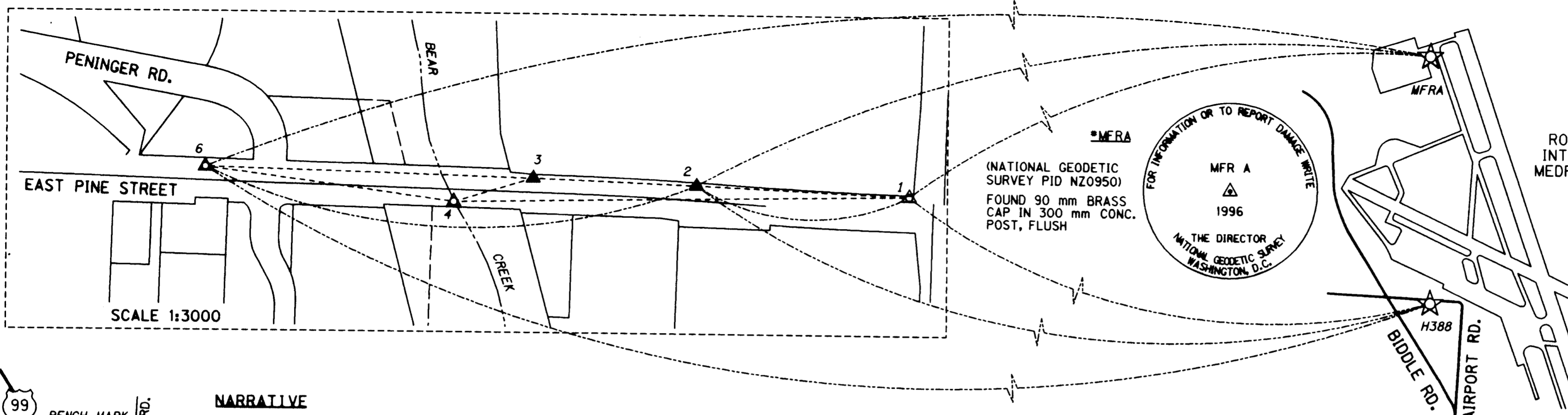


PROJECT SITE LOCATED IN THE S.E. 1/4 SEC. 2, T37S, R2W OF THE W.M.

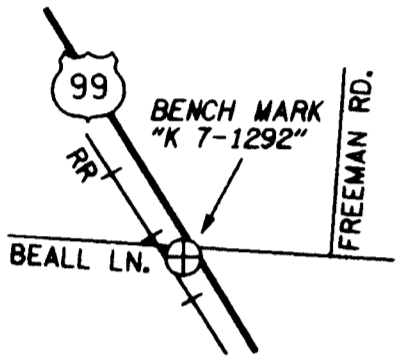


RECEIVED
 Date 5-8-03 By AG
 This survey consists of
 3 sheets
 2 pages
 J.A.C.
 JACOBSON COUNTY
 SURVEYOR

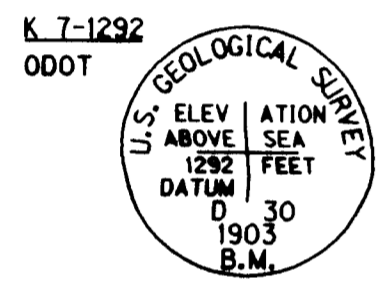
REGISTERED
 PROFESSIONAL
 LAND SURVEYOR
 J.A.C.
 OREGON
 JULY 18, 1988
 JOHN A. CARLSON
 2044
 RENEWS 12-31-2003

H388
 (NATIONAL GEODETIC
 SURVEY PID AD9170)
 FOUND 68 mm BRASS
 CAP ON SE COR,
 CONCRETE HEADWALL

BENCH MARK
 No. H388
 ELEVATION
 ABOVE MEAN
 SEA LEVEL
 450 FEET
 JACOBSON COUNTY



NOTE: SEE VICINITY MAP FOR BENCH MARK LOCATION



FOUND 89 mm BRASS DISK ON IRON PIPE IN CONCRETE AT SW CORNER OF HIGHWAY 99 AND BEALL LANE.

NARRATIVE

PURPOSE OF SURVEY
 THE PURPOSE OF THIS SURVEY WAS TO ESTABLISH PROJECT CONTROL FOR A BRIDGE REPLACEMENT PROJECT ALONG EAST PINE STREET IN CENTRAL 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)(b).

