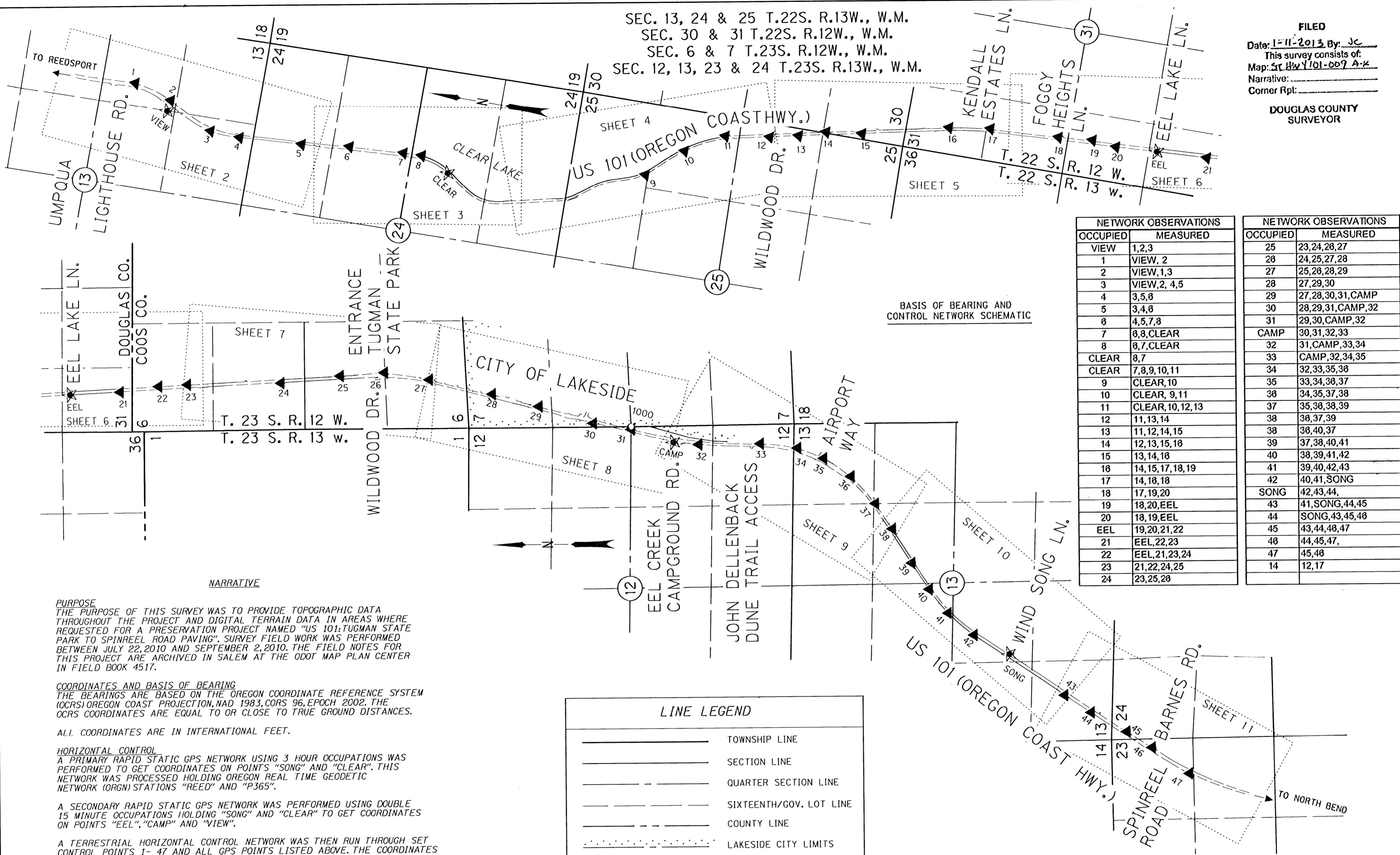


FILED
 Date: 1-11-2013 By: JC
 This survey consists of:
 Map: ST HWY 101-009 A-K
 Narrative:
 Corner Rpt:

DOUGLAS COUNTY SURVEYOR



NETWORK OBSERVATIONS		NETWORK OBSERVATIONS	
OCCUPIED	MEASURED	OCCUPIED	MEASURED
VIEW	1,2,3	25	23,24,28,27
1	VIEW, 2	28	24,25,27,28
2	VIEW,1,3	27	25,28,28,29
3	VIEW,2, 4,5	28	27,29,30
4	3,5,8	29	27,28,30,31,CAMP
5	3,4,8	30	28,29,31,CAMP,32
8	4,5,7,8	31	29,30,CAMP,32
7	8,8,CLEAR	CAMP	30,31,32,33
8	8,7,CLEAR	32	31,CAMP,33,34
CLEAR	8,7	33	CAMP,32,34,35
CLEAR	7,8,9,10,11	34	32,33,35,38
9	CLEAR,10	35	33,34,38,37
10	CLEAR, 9,11	36	34,35,37,38
11	CLEAR,10,12,13	37	35,38,38,39
12	11,13,14	38	38,37,39
13	11,12,14,15	38	38,40,37
14	12,13,15,18	39	37,38,40,41
15	13,14,18	40	38,39,41,42
16	14,15,17,18,19	41	39,40,42,43
17	14,18,18	42	40,41,SONG
18	17,19,20	SONG	42,43,44,
19	18,20,EEL	43	41,SONG,44,45
20	18,19,EEL	44	SONG,43,45,48
EEL	19,20,21,22	45	43,44,48,47
21	EEL,22,23	48	44,45,47,
22	EEL,21,23,24	47	45,48
23	21,22,24,25	14	12,17
24	23,25,28		

