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BASIS OF BEARINGS

THE BASIS OF BEARINGS IS THE OREGON COORDINATE SYSTEM OF 1983, SOUTH ZONE, AS DETERMINED FROM GPS OBSERVATIONS

LEGEND

- DENOTES TERRESTRIAL OBSERVATION
- DENOTES GPS OBSERVATION
- ▲ DENOTES SET CONTROL POINT AS NOTED
- DENOTES FOUND BENCH MARK AS NOTED
- ★ DENOTES FOUND GPS CONTROL POINT AS NOTED
- ROCC DENOTES SET 5/8" X 30" REBAR WITH RED PLASTIC CAP INSCRIBED "OTAK CONTROL"
- PKW DENOTES SET PK NAIL WITH 1-1/2" BRASS WASHER INSCRIBED "OTAK CONTROL"
- PIR DENOTES FOUND PUNCHED 5/8" IRON ROD, FLUSH, AT CENTER LINE INTERSECTION OF MAIN ST. AND PLATT AVE.
- AGATE DENOTES FOUND UNREADABLE 2-1/2" BRASS DISK (NGS PID NZ1331) ON IRON PIPE IN CONCRETE, UP 0.15', 39' EASTERLY OF AGATE LAKE DAM GATE HOUSE
- H388 DENOTES FOUND 3" BRASS DISK (NGS PID NZ0950) FLUSH IN EAST CORNER CONCRETE HEADWALL, 14.5' SOUTH OF CENTER LINE AIRPORT RD., 27' WEST OF CENTER LINE WILLIGAN WAY
- RM3 DENOTES FOUND 3-1/2" BRASS DISK IN CONCRETE (BB) STEP OF LITTLE BUTTE SCHOOL
- IF INTERNATIONAL FEET
- USSF U.S. SURVEY FEET

NARRATIVE

PURPOSE OF SURVEY
 THE PURPOSE OF THIS SURVEY WAS TO RECOVER EXISTING MONUMENTS FOR RIGHT OF WAY RECOVERY IN THE AREA OF A NEW BRIDGE CONSTRUCTION PROJECT OVER LITTLE BUTTE CREEK IN EAGLE POINT, OREGON. BECAUSE CONSTRUCTION MAY DISTURB OR DESTROY EXISTING RECORD SURVEY MONUMENTS, THIS SURVEY ALSO SERVES TO REFERENCE THOSE MONUMENTS IN CONFORMANCE WITH O.R.S. 209.155(1).

BASIS OF BEARING
 THE BASIS OF BEARINGS FOR THIS SURVEY IS OREGON COORDINATE SYSTEM OF 1983, SOUTH ZONE, AS DETERMINED FROM GPS OBSERVATIONS.

TERRESTRIAL OBSERVATIONS
 TERRESTRIAL OBSERVATIONS WERE MADE ON MAY 20 AND MAY 27, 2003 USING A GEODIMETER 610 TOTAL STATION INSTRUMENT ADJUSTED TO THE FACTORY SPECIFICATIONS OF; 3" VERTICAL CIRCLE, 3" HORIZONTAL CIRCLE, AND +/- (2 MM + 2 PPM) EDM. A MINIMUM OF TWO SETS OF HORIZONTAL AND VERTICAL ANGLES WERE OBSERVED.

GPS OBSERVATIONS
 RAPID STATIC GPS OBSERVATIONS WERE MADE ON MAY 28, 2003 USING TRIMBLE 5700 DUAL FREQUENCY RECEIVERS. THE OBSERVATIONS WERE PROCESSED USING TRIMBLE GEOMATICS OFFICE (TGO) VERSION 1.60. TRIVIAL BASELINES WERE NOT INCLUDED.

