



**Washington State
Department of Transportation**

Lynn Peterson
Secretary of Transportation

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March 30, 2015

Ms. Gail Terzi
US Army Corps of Engineers Seattle District
Regulatory Branch CENWS OD RG
PO Box 3755
Seattle, WA 98124-3755

RE: I-5 HOV Port of Tacoma Rd. to King County Line-Floodplain Stream Buffer Mitigation Site
USACE NWP NWS-2008-1445-SOD

Dear Ms. Terzi:

The Washington State Department of Transportation completed qualitative monitoring of the I-5 HOV Stream Buffer mitigation site on March 9, 2015, to address the Year-3 (2016) performance standard. Monitoring activities included vegetation observations from orthophotos and cover estimates using a Geographic Information System (GIS). This Year-1 report is being issued for compliance with the reporting requirements of the United States Army Corps of Engineers – USACE NWP Permit Number NWS-2008-1445-SOD.

General Site Information			
USACE NWP IP Number	NWS-2008-1445-SOD		
ECY WQC Order Number	6563		
Mitigation Location	Within the I-5 right of way at Wapato Creek, Surprise Lake Tributary, Hylebos Creek, and West Hylebos Creek crossings, Pierce County		
Construction Date	2009-2011		
Monitoring Period	2014-2016		
Year of Monitoring	1 of 3		
Type of Impacts¹	Stream	Stream Buffer Permanent	Stream Buffer Temporary
Area of Project Wetland Impact	17 piles, 18.7 sq. ft.	1.13 acres	1.93 acres
Type of Mitigation	Stream Buffer Enhancement	Stream Buffer Restoration	
Area of Mitigation	2.37 acres	1.93 acres	

¹ Impacts and mitigation types and acreages were sourced from Exhibit ES-2 in the Tacoma/Pierce County HOV Program Final Wetland and Stream Mitigation Plan (WSDOT 2009).

Performance Standard (Year-3)	2014 Results	Management Activities
At least 80% survival planted woody species	82% cover (See results and photos below)	Weed control activities were performed on 4/8 and 4/28 in 2014

Site development:

The monitoring crew was unable to safely access these sites this year. In lieu of on-the-ground 2014 survival counts, we used 2013 orthophotos in a GIS to digitize areas of vegetation seen in the planting zones, to estimate percent vegetative cover. Cover of presumed native, woody vegetation is estimated at 82 percent. Based on this estimate, survival of planted woody species appears to be successful. Aerial photographs from 2011 compared to 2013 show that vegetative cover has increased since the buffer areas were planted.

Results for Performance Standard
(80% survival planted woody species):

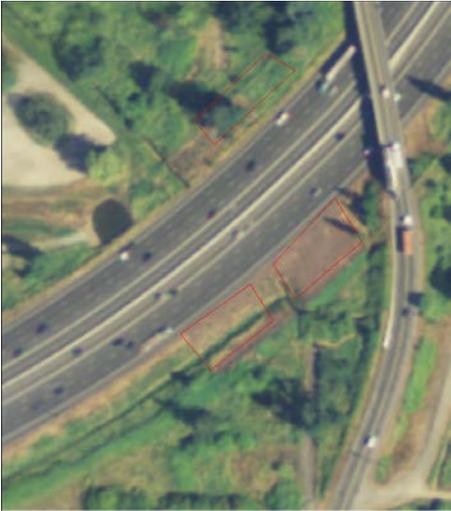
Cover of presumed native, woody vegetation as seen in 2013 aerial photos is estimated at 82 percent for all crossing sites combined.



2011 Wapato Creek Crossing



2013 Wapato Creek Crossing



2011 Surprise Lake Tributary Crossing



2013 Surprise Lake Tributary Crossing



2011 Hylebos Creek Crossing



2013 Hylebos Creek Crossing



2011 West Hylebos Creek Crossing



2013 West Hylebos Creek Crossing

We welcome your questions or comments. Please contact me at 360/570-6640 or by e-mail at busht@wsdot.wa.gov for questions about these mitigation sites.

