

**PURPOSE**

THE PURPOSE OF THIS SURVEY IS TO PROVIDE A CONTROL, RECOVERY, RETRACEMENT, AND BOUNDARY MONUMENTATION MAP FOR A PROJECT NAMED "I-5: EXIT 119 & 120 INTERCHANGE IMPROVEMENTS". SURVEY FIELD WORK WAS PERFORMED BETWEEN JUNE 2012 AND AUGUST 2018. THE FIELD SURVEY NOTES, BOOK NUMBER 4618, ARE AVAILABLE FROM ODOT FILES IN SALEM, OREGON.

**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 PRIMARY 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 WITH GPS EQUIPMENT FOR 1 HOUR AT TWO DIFFERENT TIMES OF DAY USING THE RAPID STATIC METHOD OF ACQUIRING DATA. OREGON REAL TIME NETWORK (ORGN) STATIONS "DCSO", "SUHS", AND "P363" WERE HELD AS FIXED IN GPS CALCULATIONS.

A TERRESTRIAL HORIZONTAL CONTROL NETWORK WAS RUN THROUGH SET AND FOUND CONTROL POINTS. THE COORDINATES WERE HELD AS 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.

**HORIZONTAL CONTROL EQUIPMENT**

A LEICA VIVA TS15 TOTAL STATION, 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 +/- 1 MM, + 1.5 PPM.

LEICA GX1230 DUAL FREQUENCY GPS RECEIVERS WERE USED FOR GPS OBSERVATIONS. THEY HAVE 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.

**VERTICAL CONTROL**

BENCH MARK "X9" AND IT'S NAVD 88 DATUM ELEVATION WAS HELD FOR VERTICAL CONTROL. TWO LEVEL CIRCUITS WERE RUN TO ESTABLISH ELEVATIONS ON SELECTED CONTROL AND STRATEGIC POINTS.

CIRCUIT 17121E03 WAS RUN TO RE-ESTABLISH AN ELEVATION ON POINT "BD138" AFTER FINDING ITS ELEVATION HAD BECOME SUSPECT. IT IS LOCATED IN A BLACK MUD AREA AND ITS ELEVATION HAD CHANGED.

**VERTICAL CONTROL EQUIPMENT**

A LEICA DNA10 DIGITAL LEVEL AND A LEICA GBNL4C ALUMINUM LEVEL ROD WAS USED TO COMPLETE THE LEVEL CIRCUITS. THIS INSTRUMENT HAS THE FOLLOWING STANDARD DEVIATION OF 1.5MM IN A 1 KILOMETER DOUBLE RUN LEVEL CIRCUIT.

**PACIFIC HIGHWAY RIGHT OF WAY RETRACEMENT**

THE RIGHT OF WAY WAS RESOLVED USING ODOT RIGHT OF WAY DRAWING 7B-23-1. THE CENTER LINE WAS DESIGNATED THE "IS" LINE. THE TANGENT HELD 1092 AND THE SPLIT DISTANCE BETWEEN MONUMENTS 1109 AND 1114. STATION WAS HELD ON MONUMENT 1107 NORTHERLY OF EQUATION "IS"2813+85.47 P.O.T. BACK EQUALS "IS"2814+29.44 P.O.T. AHEAD. STATIONING SOUTHERLY OF THE EQUATION STATION WAS HELD FROM SURVEY ST. HWY. 15-030.

**COOS BAY - ROSEBURG HIGHWAY RIGHT OF WAY RETRACEMENT**

THE RIGHT OF WAY WAS RESOLVED USING ODOT RIGHT OF WAY DRAWINGS 11A-22-13, 9B-7-5, AND 7B-23-1. THE CENTER LINE WAS DESIGNATED THE "CBR" LINE. THE TANGENT WAS MOVED AND ROTATED IN FROM FILED SURVEY ST. HWY. 42-002 AND RIGHT OF WAY DRAWING (DRG.) 11A-22-13 HOLDING THE MONUMENT NAMED "GS3" (POINT 3 FROM RECORD SURVEY) AND ROTATING TO THE MONUMENT NAMED "K675". STATION WAS HELD FROM SURVEY ST. HWY. 42-002.