HORIZONTAL NETWORK ADJUSTMENT
 THE GPS OBSERVATIONS AND TERRESTRIAL OBSERVATIONS WERE ADJUSTED SIMULTANEOUSLY USING THE LEAST SQUARES ADJUSTMENT PROGRAM, STAR*NET-PRO, VERSION 6.0.25. THE NETWORK WAS CONSTRAINED TO THE RECORD NAD '83(98) MONUMENTS/POSITIONS OF NGS HARN STATIONS "AGATE" AND "H388". THE LEAST SQUARES ADJUSTMENT PASSED THE CHI SQUARE TEST AT THE 5% LEVEL WITH THE FOLLOWING STANDARD ERROR SETTINGS: DISTANCES AT +/- (2 MM + 2 PPM), HORIZONTAL ANGLES AT 1 SECOND, VERTICAL ANGLES AT 1 SECOND, AND TARGET CENTERING ERRORS AT 0.005 FEET. THE ERROR ELLIPSE SEMI-MAJOR AXIS LENGTHS AT THE 95% CONFIDENCE REGION FOR THE NETWORK CONTROL MONUMENTS WERE 0.10 FEET OR LESS, RELATIVE TO STATIONS "AGATE" AND "H388".

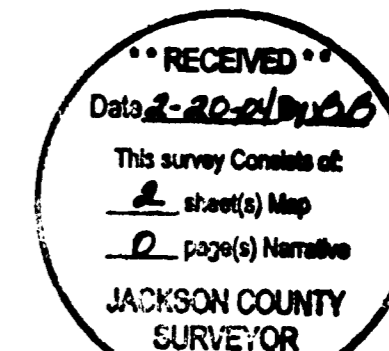
VERTICAL CONTROL
 LEVELS WERE RUN ON MAY 20, 2003 USING A LEICA NA2002 ELECTRONIC LEVEL. THE LINES AND CIRCUITS WERE CONSTRAINED TO BENCH MARK "RM3" OF FEMA/FIRM MAP #410093 0001 B, DATED SEPTEMBER 30, 1980, BY HOLDING THE PUBLISHED NGVD '29 ELEVATION OF 1304.71 FEET. THE DATA WAS ADJUSTED USING THE LEAST SQUARES ADJUSTMENT PROGRAM STAR*LEV, VERSION 1.26. THE ADJUSTMENT PASSED THE CHI SQUARE TEST AT THE 5% LEVEL WITH A STANDARD ERROR SETTING OF 0.005 FEET PER MILE. THE MAXIMUM STANDARD DEVIATION OF ANY POINT WAS LESS THAN 0.003 FEET. ELLIPSOIDAL HEIGHTS WERE DERIVED BY HOLDING THE PUBLISHED NAVD '88 ORTHOMETRIC ELEVATION OF NGS STATION "H388", THE GPS OBSERVATION DATA AND UTILIZING THE NGS PROGRAM "GEOID99" FOR GEOID SEPARATION.

LOCAL DATUM PLANE COORDINATES (LDP)
 LOCAL DATUM PLANE (LDP) COORDINATES ARE STATE PLANE COORDINATES THAT HAVE BEEN SCALED FROM THE STATE PLANE GRID TO THE GROUND SURFACE. FOR THIS SURVEY, THE OREGON COORDINATE SYSTEM (OCS) VALUES WERE SCALED TO A LOCAL DATUM PLANE USING A COMBINED (GRID AND ELEVATION) SCALE FACTOR OF 0.99990600. TO CONVERT FROM LDP COORDINATES TO OREGON STATE PLANE SOUTH COORDINATES, MULTIPLY THE LDP COORDINATES BY 0.99990600.