Sincerely,

Tony Bush
Wetlands Program

DESCRIPTION	SYM	BOTANICAL NAME	COMMON NAME	QUANT.	SIZE	ROOTS	SPACING	REMARKS
STREET TREES	W	QUERCUS PHELLOS	WILLOW OAK	83	2 IN. CAL.	B & B	AS SHOWN	SINGLE TRUNK, 3 BRANCHES MIN.
TREES	A	ACER GINNALA	AMUR MAPLE	50	1 IN. CAL.	B & B	AS SHOWN	SINGLE TRUNK, 3 BRANCHES MIN.
	C	AMELANCHIER CANADENSIS	CANADIAN SERVICEBERRY	23	1 IN. CAL.	B & B	AS SHOWN	MULTI-STEM
	R	ACER RUBRUM 'RED SUNSET'	RED SUNSET MAPLE	77	1 IN. CAL.	B & B	AS SHOWN	TRUNK FREE OF BRANCHES TO 6 FT.
	P	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	23	4-5 FT.	B & B	AS SHOWN	NATURAL FORM, DENSELY BRANCHED
	T	THUJA PLICATA	WESTERN RED CEDAR	199	4-5 FT.	B & B	AS SHOWN	NATURAL FORM, DENSELY BRANCHED

RESTORATION WET MIX	C	CORNUS SERICEA	RED-OSIER DOGWOOD	167	12-18" HT.	B.R.	4' O.C.	
	L	LONICERA INVOLUCRATA	BLACK TWINBERRY	167	12-18" HT.	B.R.	4' O.C.	
	P	PHYSOCARPUS CAPITATUS	PACIFIC NINEBARK	167	2-3 FT.	B.R.	4' O.C.	
	R	ROSA NUTKANA	NOOTKA ROSE	167	12-18" HT.	B.R.	4' O.C.	MULTI-CANE
	R	ROSA PISOCARPA	CLUSTERED ROSE	167	12-18" HT.	B.R.	4' O.C.	MULTI-CANE
	S	SALIX SITCHENSIS	SITKA WILLOW	167	12-18" HT.	B.R.	4' O.C.	
	S	SAMBUCAS RACEMOSA	RED ELDERBERRY	167	12-18" HT.	B.R.	4' O.C.	

RESTORATION UPLAND MIX	C	ACER CIRCINATUM	VINE MAPLE	1200	12-18" HT.	B.R.	4' O.C.	
	A	AMELANCHIER ALNIFOLIA	SERVICEBERRY	1200	12-18" HT.	B.R.	4' O.C.	
	C	CORYLUS CORNUTA	BEAKED HAZELNUT	1200	12-18" HT.	B.R.	4' O.C.	
	H	HICODISCUS DISCOLOR	OCEANSPRAY	1200	12-18" HT.	B.R.	4' O.C.	
	S	SALIX SCOULERIANA	SCOULER'S WILLOW	1200	12-18" HT.	B.R.	STAKE	
	S	SYMPHORICARPOS ALBUS	SNOWBERRY	1200	12-18" HT.	B.R.	4' O.C.	

NOTES:

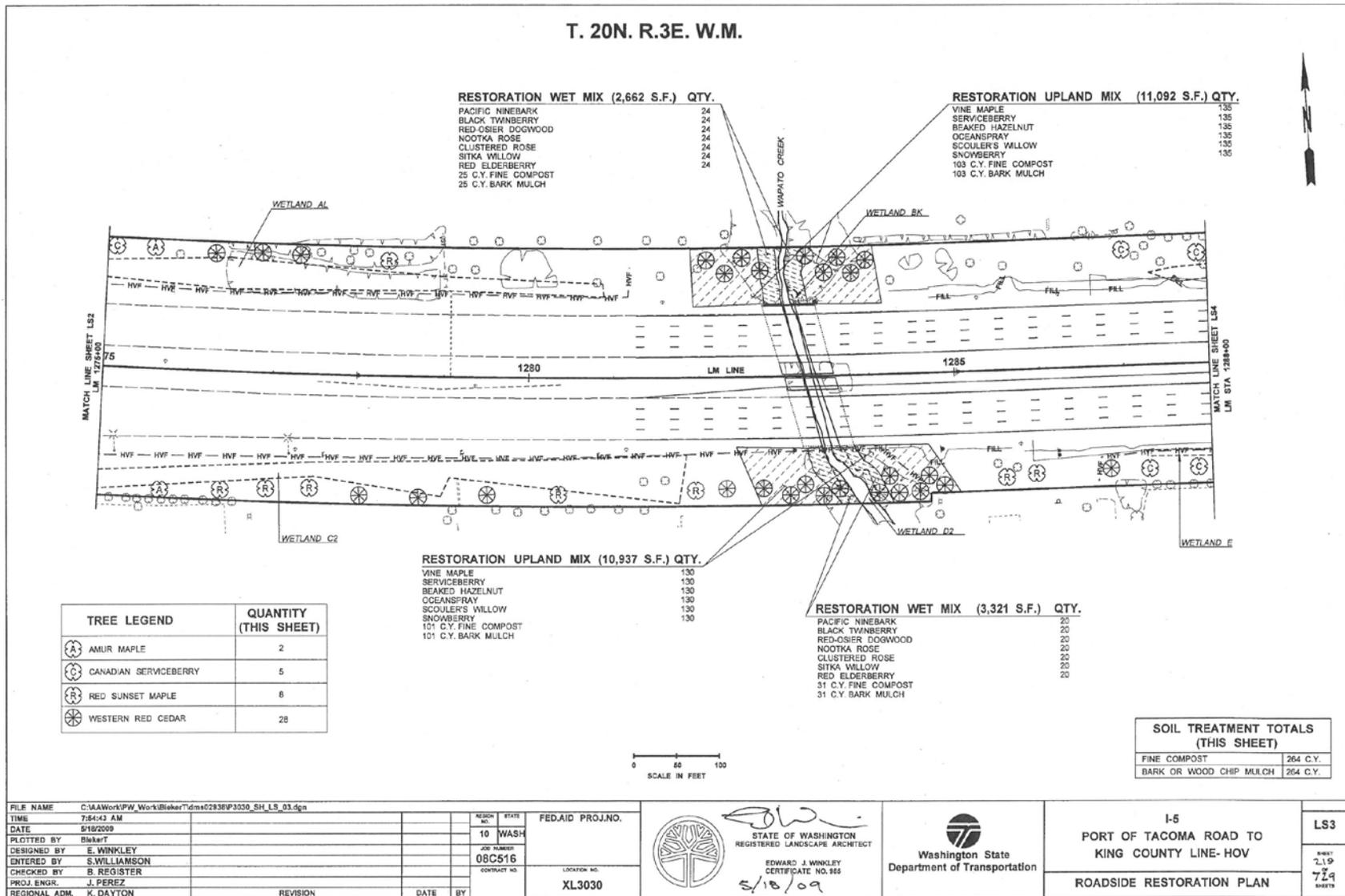
1. ALL PLANT MATERIAL SPECIFICATIONS FOR SIZE AND CONDITION ARE MINIMUM REQUIREMENTS. SPECIFICATIONS ARE IN ACCORDANCE WITH THE 'AMERICAN STANDARD FOR NURSERY STOCK' LATEST EDITION. IF A CONFLICT OCCURS BETWEEN THESE SPECIFICATIONS AND THE 'A.S.N.S.', THESE SPECIFICATIONS SHALL APPLY.
2. STREET TREE SHALL BE TREES WITH STRAIGHT TRUNKS, FULL AND SYMMETRICAL BRANCHING, CENTRAL LEADER, AND BE GROWN TO DEVELOP A FULL CROWN.
3. ALL PATENTED OR TRADEMARKED MATERIAL SHALL BE TAGGED WITH THE APPROPRIATE IDENTIFICATION AT THE TIME OF DELIVERY TO THE PROJECT SITE.
4. ALL 'STREET TREES' SHALL BE STAKED AND SECURED WITHIN 48 HOURS AFTER PLANTING.
5. CONTAINER MATERIAL MAY BE SUBSTITUTED FOR BR AND B & B IF THE CONTAINER AND ROOT MASS ARE EQUAL IN SIZE TO THE SPECIFICATION FOR BR AND B & B MATERIAL.
6. ALL PLANT MATERIAL SHALL BE NURSERY GROWN.
7. ALL STREET TREE LOCATIONS TO BE STAKED BY THE ENGINEER.
8. PLANT TREES OTHER THAN STREET TREES NO CLOSER THAN 30 FEET FROM THE PAVEMENT.