BASIS OF BEARING AND CONTROL NETWORK SCHEMATIC

NARRATIVE

PURPOSE
 THE PURPOSE OF THIS SURVEY WAS TO PROVIDE TOPOGRAPHIC DATA THROUGHOUT THE PROJECT AND DIGITAL TERRAIN DATA IN AREAS WHERE REQUESTED FOR A PRESERVATION PROJECT NAMED "US 101:TUGMAN STATE PARK TO SPINREEL ROAD PAVING". SURVEY FIELD WORK WAS PERFORMED BETWEEN JULY 22, 2010 AND SEPTEMBER 2, 2010. THE FIELD NOTES FOR THIS PROJECT ARE ARCHIVED IN SALEM AT THE ODOT MAP PLAN CENTER IN FIELD BOOK 4517.

COORDINATES AND BASIS OF BEARING
 THE BEARINGS ARE BASED ON THE OREGON COORDINATE REFERENCE SYSTEM (OCRS) OREGON COAST PROJECTION, NAD 1983, CORS 96, EPOCH 2002. THE OCRS COORDINATES ARE EQUAL TO OR CLOSE TO TRUE GROUND DISTANCES.

ALL COORDINATES ARE IN INTERNATIONAL FEET.

HORIZONTAL CONTROL
 A PRIMARY RAPID STATIC GPS NETWORK USING 3 HOUR OCCUPATIONS WAS PERFORMED TO GET COORDINATES ON POINTS "SONG" AND "CLEAR". THIS NETWORK WAS PROCESSED HOLDING OREGON REAL TIME GEODETIC NETWORK (ORGN) STATIONS "REED" AND "P365".

A SECONDARY RAPID STATIC GPS NETWORK WAS PERFORMED USING DOUBLE 15 MINUTE OCCUPATIONS HOLDING "SONG" AND "CLEAR" TO GET COORDINATES ON POINTS "EEL", "CAMP" AND "VIEW".

A TERRESTRIAL HORIZONTAL CONTROL NETWORK WAS THEN RUN THROUGH SET CONTROL POINTS 1- 47 AND ALL GPS POINTS LISTED ABOVE. THE COORDINATES WERE FIXED ON ALL GPS POINTS WHEN THE HORIZONTAL LEAST SQUARES ADJUSTMENT WAS APPLIED TO THE NETWORK CONTROL. THE HORIZONTAL LEAST SQUARES ADJUSTMENT PASSED ODOT STANDARDS FOR A 2D NETWORK.

HORIZONTAL CONTROL EQUIPMENT
 A LEICA TCPR 1201 TOTAL STATION, SERIAL# 226336 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 +/- 2MM, + 2 PPM.

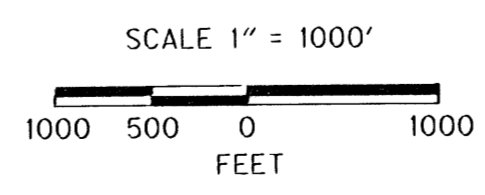
A LEICA GX1230 DUAL FREQUENCY GPS RECEIVER WAS USED FOR GPS OBSERVATIONS. IT HAS THE FOLLOWING ACCURACY: PHASED DIFFERENTIAL STATIC METHOD HORIZONTAL ERROR OF 5 MM + 0.5 PPM, AND A VERTICAL ERROR OF 10 MM, + 0.5 PPM; PHASED DIFFERENTIAL RTK METHOD HORIZONTAL ERROR OF 10 MM + 1 PPM, AND A VERTICAL ERROR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

LINE LEGEND

—	TOWNSHIP LINE
—	SECTION LINE
—	QUARTER SECTION LINE
—	SIXTEENTH/GOV. LOT LINE
—	COUNTY LINE
—	LAKESIDE CITY LIMITS

POINT LEGEND

★	SET GPS POINT
▲	SET NETWORK POINT
○	FOUND MONUMENT



REGISTERED PROFESSIONAL LAND SURVEYOR

OREGON
 NOV. 10, 2011
 MICKEY D. CALVERT
 75099
 EXPIRES: 12/31/2013

SI FEET OREGON DEPARTMENT OF TRANSPORTATION

HORIZONTAL CONTROL MAP
 US 101: TUGMAN STATE PARK - SPINREEL ROAD PAVING
 OREGON COAST HWY., NO. 9, US 101, M.P. 216.95 - 224.5
 DOUGLAS AND COOS COUNTY
 FILE: I6199RW.DGN MODEL: CRR

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

JANUARY 10, 2013
 SCALE: 1" = 1000'
 SHEET 1 OF 11