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

TERRESTRIAL OBSERVATIONS
 TERRESTRIAL OBSERVATIONS WERE MADE ON SEPTEMBER 10, 2002 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
 GPS OBSERVATIONS WERE MADE ON SEPTEMBER 11, 2002 USING LEICA SR399 DUAL FREQUENCY RECEIVERS. THE OBSERVATIONS WERE PROCESSED USING LEICA SKI VERSION 2.3. TRIVIAL BASELINES WERE NOT INCLUDED. THE RELATIVE ERROR OF CLOSURE OF PROCESSED VECTOR LOOPS EXCEEDED 1:99000 PRECISION.

HORIZONTAL NETWORK ADJUSTMENT
 THE GPS OBSERVATIONS AND TERRESTRIAL OBSERVATIONS WERE ADJUSTED SIMULTANEOUSLY USING THE LEAST SQUARES ADJUSTMENT PROGRAM, STAR*NET. THE NETWORK WAS CONSTRAINED TO THE RECORD NAD '83(98) MONUMENTS/POSITIONS OF NGS HARN STATIONS "MFRA" 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 3 SECONDS, VERTICAL ANGLES AT 4 SECONDS, AND TARGET CENTERING ERRORS AT 2 MILLIMETERS. THE ERROR ELLIPSE SEMI-MAJOR AXIS LENGTHS AT THE 95% CONFIDENCE REGION FOR THE NETWORK CONTROL MONUMENTS WERE 18 MILLIMETERS OR LESS, RELATIVE TO STATIONS "MFRA" AND "H388".

VERTICAL CONTROL
 LEVELS WERE RUN USING A LEICA NA2002 ELECTRONIC LEVEL. THE LINES AND CIRCUITS WERE CONSTRAINED TO ODOT BENCH MARK "K 7-1292" BY HOLDING THE PUBLISHED NGVD '29 ELEVATION OF 1293.793 FEET CONVERTED TO 394.349 METERS. THE DATA WAS ADJUSTED USING THE LEAST SQUARES ADJUSTMENT PROGRAM STAR*LEV. THE ADJUSTMENT PASSED THE CHI SQUARE TEST AT THE 5% LEVEL WITH A STANDARD ERROR SETTING OF 2 MILLIMETERS PER KILOMETER. THE MAXIMUM STANDARD DEVIATION OF ANY POINT WAS LESS THAN 2 MILLIMETERS. 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. THE SCALE FACTOR IS BASED ON A PROJECT'S AVERAGE LATITUDE AND ELEVATION. FOR THIS SURVEY, THE OREGON SOUTH COORDINATE SYSTEM (OCS) VALUES WERE SCALED TO A LOCAL DATUM PLANE USING THE COMBINED (GRID AND ELEVATION) SCALE FACTOR AT CONTROL POINT #3. TO CONVERT FROM LDP COORDINATES TO OREGON STATE PLANE SOUTH ZONE COORDINATES, MULTIPLY THE LDP COORDINATES BY 0.999932126.