**OAKLAND - SHADY HIGHWAY RIGHT OF WAY RETRACEMENT**

THE RIGHT OF WAY WAS RESOLVED USING ODOT RIGHT OF WAY DRAWINGS 11A-22-13 AND 4B-26-6. THE CENTER LINE WAS DESIGNATED THE "OS" LINE. THE FIRST TANGENT WAS ALSO MOVED AND ROTATED IN FROM FILED SURVEY ST. HWY. 42-002 AS STATED ABOVE. THE NEXT TANGENT HELD THE RECORD DISTANCE FROM MONUMENTS 1000 AND 1141. THE RECORD DEGREE OF CURVE AND SPIRAL LENGTH WAS HELD. STATION WAS HELD FROM SURVEY ST. HWY. 42-002.

**OLD OAKLAND - SHADY HIGHWAY RIGHT OF WAY RETRACEMENT**

THE RIGHT OF WAY WAS RESOLVED USING ODOT RIGHT OF WAY DRAWING 4B-26-6 AND FILED SURVEY ST. HWY. 42-007. THE CENTER LINE WAS DESIGNATED THE "OOS" LINE. THE FIRST TANGENT WAS MOVED AND ROTATED IN FROM FILED SURVEY ST. HWY. 42-007 HOLDING THE MONUMENT NAMED "GS3" (POINT 3 FROM RECORD SURVEY) AND ROTATING TO THE MONUMENT NAMED "K675". THE NEXT TANGENT HELD THE FORWARD TANGENT OF THE ABOVE "OS" CENTER LINE. THE RECORD DEGREE OF CURVE AND SPIRAL LENGTH WAS HELD FROM RIGHT OF WAY DRAWING 4B-26-6. STATION WAS HELD ON MONUMENT 1158.

**GRANT SMITH ROAD RIGHT OF WAY RETRACEMENT**

THE RIGHT OF WAY WAS RESOLVED USING THE DEED IN BOOK 1665, PAGE 396 OF DOUGLAS COUNTY BOOK OF RECORDS. THE CENTER LINE WAS DESIGNATED THE "GS" LINE. INITIALLY THE CENTER LINE WAS LAYED OUT STARTING AT MONUMENT D1121 AND RUNNING ALL COURSES FROM RECORD DEED. THESE COURSES WERE ROTATED ABOUT MONUMENT D1121 TO MONUMENT D1122, BOTH POINTS ARE D.L.C. CORNERS. THE RECORD DEED POINT OF BEGINNING (POB) FELL WITHIN 0.03 FEET OF THE INTERSECTION OF THE "OS" AND "CBR" CENTER LINE AND THE FIRST COURSE BEARING MATCHED THE BEARING OF THE FIRST TANGENT OF THE "OS" CENTER LINE. SO THE POINT OF BEGINNING WAS MOVED TO THE SAID INTERSECTION. THE RECORD DEGREE OF CURVE AND STATIONING WAS HELD. ALL STATIONING AND DISTANCES IN THE RECORD DEED WERE CONVERTED TO INTERNATIONAL FEET BY DIVIDING BY 0.3048.

**HAPPY VALLEY ROAD RIGHT OF WAY RETRACEMENT**

THE RIGHT OF WAY WAS RESOLVED USING ODOT RIGHT OF WAY DRAWING 10B-4-5 AND FILED SURVEY ST. HWY. 99-003. THE CENTER LINE WAS DESIGNATED THE "HV" LINE. THE RECORD CENTER LINE WAS MOVED AND ROTATED IN FROM 10B-4-5 HOLDING MONUMENT 1024 AND ROTATING TO MONUMENT 1047.

**PLEASE NOTE:**

CONTROL MONUMENTS SHOWN ON THIS SURVEY DO NOT REPRESENT PROPERTY LINES OR RIGHT OF WAY LINES. THEY ARE INTENDED TO PERPETUATE THE ALIGNMENTS AND RIGHT OF WAY DEVELOPED FOR THIS PROJECT IN CONFORMANCE WITH ORS 209, SECTION 155.

**SHEET INDEX**

- 1 SURVEY NARRATIVE & SHEET LAYOUT DIAGRAM
- 2 - 11 CONTROL, RECOVERY, RETRACEMENT & BOUNDARY MONUMENTATION SHEETS

**ASSESSOR'S MAPS**

- 28-06W-01, 01B, 01C
- 28-06W-02, 02AA, 02AD, 02DA, 02DC, 02DD
- 28-06W-11, 11A, 11AA, 11AB, 11AC, 11DB
- 28-06W-12
- 28-06W-13
- 28-06W-14

