

# SURVEY NARRATIVE

THE PURPOSE OF THIS METRIC SURVEY NETWORK WAS TO ESTABLISH CONTROL FOR A DOUGLAS COUNTY BRIDGE PROJECT CALLED "BILLY CREEK BRIDGE #19C361".

THE ORIGINAL NETWORK USED ASSUMED METRIC COORDINATES WITH AN ASSUMED BASIS OF BEARING BETWEEN POINTS 1 AND 100. TWO PROPERTY CORNERS WERE THEN DOUBLE TIED (POINTS 1001 AND 1002). THE NETWORK WAS THEN MOVED AND ROTATED TO A NEW BASIS OF BEARING BETWEEN THE TWO PROPERTY CORNERS. THE ORIGINAL UNROTATED NETWORK DATA IS ON FILE WITH THE OREGON DEPARTMENT OF TRANSPORTATION IN ROSEBURG. COORDINATES SHOWN ON THIS MAP ARE THE RESULT OF THE ROTATED NETWORK.

THE BASIS OF BEARING IS S 0° 40' 12" E BETWEEN POINTS 1001 AND 1002, REFERENCED FROM DOUGLAS COUNTY MAP 1992-0079A. AT LEAST TWO OBSERVATIONS WERE MADE TO EACH NETWORK POINT TO ESTABLISH A NETWORK OF CONTROL POINTS. THESE OBSERVATIONS WERE ADJUSTED USING A LEAST SQUARES ADJUSTMENT TECHNIQUE.

A WILD T1010 ELECTRONIC THEODOLITE AND A WILD D11600 DISTOMAT WERE USED TO MAKE THE NETWORK OBSERVATIONS. THE T1010 THEODOLITE HAS A STANDARD ANGULAR ERROR OF +/- 3 SECONDS AND THE D11600 HAS A STANDARD DISTANCE ERROR OF +/- 3 mm, +/- 2 ppm. PROCEDURES USED FOR THIS SURVEY MEET THE REQUIREMENTS FOR FIRST ORDER, CLASS TWO PRECISION.

THE LEAST SQUARES ADJUSTMENT PRODUCED: ANGULAR RESIDUALS (THE AMOUNTS THE FIELD OBSERVED ANGLES WERE CHANGED DUE TO THE ADJUSTMENT) OF NO GREATER THAN 31 SECONDS; AND DISTANCE RESIDUALS (THE AMOUNTS THE FIELD OBSERVED DISTANCES WERE CHANGED DUE TO THE ADJUSTMENT) OF NO GREATER THAN 6 mm.

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

Pt.	Adjusted Coordinates		Standard Deviations		Standard Error Ellipse		
	North(m)	East(m)	North	East	Semi Major	Semi Minor	Orientation
2	5078.689	10216.058	0.002	0.002	0.003	0.002	61° 44' 03"
3	5081.813	10159.671	0.003	0.002	0.003	0.002	50° 17' 01"
4	5118.588	10096.075	0.004	0.002	0.005	0.002	32° 51' 04"
5	5268.112	9888.343	0.011	0.004	0.011	0.003	35° 08' 56"
6	4803.679	9810.704	0.010	0.006	0.010	0.005	179° 01' 17"
7	4885.261	9626.201	0.015	0.005	0.015	0.003	185° 38' 47"
1001	5000.000	10000.000	0.001	0.002	0.002	0.001	129° 01' 03"
1002	5179.551	9997.900	0.002	0.001	0.002	0.001	31° 50' 28"
1	5007.656	10324.079					
100	4814.132	10249.797					

THE SURVEY BEGAN JAN. 17, 1996 AND ENDED APR. 22, 1996.

NETWORK PT. #7  
 FOUND 76 mm (3") BRASS CAP  
 STAMPED "NW1/4, SW1/4 OF  
 SECTION 18, T22S, R5W, W.M."  
 N 4885.261  
 E 9626.201

NETWORK PT. #6  
 SET 13 mm (1/2") X 762 mm (30")  
 SQUARE IRON ROD W/ALUM CAP  
 STAMPED "O.D.O.T. HORIZ.  
 CONTROL"  
 N 4803.679  
 E 9810.704

**Legend**

- △ Set Monument
- Found Monument

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 Oregon Department of Transportation  
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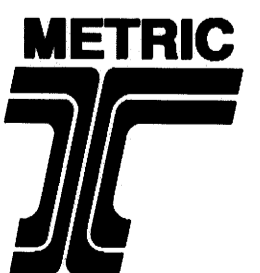
REGISTERED  
 PROFESSIONAL  
 LAND SURVEYOR

*Michael J. Gardner*

OREGON  
 JANUARY 21, 1988  
 MICHAEL J. GARDNER  
 2318

RENEWAL DATE: JUNE 30, 1997

NETWORK PT. #100  
 SET 13 mm (1/2") X 762 mm (30")  
 SQUARE IRON ROD W/ALUM CAP  
 STAMPED "O.D.O.T. HORIZ.  
 CONTROL"  
 N 4814.132  
 E 10249.797



# LOCATION HORIZONTAL CONTROL NETWORK AND RECOVERY MAP

For the Douglas County Public Works Department  
 In the NW1/4 and SW1/4 of Section 18, T22S, R5W, W.M.  
 Douglas County

FILED  
 Date: 6/3/96 By: BC  
 This survey consists of:  
 Map: M 124 - 18  
 Narrative:  
 Corner Rpt:  
 J.C. DOUGLAS COUNTY SURVEYOR

COUNTY SURVEYORS FILE DATA  
 DO NOT REMOVE FROM OFFICE