POSITIONS AND COORDINATES

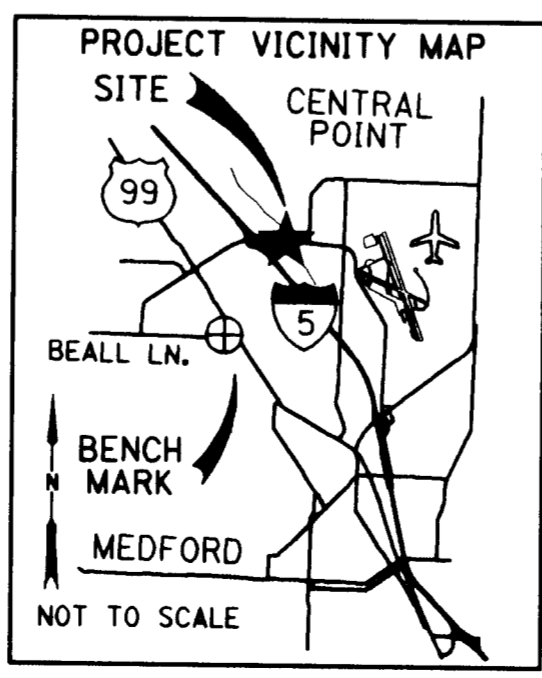
STATION NAME	LAT. '83(98) NORTHING	LONG. '83(98) EASTING	ELLIPSE HEIGHT (m)	OCS NORTHING (m)	OCS EASTING (m)	LDP NORTHING (m)	LDP EASTING (m)	NGVD '29 ORTHO. EL. (m)	GEOIDAL SEPARATION (m)	CONVERGENCE ANGLE	SCALE FACTOR	COMBINED FACTOR
1	42°22'43".69940	122°53'35".54017	363.43	81923.686	1302930.425	81929.247	1303018.872	386.635	-24.23	-1°38'14".3	0.99998886	0.99993186
2	42°22'43".77543	122°53'43".58742	361.79	81931.293	1302746.472	81936.855	1302834.906	384.987	-24.23	-1°38'19".8	0.99998885	0.99993212
3	42°22'43".81585	122°53'49".74937	361.74	81936.573	1302605.599	81942.135	1302694.024	384.947	-24.23	-1°38'24".0	0.99998885	0.99993212
4	42°22'43".08802	122°53'52".71890	361.70	81916.069	1302537.050	81921.630	1302625.471	384.902	-24.23	-1°38'26".1	0.99998890	0.99993218
6	42°22'43".80567	122°54'02".12801	361.13	81944.369	1302322.522	81949.932	1302410.928	384.329	-24.23	-1°38'32".5	0.99998885	0.99993222
H388	42°22'12".31688	122°52'37".40310	376.64	80917.882	1304232.398	80923.375	1304320.933	-	-24.21	-1°37'34".5	0.99999095	0.99993188
MFRA	42°22'46".88543	122°52'43".47872	371.57	81988.025	1304123.735	81993.591	1304212.263	-	-24.23	-1°37'38".7	0.99998865	0.99993038
K 7-1292 (BENCH MARK)	-	-	-	-	-	-	-	394.349	-	-	-	-

TERRESTRIAL DATA

FROM/TO	BEARING	LDP (m)
1 - 2	N87°37'55"W	184.123
1 - 4	S88°53'27"W	393.475
2 - 3	N87°51'13"W	140.981
3 - 4	S73°20'51"W	71.554
3 - 6	N88°25'21"W	283.204
4 - 6	N82°29'06"W	216.402

TABLE OF CONTENTS

SHEET 1	NARRATIVE CONTROL NETWORK AND COORDINATES
SHEET 2	MONUMENTS AND COORDINATES
SHEET 3	MONUMENTS AND COORDINATES



LEGEND

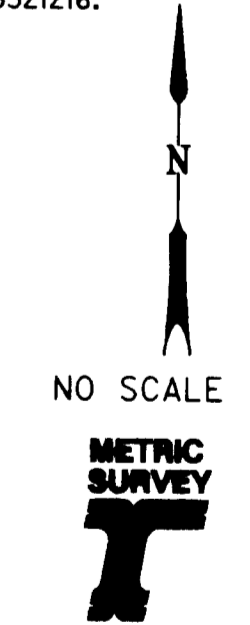
- ☆ FOUND G.P.S. STATION
- △ SET PK NAIL WITH 38 mm "OTAK CONTROL" BRASS WASHER
- ▲ SET 16 mm X 760 mm REBAR WITH "OTAK CONTROL" RED PLASTIC CAP
- GPS OBSERVATION
- TERRESTRIAL OBSERVATION
- OCS OREGON COORDINATE SYSTEM, SOUTH ZONE (1983(98) ADJUSTMENT)
- LDP LOCAL DATUM PLANE