ABBREVIATIONS

B & B	BALLED AND BURLAPPED
BR	BARE ROOT
CAL.	CALIPER
CONT.	CONTAINER
MAX.	MAXIMUM
MIN.	MINIMUM
O.C.	ON CENTER
SPRD.	SPREAD
STA.	STATION
TYP.	TYPICAL
HT.	HEIGHT

FILE NAME C:\AA\Work\PW_Work\Baker\T\dms22928P\3030_SH_LS_01.dgn	ARCH NO. 10	STATE WASH	FED.AID PROJ.NO.	 STATE OF WASHINGTON REGISTERED LANDSCAPE ARCHITECT EDWARD J. WINKLEY CERTIFICATE NO. 155 5/18/09	 Washington State Department of Transportation	I-5 PORT OF TACOMA ROAD TO KING COUNTY LINE-HOV PLANT DATA SHEET	LS1 SHEET 217 729 SHEETS
TIME 8:09:21 AM	DATE 5/18/2009	DESIGNED BY E. WINKLEY	CONTRACT NO. 08C516				
PLOTTED BY Blskerf	ENTERED BY S. WILLIAMSON	CHECKED BY B. REGISTER	LOCATION NO. XL3030				
PROJ. ENGR. J. PEREZ	REGIONAL ADM. K. DAYTON	REVISION	DATE	BY			

T. 20N. R.3E. W.M.



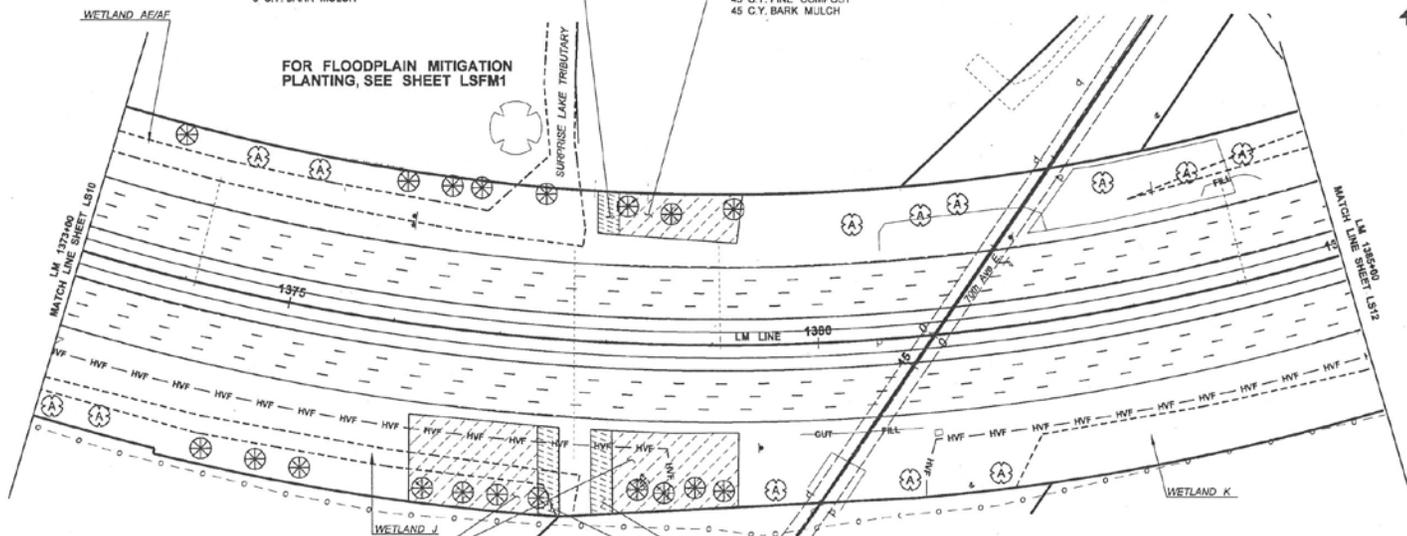
T. 20N. R.4E. W.M.

