

SURVEY NARRATIVE

FILED
Date: 12/11/2007 By: JP
This survey consists of:
Map: Sr. Hwt. 42-013C
Narrative:
Corner Rpt:

PURPOSE:

THE PURPOSE OF THIS SURVEY IS TO ESTABLISH HORIZONTAL AND VERTICAL CONTROL, RECOVER EXSITING MONUMENTATION FOR A FUTURE ODOT CONSTRUCTION PROJECT. AS A PART OF THIS SURVEY THE RIGHT-OF-WAY WAS RESOLVED BETWEEN STATIONS 1683+49.62 AND 1753+18.19 FOR HIGHWAY 42. THIS SURVEY WAS PERFORMED BY ODOT SURVEY CREW 3660 STATIONED IN ROSEBURG OR. THE SURVEY WAS CONDUCTED FROM MAY OF 2006 TO JUNE OF 2006 AND IS IN INTERNATIONAL FEET MEASUREMENTS.

DOUGLAS COUNTY
SURVEYOR

EQUIPMENT AND PROCEDURE:

THIS WAS A GPS SURVEY AND WAS REFERENCED TO NAD83(98) USING THE NGS DATA SHEET FOR THE FOUND GPS STATION "WCAM ". THIS WAS USED AS A BASE STATION FOR OBSERVATIONS OF SET AND FOUND THE EQUIPMENT USED WAS: LIECA GX1230 DUAL FREQUENCY RECIEVER(ONE BASE STATION SERIAL *458018 AND ONE ROVER SERIAL *457653). USING PHASED DIFFERENTIAL REAL TIME KINEMATIC (RTK) METHODS THE ACCURACY WAS: HORIZONTAL ERROR OF 10MM +1 PPM, AND VERTICAL ERROR OF 20MM, +1 PPM. THE "WCAM "GPS STATION WAS A 4" BRASS DISK SET IN CONCRETE AND STAMPED "FOR INFORMATION CONTACT ODOT OR THE COUNTY SURVEYOR OREGON PRIMARY GPS STATION 1989 WCAM ". THE MONUMENT WAS IN GOOD CONDITION AND WAS 1 FOOT BELOW GROUND SURFACE. THE RTK ROVER WAS USED TO OCCUPY EACH MONUMENT WITH SATELLITE VISIBILITY. WE OCCUPIED EACH MONUMENT TWICE WITH AT LEAST 45 MINUTES BETWEEN OCCUPATIONS. THIS SURVEY UTILIZES A LOCAL DATUM PLANE (LDP) COORDINATES SYSTEM, WHICH IS RELATIVE TO THE STATE PLANE COORDINATE SYSTEM (OCS) OF NAD83 SOUTH ZONE, WITH RESPECT TO THE LOCAL LATITUDE AND GROUND ELEVATIONS. THE LDP COORDINATES DEFINE TRUE GROUND DISTANCES. TO CONVERT LDP COORDINATES TO THE OREGON STATE PLANE, SOUTH ZONE, COORDINATES MULTIPLY THE LDP COORDINATE VALUE BY THE COMBINED SCALE FACTOR OF .99984496.

SET MONUMENTS ARE USED AS CONTROL AND INCLUDE POINT NUMBERS 500 THRU 526 AND FOUND PRVIOUS SURVEY MONUMENTS 1,2,57,AND 59. THESE MONUMENTS ARE 5/8" IRON REBAR 30" LONG WITH 1 1/2" BRASS CAPS STAMPED ODOT CONTROL WITH THEIR RESPECTIVE POINT NUMBERS. DISCRPTIONS ON ALL SET AND FOUND MONUMENTS FOR THIS PROJECT CAN BE FOUND ON SHEET 1 AND 2 LISTING THE POINTS USED FOR CONTROL. THE FOUND MONUMENTS USED FOR RESOLVING THE RIGHT OF WAY ARE LISTED ON EACH SHEET THE MONUMENTS ARE SHOWN ON.

MONUMENTS THAT COULD NOT BE OBSERVED BY THE GPS RTK ROVER WERE TIED TO THE NETWORK BY USING A LEICA TCA 1800 TOTAL STATION THEODOLITE. THIS INSTUMENT HAS THE FOLLOWING ACCURACY: STANDARD ANGULAR ERROR OF +/- 1 SECOND; STANDARD DISTANCE ERROR OF +/- 2MM, +/- 2PPM. THE ORIGINAL FIELD NOTES FOR THIS SURVEY ARE ARCHIVED IN THE SALEM MAPS AND PLANS CENTER IN BOOK NUMBER 4406.

