

Date: 2-23-2017 By: JC

This survey consist of:

Map: ST HWY 42-016 A-K

Narrative: \_\_\_\_\_

Corner Rpt: \_\_\_\_\_

DOUGLAS COUNTY  
SURVEYOR

**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 "OR42:COUNTY LINE CURVES PHASE I". RIGHT OF WAY MONUMENTS WERE SET USING RIGHT OF WAY DRAWING (DRG) 11B-6-22. SURVEY FIELD WORK WAS PERFORMED BETWEEN FEBRUARY 2010 AND FEBRUARY 2017. THE FIELD NOTES FOR THE HORIZONTAL CONTROL, VERTICAL CONTROL, RECOVERED MONUMENTS, AND SET RIGHT OF WAY MONUMENTS ARE ARCHIVED IN FIELD BOOK NUMBER 4534 AT THE MAP AND PLAN CENTER IN SALEM, OREGON. PLEASE BE AWARE THAT THERE ARE MULTIPLE SLIDES IN THIS SECTION OF HIGHWAY; FIELD VERIFY POSITIONS OF MONUMENTS BEFORE USE.

**COORDINATES & BASIS OF BEARING**

THE BEARINGS ARE BASED ON THE OREGON COORDINATE SYSTEM (OCS) OF 1983(1998 ADJUSTMENT), SOUTH ZONE, TAKEN FROM COUNTY SURVEY T-166 FILED IN COOS COUNTY SURVEYOR'S OFFICE. THE OCS GRID COORDINATES WERE ADJUSTED TO LOCAL DATUM PLANE COORDINATES (LDPC) WHICH ARE RELATIVE TO THE SAID OCS, WITH RESPECT TO THE LOCAL LATITUDE AND GROUND DISTANCES. THE LDPC COORDINATES DEFINE TRUE GROUND DISTANCES. TO CONVERT LDPC COORDINATES TO THE OCS, MULTIPLY THE COORDINATES BY 0.99997793.

**HORIZONTAL CONTROL**

THE GEOMETRONICS UNIT FROM SALEM HAD ORIGINALLY ESTABLISHED GRID STATE PLANE COORDINATES IN INTERNATIONAL FEET BY GPS ON SEVERAL POINTS SET BY THEM FOR THIS PROJECT IN 2006. WE USED 7005, 7006 AND 7007 FROM SURVEY T-166 ADJUSTED TO LDPC AS CONTROL FOR THIS PROJECT. EACH CONTROL POINT IS A PK NAL SET IN THE AC SHOULDER OF HIGHWAY 42. A TERRESTRIAL CONTROL NETWORK WAS SET AND RUN THROUGH THE PROJECT HOLDING POINTS 7005, 7006 AND 7007. TERRESTRIAL NETWORK POINTS IN THE NETWORK OBSERVATION TABLE BUT NOT SHOWN ELSEWHERE WERE SET HUB AND TACKS USED AS TEMPORARY POINTS TO TIE GOVERNMENT CORNERS OR IMPROVE NETWORK GEOMETRY. GPS WAS USED HOLDING MONUMENTS "MARK" AND "REMOTE", PREVIOUSLY SET BY THE GEOMETRONICS UNIT, IN ORDER TO TIE SOME OF THE GOVERNMENT CORNERS.

**HORIZONTAL CONTROL EQUIPMENT**

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.

A LEICA TCRP 1201 TOTAL STATION WAS USED FOR GATHERING TOPOGRAPHIC DATA AND MOST MONUMENT TIES. IT HAS THE FOLLOWING ACCURACY: STANDARD ANGULAR ERROR +/- 1 SECOND; STANDARD DISTANCE ERROR OF +/- 2MM, + 2PPM.

**VERTICAL CONTROL**

LEVEL CIRCUITS WERE RUN HOLDING NAVD 1988 DATUM ELEVATIONS ON BENCH MARKS "D743", "X76 RESET", AND "E743" FOR VERTICAL CONTROL.

**VERTICAL CONTROL EQUIPMENT**

A LEICA DNA 10 LEVEL AND A LEICA GBNL4C ALUMINUM LEVEL ROD WAS USED TO COMPLETE THE LEVEL CIRCUIT. THIS INSTRUMENT HAS A STANDARD DEVIATION OF 15MM IN A KILOMETER DOUBLE-RUN LEVEL CIRCUIT.

