

LANBERT COORDINATES

DESCRIPTION	NORTH	EAST
GBL	382847.421	139830.278
Control Station WEC-8	386023.730	1398344.390
Control Station WEC-9	386937.510	1397466.930
Control Station WEC-11	387560.120	1396705.190
Control Station WEC-10	387448.580	1397083.900
Sec cor 8, 9, 16, 17	387691.763	1404337.979
Sec cor 7, 8, 17, 18	387672.796	1399149.804
Sec cor 7/18 only	387302.154	1393898.969
Sec cor 15, 18, 19, 24	382388.667	1393388.675
Sec cor 17, 18, 19, 20	382360.020	1395058.615
1/4 cor Sec 7/8	390320.765	1395816.949
1/4 Sec 7/18	387490.874	1396572.541
1/4 cor Sec 18/19	382372.450	1396387.214
1/4 cor Sec 18/17	385016.724	1399104.207
West 1/4 cor Sec 18	384732.652	1393782.403
C 1/4 Sec cor	384876.534	1396477.881
E 1/16 Sec 7/18	387581.835	1397861.173
N 1/16 Sec 18/17	386344.770	1399127.005
S 1/16 Sec 18/17	383688.372	1399081.411
E 1/16 Sec 18/19	382356.446	1397722.944
CS 1/16	383624.492	1396432.547
SE 1/16	383656.432	139756.991
CN 1/16	386183.704	1396525.211
CE 1/16	384946.629	1397791.044
NE 1/16	386254.230	1397826.108
W-E 1/64 Sec 7/18	387536.355	139739.867
S-N 1/64 Sec 18/17	383680.747	139915.606
S-S 1/64 Sec 18/17	383024.196	1399070.013
C-E-NE 1/64	386304.504	1398476.561
C-N-NE 1/64	386923.036	1397843.640
C-W-NE 1/64	386223.971	1397175.660
C-S-NE 1/64	385605.433	1397808.576
SE-SE 1/64	387011.439	139739.867
C-N-N 1/64	386837.289	1396548.876
E-W-E 1/256	387559.095	1397539.015
N-S-S 1/256	383356.264	1399075.712
C-E-E-NE 1/256	386324.637	1398801.787
C-N-N-NE 1/256	387252.436	1397852.407
C-N-S-SE 1/256	383333.976	1397748.480

PROJECT BOUNDARY

W-E 1/64 Sec 18/19	S 89 44 32.9 E	209.769	382369.448	1397055.079
18/19-01-R	S 89 44 32.9 E	115.177	382368.505	1397264.846
18/19-02-R	S 89 44 32.9 E	226.961	382367.968	1397380.022
18/19-03-R	S 89 44 32.9 E	115.965	382366.967	1397606.980
E 1/16 Sec 18/19	N 1 30 42.8 E	421.688	382366.446	1397722.944
18-01-R	N 1 30 42.8 E	188.671	382787.987	1397734.070
18-02-R	N 1 30 42.8 E	94.224	382876.793	1397739.053
18-03-R	N 1 30 42.8 E	73.529	383070.984	1397741.539
18-04-R	N 1 30 42.8 E	189.514	383144.487	1397743.479
C-N-S-SE 1/256	N 89 02 07.2 E	54.044	383333.936	1397748.480
18-05-R	N 89 02 07.2 E	146.429	383334.846	1397802.516
18-06-R	N 89 02 07.2 E	313.659	383337.311	1397948.924
18-07-R	N 89 02 07.2 E	134.508	383342.591	1398262.538
18-08-R	N 89 02 07.2 E	64.770	383344.856	1398397.028
18-09-R	N 89 02 07.2 E	117.089	383345.946	1398461.788
18-10-R	N 89 02 07.2 E	137.614	383347.918	1398578.860
18-11-R	N 89 02 07.2 E	116.261	383350.235	1398716.454
18-12-R	N 89 02 07.2 E	93.052	383352.192	1398832.689
18-13-R	N 89 02 07.2 E	149.996	383353.759	1398925.737
N-S-S 1/256	N 00 58 59.4 E	143.393	383356.264	1399075.712
18/17-01-R	N 00 58 59.4 E	188.744	383499.655	1399078.172
S 1/16 Sec 18/17			383688.372	1399081.411