REFERENCE DOCUMENTS USED:

ODOT DRG 9B-30-17, ODOT DRG 1A-15-45.
DOUGLAS COUNTY SURVEYS (CS): M1-63,M98-13, M98-14,M108-72A,M109-20,M117-45,M102-74A.
DOUGLAS COUNTY POINT IDENTIFIERS: 100200,GPS,27/83,042010,240400,240340,300440,340540,043020,140200
DOUGLAS COUNTY ASSESSORS MAPS: 29S-8W-20A-C AND 29S-8W-30

DOUGLAS COUNTY DEEDS:

89-10304,89-05298,91-07840,90-01577,89-06665,89-07944,89-06406,89-09930,89-06246,89-03714,-89-15043,89-13364,91-12995,89-14687,89-12842,89-12838,90-02652,89-16625,8-12884,91-18360
89-13473,89-12839,89-19628,89-06404,90-03046,90-03041,91-03267,89-03097,88-06381,89-12472,88-13072,96-18033,88-03493,88-06304,88-11876,89-18139.

ALIGNMENT RESOLVE:

THE RIGHT OF WAY CENTERLINE WAS RESOLVED FROM THE TANGENT STARTING AT PT STA 1683+49.62 TO PC STA 1753+18.19. THIS WAS RESOLVED BY SPLITTING THE TWO FOUND RECORD MONUMENTS AT PTS 1006 AND 1007 AT ANGLE POINT STA 1704+77.91 AND A POINT PLACED AT THE RECORD DISTANCE FROM PT 1022 AT PC STA 1683+49.62 TO ESTABLISH THE WESTERLY TANGENT. THE EASTERLY TANGENT WAS ESTABLISHED BY A SPLIT OF THE MONUMENTS AT PTS 1006 AND 1007 AND A POINT PLACED AT THE RECORD DISTANCE FROM POINT 1037 AT PS STA 1753+18.19. THIS ALIGNMENT WAS REVIEWED AND ADJUSTED USING THE BEST FIT METHOD OF THE LOCATION OF THE FOUND RECORD MOUMENTS AS SHOWN ON ODOT MAP 9B-30-17.

VERTICAL CONTROL

BENCH MARKS N741X, P76 AND P741X WERE RECOVERED AND THE NAVD 88(1990) DATUM ELEVATION HELD FOR RUNNING VERTICAL CONTROL. TWO LEVEL CIRCUITS WERE RAN TO ESTABLISH ELEVATIONS ON POINTS USED FOR TOPO AND DIGITAL TERRAIN MODEL COLLECTION.

VERTICAL LEAST SQUARES ADJUSTMENT

THE VERTICAL LEAST SQUARES ADJUSTMENT PRODUCED THE FOLLOWING RESIDUALS (THE AMOUNT THAT FIELD OBSERVED ELEVATIONS WERE CHANGED DUE TO ADJUSTMENT). 100% OF THE VERTICAL RESIDUALS ARE WITHIN 0.003 FEET. THIS TOLERANCE IS WITHIN O.D.O.T. STANDARDS.

VERTICAL CONTROL EQUIPMENT

A LEICA NA 2002 LEVEL AND A LEICA GBNL4C ALUMINUM LEVEL ROD WAS USED TO COMPLETE THE LEVEL CIRCUITS. THIS INSTRUMENT HAS A STANDARD DEVIATION OF 1.5 MM IN A 1 KILOMETER DOUBLE-RUN LEVEL CURCUIT.

ALL STRATEGIC AND SOME RECOVERED MONUMENTS HAVE ELEVATIONS AND WERE VALID AT THE TIME OF THE SURVEY. IF THESE POINTS ARE USED IN FUTURE SURVEYS, IT IS RECOMMENDED THAT THE POINTS BE FIELD VERIFIED.

THE LINES SHOWN ON THIS SURVEY ARE NOT INTENDED TO SHOW PRIVATE PROPERTY LINES NOR IS THIS SURVEY INTENDED TO RESOLVE ANY PROPERTY ISSUES.

REGISTERED
PROFESSIONAL
LAND SURVEYOR
James M. Stanley
OREGON
JULY 11, 2000
JAMES M. STANLEY
49863LS
EXPIRES 06/30/08

SI FEET
T OREGON DEPARTMENT OF TRANSPORTATION
HORIZONTAL CONTROL, RECOVERY AND RETRACEMENT MAP
OR42: HARD CASH LN. - QUIET MOUNTAIN RD. RESURFACING
COOS BAY - ROSEBURG HWY
DOUGLAS COUNTY
FILE: 13791RW.DGN

FOR ODOT REGION 3
3500 NW. STEWART PKWY.
ROSEBURG, OR. 97470
DEC. 7, 2007
SHEET 3 OF 11

ST. HWY. 42-013 C