



# HORIZONTAL CONTROL AND RECOVERY MAP

LOCATED IN THE NW 1/4 & NE 1/4 OF SECTION 32, AND  
THE SW 1/4 OF SECTION 29, T. 24 S., R. 5 W., W.M.  
DOUGLAS COUNTY

FILED  
Date: 1-27-1999 By: J.P.  
This survey consists of: 5 SHEETS  
Map: M129-32 A  
Narrative:  
Corner Ppt:  
DOUGLAS COUNTY  
SURVEYOR C3

## SURVEY NARRATIVE

THE PURPOSE OF THIS SURVEY WAS TO ESTABLISH HORIZONTAL CONTROL FOR A PROJECT CALLED "NORTH OAKLAND INTERCHANGE - RICE HILL" ON THE PACIFIC HIGHWAY. THE BASIS OF BEARING FOR THIS PROJECT WAS ESTABLISHED BY OCCUPYING POINT #2 A FOUND 3/8" (16 MM) IRON ROD, AT STATE HWY. R/W STATION 1484+00 (125.0 FT. RT.) AND BACKSIGHTING POINT #1 A FOUND 3/8" (16 MM) IRON ROD, AT STATE HWY. R/W STATION 1490+00 (125.0 FT. RT.). THE RECORD DISTANCE IS 600 FT. AND THE MEASURED DISTANCE WAS 599.925 FT. (182.857 M). (REFER TO ODOT RIGHT OF WAY DRAWING NO. 78-10-20) ASSUMED METRIC COORDINATES WERE USED. NETWORK POINTS 2 TO 67 WERE OCCUPIED ONCE AND FORESIGHTED AT LEAST TWICE. ALL NETWORK POINTS EXCEPT FOR POINTS 1, 2, AND 47 HAVE AN ORANGE CARSONITE POST SET NEARBY. POINT 47 WAS A FOUND 3" (75 MM) BRASS CAP SET IN CONCRETE, STAMPED "DOUGLAS COUNTY SURVEYORS OFFICE TURKEY HILL".

THE SURVEY WORK WAS COMPLETED ON JUNE 24, 1996. IN ADDITION AN AUXILIARY LEVEL CIRCUIT WAS RUN ON NOVEMBER 12, 1996.

THE LEAST SQUARE ADJUSTMENT WAS USED ON THE HORIZONTAL CONTROL NETWORK AND IT PRODUCED THE FOLLOWING:

ANGULAR RESIDUALS (THE AMOUNTS THE FIELD OBSERVED ANGLES WERE CHANGED DUE TO THE ADJUSTMENT) OF NO GREATER THAN 6 SECONDS; AND,

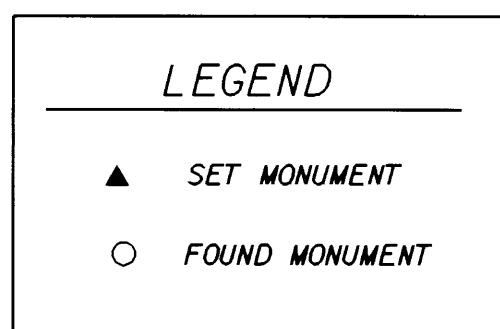
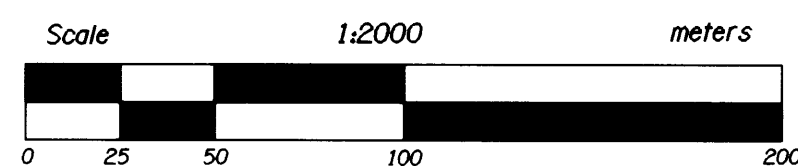
DISTANCE RESIDUALS (THE AMOUNTS THE FIELD OBSERVED DISTANCES WERE CHANGED DUE TO THE ADJUSTMENT) OF NO GREATER THAN 3 MM.

THERE IS A 95% PROBABILITY THAT THE FINAL POSITIONS OF THE CONTROL POINTS ARE WITHIN THE ERROR ELLIPSES AS SHOWN IN THE TABLE "ERROR ANALYSIS".

A WILD T1610 TOTAL STATION WAS USED FOR THE SURVEY. THE WILD T1610 TOTAL STATION HAS A STANDARD ANGULAR ERROR OF +/- 1.5 SECONDS, AND A STANDARD DISTANCE ERROR OF +/- 3 MM, +/- 2 PPM.