- Refer to sheet 2 for additional project boundary coordinates and measurements, and sheet 3 for horizontal control details -

**U.S. ARMY ENGINEER DISTRICT, PORTLAND**

**ROGUE RIVER BASIN  
ELK CREEK LAKE  
PROJECT BOUNDARY MONUMENTATION**

SECTION 18, TOWNSHIP 33 SOUTH, RANGE 1 EAST, W.M.  
JACKSON COUNTY, OREGON

SUPERVISED: *RRR*      DRAWN: H-P CAM      Ref: Real Estate Segment Map 2

DATE: JULY, 1988      SHEET: 1 of 3      PREPARED BY: HOFFBUHR & ASSOCIATES, INC. MEDFORD, OREGON



**SURVEY NARRATIVE TO COMPLY WITH PARAGRAPH 209.250  
OREGON REVISED STATUTES**

**LOCATION:** Section 18, Township 33 South, Range 1 East of the Willamette Meridian, Jackson County, Oregon.

**PURPOSE:** To monument the boundary corners and post line markers along that portion of the Elk Creek Project Boundary being in Section 18, as shown on Segment 2 of the Corps of Engineers Elk Creek Lake Real Estate drawings. The survey was performed during May 1987 through January 1988.

**PROCEDURE:** Establishing Lambert State Plane Coordinate control:

Second order control monument Station WEC-8 and Station WEC-9, established by the Corps of Engineers in 1965, were used as a basis of Lambert State Plane Coordinates (South Zone). The 1972 adjusted coordinates were used. The line between these two monuments was used as a basis of bearing. The USCE record bearing from WEC-8 to WEC-9 = North 43°50'18.3" East.

All bearings and distances shown are on State Plane Coordinate grid. Coordinates and distances are shown to .xxx feet and bearings to .x seconds for mathematical consistency only and are not intended to imply accuracy of survey.

An average latitude and elevation were used to compute a single grid factor for each individual survey traverse. The grid factor at the Station WEC-8 is:

Scale factor (latitude N 42°43'06") = 0.9999253  
Elevation factor (1700') = 0.9999187  
Combined (grid) factor = 0.9998440

All horizontal control established by this survey meets requirements of 3rd Order, Class 1, National Oceanic and Atmospheric Administration specifications for geodetic control.

Establishing section subdivision control:

The project boundary within Section 18 is dependent upon the subdivisional lines of the section. A series of traverses were run, using an electronic "total station" 1 second theodolite and distance meter, to locate the controlling section monuments and establish coordinates.

Only the southwest and northwest section corners and west quarter-section corner of Section 18 have been perpetuated from original evidence.

The northeast corner of Section 18 was monumented at a double proportionate position by the BLM in 1965, using the northwest and southeast corners of the section, the section corner to the east common to Sections 8, 9, 17, and 18, and the quarter-section corner to the north common to Sections 7 and 8. The latter corner has been perpetuated from original evidence. The northeast corner of Section 17 was monumented by the BLM in 1965, using a 3-way fence intersection, 50 year old unrecorded bearing trees, and the fact that the location had been used for many years as the corner.

The southeast corner of the Section 18, which had been perpetuated by the BLM from original evidence, falls in an area which has been cleared for quarry operations in conjunction with the dam construction. No evidence of the monument or corner accessories remains. The coordinate location was determined by references taken by Hoffbuhr & Associates, Inc., shortly before the corner was obliterated.

The north, south, and east quarter-section corners of Section 18 were monumented by the BLM at single proportionate position. The monument at the east quarter-section corner was evidently replaced by the US Corps of Engineers in 1973.

