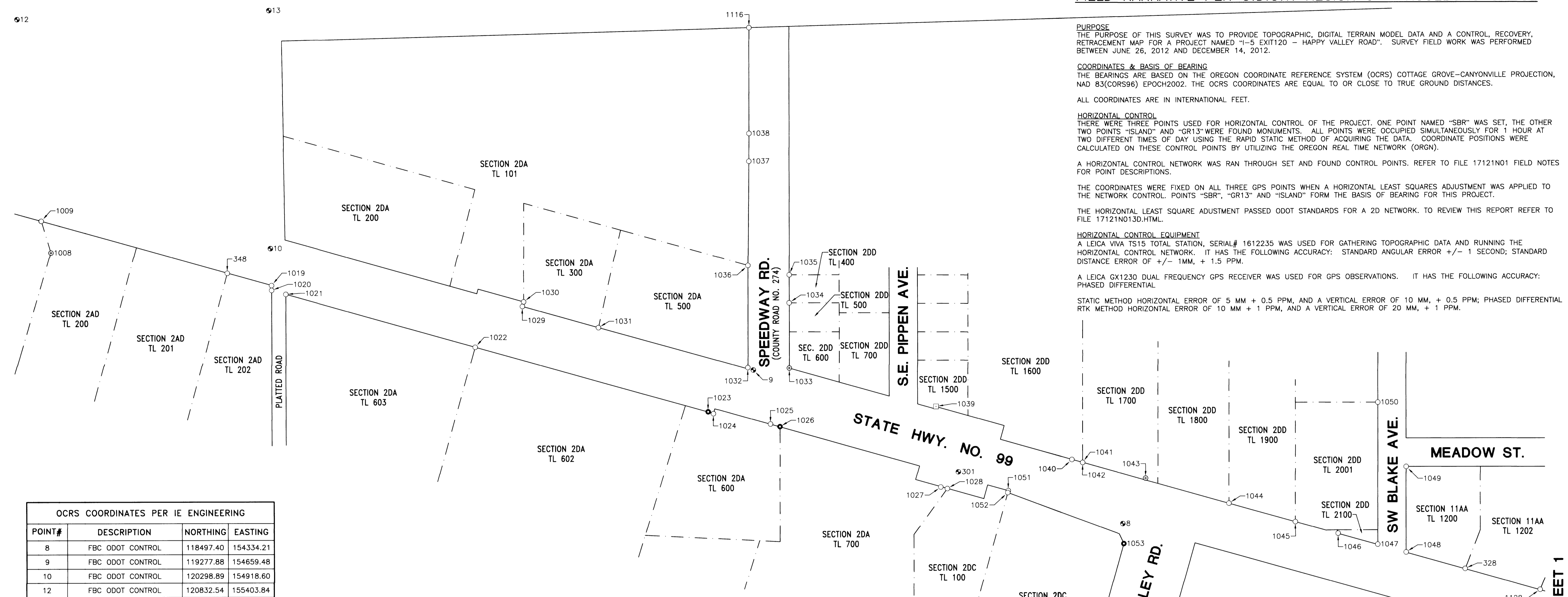


U.S. INTERSTATE NO. 5

FIELD NARRATIVE PER O.D.O.T. REGION 3 - ROSEBURG OFFICE



PURPOSE
 THE PURPOSE OF THIS SURVEY WAS TO PROVIDE TOPOGRAPHIC, DIGITAL TERRAIN MODEL DATA AND A CONTROL, RECOVERY, RETRACEMENT MAP FOR A PROJECT NAMED "I-5 EXIT120 - HAPPY VALLEY ROAD". SURVEY FIELD WORK WAS PERFORMED BETWEEN JUNE 26, 2012 AND DECEMBER 14, 2012.

COORDINATES & BASIS OF BEARING
 THE BEARINGS ARE BASED ON THE OREGON COORDINATE REFERENCE SYSTEM (OCRS) COTTAGE GROVE-CANYONVILLE PROJECTION, NAD 83(CORS96) EPOCH2002. THE OCRS COORDINATES ARE EQUAL TO OR CLOSE TO TRUE GROUND DISTANCES.

