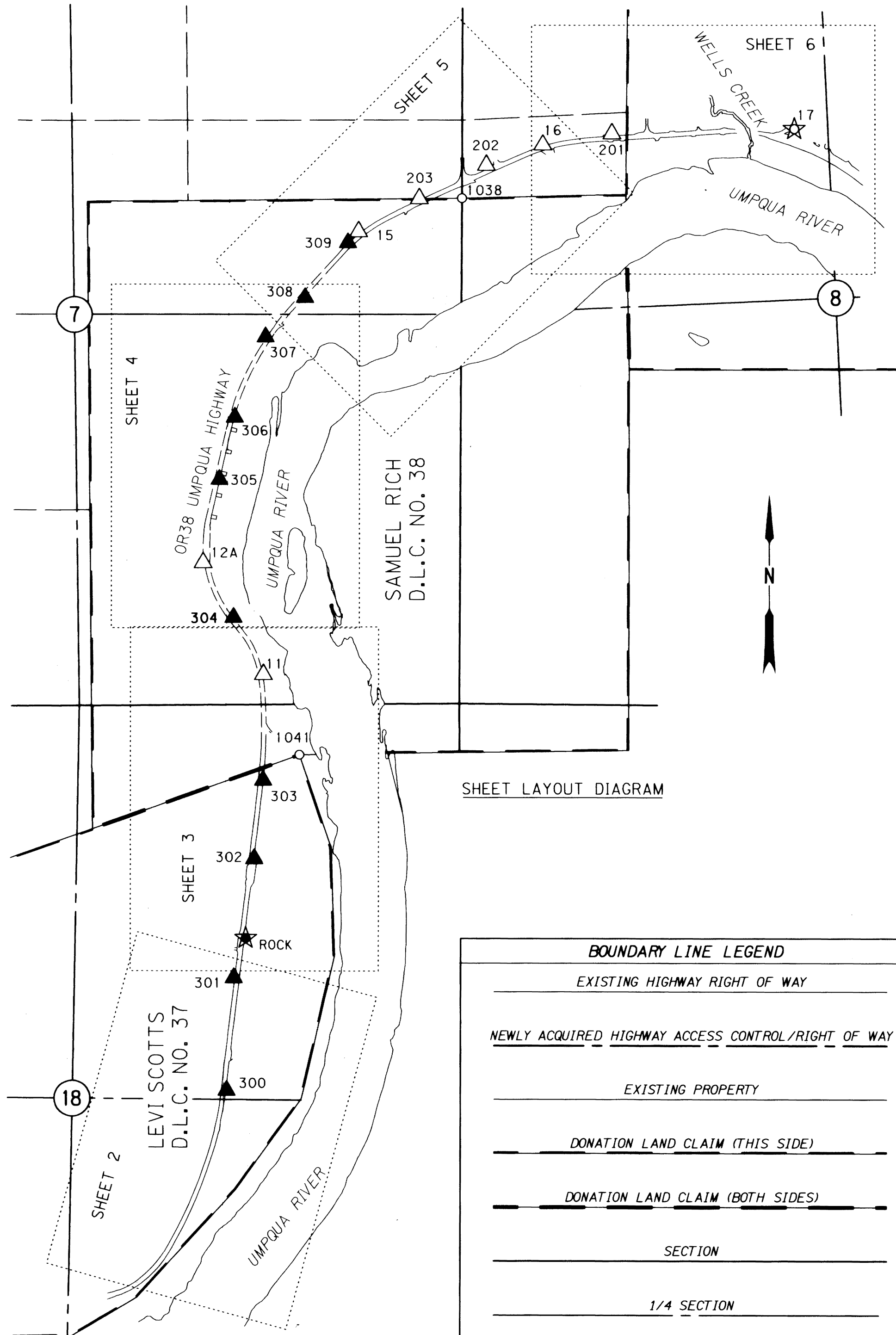


Date: 9-10-2014 By: JC
 This survey consist of:
 Map: ST. HWY 38-021 A-F
 Narrative: AKA Umpqua HWY 45
 Corner Rpt: _____
 DOUGLAS COUNTY
 SURVEYOR



NARRATIVE

PURPOSE
 THE PURPOSE OF THIS SURVEY IS TO SHOW EXISTING RIGHT OF WAY BOUNDARY RESOLUTION AND THE NEWLY ACQUIRED AND MONUMENTED RIGHT OF WAY FOR A PROJECT NAMED OR38:SCOTTSBURG - WELLS CREEK CURVE REALIGNMENT. MONUMENTS WERE SET USING ODOT RIGHT OF WAY DRAWING (DRG) 1R-3-1784. SURVEY FIELD WORK WAS PERFORMED BETWEEN MAY 10, 2011 AND DECEMBER 17, 2013. THE FIELD SURVEY NOTES, BOOK NUMBER 4530, ARE AVAILABLE FROM ODOT FILES IN SALEM, OREGON.