The positions of these monuments in relation to the controlling corners used for the proportioning were checked for accuracy. Also, a ground search was made for evidence of the original survey. No additional evidence was found.

As shown on the map on sheet 1, the monuments found at the north and center quarter-section corners, the two sixteenth-section corners on the east boundary of the section, the east sixteenth-section corner on the north boundary of the section, and the center-south sixteenth-section corner were not used for this survey. They were considered to be outside of the allowable "limits of closure" as outlined in the 1947 and 1973 editions of the Manual of Surveying Instructions. Using a ratio of 1/1280 for latitude and departure independently. No monuments were set at the computed positions except for the north quarter-section corner and the south sixteenth-section corner between Sections 17 and 18, since they are both angle points on the project boundary.

Using the section control determined as described above, Section 18 was subdivided and monumented as shown on the plat on sheet 1. The intermediate project boundary monuments were positioned for intervisibility.

**SECTION CONTROL - (Bearings oriented to true north)**

**FOUND:**

**Southwest corner of Section 18:** Found, the GLO brass cap on a 2" dia. pipe, set in 1917 from found original evidence, and the following bearing trees marked in 1917:  
A 15" fir with healed blazes bears N 41°15' W 22.4 ft.  
A 23" fir with healed blazes bears S 41°08' E 14.3 ft.  
20" fir snag with scribing visible bears N 31°45' E 42.4 ft.  
Also found were the following trees marked by the BLM in 1974:  
13" madrone, scribing visible, bears N 38°15' E 29.7 ft.  
A 13" fir with healed blazes bears S 67°19' E 43.1 ft.  
An 8" fir of unknown origin, with healed blazes, bears S 59°40' W 36.8 ft.

**Northeast corner of Section 17:** Found, the BLM brass cap set in 1965, on a 2" diameter pipe exposed 12", and the following bearing trees:  
15" black oak, blazed in 1965, bears N 73°11' E 76.1 ft.  
16" fir with lower healed blazes of unknown origin, bears S 51°36' E 111.6 ft.

**Northwest corner of Section 18:** Found, the BLM brass cap set in 1956, on a 2" diameter pipe exposed 14", with notched stone alongside, and the following bearing trees:  
15" fir with healed blazes bears N 63°03' E 41.7 ft.  
10" fir with healed blazes bears S 19°03' E 19.0 ft.  
57" fir with ax marks, no scribing visible, bears S 28°34' E 39.6 ft.  
The slab remains of a fir, with scribing visible, bears S 8°42' E 31.8 ft.

**Northeast corner of Section 18:** Found, the BLM brass cap set in 1965, on a 2" diameter pipe exposed 13", and the following bearing trees:  
10" fir snag with healed blazes bears N 10° E 23.7 ft.  
8" fir, dead and down, scribing visible, bears S 52° E 27.2 ft.  
13" fir snag, with healed blazes, bears S 64° W 4.9 ft.  
8" pine with healed blazes bears N 75° W 45.4 ft.

**Quarter-section corner common to Sections 7 and 8:** Found, the BLM brass cap set in 1965, on a 1" pipe, exposed 16", and the following bearing trees:  
14" fir with healed blazes bears S 21°44' E 66.5 ft.  
9" fir with healed blazes bears N 67°57' E 18.9 ft.

**West quarter-section corner of Section 18 only:** Found, the 1956 BLM bronze cap on a 2.5" pipe, exposed 3", and the following bearing trees:  
9" chinquapin with scribing visible bears N 28°54' E 6.57 ft.  
26" madrone with healed blaze bears S 86°42' E 13.4 ft.  
41" fir with healed blaze bears S 76° W 22.9 ft.

**Quarter-section corner common to Sections 17 and 18:** Found, a 4" diameter brass disc set in concrete, marked "...Corps of Engineers...1973...", and the following bearing tree:  
19" diameter fir with healed blaze, marked by the BLM in 1965, bears N 81°33' W 32.3 ft.