ALL COORDINATES ARE IN INTERNATIONAL FEET.

HORIZONTAL CONTROL
 THERE WERE THREE POINTS USED FOR HORIZONTAL CONTROL OF THE PROJECT. ONE POINT NAMED "SBR" WAS SET, THE OTHER TWO POINTS "ISLAND" AND "GR13" WERE FOUND MONUMENTS. ALL POINTS WERE OCCUPIED SIMULTANEOUSLY FOR 1 HOUR AT TWO DIFFERENT TIMES OF DAY USING THE RAPID STATIC METHOD OF ACQUIRING THE DATA. COORDINATE POSITIONS WERE CALCULATED ON THESE CONTROL POINTS BY UTILIZING THE OREGON REAL TIME NETWORK (ORGN).

A HORIZONTAL CONTROL NETWORK WAS RAN THROUGH SET AND FOUND CONTROL POINTS. REFER TO FILE 17121N01 FIELD NOTES FOR POINT DESCRIPTIONS.

THE COORDINATES WERE FIXED ON ALL THREE GPS POINTS WHEN A HORIZONTAL LEAST SQUARES ADJUSTMENT WAS APPLIED TO THE NETWORK CONTROL. POINTS "SBR", "GR13" AND "ISLAND" FORM THE BASIS OF BEARING FOR THIS PROJECT.

THE HORIZONTAL LEAST SQUARE ADJUSTMENT PASSED ODOT STANDARDS FOR A 2D NETWORK. TO REVIEW THIS REPORT REFER TO FILE 17121N013D.HTML.

HORIZONTAL CONTROL EQUIPMENT
 A LEICA VIVA TS15 TOTAL STATION, SERIAL# 1612235 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.

OCRS COORDINATES PER IE ENGINEERING

POINT#	DESCRIPTION	NORTHING	EASTING
8	FBC ODOT CONTROL	118497.40	154334.21
9	FBC ODOT CONTROL	119277.88	154659.48
10	FBC ODOT CONTROL	120298.89	154918.60
12	FBC ODOT CONTROL	120832.54	155403.84
13	FBC ODOT CONTROL	120300.56	155421.63
50	FIR 5/8 BLUE DOT CONTROL	119192.33	155448.42
56	FBC GR13	114406.41	155732.19
60	FBC SBR	121709.08	155229.70
301	FBC U-24B RESET	118845.00	154443.69
328	FIR 5/8 HIBBS	117773.62	154237.19
348	FIR 5/8	120389.62	154866.54

OCRS COORDINATES PER O.D.O.T.

POINT#	DESCRIPTION	NORTHING	EASTING
1026	FAC AA	119222.02	154539.66
1027	FIR 5/8	118881.96	154411.61
1028	FIR 5/8	118868.13	154408.32
1029	FIR 5/8	119766.32	154795.78
1030	FIR 5/8	119763.54	154805.43
1031	FIR 5/8	119605.57	154750.69
1032	FIR 5/8	119289.41	154664.65
1033	FIP 1 1/4	119201.87	154663.52
1034	FIR 1 1/8	119202.12	154801.48
1035	FIR 5/8	119201.63	154860.57
1036	FIR 5/8	119288.72	154880.71
1037	FIR 5/8 BEEDLE	119286.23	155100.73
1038	FIR 5/8 BEEDLE	119286.16	155159.60
1039	FD 5/8 BOLT	118891.89	154581.81
1040	FIR 34	118604.74	154469.54
1041	FIP 1 1/2	118582.27	154463.12

OCRS COORDINATES PER O.D.O.T.