REGISTERED PROFESSIONAL LAND SURVEYOR

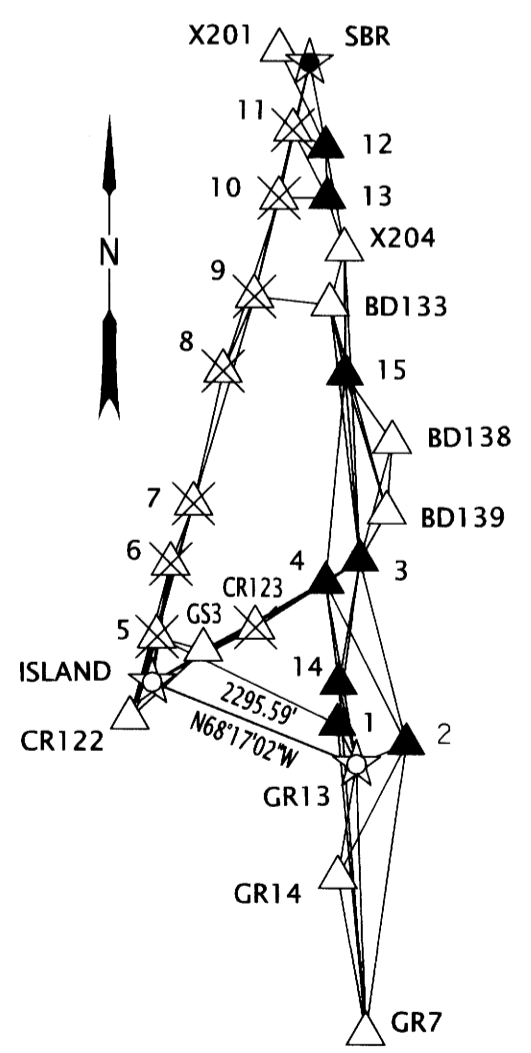
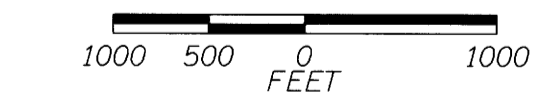
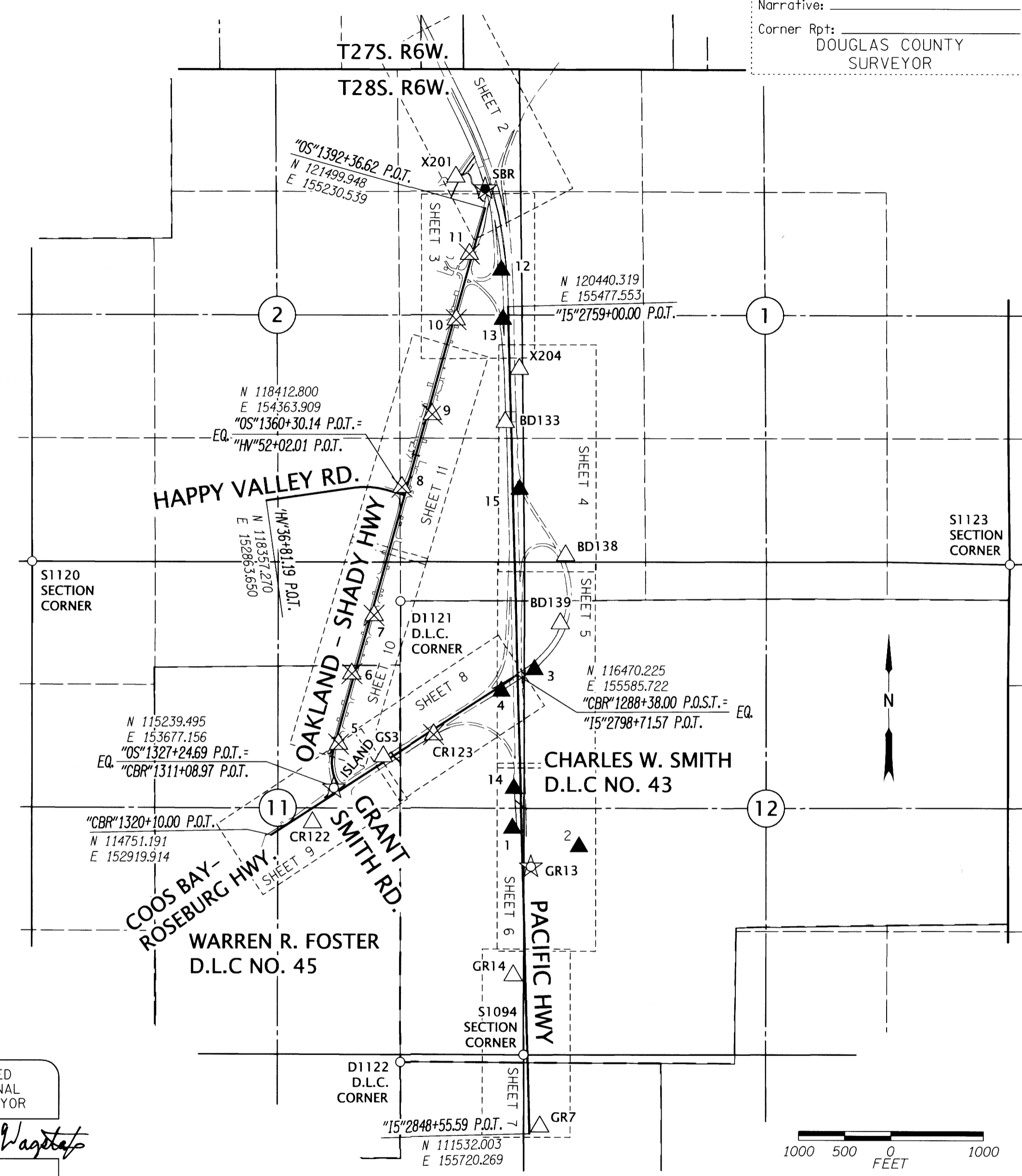
*Marshall R. Wagstaff*