**Quarter-section corner common to Sections 18 and 19:** Found, the 1974 BLM brass cap on a 2.5" diameter pipe, flush in a mound of stone, and the following bearing trees:  
20" pine with scribing visible bears N 45°53' E 33.8 ft.  
13" fir with healed blazes bears S 28°30' W 65.4 ft.

**Center quarter-section corner:** No monument found or set at the computed corner position. The 1974 BLM brass cap monument intended to be set at the corner position bears S 9°44' W 7.92 ft., from which bear the following found bearing trees:  
14" fir snag, with scribing visible, bears S 73° E 28.0 ft.  
15" fir snag, with scribing visible, bears N 82° W 17.0 ft.

**East sixteenth-section corner between Sections 18 and 19:** Found the 1974 BLM brass cap on a 2.5" diameter pipe, in a mound of stone, and the following bearing trees:  
12" fir with healed blazes bears S 32° W 22.6 ft.  
9" fir with partially healed blazes bears N 21° W 19.9 ft.

**East sixteenth-section corner between Sections 7 and 18:** No monument found or set at the computed position. The 1965 BLM brass cap monument intended to be set at the corner position bears S 57°05' E 4.78 ft., from which bear the following found bearing trees:  
17" fir with healed blazes bears N 33°38' E 4.8 ft.  
15" fir with healed blazes bears S 50°38' W 11.6 ft.

**North sixteenth-section corner between Sections 17 and 18:** No monument found or set at the computed position. The 1965 BLM brass cap monument intended to be set at the corner position bears N 67°22' E 1.87 ft., from which bear the following found bearing trees:  
7" white oak with healed blaze bears S 86°40' E 14.2 ft.  
12" fir with healed blazes bears N 85°29' W 20.8 ft.

**Center-south sixteenth-section corner:** No monument found or set at the computed position. The 1974 BLM brass cap monument intended to be set at the corner position bears S 40°44' W 2.82 ft., from which bear the following found bearing trees:  
29" fir with healed blazes bears N 4°54' W 21.0 ft.  
10" madrone with healed blazes bears S 47°24' E 25.3 ft.

**SET:**

**North quarter-section corner of Section 18:** Set a 30" long Berntsen aluminum monument, exposed 4", with the aluminum cap stamped as shown here, from which bear the following:  
1987 S 7  
The 1965 BLM brass cap monument intended to be set at the proportionate position bears N 29°42' W 5.14 ft. From the found monument were found the following bearing trees:  
8" fir with healed blazes bears S 29°25' W 8.8 ft.  
14" fir with healed blazes bears N 42°34' W 100.3 ft.

**South sixteenth-section corner between Sections 17 and 18:** Set a 30" Berntsen aluminum monument, flush, with the aluminum cap stamped as shown here, from which bear the following:  
1987 S 1/16 + S 18 S 17  
The 1965 BLM brass cap monument intended to be set at the proportionate position bears N 40°30' E 2.97 ft. From the found monument were found the following bearing trees:  
16" madrone with healed blaze bears S 74° E 55.0 ft.  
14" fir snag with scribing visible bears S 28° E 8.9 ft.

**Center-north sixteenth-section corner:** Set a 30" Berntsen aluminum monument, flush, with the aluminum cap stamped as shown here, and marked the following bearing trees:  
1987 CN 1/16 + LS 1656  
8" fir bears S 50° E 10.9 ft.  
5" fir bears S 75° W 13.6 ft.  
Both trees are marked "CN 1/16 BT"

**Center-east sixteenth-section corner:** Set a 30" Berntsen aluminum monument, flush, with the aluminum cap stamped as shown here, and marked the following bearing trees:  
1987 CE 1/16 + LS 1656  
9" fir bears N 78° E 10.2 ft.  
10" oak bears S 29° E 21.1 ft.  
Both trees are marked "CE 1/16 S 18 BT"