PROJECT CONTROL POSITIONS AND COORDINATES

STATION	LATITUDE NAD '83(98) (NORTH)	LONGITUDE NAD '83(98) (WEST)	ELLIPSOID HEIGHT IF	OREGON STATE PLANE SOUTH ZONE - INT FT NORTHING EASTING	LOCAL DATUM PLANE (LDP) INTERNATIONAL FEET NORTHING EASTING	NGVD '29 ELEVATION USSF	GEOIDAL SEPARATION IF	CONVERGENCE ANGLE	SCALE FACTOR	COMBINED FACTOR	DESCRIPTION
1	42°28'17.17542"	122°48'06.17349"	1218.21	301831.139 4300344.804	301859.514 4300749.074	1294.22**	-79.45	-1°34'28.96"	0.99996808	0.99990985	ROCC
2	42°28'15.06148"	122°48'04.19558"	1223.39	301613.150 4300487.100	301641.505 4300891.384	1299.40**	-79.45	-1°34'27.61"	0.99996821	0.99990973	ROCC
3	42°28'17.91013"	122°47'59.15057"	1225.88	301891.029 4300872.968	301919.409 4301277.289	1301.89**	-79.44	-1°34'24.16"	0.99996804	0.99990944	PKW
4	42°28'18.99722"	122°48'01.63839"	1228.48	302006.155 4300689.616	302034.546 4301093.919	1304.49**	-79.45	-1°34'25.86"	0.99996798	0.99990926	PKW
5	42°28'19.95744"	122°48'04.27062"	1226.09	302108.741 4300495.095	302137.142 4300899.380	1302.10**	-79.45	-1°34'27.66"	0.99996792	0.99990931	PKW
6	42°28'17.99594"	122°48'06.65552"	1222.32	301915.162 4300310.976	301943.545 4300715.243	1298.33**	-79.45	-1°34'29.29"	0.99996803	0.99990961	PKW
7	42°28'14.79389"	122°48'10.24499"	1217.70	301598.532 4300033.160	301626.885 4300437.401	1293.70**	-79.45	-1°34'31.75"	0.99996822	0.99991002	ROCC
8	42°28'20.30161"	122°48'15.12022"	1224.36	302165.922 4299683.266	302194.328 4300087.474	1300.38**	-79.45	-1°34'35.08"	0.99996790	0.99990938	PKW
9	42°28'13.09835"	122°48'02.17307"	1222.06	301410.331 4300633.159	301438.666 4301037.457	1298.08**	-79.45	-1°34'26.23"	0.99996832	0.99990991	ROCC
10	42°28'15.22971"	122°47'57.47132"	1225.28	301616.334 4300991.321	301644.689 4301395.652	1301.30**	-79.44	-1°34'23.01"	0.99996820	0.99990963	ROCC
11	42°28'12.02409"	122°48'07.61694"	1221.93	301312.834 4300222.336	301341.160 4300626.594	1297.95**	-79.45	-1°34'29.95"	0.99996838	0.99990998	ROCC
12	42°28'23.54575"	122°48'13.34806"	1224.98	302490.552 4299825.058	302518.989 4300229.280	1301.00**	-79.45	-1°34'33.87"	0.99996771	0.99990916	PIR
13	42°28'15.85660"	122°48'04.93543"	1221.99	301695.134 4300433.885	301723.496 4300838.164	1298.01	-79.45	-1°34'28.12"	0.99996816	0.99990975	ROCC
14	42°28'18.81556"	122°48'00.34723"	1224.70	301985.115 4300785.838	302013.504 4301190.150	1300.71	-79.45	-1°34'24.98"	0.99996799	0.99990945	ROCC
15	42°28'13.05182"	122°48'11.99472"	1214.86	301425.853 4299897.227	301454.190 4300301.456	1290.87	-79.45	-1°34'32.95"	0.99996832	0.99991026	ROCC
16	42°28'15.25743"	122°48'08.56287"	1215.24	301641.974 4300160.466	301670.331 4300564.720	1291.25	-79.45	-1°34'30.60"	0.99996819	0.99991011	ROCC
17	42°28'19.53952"	122°48'01.60381"	1215.52	302060.960 4300693.715	302089.356 4301098.018	1291.53	-79.45	-1°34'25.84"	0.99996794	0.99990984	ROCC
18	42°28'18.46653"	122°48'04.15207"	1222.48	301957.627 4300499.830	301986.014 4300904.115	1298.49	-79.45	-1°34'27.58"	0.99996801	0.99990957	ROCC
AGATE	42°24'48.62602**	122°45'43.34775**	1445.11	280435.510 4310474.502	-	-	-79.22	-1°32'51.25"	0.99996077	0.99991170	BRASS CAP
H388	42°22'12.31688**	122°52'37.40310**	1235.69	265478.617 4278977.683	-	-	-79.44	-1°37'34.52"	0.99990995	0.99993188	BRASS CAP
RM3	BENCH MARK (FEMA/FIRM MAP #410093 0001 B; SEPT. 30, 1980)	-	-	-	-	1304.71*	-	-	-	-	BRASS CAP