TO CONVERT METERS (m) TO FEET DIVIDE BY 0.3048

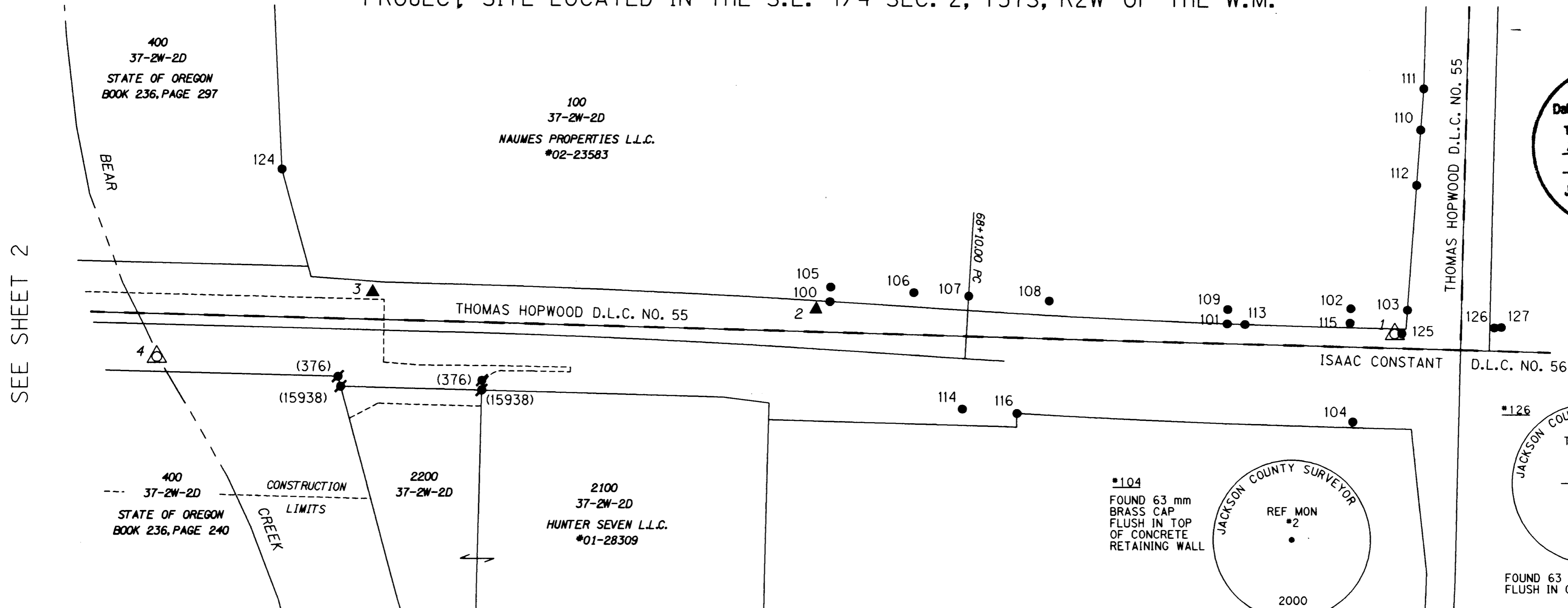
MONUMENT RECOVERY SURVEY FOR
 OREGON DEPT. OF TRANSPORTATION
 REGION 3
 PROJECT SITE LOCATED IN THE S.E. 1/4 SEC. 2,
 T37S, R2W OF THE W.M.
 BEAR CREEK (PINE STREET) BRIDGE
 JACKSON COUNTY
 KEY NO. 12283

otak 17355 SW BOONES FERRY RD.
 LAKE OSWEGO, OREGON 97035
 PHONE: (503) 635-3618
 FAX: (503) 635-5395
 www.otak.com

PROJECT NO. 11313-001-300
 FEBRUARY 25, 2003
 SHEET 1 OF 3



PROJECT SITE LOCATED IN THE S.E. 1/4 SEC. 2, T37S, R2W OF THE W.M.



RECEIVED
 Date 5-8-03 By BB
 This survey consists of
3 sheet(s) Map
0 page(s) Narrative
JACKSON COUNTY SURVEYOR

JACKSON COUNTY SURVEYOR
 T37S R2W
 SE55
 DLC
 REF MON
 NO. 1
 2000
 FOUND 63 mm BRASS CAP
 FLUSH IN CONCRETE SIDEWALK

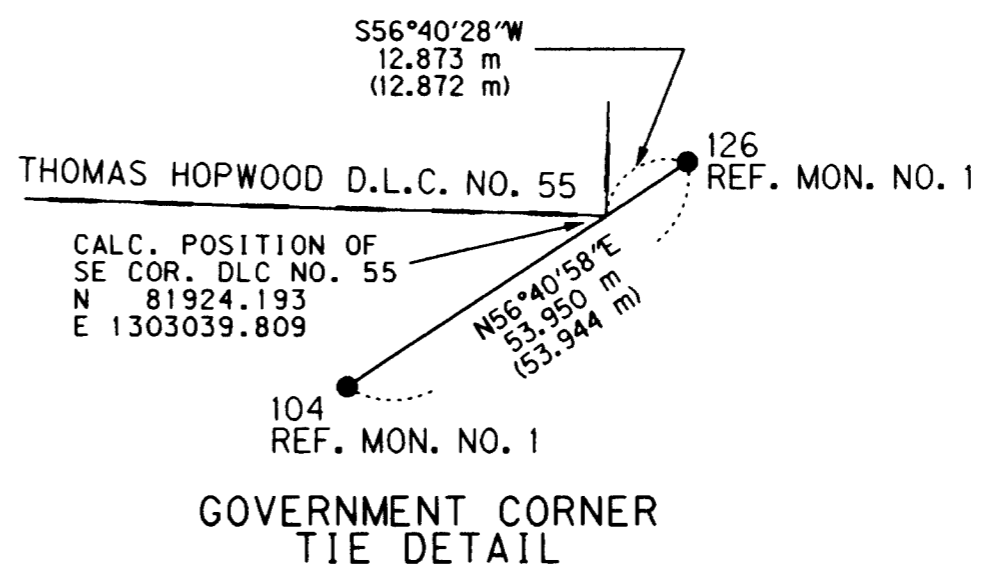
JACKSON COUNTY SURVEYOR
 REF MON
 #2
 2000