RESTORATION WET MIX (800 S.F.) QTY.

PACIFIC NINEBARK	8
BLACK TWNBERRY	8
RED-OSIER DOGWOOD	8
NOOTKA ROSE	8
CLUSTERED ROSE	8
SITKA WILLOW	8
RED ELDERBERRY	8
8 C.Y. FINE COMPOST	
8 C.Y. BARK MULCH	

RESTORATION UPLAND MIX (S.F. 4,833) QTY.

VINE MAPLE	60
SERVICEBERRY	60
BEAKED HAZELNUT	60
OCEANSPRAY	60
SCOULE'S WILLOW	60
SNOWBERRY	60
45 C.Y. FINE COMPOST	
45 C.Y. BARK MULCH	



RESTORATION UPLAND MIX (18,636 S.F.) QTY.

VINE MAPLE	225
SERVICEBERRY	225
BEAKED HAZELNUT	225
OCEANSPRAY	225
SCOULE'S WILLOW	225
SNOWBERRY	225
173 C.Y. FINE COMPOST	
173 C.Y. BARK MULCH	

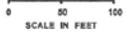
RESTORATION WET MIX (3,244 S.F.) QTY.

PACIFIC NINEBARK	30
BLACK TWNBERRY	30
RED-OSIER DOGWOOD	30
NOOTKA ROSE	30
CLUSTERED ROSE	30
SITKA WILLOW	30
RED ELDERBERRY	30
30 C.Y. FINE COMPOST	
30 C.Y. BARK MULCH	

TREE LEGEND	QUANTITY (THIS SHEET)
(A) AMUR MAPLE	13
(*) WESTERN RED CEDAR	19

SOIL TREATMENT TOTALS (THIS SHEET)

FINE COMPOST	260 C.Y.
BARK OR WOOD CHIP MULCH	260 C.Y.



FILE NAME	C:\AA\Work\PW\Work\Bleker\Tdem02638P0300_SH_LS_11.dgn
TIME	7:58:44 AM
DATE	6/18/2009
PLOTTED BY	Blekerf
DESIGNED BY	E. WINKLEY
ENTERED BY	S. WILLIAMSON
CHECKED BY	B. REGISTER
PROJ. ENGR.	J. PEREZ
REGIONAL ADM.	K. DAYTON
REVISION	
DATE	
BY	