* DENOTES DATA HELD
 ** DENOTES DIFFERENTIALLY LEVELED ELEVATIONS



JAC JUNE 16, 2003
 Calculations
 JVO DEC. 17, 2003
 Drawn
 JAC FEB. 9, 2004
 Checked

REGISTERED PROFESSIONAL LAND SURVEYOR
 Tom G.L.

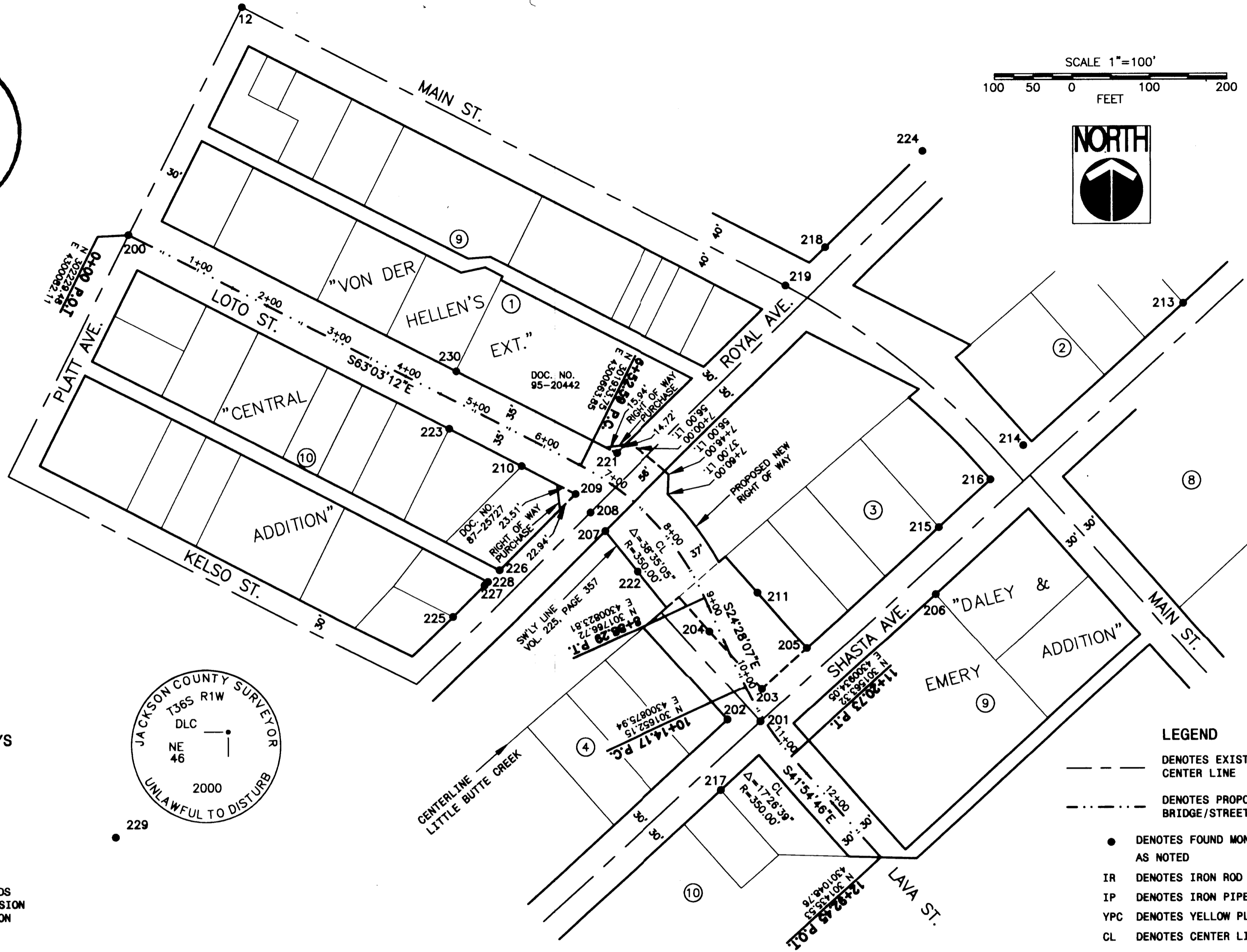
OREGON JULY 15, 1983
 JOHN A. CARLSON 2044
 RENEWS 12/31/05