**RIGHT OF WAY CENTER LINE**

DRG 8B-27-4 AND 8B-27-6 WERE USED TO RESOLVE THE RIGHT OF WAY FROM THE BEGINNING OF THE PROJECT UP TO THE SECTION LINE BETWEEN SECTIONS 17 AND 18, T.30 S., R.9 W., W.M. PAST THE SAID SECTION LINE DRG 9B-13-5 WAS USED. THERE IS A FALSE CALL POINT WESTERLY OF THE SAID SECTION LINE AT STATION 1253+00 100' LEFT ON DRG 9B-13-5 THAT DEFINES THE RIGHT OF WAY EASTERLY OF SAID SECTION LINE. THE RIGHT OF WAY CENTER LINE BETWEEN STATIONS 1105+00 AND 1134+26J4 P.T. WAS RESOLVED BY HOLDING THE RECORD CURVE DATA AND THE PROPORTIONATE OFFSET OF POINTS 1002, 1003, 1005, 1006, 1009, AND 1010. NO MONUMENTS WERE FOUND BETWEEN STATIONS 1122+00 AND 1247+00 AND SO THE ROAD ITSELF IS THE MONUMENT. THE RIGHT OF WAY CENTER LINE BETWEEN STATIONS 1134+26J4 P.T. AND 1241+52.36 P.C. IS A BEST FIT OF THE EXISTING ROAD (THE ROAD SHOWN ON THIS MAP IS AFTER PORTIONS WERE REALIGNED DURING CONSTRUCTION). IN THIS BEST FIT SECTION DRG 8B-27-4 AND 8B-27-6 WERE USED AS A STARTING POINT FOR CURVE DATA AND THEN ADJUSTED TO FIT THE ROAD. BEGINNING AT STATION 1241+52.36 P.C. THE LAST TWO CURVES FROM DRG 8B-27-6 HELD RECORD CURVE DATA (THE LAST CURVE IS DESIGNATED "8B" WHERE IT DIVERGES FROM THE CURRENT RIGHT OF WAY CENTER LINE). THE LAST CURVE OF THIS RIGHT OF WAY CENTER LINE FROM DRG 9B-13-5 (SHOWN WITH NO DESIGNATOR) HELD THE RECORD DEGREE OF CURVE. THE RECORD OFFSET FROM POINTS 1014, 1015, 1021 AND THE PROPORTIONATE OFFSET OF POINTS 1023 AND 1024 WERE HELD. STATIONING WAS HELD AT THE INTERSECTION OF CENTER LINE WITH A LINE BETWEEN POINTS 1005 AND 1006 FOR THE PORTION OF THE CENTERLINE BACK ON LINE FROM THE EQUATION AT 1131+36.84 P.T. BACK EQUALS 1131+59.79 P.O.T. AHEAD. POINT 1021 WAS HELD FOR STATIONING ON THE PORTION OF THE CENTERLINE AHEAD OF SAID EQUATION. THE STATION FOR THE OFFSET AT 1134+11.44 WAS COMPUTED IN ORDER TO KEEP THE ANGLE POINT IN THE BOUNDARY AT THE ORIGINAL LOCATION, DESPITE THE LARGE CHANGE IN AHEAD STATIONING AT THE EQUATION STATION FROM RECORD. THE COMPUTATION IS AS FOLLOWS: THE RECORD OFFSET STATION WAS SUBTRACTED FROM THE RECORD AHEAD EQUATION STATION WHICH EQUATED 254.07'. THE DIFFERENCE BETWEEN RECORD AND MEASURED BACK EQUATION STATION (2.42') WAS SUBTRACTED FROM 254.07' WHICH EQUATED 251.65' WHICH WAS ADDED TO THE MEASURED AHEAD STATION EQUATION WHICH RESULTED IN A MEASURED STATION OF 1134+11.44.

