak	<i>Quercus garryana</i>	31	28	good	fair	33% live crown ratio	retain	n/a
9108	Oregon ash	<i>Fraxinus latifolia</i>	16	20	fair	fair	one sided, decay pocket at lower trunk	remove	yes
9109	sweet cherry	<i>Prunus avium</i>	5	10	poor	poor	one sided, overtopped by adjacent trees, significant lean	remove	no (<6inchDBH)
9110	English hawthorn	<i>Crataegus monogyna</i>	6	6	poor	poor	suppressed	remove	yes
9111	Oregon white oak	<i>Quercus garryana</i>	11,6	12	poor	poor	suppressed, codominant at ground level, significant decay in 6" stem	remove	yes
9112	Oregon white oak	<i>Quercus garryana</i>	12	15	poor	poor	suppressed	remove	yes
9113	Douglas-fir	<i>Pseudotsuga menziesii</i>	6	7	poor	poor	suppressed	remove	yes
9115	Oregon ash	<i>Fraxinus latifolia</i>	10	6	good	fair	codominant at ground level, one sided	retain	n/a
9117	sweet cherry	<i>Prunus avium</i>	11	15	good	good		remove	yes



Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments	Treatment	Mitigation <sup>4</sup>
9118	sweet cherry	<i>Prunus avium</i>	5	10	good	good		remove	no (<6inchDBH)
9151	Oregon white oak	<i>Quercus garryana</i>	24	19	good	fair	moderately one sided	remove	yes
9152	Oregon white oak	<i>Quercus garryana</i>	17	14	good	fair	one sided	remove	yes
9153	Oregon white oak	<i>Quercus garryana</i>	18	25	fair	fair	crown extension suppressed by adjacent trees, marginal trunk taper	remove	yes
9154	Douglas-fir	<i>Pseudotsuga menziesii</i>	17	18	good	fair	one sided, marginal trunk taper	remove	yes
9155	Oregon white oak	<i>Quercus garryana</i>	15	24	fair	fair	one sided, 50% live crown ratio, marginal trunk taper	remove	yes
9156	sweet cherry	<i>Prunus avium</i>	11	20	good	fair	moderately one sided	remove	yes
9157	Oregon white oak	<i>Quercus garryana</i>	10	18	poor	poor	top failed at 8'	remove	yes
9158	Scoulers willow	<i>Salix scouleriana</i>	20	12	poor	poor	history of branch failure, decay at lower trunk	remove	yes
9159	Oregon white oak	<i>Quercus garryana</i>	25	29	good	fair	one sided	remove	yes
9160	Douglas-fir	<i>Pseudotsuga menziesii</i>	11	14	good	fair	overtopped by adjacent trees	remove	yes
9161	Oregon white oak	<i>Quercus garryana</i>	27	12	poor	poor	moderately suppressed, moderate branch dieback	remove	yes
9162	Oregon ash	<i>Fraxinus latifolia</i>	8	15	fair	fair	overtopped by adjacent trees	remove	yes
9163	Douglas-fir	<i>Pseudotsuga menziesii</i>	6	7	fair	fair	overtopped by adjacent trees	remove	yes
9164	ponderosa pine	<i>Pinus ponderosa</i>	28	27	fair	fair	one sided, moderately thin crown, codominant at 60'	remove	yes
9185	Oregon ash	<i>Fraxinus latifolia</i>	19	23	good	fair	one sided	retain	n/a
9186	Oregon ash	<i>Fraxinus latifolia</i>	23	24	good	fair	one sided	retain	n/a
9195	flowering cherry	<i>Prunus serrulata</i>	15	10	fair	fair	decay at lower trunk	retain	n/a
9203	Japanese maple	<i>Acer palmatum</i>	12	19	good	fair	multiple leaders with included bark	retain	n/a
9210	red oak	<i>Quercus rubra</i>	25	27	good	fair	one sided	remove	yes
9211	red oak	<i>Quercus rubra</i>	20	25	good	fair	one sided	retain	n/a
9212	Oregon white oak	<i>Quercus garryana</i>	27	36	good	fair	moderately one sided	retain	n/a
9322	Oregon white oak	<i>Quercus garryana</i>	25	25	poor	poor	moderate branch dieback, 33% live crown ratio	remove	yes
9322.1	Oregon white oak	<i>Quercus garryana</i>	20	23	poor	poor	suppressed	remove	yes
9324	Oregon ash	<i>Fraxinus latifolia</i>	20	23	good	good		remove	yes

Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments	Treatment	Mitigation <sup>4</sup>
9325	Oregon white oak	<i>Quercus garryana</i>	26	36	fair	fair	overextended branches, moderately one sided	remove	yes
9326	Oregon ash	<i>Fraxinus latifolia</i>	18	22	good	fair	moderately one sided, overtopped by adjacent trees	remove	yes
9327	Oregon white oak	<i>Quercus garryana</i>	38	33	good	fair	large cavity at 30'	remove	yes
9338	Oregon ash	<i>Fraxinus latifolia</i>	21	18	good	good		retain	n/a
9339	Oregon white oak	<i>Quercus garryana</i>	25	22	good	fair	moderately one sided	retain	n/a
9345	Oregon white oak	<i>Quercus garryana</i>	35	36	good	good		remove	yes
9352	red oak	<i>Quercus rubra</i>	32	35	good	good		retain	n/a
9353	red oak	<i>Quercus rubra</i>	26	41	good	fair	one sided	retain	n/a
9474	Douglas-fir	<i>Pseudotsuga menziesii</i>	27	19	very poor	very poor	<i>Phaeolus schweinitzii</i> conk at base of trunk	remove	yes
9671	Oregon ash	<i>Fraxinus latifolia</i>	29	42	fair	fair	large wound at lower trunk with decay, overextended branches	retain	n/a
9672	Oregon white oak	<i>Quercus garryana</i>	7	7	fair	fair	overtopped by adjacent trees, moderately suppressed	retain	n/a
9673	Oregon white oak	<i>Quercus garryana</i>	12	14	fair	fair	moderately suppressed, significant epicormic growth	retain	n/a
9674	Oregon white oak	<i>Quercus garryana</i>	23	17	fair	fair	one sided, overextended branches	retain	n/a
9675	Oregon white oak	<i>Quercus garryana</i>	9	10	poor	poor	overtopped by adjacent trees, suppressed	remove	yes
9676	Oregon white oak	<i>Quercus garryana</i>	9	7	poor	poor	overtopped by adjacent trees, suppressed	remove	yes
9677	Douglas-fir	<i>Pseudotsuga menziesii</i>	27	18	good	fair	bowed lower trunk, moderately one sided	retain	n/a
9678	Oregon white oak	<i>Quercus garryana</i>	8	8	fair	fair	overtopped by adjacent trees, moderately suppressed	retain	n/a
9679	Oregon white oak	<i>Quercus garryana</i>	22	22	fair	fair	one sided, 40% live crown ratio	retain	n/a
9680	Oregon white oak	<i>Quercus garryana</i>	33	32	fair	poor	overextended branches, top dieback, one sided	retain	n/a
9681	Oregon white oak	<i>Quercus garryana</i>	8	9	poor	poor	suppressed, significant decay at lower trunk	remove	yes
9684	Oregon white oak	<i>Quercus garryana</i>	15,11	14	fair	fair	codominant at ground level, moderately suppressed	retain	n/a