FED. AID PROJ. NO. _____

CONTRACT NO. 08C516

LOCATION NO. XL3030

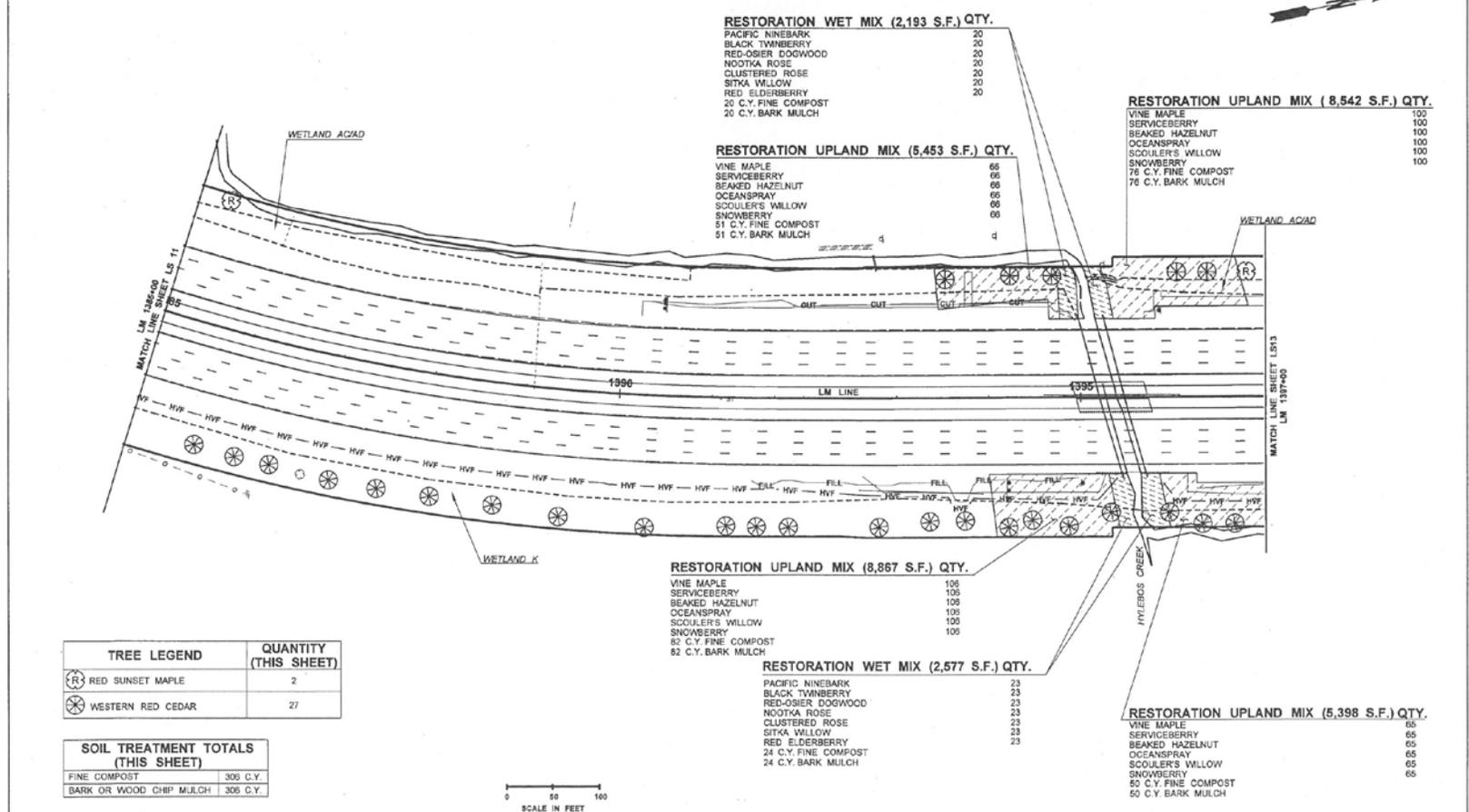
STATE OF WASHINGTON
REGISTERED LANDSCAPE ARCHITECT
EDWARD J. WINKLEY
CERTIFICATE NO. 888
5/18/09



I-5
PORT OF TACOMA ROAD TO
KING COUNTY LINE- HOV
ROADSIDE RESTORATION PLAN

LS11
SHEET 2-27
OF 729
SHEETS

T. 20N. R.4E. W.M.



RESTORATION WET MIX (2,193 S.F.) QTY.

PACIFIC NINEBARK	20
BLACK TWNBERRY	20
RED-OSIER DOGWOOD	20
NOOTKA ROSE	20
CLUSTERED ROSE	20
SITKA WILLOW	20
RED ELDERBERRY	20
20 C.Y. FINE COMPOST	
20 C.Y. BARK MULCH	

RESTORATION UPLAND MIX (5,453 S.F.) QTY.