OREGON  
JANUARY 9, 2001  
MARSHALL R. WAGSTAFF  
49476LS

RENEWS: JUNE 30, 2020

Sec. 1, 2, 11, 12, 13, 14, T. 28 S., R. 6 W., W.M.  
Sec. 35, 36, T. 27 S., R. 6 W., W.M.

**SHEET LAYOUT & PROJECT VICINITY**



**BASIS OF BEARING & NETWORK DIAGRAM**  
NOT TO SCALE

MONUMENTS					SEE INDIVIDUAL SHEETS FOR MONUMENTS NOT SHOWN	FD. = FOUND O.D. = OUTSIDE DIAMETER
PT. NO.	OCRS NORTHING	OCRS EASTING	DATE	DESCRIPTION	REFERENCE	
D1122	112305.138	154321.694	9/17/2012	FD. 1 1/4" O.D. PIPE WITH A 2 1/2" BRASS CAP STAMPED " COUNTY SURVEYORS OFFICE T28S R6W S.W. COR. D.L.C 43 1968" 1.0 FT ABOVE GROUND GOOD CONDITION	C.S. 49/139	
S1120	117700.655	150331.409	7/31/2012	FD. 2 1/2" BRASS CAP STAMPED "COUNTY SURVEYORS OFFICE T28S R6W 3,2,10 & 11 1956" 0.3 FT. BELOW GROUND CAP IS TILTED FAIR CONDITION LOCATED AT EDGE PAVEMENT SOUTHSIDE OF AUSTIN RD.	C.S. 47/69	
S1123	117668.804	160911.417	9/17/2012	FD. 1 1/4" O.D. PIPE WITH A 2 1/2" BRASS CAP STAMPED " COUNTRY SURVEYORS OFFICE T28S R6W S1 S12 R5W S6, S7 1961" 1.1 FT ABOVE GROUND, A LITTLE WOBBLE FAIR CONDITION	C.S. 49/64	

POINT LEGEND	
○	FOUND MONUMENT
⊗	DESTROYED NETWORK POINT
△	FOUND NETWORK POINT
▲	SET NETWORK POINT
★	SET GPS STATION
☆	FOUND GPS STATION
SEE SHEET 2 FOR LINE LEGEND	

**OREGON DEPARTMENT OF TRANSPORTATION**

HORIZONTAL CONTROL, RECOVERY, RETRACEMENT & BOUNDARY MONUMENTATION MAP  
I-5: EXIT 119 & 120 INTERCHANGE IMPROVEMENTS  
PACIFIC HWY./COOS BAY - ROSEBURG HWY./OLD HWY. 99  
DOUGLAS COUNTY  
FILE: 17918RW.DGN :: CRR

ODOT REGION 3 TECH CENTER  
3500 NW STEWART PKWY.  
ROSEBURG, OR. 97470

JANUARY 10, 2019  
SCALE: 1" = 1000'  
SHEET 1 OF 11