REGISTERED  
PROFESSIONAL  
LAND SURVEYOR

*Roger R. Roberts*

OREGON  
JULY 14, 1978  
ROGER R. ROBERTS  
1956

**U. S. ARMY ENGINEER DISTRICT, PORTLAND**

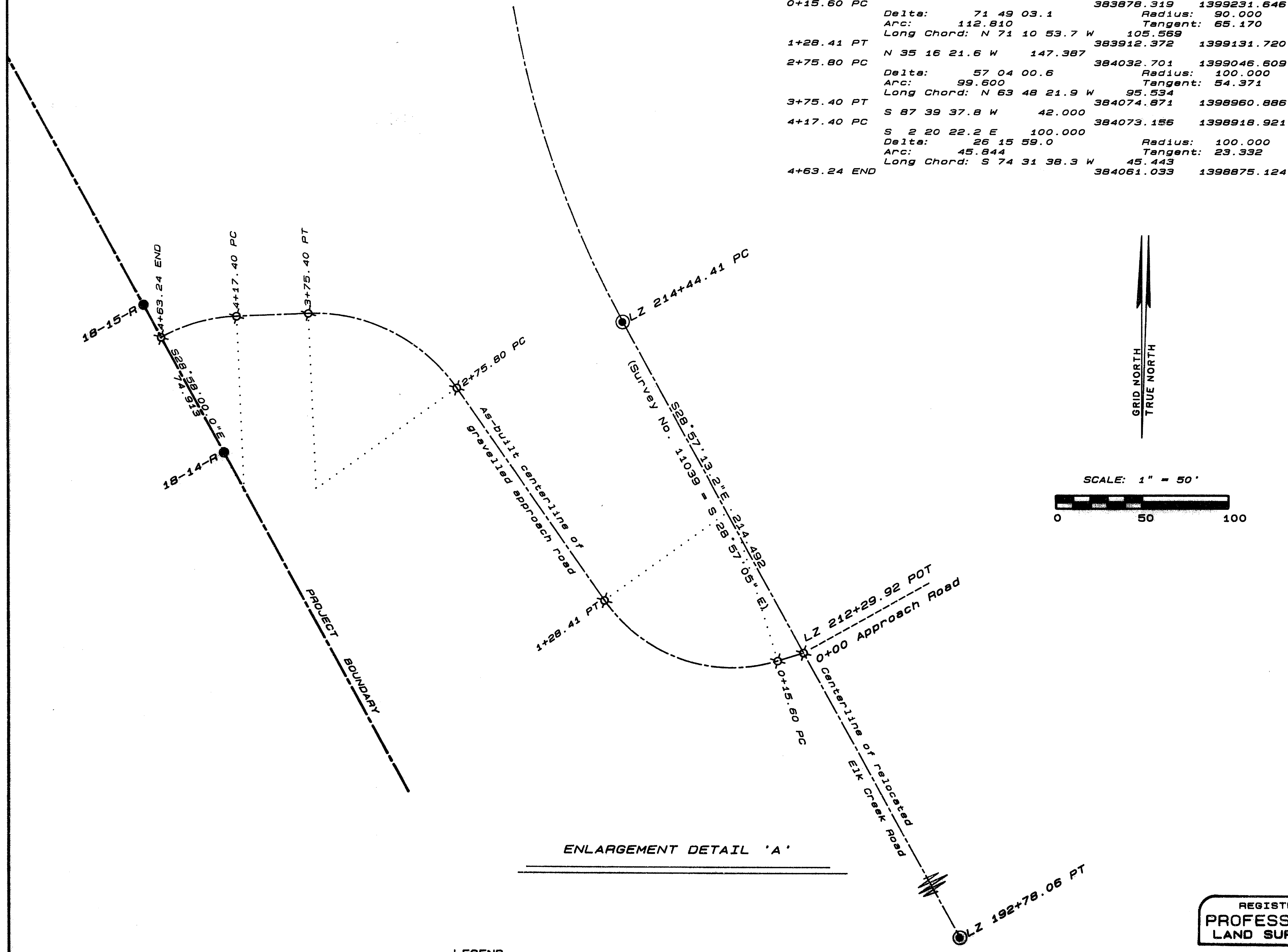
**ROGUE RIVER BASIN  
ELK CREEK LAKE  
PROJECT BOUNDARY MONUMENTATION  
SECTION 18, TOWNSHIP 33 SOUTH, RANGE 1 EAST, W.M.  
JACKSON COUNTY, OREGON**