*104
 FOUND 63 mm
 BRASS CAP
 FLUSH IN TOP
 OF CONCRETE
 RETAINING WALL

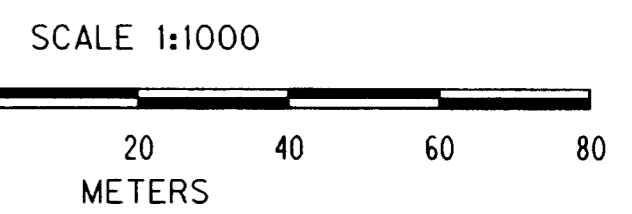
SEE SHEET 2

RECORD MONUMENT AND POSITION DATA

POINT	LDP NORTHING (m)	LDP EASTING (m)	SURVEY REFERENCE	DESCRIPTION
100	81939.311	1302839.490	16038	16 mm IRON ROD W/YELLOW PLASTIC CAP "RANDY L. FITCH LS 2867", FLUSH
101	81932.518	1302965.580	ORIGIN UNKNOWN	16 mm IRON ROD W/YELLOW PLASTIC CAP "D. MCMAHAN LS 1913", DOWN 80 mm
102	81937.331	1303004.837	ORIGIN UNKNOWN	16 mm IRON ROD W/YELLOW PLASTIC CAP "D. MCMAHAN LS 1913", FLUSH
103	81936.849	1303022.924	ORIGIN UNKNOWN	16 mm IRON ROD W/YELLOW PLASTIC CAP "D. MCMAHAN LS 1913", FLUSH
104	81901.632	1303005.482	NOTE 1	63 mm BRASS CAP FLUSH IN TOP OF RETAINING WALL (SEE SKETCH)
105	81943.902	1302839.766	ORIGIN UNKNOWN	16 mm IRON ROD W/YELLOW PLASTIC CAP "D. MCMAHAN LS 1913", FLUSH
106	81942.272	1302866.157	ORIGIN UNKNOWN	16 mm IRON ROD W/YELLOW PLASTIC CAP "D. MCMAHAN LS 1913", FLUSH
107	81941.200	1302883.578	ORIGIN UNKNOWN	16 mm IRON ROD, FLUSH
108	81939.734	1302909.132	ORIGIN UNKNOWN	16 mm IRON ROD W/YELLOW PLASTIC CAP "D. MCMAHAN LS 1913", FLUSH
109	81937.085	1302965.757	ORIGIN UNKNOWN	16 mm IRON ROD W/YELLOW PLASTIC CAP "D. MCMAHAN LS 1913", FLUSH
110	81993.788	1303027.129	ORIGIN UNKNOWN	16 mm IRON ROD W/YELLOW PLASTIC CAP "D. MCMAHAN LS 1913", UP 30 mm
111	82006.849	1303028.089	16038,16996	16 mm IRON ROD, BENT, UP 100 mm, TIED SPIN HOLE
112	81976.366	1303025.845	16038,16996	16 mm IRON ROD W/YELLOW PLASTIC CAP "RANDY L. FITCH LS 2867", FLUSH
113	81932.303	1302971.204	16038	16 mm IRON ROD W/YELLOW PLASTIC CAP "RANDY L. FITCH LS 2867", DOWN 400 mm
114	81905.565	1302881.522	ORIGIN UNKNOWN	16 mm IRON ROD, DOWN 60 mm
115	81932.749	1303004.605	16038,16996	16 mm IRON ROD W/YELLOW PLASTIC CAP "RANDY L. FITCH LS 2867", DOWN 430 mm
116	81904.230	1302898.875	ORIGIN UNKNOWN	16 mm IRON ROD W/YELLOW PLASTIC CAP "D. MCMAHAN LS 1913", FLUSH
124	81980.881	1302665.329	ORIGIN UNKNOWN	16 mm IRON ROD W/DAMAGED YELLOW PLASTIC CAP (UNREADABLE), DOWN 100 mm
125	81929.370	1303021.156	NOTE 1	.38 CALIBER BRASS SHELL IN SIDEWALK
126	81931.266	1303050.565	NOTE 1	63 mm BRASS CAP IN CONCRETE SIDEWALK, FLUSH (SEE SKETCH)
127	81931.393	1303052.817	NOTE 1	CHISILED "X" IN NW BOLT OF SIGNAL POLE BASE