LOTO ST. BRIDGE (LITTLE BUTTE CREEK)
 PROJECT CONTROL AND PRECONSTRUCTION RECORD OF SURVEY
 IN THE NORTHEAST ONE-QUARTER OF SECTION 3, TOWNSHIP 36 SOUTH,
 RANGE 1 WEST, W.M., CITY OF EAGLE POINT, JACKSON COUNTY, OREGON
 FOR: THE CITY OF EAGLE POINT (OTIA PROJECT)

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Project No. S11149R161
 File No.
1 OF 2
 Sheet No.

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 This survey consists of
 2 sheet(s) Map
 0 page(s) Narrative
 JACKSON COUNTY
 SURVEYOR

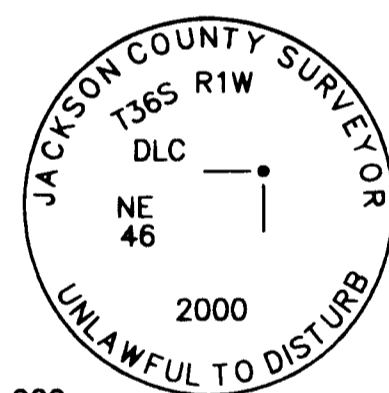


SCALE 1"=100'
 100 50 0 100 200
 FEET



REFERENCE SURVEYS
 AND PLATS

881	9814
2327	10753
2402	12388
4995	16426
5107	16455
8287	



JACKSON COUNTY CORNER
 RE-ESTABLISHMENT RECORDS
 VON DER HELLEN'S EXTENSION
 DALEY AND EMERY ADDITION
 CENTRAL ADDITION
 PLAT OF EAGLE POINT

RECOVERED MONUMENTS

PT. NO.	LOCAL DATUM PLANE (LDP) INTERNATIONAL FEET NORTHING EASTING	DATE TIED	DESCRIPTION
12	302518.99 4300229.28	5/21/2003	FOUND PUNCHED 5/8" I.R. -FLUSH
200	302229.48 4300082.11	5/23/2003	FOUND 5/8" I.R. -DOWN 0.10'
201	301607.33 4300894.55	5/23/2003	FOUND 3/4" I.R. -DOWN 0.50'
202	301609.60 4300852.19	5/23/2003	FOUND 5/8" I.R. W/YPC "KAISER RLS 803"-UP 0.10'
203	301649.67 4300896.88	5/23/2003	FOUND SPIKE SET INSIDE A 1" I.P. -DOWN 0.20'
204	301724.06 4300830.02	5/23/2003	FOUND 5/8" I.R. W/YPC "KAISER RLS 803"-FLUSH
205	301702.49 4300955.57	5/23/2003	FOUND 1/2" I.P. -DOWN 0.40'
206	301770.73 4301121.48	5/23/2003	FOUND 5/8" I.R. W/YPC (CAP DAMAGED/UNREADABLE) -DOWN 0.55'
207	301851.28 4300695.49	5/23/2003	FOUND 5/8" I.R. W/YPC "KAISER RLS 803"-FLUSH
208	301874.57 4300676.43	5/23/2003	FOUND 1-1/2" ALUMINUM CAP "KAISER RLS 803"-FLUSH
209	301897.75 4300657.33	5/23/2003	FOUND 5/8" I.R. W/YPC (CAP DAMAGED/UNREADABLE) -FLUSH
210	301933.20 4300587.63	5/23/2003	FOUND 5/8" I.R. W/YPC "KAISER RLS 803"-FLUSH
211	301773.24 4300892.08	5/23/2003	FOUND 1/2" I.P. -DOWN 0.50'
212	302222.89 4301622.72	5/29/2003	FOUND 5/8" I.R. (SMOOTH) -DOWN 0.10'
213	302139.43 4301442.41	5/29/2003	FOUND 5/8" I.R. W/YPC "KAISER RLS 803"-FLUSH
214	301958.36 4301235.19	5/29/2003	FOUND 5/8" I.R. (SMOOTH) -FLUSH