**RIGHT OF WAY MONUMENTATION**

RIGHT OF WAY BOUNDARY MONUMENTS WERE SET FROM TEMPORARY POINTS ESTABLISHED BY 3 POINT RESECTION OF THE TERRESTRIAL CONTROL NETWORK OR FROM ADDITIONAL TEMPORARY NETWORK POINTS. AS PART OF THIS SURVEY THE STATE OF OREGON PURCHASED THE PORTION OF GOVERNMENT LOT 1, SECTION 18, T.30 S., R.9 W. NORTHERLY OF THE HIGHWAY. THE RESOLUTION OF SAID GOVERNMENT LOT BY PROPORTION IS SHOWN ON SHEET 1 AND DESCRIBED AS FOLLOWS. THE RECORD DISTANCES SHOWN ON B.L.M. PLAT 1279 WERE USED FOR ALL PROPORTIONS. POINT 5005 (THE WEST SIXTEENTH CORNER COMMON TO SECTIONS 7 & 18) WAS SET AT THE PROPORTIONATE DISTANCE ON THE LINE BETWEEN POINT 1012 (THE NORTHWEST CORNER OF SECTION 18) AND POINT 1026 (THE QUARTER CORNER COMMON TO SECTIONS 7 & 18). POINT 6000 (THE CENTER WEST SIXTEENTH CORNER OF SECTION 18) WAS CALCULATED AT THE PROPORTIONATE DISTANCE ON THE LINE BETWEEN POINT 1025 (THE CENTER CORNER OF SECTION 18) AND POINT 1029 (THE QUARTER CORNER COMMON TO SECTIONS 13 & 18). THE LINE BETWEEN POINT 5005 AND POINT 6000 IS THE EAST LINE OF GOVERNMENT LOT 1 AND THE LINE BETWEEN 1012 AND 1028 IS THE WEST LINE.

NETWORK OBSERVATIONS			
OCCUPIED	MEASURED	OCCUPIED	MEASURED
7005	1,2	19	17,18,7006
1	2, 7005	7006	18,19,20
2	1,3,4,7005	21	20,22,23
3	2,4,5	24	22,23,25
4	2,3,5,6	25	24,26,28
5	3,4,6	27	26,28,29
6	4,5,7,8	30	28,29,31
7	6,8,11	31	29,30,32,33
8	6,7,9,10,11	32	31,33,34
11	7,8	33	31,32,34,35
9	8,10,12	34	32,33,35
10	8,9,12,13	35	33,34,36,37,46,47
12	9,10,13	36	35,37,44
13	10,12,14,15	37	35,36,38,39,44
14	13,15,16	38	37,39,40
15	13,14,16	39	37,38,40,D743
16	14,15,17,18,19,49	40	38,39,41,43,D743
17	16,18,19	D743	39,40,41,42,43
18	16,17,19,7006	41	40,42,43
49	16,12,20,22,23,26,28,29,44	42	41,43,44,7007,D743
20	21,49,7006	43	41,42,7007,D743
22	21,23,24,49	7007	42,43
23	21,22,24,49	45	44,46,47
26	25,27,49	47	35,44,45,46,48
28	25,27,30,49,	46	35,44,45,47,48
29	27,30,31,49	48	46,47
44	37,42,45,46,47,49		

BOUNDARY LINE LEGEND	
NEW HIGHWAY ACCESS CONTROL/RIGHT OF WAY	-----
EXISTING HIGHWAY ACCESS CONTROL/RIGHT OF WAY	-----
COUNTY	-----
SECTION	-----
1/4 SECTION	-----
1/16 SECTION OR GOVERNMENT LOT	-----

REGISTERED  
PROFESSIONAL  
LAND SURVEYOR

*Marshall R. Wagstaff*

OREGON  
JANUARY 9, 2001  
MARSHALL R. WAGSTAFF  
49476LS

RENEWS: JUNE 30, 2018

SI FEET OREGON DEPARTMENT OF TRANSPORTATION  
HORIZONTAL CONTROL, RECOVERY, RETRACEMENT  
& RIGHT OF WAY BOUNDARY MONUMENTATION MAP  
OR 42: COUNTY LINE CURVES PHASE 1  
COOS BAY - ROSEBURG HWY. NO. 35, MP. 43.20 - 46.41  
COOS & DOUGLAS COUNTY

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

FEBRUARY 22, 2017

SHEET 2 OF 11