<b>SUPERVISED:</b> <i>RRR</i>	<b>DRAWN:</b> H-P CAM	<b>Ref:</b> Real Estate Segment Map 2 NPPEN-SY-86-50
<b>DATE:</b> July, 1988	<b>SHEET:</b> 3 of 3	<b>PREPARED BY:</b> HOFFBUHR & ASSOCIATES, INC. MEDFORD, OREGON



ROAD CENTERLINES				
Description		NORTH	EAST	
Centerline of Elk Creek Road:				
LZ 192+78.06 PT		382174.948	1400191.489	
	N 28 57 13.2 W	1951.924		
LZ 212+29.49/0+00		383882.904	1399246.558	
	N 28 57 13.2 W	214.492		
LZ 214+44.41 PC		384070.587	1399142.722	
Centerline of approach road:				
0+00		383882.904	1399246.558	
0+15.60 PC	S 72 54 35.3 W	15.601	383878.319	1399231.646
	Delta: 71 49 03.1		Radius: 90.000	
	Arc: 112.810		Tangent: 65.170	
	Long Chord: N 71 10 53.7 W	105.589		
1+28.41 PT		383912.372	1399131.720	
2+75.80 PC	N 35 16 21.6 W	147.387	384032.701	1399046.609
	Delta: 57 04 00.6		Radius: 100.000	
	Arc: 99.600		Tangent: 54.371	
	Long Chord: N 63 48 21.9 W	95.534		
3+75.40 PT		384074.871	1398960.886	
4+17.40 PC	S 87 39 37.8 W	42.000	384073.156	1398918.921
	Delta: 2 20 22.2 E	100.000	Radius: 100.000	
	Arc: 26 15 59.0		Tangent: 23.332	
	Long Chord: S 74 31 38.3 W	45.443		
4+63.24 END		384081.033	1398875.124	