VINE MAPLE	66
SERVICEBERRY	66
BEAKED HAZELNUT	66
OCEANSPRAY	66
SCOULER'S WILLOW	66
SNOWBERRY	66
51 C.Y. FINE COMPOST	
51 C.Y. BARK MULCH	

RESTORATION UPLAND MIX (8,542 S.F.) QTY.

VINE MAPLE	100
SERVICEBERRY	100
BEAKED HAZELNUT	100
OCEANSPRAY	100
SCOULER'S WILLOW	100
SNOWBERRY	100
76 C.Y. FINE COMPOST	
76 C.Y. BARK MULCH	

RESTORATION UPLAND MIX (8,867 S.F.) QTY.

VINE MAPLE	106
SERVICEBERRY	106
BEAKED HAZELNUT	106
OCEANSPRAY	106
SCOULER'S WILLOW	106
SNOWBERRY	106
82 C.Y. FINE COMPOST	
82 C.Y. BARK MULCH	

RESTORATION WET MIX (2,577 S.F.) QTY.

PACIFIC NINEBARK	23
BLACK TWNBERRY	23
RED-OSIER DOGWOOD	23
NOOTKA ROSE	23
CLUSTERED ROSE	23
SITKA WILLOW	23
RED ELDERBERRY	23
24 C.Y. FINE COMPOST	
24 C.Y. BARK MULCH	

RESTORATION UPLAND MIX (5,398 S.F.) QTY.

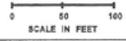
VINE MAPLE	65
SERVICEBERRY	65
BEAKED HAZELNUT	65
OCEANSPRAY	65
SCOULER'S WILLOW	65
SNOWBERRY	65
50 C.Y. FINE COMPOST	
50 C.Y. BARK MULCH	

TREE LEGEND QUANTITY (THIS SHEET)

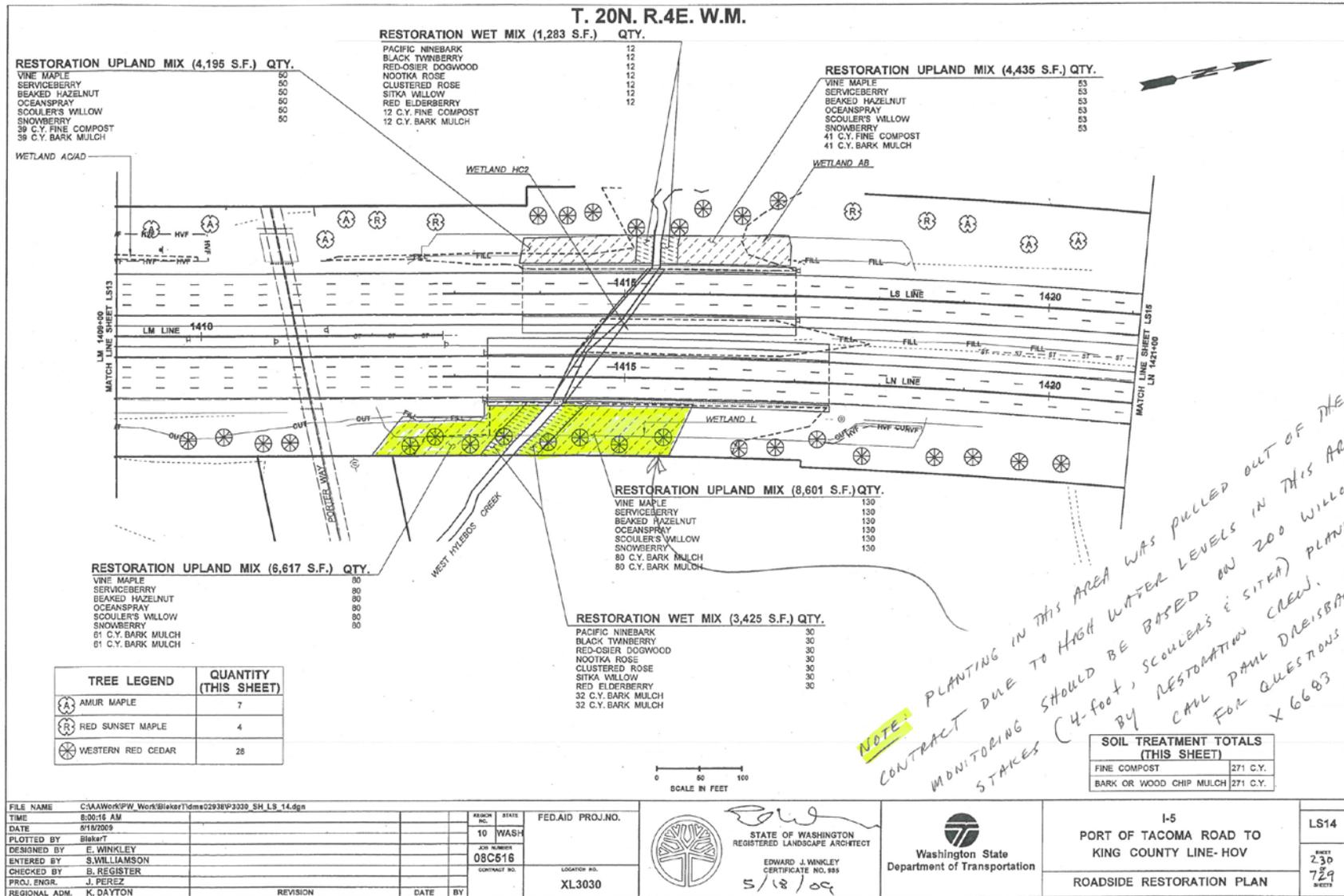
(R) RED SUNSET MAPLE	2
(X) WESTERN RED CEDAR	27