RECOVERED MONUMENTS

PT. NO.	LOCAL DATUM PLANE (LDP) INTERNATIONAL FEET NORTHING EASTING	DATE TIED	DESCRIPTION
215	301855.28 4301126.12	5/29/2003	FOUND 5/8" I.R. (SMOOTH) BENT SE, TIED SPINHOLE-FLUSH
216	301915.32 4301192.65	5/29/2003	FOUND 5/8" I.R. W/YPC "D. MCMAHAN LS1913" BENT S, TIED SPINHOLE-UP 0.10'
217	301520.80 4300843.12	5/29/2003	FOUND 5/8" I.R. -DOWN 0.50'
218	302211.44 4300981.10	5/29/2003	FOUND 3-1/2" BRASS CAP W/ SCRIBED "X" UNDER NW EDGE OF WALK-DOWN 0.60'
219	302162.95 4300930.18	5/29/2003	FOUND 5/8" I.R. (SMOOTH) -FLUSH
221	301949.24 4300710.98	5/29/2003	FOUND 5/8" I.R. BADLY BENT TO S., TIED SPINHOLE-DOWN 0.60'
222	301800.01 4300737.29	5/29/2003	FOUND 5/8" I.R. W/YPC "KAISER RLS 803"-FLUSH
223	301980.79 4300494.17	5/29/2003	FOUND 5/8" I.R. W/YPC "KAISER RLS 803"-DOWN 1.0'
224	302334.51 4301106.80	5/29/2003	FOUND 5/8" I.R. -DOWN 0.20'
225	301743.58 4300497.89	5/29/2003	FOUND 5/8" I.R. W/YPC "KAISER RLS 803"-FLUSH
226	301802.32 4300558.63	5/29/2003	FOUND 5/8" I.R. W/YPC (CAP UNREADABLE) -FLUSH
227	301787.60 4300543.42	5/29/2003	FOUND 5/8" I.R. W/YPC "KAISER RLS 803"-DOWN 0.20'
228	301787.86 4300543.59	5/29/2003	FOUND 2" I.P. -DOWN 0.20'
229	301463.58 4300061.77	5/29/2003	FOUND 2-1/2" BRASS CAP IN CONCRETE-FLUSH IN ASPHALT (SEE SKETCH)
230	302054.43 4300503.66	5/29/2003	FOUND 5/8" I.R. -DOWN 0.20'

LEGEND

- DENOTES EXISTING STREET CENTER LINE
- - - - DENOTES PROPOSED NEW BRIDGE/STREET CENTER LINE
- DENOTES FOUND MONUMENT AS NOTED
- IR DENOTES IRON ROD
- IP DENOTES IRON PIPE
- YPC DENOTES YELLOW PLASTIC CAP
- CL DENOTES CENTER LINE

JAC JUNE 16, 2003
 Calculations
 JVO NOV. 26, 2003
 Drawn
 JAC FEB. 9, 2004
 Checked

REGISTERED
 PROFESSIONAL
 LAND SURVEYOR

John G.L.
 OREGON
 JULY 15, 1983
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