Attachment 2

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9685	Oregon white oak	<i>Quercus garryana</i>	23	13	poor	poor	significant decay at lower and upper trunk	remove	yes
9686	Oregon white oak	<i>Quercus garryana</i>	21	28	fair	fair	40% live crown ratio, one sided, leans southeast	retain	n/a
9694	Oregon white oak	<i>Quercus garryana</i>	19	25	fair	poor	25% live crown ratio	retain	n/a
9800	ponderosa pine	<i>Pinus ponderosa</i>	30	18	poor	poor	thin crown, 25% live crown ratio	remove	yes
9800.1	Hinoki cypress	<i>Chamaecyparis obtusa</i>	10	11	good	fair	one sided	retain	n/a
9801	Oregon white oak	<i>Quercus garryana</i>	8	10	fair	fair	overtopped by adjacent trees, moderately suppressed	retain	n/a
9802	Oregon white oak	<i>Quercus garryana</i>	10	4	poor	poor	lost top at 20'	remove	yes
9803	black cottonwood	<i>Populus trichocarpa</i>	8	11	good	good		retain	n/a
9804	Oregon white oak	<i>Quercus garryana</i>	27	21	fair	fair	moderate dieback	retain	n/a
9805	Oregon white oak	<i>Quercus garryana</i>	35	35	good	fair	one sided, codominant at 7' with included bark	retain	n/a
9806	Oregon white oak	<i>Quercus garryana</i>	25	26	fair	fair	overextended branches	retain	n/a
9807	Oregon ash	<i>Fraxinus latifolia</i>	9	12	fair	fair	overtopped by adjacent trees, damage at lower trunk	retain	n/a
9837	ponderosa pine	<i>Pinus ponderosa</i>	32	23	fair	poor	moderately thin crown, 25% live crown ratio	retain	n/a
9838	Oregon ash	<i>Fraxinus latifolia</i>	8	12	fair	fair	one sided, overtopped by adjacent trees	retain	n/a
9839	Douglas-fir	<i>Pseudotsuga menziesii</i>	16	15	good	fair	one sided, overtopped by adjacent trees	retain	n/a
9840	ponderosa pine	<i>Pinus ponderosa</i>	37	22	good	fair	40% live crown ratio	retain	n/a
9841	Douglas-fir	<i>Pseudotsuga menziesii</i>	12	13	good	fair	one sided, overtopped by adjacent trees	retain	n/a
9842	Douglas-fir	<i>Pseudotsuga menziesii</i>	9	9	fair	fair	overtopped by adjacent trees	retain	n/a
9843	Douglas-fir	<i>Pseudotsuga menziesii</i>	5	9	good	fair	one sided, overtopped by adjacent trees, partially uprooted but stable	retain	n/a
9844	Douglas-fir	<i>Pseudotsuga menziesii</i>	10	13	good	fair	overtopped by adjacent trees	retain	n/a
9845	Oregon white oak	<i>Quercus garryana</i>	13	18	poor	poor	overtopped by adjacent trees, suppressed	remove	yes
9846	Oregon ash	<i>Fraxinus latifolia</i>	6	11	good	good		retain	n/a

Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments	Treatment	Mitigation <sup>4</sup>
9931	Douglas-fir	<i>Pseudotsuga menziesii</i>	14	13	fair	fair	bowed lower trunk, partially uprooted but appears stable	retain	n/a
9932	bigleaf maple	<i>Acer macrophyllum</i>	6	11	good	fair	one sided	retain	n/a
9933	black cottonwood	<i>Populus trichocarpa</i>	21	14	fair	fair	moderately one sided, moderately thin crown	retain	n/a
9934	Oregon ash	<i>Fraxinus latifolia</i>	7	8	good	good		retain	n/a
9935	Oregon white oak	<i>Quercus garryana</i>	20	15	fair	fair	overtopped by adjacent trees, moderately suppressed	retain	n/a
9937	ponderosa pine	<i>Pinus ponderosa</i>	31	20	good	good	50% live crown ratio	retain	n/a
9942	bigleaf maple	<i>Acer macrophyllum</i>	5	8	fair	fair	overtopped by adjacent trees, one sided	retain	n/a
9943	Douglas-fir	<i>Pseudotsuga menziesii</i>	20	17	fair	poor	overtopped by adjacent trees	retain	n/a
9944	Douglas-fir	<i>Pseudotsuga menziesii</i>	17	17	good	fair	overtopped by adjacent trees	retain	n/a
9945	Douglas-fir	<i>Pseudotsuga menziesii</i>	15	18	good	fair	overtopped by adjacent trees	retain	n/a
9946	Oregon white oak	<i>Quercus garryana</i>	35	33	fair	fair	moderately thin crown, codominant at 30'	retain	n/a
9946.1	Oregon white oak	<i>Quercus garryana</i>	23	23	good	fair	one sided, codominant at 20' with included bark	retain	n/a
9947	Oregon white oak	<i>Quercus garryana</i>	9	9	poor	poor	overtopped by adjacent trees, suppressed	remove	yes
9949	Oregon white oak	<i>Quercus garryana</i>	38	38	fair	poor	one sided, overextended branches	retain	n/a
9950	Douglas-fir	<i>Pseudotsuga menziesii</i>	17	17	good	fair	one sided, overtopped by adjacent trees	retain	n/a
9951	Oregon white oak	<i>Quercus garryana</i>	26	34	fair	poor	one sided, 33% live crown ratio	retain	n/a
9952	English hawthorn	<i>Crataegus monogyna</i>	5	5	fair	fair	overtopped by adjacent trees	remove	no (<6inchDBH)
9953	Oregon white oak	<i>Quercus garryana</i>	32	32	fair	fair	35% live crown ratio, overextended branches	retain	n/a
9954	Douglas-fir	<i>Pseudotsuga menziesii</i>	14	16	good	fair	overtopped by adjacent trees	retain	n/a
9955	Oregon white oak	<i>Quercus garryana</i>	28	25	fair	fair	one sided, leans west	retain	n/a
9956	Oregon ash	<i>Fraxinus latifolia</i>	5	11	poor	poor	suppressed	remove	no (<6inchDBH)
9957	Oregon ash	<i>Fraxinus latifolia</i>	8	15	fair	fair	one sided, overtopped by adjacent trees	retain	n/a
9958	Oregon ash	<i>Fraxinus latifolia</i>	10	18	fair	fair	overtopped by adjacent trees, one sided	retain	n/a
9959	bigleaf maple	<i>Acer macrophyllum</i>	10	16	fair	fair	one sided, moderately suppressed	retain	n/a