POINT#	DESCRIPTION	NORTHING	EASTING
1042	FIR 5/8	118582.26	154463.19
1043	FIP 1/2	118448.58	154429.99
1044	FIR 5/8 AA	118272.52	154376.78
1045	FIR 5/8 BENTZ	118132.25	154337.26
1046	FIR 5/8 BENTZ	118041.89	154312.30
1047	FIR 5/8 BENTZ	117958.16	154288.79
1048	FIR 5/8 HIBBS	117898.17	154272.05
1049	FIR 5/8	117897.81	154453.15
1050	FIR 5/8	117957.32	154588.89
1051	FIR 5/8 IE	118739.18	154403.72
1052	FIR 5/8 NEATHAMMER	118740.31	154399.58
1053	FAC ODOT RW	118495.40	154291.62
1054	FAC ODOT RW	118560.01	153975.15
1055	FIR 5/8	118451.81	153917.45
1116	FIR 5/8 BEEDLE	119285.64	155382.95
1128	FIR 5/8	117614.64	154192.67

OCRS COORDINATES PER O.D.O.T.

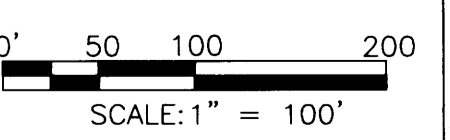
POINT#	DESCRIPTION	NORTHING	EASTING
1008	FIP 1	120762.46	154910.14
1009	FIR 3/4 SHRW	120782.56	154977.24
1019	FIR 5/8	120296.28	154840.39
1020	FIR 5/8	120296.26	154830.35
1021	FIR 5/8	120266.19	154821.82
1022	FIR 5/8	119866.43	154709.67
1023	FAC OS	119373.97	154571.80
1024	FIR 3/4	119362.90	154567.86
1025	FIR 3/4	119242.03	154545.18

- LEGEND**
- FOUND IRON ROD
 - ⊙ FOUND IRON PIPE
 - ⊕ FOUND BRASS CAP
 - FOUND ALUMINUM CAP
 - ⊠ FOUND BOLT
 - LOT LINE LOCATIONS (APPROXIMATE) (DOUGLAS COUNTY GIS DATA)
 - FIR FOUND IRON ROD
 - FIP FOUND IRON PIPE
 - FBC FOUND BRASS CAP
 - FAC FOUND ALUMINUM CAP
 - DCSO DOUGLAS COUNTY SURVEYOR'S OFFICE
 - ODOT OREGON DEPT. OF TRANSPORTATION
 - OSHD OREGON STATE HIGHWAY DIVISION
 - SHRW STATE HIGHWAY RIGHT-OF-WAY
 - OCRS OREGON COORDINATE REFERENCE SYSTEM

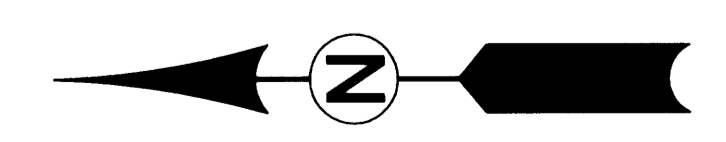
SURVEYED BY:
i.e.
 ENGINEERING
 809 SE Pine Street
 Roseburg, Oregon 97470
 PHONE (541) 673-0166
 FAX (541) 440-9392
 email@ieengineering.com

SURVEYED FOR:
 DOUGLAS COUNTY PUBLIC WORKS
 1036 SE DOUGLAS AVE.
 ROSEBURG, OR 97470

DWG. BY: DAF
 PM: DTB
 SCALE: AS NOTED
 DATE: MAY, 2015



PRE-CONSTRUCTION MONUMENT LOCATE
 OR. STATE HWY. NO. 99
 LYING IN THE NE 1/4 & S.E. 1/4 OF SEC. 2 AND THE NE 1/4, SE 1/4 & SW 1/4 OF SEC. 11, TOWNSHIP 28 SOUTH, RANGE 6 WEST, WILLAMETTE MERIDIAN, DOUGLAS COUNTY, OREGON



REGISTERED
 PROFESSIONAL
 LAND SURVEYOR
 OREGON
 JULY 14, 1978
 RONALD A. GUMBY
 1664
 EXPIRES: 12/31/2016

SEE SHEET 1

21822124