REGISTERED
 PROFESSIONAL
 LAND SURVEYOR
JOL A. CL
 OREGON
 JULY 16, 1983
 JOHN A. CARLSON
 2044
 RENEWS 12-31-2003



GENERAL NOTES

ALL MONUMENTS FOUND IN "GOOD CONDITION" UNLESS OTHERWISE NOTED
 ALL MONUMENTS LOCATED BETWEEN SEPTEMBER 17 AND SEPTEMBER 19, 2002

REFERENCE NOTES

1 JACKSON COUNTY SURVEYOR RE-ESTABLISHMENT NOTES DATED MAY 8, 2000 (PAGE 53)

LEGEND

	SET CONTROL POINT AS NOTED ON SHEET 1
	SET CONTROL POINT AS NOTED ON SHEET 1
	FOUND MONUMENT AS NOTED
	MONUMENT SEARCHED FOR - NOT FOUND PER SURVEY (***)
	DONATION LAND CLAIM LINE
LDP	LOCAL DATUM PLANE



REGION 3 TO CONVERT METERS TO FEET DIVIDE BY 0.3048

MONUMENT RECOVERY SURVEY FOR
 OREGON DEPT. OF TRANSPORTATION
 REGION 3

PROJECT SITE LOCATED IN THE S.E. 1/4 SEC. 2,
 T37S, R2W OF THE W.M.

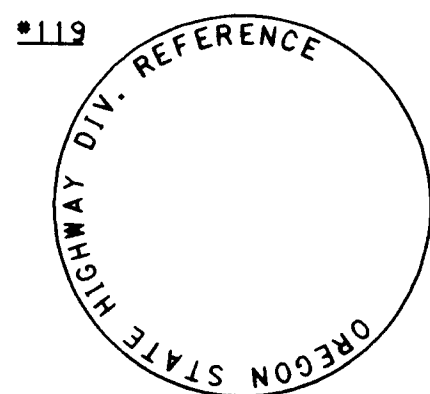
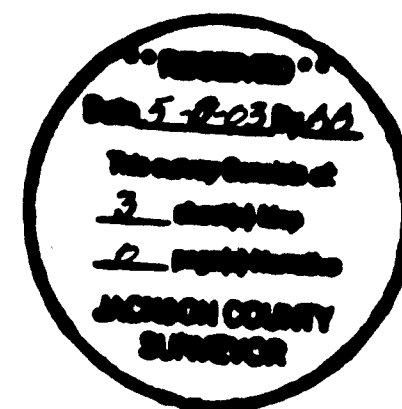
BEAR CREEK (PINE STREET) BRIDGE
 JACKSON COUNTY
 KEY NO. 12283



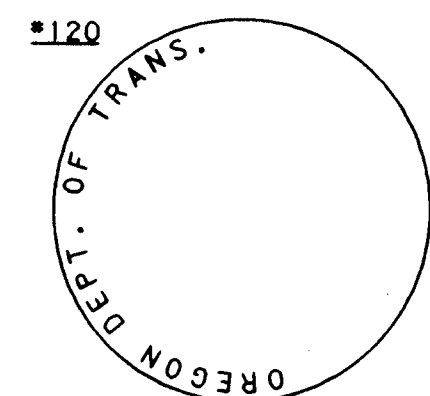
17355 SW BOONES FERRY RD.
 LAKE OSWEGO, OREGON 97035
 PHONE: (503) 635-3618
 FAX: (503) 635-5395
 www.otak.com

PROJECT NO. 11313-001-300
 FEBRUARY 25, 2003
 SHEET 3 OF 3

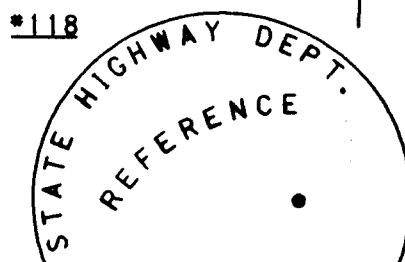
PROJECT SITE LOCATED IN THE S.E. 1/4 SEC. 2, T37S, R2W OF THE W.M.