Attachment 2

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9960	bigleaf maple	<i>Acer macrophyllum</i>	9	10	fair	fair	moderately suppressed	retain	n/a
9961	bigleaf maple	<i>Acer macrophyllum</i>	6	9	fair	fair	moderately suppressed	retain	n/a
9962	Douglas-fir	<i>Pseudotsuga menziesii</i>	16	17	fair	fair	one sided, previously lost top at 35' with new top	retain	n/a
9963	Oregon white oak	<i>Quercus garryana</i>	20	16	poor	poor	suppressed	remove	yes
9964	bigleaf maple	<i>Acer macrophyllum</i>	11	22	good	fair	overtopped by adjacent trees	retain	n/a
9966	Oregon ash	<i>Fraxinus latifolia</i>	6	9	poor	poor	suppressed, poor trunk taper	remove	yes
9968	Oregon white oak	<i>Quercus garryana</i>	22	24	fair	poor	25% live crown ratio	retain	n/a
9969	ponderosa pine	<i>Pinus ponderosa</i>	24	17	good	poor	35% live crown ratio, marginal trunk taper	retain	n/a
9970	Oregon white oak	<i>Quercus garryana</i>	21	20	fair	poor	20% live crown ratio	retain	n/a
9971	Oregon white oak	<i>Quercus garryana</i>	26	24	fair	poor	20% live crown ratio	retain	n/a
9973	bigleaf maple	<i>Acer macrophyllum</i>	6	6	poor	poor	suppressed	remove	yes
9974	Oregon white oak	<i>Quercus garryana</i>	20	19	poor	poor	moderately suppressed, codominant at 20'	remove	yes
9975	bigleaf maple	<i>Acer macrophyllum</i>	8	9	poor	poor	suppressed	remove	yes
9976	Douglas-fir	<i>Pseudotsuga menziesii</i>	14	9	fair	poor	15% live crown ratio, poor trunk taper	remove	yes
9977	Douglas-fir	<i>Pseudotsuga menziesii</i>	11	0	very poor	very poor	dead	remove	yes
9978	bigleaf maple	<i>Acer macrophyllum</i>	21	9	very poor	very poor	20' snag	remove	yes
9979	ponderosa pine	<i>Pinus ponderosa</i>	47	27	good	fair	33% live crown ratio, good trunk taper, codominant at 60'	retain	n/a
9980	Douglas-fir	<i>Pseudotsuga menziesii</i>	18	14	good	fair	overtopped by adjacent trees, codominant at 30'	retain	n/a
9985	Oregon ash	<i>Fraxinus latifolia</i>	7	11	poor	poor	suppressed	remove	yes
9986	Oregon white oak	<i>Quercus garryana</i>	24	20	fair	poor	33% live crown ratio, codominant at 30'	retain	n/a
9987	Douglas-fir	<i>Pseudotsuga menziesii</i>	10	13	fair	fair	overtopped by adjacent trees	retain	n/a
9988	Oregon white oak	<i>Quercus garryana</i>	11	10	poor	poor	suppressed	remove	yes
9989	bigleaf maple	<i>Acer macrophyllum</i>	10	14	poor	poor	suppressed	remove	yes
9990	Oregon ash	<i>Fraxinus latifolia</i>	8	7	poor	poor	suppressed	remove	yes
9991	Oregon white oak	<i>Quercus garryana</i>	14	4	poor	poor	suppressed	remove	yes

Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments	Treatment	Mitigation <sup>4</sup>
9992	bigleaf maple	<i>Acer macrophyllum</i>	10	5	fair	fair	one sided, overtopped by adjacent trees	retain	n/a
9993	ponderosa pine	<i>Pinus ponderosa</i>	28	20	good	fair	35% live crown ratio, marginal trunk taper	retain	n/a
9994	ponderosa pine	<i>Pinus ponderosa</i>	15	7	good	poor	15% live crown ratio, poor trunk taper	retain	n/a
9995	Oregon ash	<i>Fraxinus latifolia</i>	6	6	poor	poor	suppressed	remove	yes
9996	bigleaf maple	<i>Acer macrophyllum</i>	11	12	good	fair	one sided, sweep in lower trunk	retain	n/a
9997	Douglas-fir	<i>Pseudotsuga menziesii</i>	20	0	very poor	very poor	dead	remove	yes
10002	Oregon ash	<i>Fraxinus latifolia</i>	16,13	32	good	fair	one sided, codominant at ground level	remove	yes
10003	n/a	n/a	n/a	n/a	n/a	n/a	same as tree 10002	n/a	n/a
10004	ponderosa pine	<i>Pinus ponderosa</i>	21	12	good	poor	poor trunk taper	remove	yes
10005	Oregon ash	<i>Fraxinus latifolia</i>	7	8	poor	poor	suppressed	remove	yes
10006	Oregon ash	<i>Fraxinus latifolia</i>	5	6	poor	poor	suppressed	remove	no (<6inchDBH)
10007	Oregon white oak	<i>Quercus garryana</i>	25	31	fair	fair	moderately thin crown, 40% live crown ratio	remove	yes
10008	Oregon white oak	<i>Quercus garryana</i>	15	14	poor	poor	suppressed, significant lean, trunk decay	remove	yes
10009	Oregon ash	<i>Fraxinus latifolia</i>	8	12	fair	fair	one sided, overtopped by adjacent trees	remove	yes
10010	ponderosa pine	<i>Pinus ponderosa</i>	25	18	good	fair	one sided, 50% live crown ratio	remove	yes
10012	Oregon ash	<i>Fraxinus latifolia</i>	10	19	fair	fair	one sided, overtopped by adjacent trees	remove	yes
10013	Oregon white oak	<i>Quercus garryana</i>	39	36	fair	fair	moderately one sided, moderate branch dieback	remove	yes
10151	Oregon ash	<i>Fraxinus latifolia</i>	20	21	fair	fair	one sided, multiple leaders at 3', significant epicormic growth	remove	yes
10152	Oregon ash	<i>Fraxinus latifolia</i>	14	24	good	fair	multiple leaders at 3'	remove	yes
10152.1	sweet cherry	<i>Prunus avium</i>	6	10	good	good		remove	yes
10153	Oregon ash	<i>Fraxinus latifolia</i>	20	20	fair	fair	codominant at 15' marginal trunk taper	remove	yes
10154	Oregon ash	<i>Fraxinus latifolia</i>	16	19	fair	poor	poor trunk taper, 33% live crown ratio	remove	yes
10155	Oregon ash	<i>Fraxinus latifolia</i>	10	12	good	poor	poor trunk taper	remove	yes
10156	Oregon ash	<i>Fraxinus latifolia</i>	15	19	fair	fair	one sided, overtopped by adjacent trees	remove	yes
10157	ponderosa pine	<i>Pinus ponderosa</i>	30	21	good	fair	marginal trunk taper, 40% live crown ratio	remove	yes

Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments	Treatment	Mitigation <sup>4</sup>
10158	Oregon white oak	<i>Quercus garryana</i>	12	11	fair	fair	one sided, moderately suppressed	remove	yes
10160	Oregon ash	<i>Fraxinus latifolia</i>	5	5	poor	poor	suppressed	remove	no (<6inchDBH)
10161	Douglas-fir	<i>Pseudotsuga menziesii</i>	13	15	fair	good	overtopped by adjacent trees	retain	n/a
10161.1	Oregon white oak	<i>Quercus garryana</i>	27	29	good	fair	one sided	remove	yes
10163	Oregon white oak	<i>Quercus garryana</i>	36	33	fair	fair	upright crown, dead branches up to 8" diameter	retain	n/a
10164	Oregon white oak	<i>Quercus garryana</i>	8	8	poor	poor	overtopped by adjacent trees, suppressed	remove	yes
10165	Oregon ash	<i>Fraxinus latifolia</i>	17	19	fair	fair	moderately suppressed, multiple leaders with included bark	remove	yes
10166	Oregon ash	<i>Fraxinus latifolia</i>	17	21	fair	fair	one sided, overextended branches	retain	n/a
10167	Oregon ash	<i>Fraxinus latifolia</i>	20	27	good	fair	one sided, multiple leaders	remove	yes
10168	Oregon ash	<i>Fraxinus latifolia</i>	10	8	poor	poor	suppressed	remove	yes
10169	Oregon ash	<i>Fraxinus latifolia</i>	14	15	fair	fair	poor trunk taper, 35% live crown ratio	retain	n/a
10170	sweet cherry	<i>Prunus avium</i>	8	9	fair	fair	overtopped by adjacent trees, moderately suppressed	remove	yes
10171	Oregon white oak	<i>Quercus garryana</i>	34	29	fair	fair	one sided, significant lean, 35% live crown ratio	remove	yes
10172	Douglas-fir	<i>Pseudotsuga menziesii</i>	12	10	fair	fair	overtopped by adjacent trees, moderately suppressed	retain	n/a
10173	Oregon white oak	<i>Quercus garryana</i>	32	36	fair	fair	one sided, codominant at 10' with included bark, overextended branches	retain	n/a
10174	Oregon ash	<i>Fraxinus latifolia</i>	10	20	poor	poor	one sided, suppressed, overextended branches	remove	yes
10175	Oregon ash	<i>Fraxinus latifolia</i>	17	28	fair	fair	one sided, overtopped by adjacent trees, significant lean	retain	n/a
10177	Oregon ash	<i>Fraxinus latifolia</i>	12	18	fair	fair	overtopped by adjacent trees, moderately suppressed	remove	yes
10178	English hawthorn	<i>Crataegus monogyna</i>	8	7	very poor	very poor	overtopped by adjacent trees, suppressed	remove	yes
10179	Oregon ash	<i>Fraxinus latifolia</i>	11	16	fair	fair	one sided, codominant at 25'	remove	yes
10180	Oregon ash	<i>Fraxinus latifolia</i>	11	11	fair	poor	poor trunk taper, 33% live crown ratio	remove	yes