THE VERTICAL DATUM USED WAS THE NORTH AMERICAN VERTICAL DATUM OF 1988. ELEVATIONS WERE ESTABLISHED ON THE HORIZONTAL CONTROL POINTS USING THE FOLLOWING BENCH MARKS: T739, G666, H666, V739, P555, C749, S739, R739, O739, C666, P739, E666, K555, AND N739, LOCATED THROUGHOUT THE PROJECT. ALL LEVEL CIRCUITS CLOSED WITHIN ODOT TOLERANCES. A WILD NA2002 DIGITAL LEVEL WAS USED FOR THIS WORK AND IT HAS A STANDARD DEVIATION OF 0.9 MM IN A 1 KM DOUBLE-RUN LEVEL CIRCUIT.

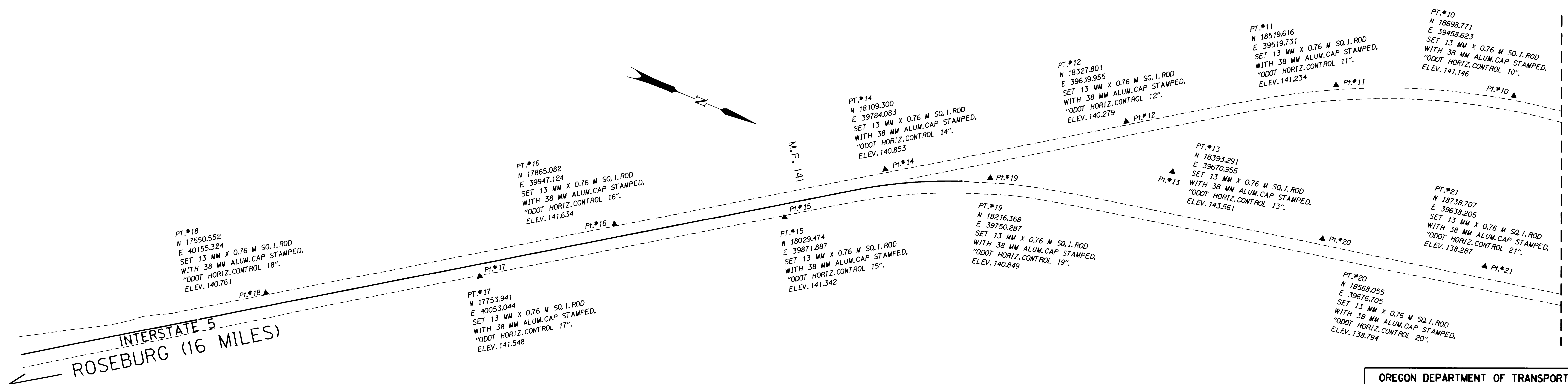
TO CONVERT COORDINATES ON THIS MAP TO ENGLISH, DIVIDE METRIC COORDINATES BY 0.3048.



## ERROR ANALYSIS

POINT	STANDARD DEVIATIONS		STANDARD ERROR ELLIPSE		
	NORTH	EAST	SEMI MAJOR	SEMI MINOR	ORIENTATION
24	0.004	0.004	0.005	0.001	S 46°01'58" E
3	0.001	0.001	0.001	0.001	S 75°28'29" E
4	0.003	0.005	0.006	0.001	S 58°46'23" E
5	0.004	0.009	0.010	0.002	S 65°10'46" E
6	0.008	0.013	0.015	0.002	S 59°03'54" E
7	0.012	0.020	0.023	0.002	S 59°10'32" E
8	0.016	0.027	0.031	0.002	S 59°53'36" E
23	0.012	0.027	0.029	0.003	S 66°42'14" E
9	0.017	0.035	0.039	0.003	S 63°33'30" E
10	0.017	0.044	0.047	0.004	S 69°03'42" E
11	0.015	0.052	0.053	0.005	S 75°04'22" E
12	0.011	0.060	0.061	0.007	S 82°18'07" E
13	0.010	0.057	0.058	0.007	S 83°11'38" E
14	0.009	0.070	0.070	0.009	S 89°04'38" E
19	0.009	0.065	0.065	0.008	S 87°27'07" E
20	0.010	0.050	0.050	0.007	S 82°04'33" E
15	0.010	0.074	0.074	0.010	N 87°30'54" E
21	0.011	0.042	0.043	0.006	S 77°58'20" E
16	0.013	0.082	0.082	0.011	N 84°55'07" E
17	0.018	0.088	0.089	0.013	N 81°31'57" E
18	0.024	0.098	0.100	0.014	N 78°58'04" E
22	0.011	0.034	0.035	0.005	S 72°49'12" E
25	0.007	0.010	0.012	0.001	S 54°57'05" E
26	0.009	0.018	0.020	0.002	S 64°29'20" E
27	0.008	0.028	0.029	0.003	S 74°31'15" E
28	0.007	0.035	0.036	0.005	S 82°10'50" E
29	0.008	0.045	0.045	0.008	N 85°44'08" E
30	0.015	0.055	0.056	0.010	N 78°40'47" E
31	0.022	0.067	0.069	0.011	N 73°59'05" E
32	0.022	0.073	0.076	0.011	N 75°04'34" E
33	0.027	0.085	0.088	0.011	N 73°52'58" E
34	0.034	0.097	0.102	0.012	N 71°49'31" E
35	0.039	0.108	0.115	0.012	N 70°47'04" E