COORDINATES & BASIS OF BEARING
 THE BEARINGS ARE BASED ON THE OREGON COORDINATE REFERENCE SYSTEM (OCRS) OREGON COAST ZONE, NAD 83(CORS96) EPOCH 2002. THE DISTANCES MEASURED BETWEEN OCRS COORDINATES ARE EQUAL TO OR CLOSE TO TRUE GROUND DISTANCES. ALL COORDINATES ARE IN INTERNATIONAL FEET.

HORIZONTAL CONTROL
 CONTROL POINTS ROCK AND 17 WERE OCCUPIED FOR 1 HOUR USING THE BELOW GPS EQUIPMENT SET TO RAPID STATIC GPS MODE. NETWORK SOLUTIONS WERE CALCULATED FOR ROCK AND 17 BY HOLDING OREGON REAL TIME NETWORK (ORGN) STATIONS OBEC, REED, AND YONG. THE BELOW TOTAL STATION WAS USED TO RUN A HORIZONTAL CONTROL NETWORK THROUGH ALL CONTROL POINTS HOLDING ROCK AND 17 AS FIXED.

HORIZONTAL CONTROL EQUIPMENT
 A LEICA VIVA TS15 TOTAL STATION WAS USED FOR GATHERING TOPOGRAPHIC DATA AND RUNNING THE HORIZONTAL CONTROL NETWORK. IT HAS THE FOLLOWING ACCURACY: STANDARD ANGULAR ERROR +/- 1 SECOND; STANDARD DISTANCE ERROR OF +/- 1MM, + 1.5 PPM.

A LEICA GX1230 DUAL FREQUENCY GPS RECEIVER WAS USED FOR GPS OBSERVATIONS. IT HAS THE FOLLOWING ACCURACY: PHASED DIFFERENTIAL STATIC METHOD HORIZONTAL ERROR OF 5 MM + 0.5 PPM, AND A VERTICAL ERROR OF 10 MM, + 0.5 PPM; PHASED DIFFERENTIAL RTK METHOD HORIZONTAL ERROR OF 10 MM + 1 PPM, AND A VERTICAL ERROR OF 20 MM, + 1 PPM.

VERTICAL CONTROL
 THE PUBLISHED NGS NAVD 88 DATUM ELEVATION OF BENCH MARK B247 WAS HELD FOR VERTICAL CONTROL.

VERTICAL CONTROL EQUIPMENT
 A LEICA NA2002 DIGITAL LEVEL AND A LEICA GBNL4C ALUMINUM LEVEL ROD WAS USED TO COMPLETE THE LEVEL CIRCUITS. THIS INSTRUMENT HAS THE FOLLOWING STANDARD DEVIATION OF 1.5MM IN A 1 KILOMETER DOUBLE RUN LEVEL CIRCUIT.