PROJECT BOUNDARY			
(continued from sheet 1)			
S 1/16 Sec 18/17			
18-14-R	N 28 58 00.0 W	351.033	383886.372 1399081.411
18-15-R	N 28 58 00.0 W	96.017	383895.491 1398911.405
18-16-R	N 28 58 00.0 W	163.020	384079.497 1398864.904
18-17-R	N 28 58 00.0 W	176.605	384222.123 1398785.953
18-18-R	N 28 58 00.0 W	96.548	384376.635 1398700.424
18-19-R	N 28 58 00.0 W	290.136	384461.105 1398653.665
18-20-R	N 28 58 00.0 W	143.424	384714.946 1398513.152
18-21-R	N 28 58 00.0 W	156.579	384840.428 1398443.692
18-22-R	S 86 56 40.3 W	131.784	384977.418 1398367.860
18-23-R	S 86 56 40.3 W	95.211	384970.394 1398236.264
18-24-R	S 86 56 40.3 W	176.633	384955.319 1398141.168
CE 1/16	S 86 56 40.3 W	174.009	384955.904 1397964.805
18-25-R	N 1 31 27.9 E	277.251	384946.629 1397791.044
18-26-R	N 1 31 27.9 E	88.801	385223.781 1397798.420
18-27-R	N 1 31 27.9 E	109.084	385312.551 1397800.782
18-28-R	N 1 31 27.9 E	123.747	385421.577 1397803.683
18-29-R	N 1 31 27.9 E	43.482	385545.281 1397806.975
C-S-NE 1/64	N 1 31 27.9 E	16.691	385588.747 1397808.132
18-30-R	N 45 39 29.8 W	448.749	385605.433 1397808.576
18-31-R	N 45 39 29.8 W	278.857	385919.080 1397487.638
18-32-R	N 45 39 29.8 W	97.392	386113.983 1397288.204
C-W-NE 1/64	N 45 39 29.8 W	59.973	386182.053 1397218.551
18-33-R	S 86 27 27.3 W	296.924	386223.971 1397175.650
18-34-R	S 86 27 27.3 W	189.428	386205.624 1396679.303
CN 1/16	S 86 27 27.3 W	165.342	386193.920 1396690.237
18-35-R	N 2 04 25.2 E	103.578	386287.214 1396525.211
18-36-R	N 2 04 25.2 E	103.173	386390.319 1396532.692
18-37-R	N 2 04 25.2 E	276.221	386558.360 1396542.687
18-38-R	N 2 04 25.2 E	120.639	386786.920 1396547.052
18-39-R	N 2 04 25.2 E	94.916	386881.773 1396550.487
18-40-R	N 2 04 25.2 E	294.238	387175.818 1396561.134
1/4 Sec 7/18	N 2 04 25.2 E	315.262	387490.874 1396572.541
7/18-01-R	N 85 57 44.5 E	457.778	387523.107 1397029.183
7/18-02-R	N 85 57 44.5 E	253.340	387540.945 1397281.894
7/18-03-R	N 85 57 44.5 E	197.788	387554.872 1397479.192
E-W-E 1/256	N 85 57 44.5 E	59.972	387559.095 1397539.015
18-41-R	S 45 37 19.5 E	144.907	387457.749 1397642.586
18-42-R	S 45 37 19.5 E	208.263	387312.092 1397791.440
C-N-N-NE 1/256	S 45 37 19.5 E	85.298	387252.436 1397852.407
18-43-R	S 45 39 31.4 E	92.986	387187.445 1397918.909
18-44-R	S 45 39 31.4 E	67.888	387139.996 1397967.462
18-45-R	S 45 39 31.4 E	337.412	386904.168 1398205.775
18-46-R	S 45 39 31.4 E	92.263	386839.683 1398274.751
18-47-R	S 45 39 31.4 E	205.884	386695.784 1398422.006
18-48-R	S 45 39 31.4 E	246.119	386523.764 1398598.028
C-E-E-NE 1/256	S 45 39 31.4 E	284.902	386324.637 1398801.787
18-49-R	S 25 59 01.1 E	205.189	386140.189 1398891.683
18-50-R	S 25 59 01.1 E	191.550	385968.001 1398975.604
18-51-R	S 25 59 01.1 E	163.727	385820.824 1399047.336
S-N 1/64th Sec 18/17	S 25 59 01.1 E	155.828	385680.747 1399115.606



ENLARGEMENT DETAIL 'A'

LEGEND  
 O = Found aluminum cap below asphalt surface, stamped "LS 1913"  
 X = Set 5/8" dia. x 30" steel pin with aluminum cap, 0.05' below surface of Elk Creek Road, 0.5' below surface of approach road

REGISTERED  
 PROFESSIONAL  
 LAND SURVEYOR

*Roger A. Roberts*

OREGON  
 JULY 14, 1978  
 ROGER A. ROBERTS  
 1688

U.S. ARMY ENGINEER DISTRICT, PORTLAND		
ROGUE RIVER BASIN ELK CREEK LAKE PROJECT BOUNDARY MONUMENTATION SECTION 18, TOWNSHIP 33 SOUTH, RANGE 1 EAST, W.M. JACKSON COUNTY, OREGON		
SUPERVISED: <i>ARR</i>	DRAWN: H-P CAM	Ref: Real Estate Segment Map 2 NPPEN-SY-86-50
DATE: JULY, 1988	SHEET: 2 of 3	PREPARED BY: HOFFBUHR & ASSOCIATES, INC. MEDFORD, OREGON