POINT	STANDARD DEVIATIONS		STANDARD ERROR ELLIPSE		
	NORTH	EAST	SEMI MAJOR	SEMI MINOR	ORIENTATION
36	0.047	0.119	0.127	0.013	N 69°10'45" E
37	0.055	0.125	0.136	0.014	N 67°06'15" E
38	0.056	0.135	0.145	0.014	N 67°47'36" E
39	0.055	0.143	0.153	0.013	N 69°29'41" E
40	0.058	0.149	0.160	0.013	N 69°01'44" E
41	0.056	0.155	0.165	0.013	N 70°32'17" E
42	0.048	0.165	0.171	0.015	N 74°19'39" E
43	0.043	0.173	0.177	0.019	N 77°29'14" E
44	0.039	0.182	0.185	0.023	N 80°10'41" E
47	0.043	0.226	0.226	0.042	S 87°40'54" E
45	0.035	0.195	0.196	0.032	N 85°23'01" E
46	0.037	0.211	0.211	0.037	N 88°44'57" E
48	0.050	0.246	0.246	0.046	S 85°07'36" E
49	0.060	0.264	0.266	0.050	S 82°38'57" E
50	0.060	0.273	0.275	0.049	S 82°49'34" E
51	0.071	0.291	0.295	0.053	S 80°28'01" E
52	0.073	0.304	0.308	0.053	S 80°23'40" E
53	0.082	0.324	0.329	0.055	S 79°08'16" E
54	0.091	0.338	0.345	0.057	S 77°55'59" E
55	0.082	0.344	0.350	0.054	S 79°36'03" E
56	0.085	0.361	0.367	0.054	S 79°28'58" E
57	0.079	0.365	0.370	0.052	S 80°31'28" E
58	0.095	0.383	0.391	0.055	S 78°26'27" E
59	0.101	0.408	0.416	0.055	S 78°08'44" E
60	0.107	0.437	0.446	0.055	S 78°06'45" E
61	0.115	0.461	0.472	0.056	S 77°35'42" E
62	0.123	0.474	0.487	0.057	S 77°00'34" E
63	0.136	0.484	0.499	0.060	S 75°40'29" E
64	0.154	0.489	0.508	0.064	S 73°55'29" E
65	0.176	0.489	0.515	0.071	S 71°36'07" E
66	0.185	0.493	0.521	0.073	S 70°46'35" E
67	0.211	0.516	0.552	0.079	S 69°00'15" E



REGISTERED  
PROFESSIONAL  
LAND SURVEYOR  
*Christine V. Blevins*  
OREGON  
JULY 19, 1994  
CHRISTINE V. BLEVINS  
2669  
EXPIRES : DEC. 31, 1999

OREGON DEPARTMENT OF TRANSPORTATION  
**HORIZONTAL CONTROL  
AND RECOVERY MAP**  
N. OAKLAND INTCH. - RICE HILL SECTION  
INTERSTATE 5  
DOUGLAS COUNTY  
ODOT  
3500 Stewart Parkway, Suite 140  
Roseburg, Oregon 97470  
PROJECT KEY #08711 SHEET 1 OF 5

COUNTY SURVEYORS FILE DATA  
DO NOT REMOVE FROM OFFICE