Attachment 2

Tree No.	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure	Comments	Treatment	Mitigation <sup>4</sup>
10181	Oregon ash	<i>Fraxinus latifolia</i>	9	12	fair	fair	one sided, damage at lower trunk	remove	yes
<sup>1</sup> DBH is the trunk diameter in inches measured per International Society of Arboriculture (ISA) standards.									
<sup>2</sup> C-Rad is the approximate crown radius in feet.									
<sup>3</sup> Condition and Structure ratings range from very poor, poor, fair, to good.									
<sup>4</sup> Mitigation is recommended for the removal of trees over 6-inch DBH. Trees that are less than 6-inch DBH are not recommended for mitigation.									



### **Attachment 3 Tree Protection Recommendations**

#### 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 plus the appraised value of the tree(s) within the violated tree protection zone per the current Trunk Formula Method as outlined in the current edition of the *Guide for Plant Appraisal* by the Council of Tree & Landscape Appraisers. The penalty should be paid to the owner of the property.
2. Fencing
  - a. Tree protection fencing may be set as shown in Attachment 1.
  - b. The fencing should be put in place before the ground is cleared in order 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 4-foot high steel fencing on concrete blocks or 4-foot metal fencing secured to the ground with 6-foot metal posts to prevent it from being moved by contractors, sagging, or falling down.
  - 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**

**DO NOT REMOVE OR ADJUST THE LOCATION OF THIS  
TREE PROTECTION FENCING**

**UNAUTHORIZED ENCROACHMENT MAY RESULT IN FINES**

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

Todd Prager, Project Arborist, Teragan & Associates, 971-295-4835

- b. Signage should be placed every 75-feet or less.

### 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 to 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 woody 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 are capable of damaging 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.

## **Attachment 4**

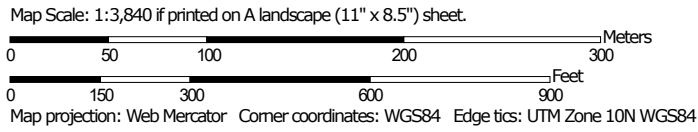
### **Assumptions and Limiting Conditions**

1. Any legal description provided to the consultant is assumed to be correct. The information provided by Atwell LLC 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 an assessment of the existing trees;
  - Provide recommendations for tree removal and retention based on the proposed site improvements; and
  - Provide protection recommendations for the trees to be retained.

Soil Map—Clackamas County Area, Oregon  
(Parkway Woods)



Soil Map may not be valid at this scale.



## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### Water Features



Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

**Warning:** Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Clackamas County Area, Oregon

Survey Area Data: Version 15, Sep 10, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 1, 2019—Sep 12, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1A	Aloha silt loam, 0 to 3 percent slopes	66.4	93.9%
21	Concord silt loam	1.0	1.4%
2225A	Huberly silt loam, 0 to 3 percent slopes	3.4	4.8%
<b>Totals for Area of Interest</b>		<b>70.8</b>	<b>100.0%</b>