CENTER LINE RESOLUTION
 RIGHT OF WAY DRAWING (DRG) 2B-24-20 WAS USED TO RESOLVE THE EXISTING RIGHT OF WAY CENTER LINE AND RIGHT OF WAY LINES. THE RECORD CENTER LINE OFFSETS OF RECOVERED MONUMENTS SW1001, SW1007, 1004, 1013, 1015, 1017, 1018, 1025, 1028, 1029, 1031, AND THE SPLIT BETWEEN RECOVERED MONUMENTS 1034 AND 1035 WERE HELD. FILED SURVEY ST. HWY. 38-009 WAS MOVED AND ROTATED ABOUT COMMON CONTROL MONUMENT 17 AND ROTATED AND SCALED BY 0.166 FEET TO COMMON RECOVERED POINT 1000 (1018 SAID SURVEY). THIS PROCESS SEEMED TO CREATE A BEST FIT OF COMMON MONUMENTS. ALL POINTS WITH THE "SW" PREFIX WERE BROUGHT INTO THIS SURVEY FROM SAID SURVEY AND USED TO RESOLVE CENTER LINE. THE LAST TANGENT OF THIS SURVEY HELD THE TANGENT OF THE SAID SURVEY. THE RECORD STATION OF RECOVERED MONUMENT SW1007 WAS HELD. A CUMULATIVE STATIONING ERROR OF 5.24 FEET IN 6276.36 FEET WAS FOUND BETWEEN RECOVERED MONUMENTS SW1007 (RECORD STATION 49+00) AND 1031 (RECORD STATION 111+81.60 & MEASURED STATION 111+76.36). IF YOU HELD STATIONING ON SW1007 THE SUBSEQUENT ANGLE POINTS IN THE RIGHT OF WAY LINES AT RECORD STATIONS FIT THE RECOVERED MONUMENTS WORSE AND WORSE AS YOU PROGRESSED THROUGH THE PROJECT. THE SAME THING HAPPENED IF YOU WORKED BACKWARDS ON LINE FROM 1031. I DIDN'T WANT TO CREATE MULTIPLE EQUATION STATIONS SO I CONSULTED OTHER SURVEYORS THAT I RESPECT AND DECIDED TO PROPORTION THE RECORD STATIONS OF THE ANGLE POINTS IN THE RIGHT OF WAY LINES BETWEEN 49+00 AND THE EQUATION STATION AT 11+67.81 P.T. BACK = 111+74.91 P.O.T. AHEAD. I FOUND THAT THESE PROPORTIONED STATIONS AT THE ANGLE POINTS IN THE RIGHT OF WAY LINES FIT THE RECOVERED MONUMENTS VERY WELL. I DEVELOPED A PROPORTIONATE STATIONING MULTIPLICATION FACTOR THAT WAS APPLIED TO THE DIFFERENCE IN RECORD STATIONING BETWEEN THE STATION YOU WANTED TO CALCULATE AT ANGLE POINT ALONG THE RIGHT OF WAY LINE AND STATION 49+00 (AT SW1007). TO CALCULATE THIS FACTOR I USED THE MEASURED DIFFERENCE IN STATIONING DIVIDED BY THE RECORD DIFFERENCE IN STATIONING BETWEEN 1031 AND SW1007 ((11176.36-4900) / (11181.60-4900) = 0.999165818 STATIONING FACTOR). TO CALCULATE THE PROPORTIONATE STATIONS ((RECORD STATION AT ANGLE POINT - 4900) * 0.999165818 + 4900) = PROPORTIONATE STATION. THE RECORD DIFFERENCE IN STATIONING WAS HELD AT THE SAID EQUATION STATION AND PROJECTED AHEAD ON LINE TO NEXT EQUATION STATION WHICH WAS ADDED TO MATCH INTO METRIC STATION 3+955.625 P.C. ON SAID SURVEY.

SHEET LAYOUT DIAGRAM

BOUNDARY LINE LEGEND	
	EXISTING HIGHWAY RIGHT OF WAY
	NEWLY ACQUIRED HIGHWAY ACCESS CONTROL/RIGHT OF WAY
	EXISTING PROPERTY
	DONATION LAND CLAIM (THIS SIDE)
	DONATION LAND CLAIM (BOTH SIDES)
	SECTION
	1/4 SECTION
	1/16 SECTION OR GOVERNMENT LOT

NETWORK OBSERVATIONS	
OCCUPIED	MEASURED
ROCK	302, 301, 300, 303
301	ROCK, 302, 300, 303
300	303, 302, 301, ROCK
302	303, 301, 300, 11, ROCK
303	302, 301, 11, ROCK
11	304, 303, 12A, 302
304	12A, 11
12A	306, 305, 304, 11
305	306, 12A
306	307, 305, 12A
307	309, 308, 15, 306
308	309, 15, 307
309	308, 203, 15, 307
15	309, 307, 203, 202, 16, 308
203	202, 16, 15, 309
202	203, 201, 16, 15
16	17, 203, 202, 201, 15
201	17, 16, 202
17	201, 16

SCALE 1" = 600'



POINT LEGEND	
	SET GPS STATION
	SET NETWORK POINT
	FOUND GPS STATION
	FOUND NETWORK POINT
	FOUND MONUMENT

REGISTERED PROFESSIONAL LAND SURVEYOR
Marshall R. Wagstaff
 OREGON
 JANUARY 9, 2001
 MARSHALL R. WAGSTAFF
 49476
 EXPIRES: 6/30/2016

OREGON DEPARTMENT OF TRANSPORTATION
 HORIZONTAL CONTROL, RECOVERY, RETRACEMENT AND RIGHT OF WAY BOUNDARY MONUMENTATION MAP
 OR38: SCOTTSBURG - WELLS CREEK CURVE REALIGNMENT
 UMPQUA HWY. NO. 45 M.P. 17.1 TO 19.1
 DOUGLAS COUNTY
 FILE: 16207RW.DGN

FOR ODOT REGION 3
 3500 NW. STEWART PKWY.
 ROSEBURG, OR. 97470

SEPTEMBER 9, 2014
 SCALE: 1" = 600'
 SHEET 1 OF 6