SOIL TREATMENT TOTALS (THIS SHEET)

FINE COMPOST	300 C.Y.
BARK OR WOOD CHIP MULCH	306 C.Y.



FILE NAME C:\AAWork\PW_Work\Baker\Tdma62938P3030_SH_LS_12.dgn	REGION NO. 10	STATE WASH	FED.AID PROJ.NO.	<p>STATE OF WASHINGTON REGISTERED LANDSCAPE ARCHITECT EDWARD J. WINKLEY CERTIFICATE NO. 988 5/18/09</p>	<p>Washington State Department of Transportation</p>	<p>I-5 PORT OF TACOMA ROAD TO KING COUNTY LINE-HOV</p> <p>ROADSIDE RESTORATION PLAN</p>	<p>LS12</p> <p>DATE 7.2.09</p> <p>BY JZP</p>
TIME 7:59:16 AM	CONTRACT NO. D8C516	LOCATION NO. XL3030	<p>DESIGNED BY E. WINKLEY</p> <p>ENTERED BY S. WILLIAMSON</p> <p>CHECKED BY B. REGISTER</p> <p>PROJ. ENGR. J. PEREZ</p> <p>REGIONAL ADM. K. DAYTON</p>				



TREE LEGEND	QUANTITY (THIS SHEET)
(A) AMUR MAPLE	7
(R) RED SUNSET MAPLE	4
(W) WESTERN RED CEDAR	28

SOIL TREATMENT TOTALS (THIS SHEET)	
FINE COMPOST	271 C.Y.
BARK OR WOOD CHIP MULCH	271 C.Y.

NOTE: PLANTING IN THIS AREA WAS PULLED OUT OF THE CONTRACT DUE TO HIGH WATER LEVELS IN THIS AREA. MONITORING SHOULD BE BASED ON 200 WILLOW STAKES (4-foot, SCOULER'S & SITE) PLANTED BY RESTORATION CREW. CALL PAUL DREISBACH FOR QUESTIONS X 6683