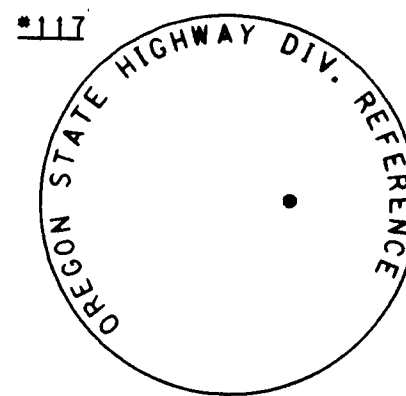
FOUND 63 mm BRASS CAP IN CONCRETE (NO PUNCH MARK - TIED CENTER OF CAP)



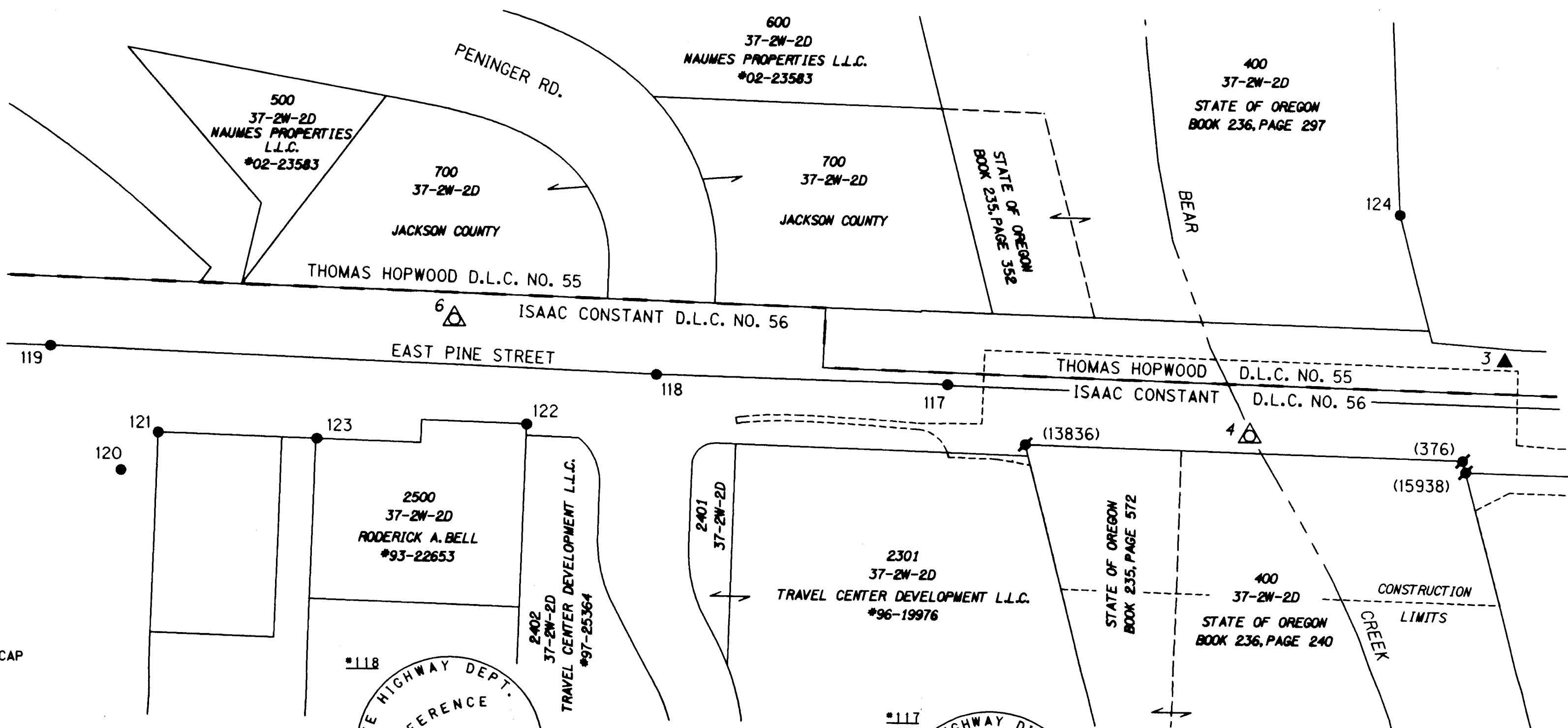
FOUND 38 mm ALUMINUM CAP (NO PUNCH MARK - TIED CENTER OF CAP)



