

N.E. 1/4 SEC. 16 , T. 22 S., R. 6 W., W.M. (DALE)  
 N.W. 1/4 SEC. 36 , T. 21 S., R. 5 W., W.M. (LESLEE)  
 N.W. 1/4 SEC. 16 , T. 22 S., R. 6 W., W.M. (TRUAX 1)  
 N.E. 1/4 SEC. 17 , T. 22 S., R. 6 W., W.M. (TRUAX 2)  
 N.W. 1/4 SEC. 19 , T. 22 S., R. 7 W., W.M. (WELK)  
 LOCATED IN DOUGLAS COUNTY, OREGON

**FILED**  
 Date: 12-10-2004 By: J.C.  
 This survey consists of:  
 Map: St. Hwy.  
 Name: 38-011 A-D  
 Corner Rpt:  
**DOUGLAS COUNTY**  
**SURVEYOR**

**SURVEY NARRATIVE**

THIS SURVEY WAS PERFORMED FOR AND AT THE REQUEST OF MARSHALL WAGSTAFF REPRESENTING REGION 3 OF THE OREGON DEPARTMENT OF TRANSPORTATION. THE PURPOSE OF THIS SURVEY IS TO ESTABLISH GEODETIC CONTROL FOR THE ODOT PRELIMINARY ENGINEERING PROJECT TRUAX SLIDE NEAR DRAIN, LOCATED ALONG THE UMPQUA HIGHWAY (#46), ALSO KNOWN AS STATE ROUTE NUMBER 38.

THE GPS PORTION OF THIS SURVEY WAS COMPLETED IN SEPTEMBER OF 2004. GPS SESSIONS WERE OBSERVED USING THREE LEICA SYSTEM 500 DUAL FREQUENCY GPS RECEIVERS MODEL SR 530 AND ANTENNA MODEL AT502 AND TERMINAL MODEL TR500. THE SYSTEM 500 HAS A STATED ACCURACY SPECIFICATION OF FIVE MILLIMETERS PLUS ONE PART-PER-MILLION WHEN USED IN STATIC OR RAPID-STATIC POST-PROCESSED MODE.

THE FIELD PROCEDURES ARE SUMMARIZED AS FOLLOWS. BRASS DISKS WERE SET IN TWO CONCRETE MONUMENTS BY REGION 3 STAFF. ONE EXISTING MONUMENT WAS USED IN THE VICINITY OF THE PROJECT.

STATIC TIES WERE MADE ON SEPTEMBER 15, 2004 TO THE PROJECT FROM TWO COOPERATIVE BASE NETWORK STATIONS "WELK", (PID PC1117) AND "LESLEE", (PID A12000). ADDITIONAL TIES WERE MADE TO "DALE", DOUGLAS COUNTY SURVEY C.S. 65/7-1 A&B. THERE WERE A TOTAL OF NINE TIES BETWEEN THESE CONTROL STATIONS AND THE PROJECT. RAPID STATIC SESSIONS WERE OBSERVED ON A TOTAL OF FOUR ADDITIONAL BASELINES BETWEEN THE STATIONS WITHIN THE PROJECT. EACH OF THE STATIONS IN THE GPS NETWORK WERE OCCUPIED TWO OR MORE TIMES. ALL GPS OBSERVATIONS WERE COMPLETED BY ODOT GEOMETRONICS STAFF.

ANALYSIS AND ADJUSTMENT PROCEDURES ARE SUMMARIZED AS FOLLOWS. THE HORIZONTAL POSITIONS FOR THE SURVEY ARE BASED ON REFERENCE ELLIPSOID WGS84 AND NAD83(1998) PUBLISHED VALUES. NAVD88 PUBLISHED VALUE FOR WELK WAS HELD. REMAINING ORTHOMETRIC HEIGHTS WERE ESTABLISHED USING THE GPS DATA AND THE GEOID03 MODEL BY CONSTRAINING VERTICALLY TO THE INDICATED STATIONS.


ALL POST PROCESSING INCLUDING CONVERSION TO BOTH ORTHOMETRIC ELEVATIONS AND THE OREGON COORDINATE SYSTEM WAS COMPLETED USING VERSION 3.0 OF LEICA SKI PRO SOFTWARE. SKI PRO VERSION 3.0 CALLS A THIRD PARTY LEAST SQUARES ADJUSTMENT ROUTINE IDENTIFIED AS "MOVE3" VERSION 3.2.2. AN ADJUSTMENT WAS APPLIED TO A NETWORK OF THIRTEEN TOTAL BASELINES. THERE WERE A TOTAL OF NINE BASELINES FROM THE CBN STATIONS TO THE PROJECT AND FOUR BASELINES WITHIN THE NETWORK. DURING THE FINAL ADJUSTMENT, STATIONS "LESLEE" AND "WELK" WERE HELD HORIZONTALLY. STATION "WELK" WAS HELD VERTICALLY.

ACCEPTANCE OF THE ADJUSTMENT IS BASED ON A MAXIMUM HORIZONTAL RESIDUAL OF 0.10 FEET. THE MAXIMUM RESIDUAL OF 0.05 FEET IS FROM STATION "TRUAX 2" TO STATION "LESLEE". THIS BASELINE HAS A LENGTH OF APPROXIMATELY 10 MILES.

POSITIONAL ACCURACIES PUBLISHED ARE RELATIVE TO THE FIXED POINTS AND ARE STATED AT A 95% CONFIDENCE LEVEL BASED ON DATA REPORTED IN THE MOVE3 ADJUSTMENT REPORT.

SUPPORTING DATA FOR THIS SURVEY IS LOCATED IN CONTROL FILE 04-012 OF THE ODOT GEOMETRONICS UNIT, SALEM OREGON.

REGISTERED  
 PROFESSIONAL  
 LAND SURVEYOR  
  
 OREGON  
 DECEMBER 2, 1983  
 J. DAVID BRINTON  
 2065  
 EXPIRES 12-31-2005

 <b>OREGON DEPARTMENT OF TRANSPORTATION</b> GEOMETRONICS UNIT 200 HAWTHORNE AVE. SE, * B-250 SALEM, OR 97301-5193 (503)986-3103; FAX (503)986-3548			
<b>GEODETIC SURVEY REPORT</b> TRUAX SLIDE ALONG THE UMPQUA HIGHWAY ALSO KNOWN AS HIGHWAY 38 GEOMETRONICS CONTROL FILE 04-012 FOR OREGON DEPARTMENT OF TRANSPORTATION REGION 3			
COUNTY : DOUGLAS	DRAWN BY: JDB	KEY : 13571	SHEET OF
SURVEY DATE: SEPTEMBER 15, 2004		FILE NAME: 13571GPS.DGN	2 4

**ST. HWY. 38-011 B**