FOUND 76 mm BRASS CAP IN CONCRETE



FOUND 76 mm BRASS CAP IN CONCRETE



SEE SHEET 3

RECORD MONUMENT AND POSITION DATA

POINT	LDP NORTHING (m)	LDP EASTING (m)	SURVEY REFERENCE	DESCRIPTION
117	81934.344	1302544.111	13985	75 mm BRASS CAP IN CONCRETE, FLUSH WITH ASPHALT (SEE SKETCH)
118	81935.947	1302465.498	13985	75 mm BRASS CAP IN CONCRETE, FLUSH WITH ASPHALT (SEE SKETCH)
119	81941.677	1302302.308	13985	75 mm BRASS CAP IN CONCRETE (NO PUNCH MARK), FLUSH WITH ASPHALT (SEE SKETCH)
120	81908.610	1302321.559	13985	16 mm IRON ROD W/38 mm ALUMINUM CAP (NO PUNCH MARK), DOWN 230 mm (SEE SKETCH)
121	81918.897	1302331.464	14044	BRASS NAIL AND 13 mm BRASS WASHER (UNREADABLE) IN CONCRETE WALL
122	81922.244	1302430.645	14044, 13559	16 mm IRON ROD W/YELLOW PLASTIC CAP "FARBER PLS 2189", DOWN 260 mm
123	81917.709	1302374.187	14044	16 mm IRON ROD W/YELLOW PLASTIC CAP "L.J. FRIAR & ASSOC.", FLUSH
124	81980.881	1302665.329	ORIGIN UNKNOWN	16 mm IRON ROD W/DAMAGED YELLOW PLASTIC CAP (UNREADABLE), DOWN 100 mm

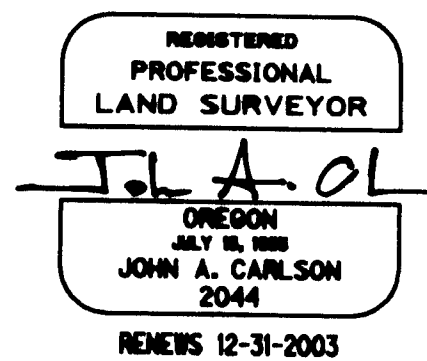
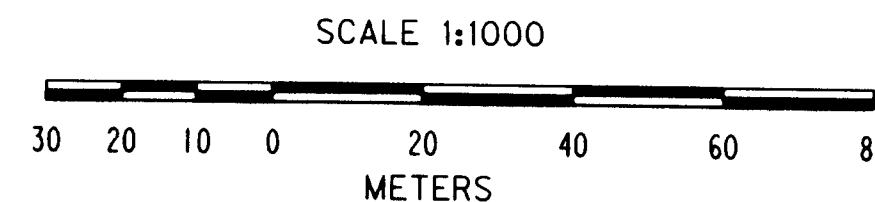
GENERAL NOTES

ALL MONUMENTS FOUND IN "GOOD CONDITION" UNLESS OTHERWISE NOTED
 ALL MONUMENTS LOCATED BETWEEN SEPTEMBER 17 AND SEPTEMBER 19, 2002

LEGEND	
	SET CONTROL POINT AS NOTED ON SHEET 1
	SET CONTROL POINT AS NOTED ON SHEET 1
	FOUND MONUMENT AS NOTED
	MONUMENT SEARCHED FOR - NOT FOUND PER SURVEY (***)
	DONATION LAND CLAIM LINE
LDP	LOCAL DATUM PLANE



REGION 3 TO CONVERT METERS TO FEET DIVIDE BY 0.3048



MONUMENT RECOVERY SURVEY FOR OREGON DEPT. OF TRANSPORTATION REGION 3

PROJECT SITE LOCATED IN THE S.E. 1/4 SEC. 2, T37S, R2W OF THE W.M.

BEAR CREEK (PINE STREET) BRIDGE
 JACKSON COUNTY
 KEY NO. 12283



17355 SW BOONES FERRY RD.
 LAKE OSWEGO, OREGON 97035
 PHONE: (503) 635-3618
 FAX: (503) 635-5395
 www.otak.com

PROJECT NO. 11313-001-300
 FEBRUARY 25, 2003
 SHEET 2 OF 3