

SURVEY

LOCATED IN A PORTION OF SECTIONS 30,
19, 18, 17, 8, 5, & 32
T. 33 S., R. 1 E., W.M.
AND A PORTION OF SECTIONS 28 & 33
T. 32 S., R. 1 E., W.M.
JACKSON COUNTY, OREGON

- LEGEND:**
- () INDICATES RECORD DATA PER SURVEY REFERENCE
 - R.O.S. INDICATES RECORD OF SURVEY
 - U.S.A.C.E. INDICATES UNITED STATES ARMY CORPS OF ENGINEERS
 - △ INDICATES SURVEY CONTROL POINT
 - INDICATES STANDARD USACE ALUMINUM CAP FOUND
 - OPUS INDICATES ONLINE POSITIONING USER SERVICE
 - ⊙ INDICATES 5/8" X 30" REBAR WITH STANDARD 3-1/2" U.S.A.C.E. ALUMINUM CAP STAMPED DESIGNATOR, SET
 - INDICATES U.S.A.C.E. PROJECT BOUNDARY
 - x-x- INDICATES FENCE LINE

- SURVEY REFERENCES:**
1. U.S. ARMY ENGINEER DISTRICT, PORTLAND CS 11199
 2. U.S. ARMY ENGINEER DISTRICT, PORTLAND CS 11247
 3. U.S. ARMY ENGINEER DISTRICT, PORTLAND CS 11288
 4. U.S. ARMY ENGINEER DISTRICT, PORTLAND CS 11289
 5. U.S. ARMY ENGINEER DISTRICT, PORTLAND CS 11325
 6. U.S. ARMY ENGINEER DISTRICT, PORTLAND CS 11324
 7. U.S. ARMY ENGINEER DISTRICT, PORTLAND CS 11328
 8. U.S. ARMY ENGINEER DISTRICT, PORTLAND CS 11329
 9. U.S. ARMY ENGINEER DISTRICT, PORTLAND CS 11327

SURVEYOR'S CERTIFICATE:

I DANIEL A. RENTON, REGISTERED LAND SURVEYOR IN THE STATE OF OREGON, I HEREBY CERTIFY THAT THIS PLAT AND NOTES HEREON, OR ATTACHED, ARE A CORRECT REPRESENTATION OF A SURVEY I PERFORMED DURING NOVEMBER 2018 THROUGH JANUARY 2019 AT THE REQUEST OF THE U.S. ARMY CORPS OF ENGINEERS, IN ACCORDANCE WITH THE SURVEY RECORDING ACT OF THE STATE OF OREGON, AND ARTICLES OF THE DEPARTMENT OF THE ARMY, PORTLAND DISTRICT, CORPS OF ENGINEERS, CONTRACT NO. W9127N-16-D-3003 AND DELIVERY ORDER W9127N18F0147.

Daniel A. Renton
DANIEL A. RENTON

NARRATIVE:
SEE ATTACHED 8 1/2" X 11" NARRATIVE

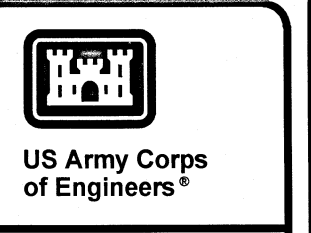
** RECEIVED **
DATE 12/11/19 BY: PB

THIS SURVEY CONSISTS OF:
11 SHEET(S) MAP
7 PAGE(S) NARRATIVE
JACKSON COUNTY SURVEYOR

12/09/19
REGISTERED PROFESSIONAL LAND SURVEYOR
Daniel A. Renton
OREGON
JUNE 30, 1997
DANIEL A. RENTON
2830
Expires 12-31-2020

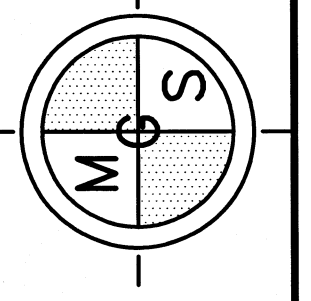
BASES OF BEARING: NAD 83 (2011 EPOCH), 2010.0000, U.S. SURVEY FEET AT CONTROL POINT #2
SURVEY FEET AT CONTROL POINT #2
CONVERGENCE ANGLE = -01°31'54"
COMBINED SCALE FACTOR = 0.99998951

200 100 0 200 300 400
SCALE 1 INCH = 200 FEET



PREPARED FOR:
U.S. ARMY CORPS OF ENGINEERS
PORTLAND DISTRICT
333 SW FIRST AVE
PORTLAND OR 97204

MINISTER-GLAESER SURVEYING INC.
2200 E. EVERGREEN BLVD.
VANCOUVER, WA 98661
(360) 694-3313



DESIGNED BY: DAN RENTON	CRD BY: DAR	FILE NUMBER:
DWN BY: DAR	DATE: 2019/12/09	
DRAWN BY: DAN RENTON	PLOT SCALE:	
	1"=400'	
	ARCHD:	18333.ELK_CREEK_S1.DWG

RECORD OF SURVEY
ELK CREEK LAKE PROJECT BOUNDARY
LAND SURVEY FOR PROJECT BOUNDARY MAINTENANCE
CONTRACT NO. W9127N-16-D-3003
DELIVERY ORDER NO. W9127N18F0147
OPTIONAL TASK 14

SHEET IDENTIFICATION
1 OF 11

MATCH SEE SHEET 3

SURVEY

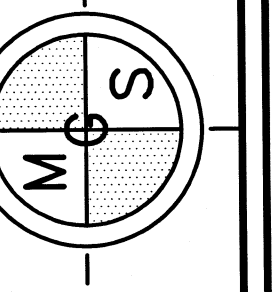
LOCATED IN A PORTION OF SECTIONS 30,
19, 18, 17, 8, 5, & 32
T. 33 S., R. 1 E., W.M.
AND A PORTION OF SECTIONS 28 & 33
T. 32 S., R. 1 E., W.M.
JACKSON COUNTY, OREGON



US Army Corps of Engineers

PREPARED FOR:
U.S. ARMY CORPS OF ENGINEERS
PORTLAND DISTRICT
333 SW FIRST AVE
PORTLAND OR 97204

MINISTER-GLAESER
SURVEYING INC.
2200 E. EVERGREEN BLVD.
VANCOUVER, WA 98661
(360) 694-3313

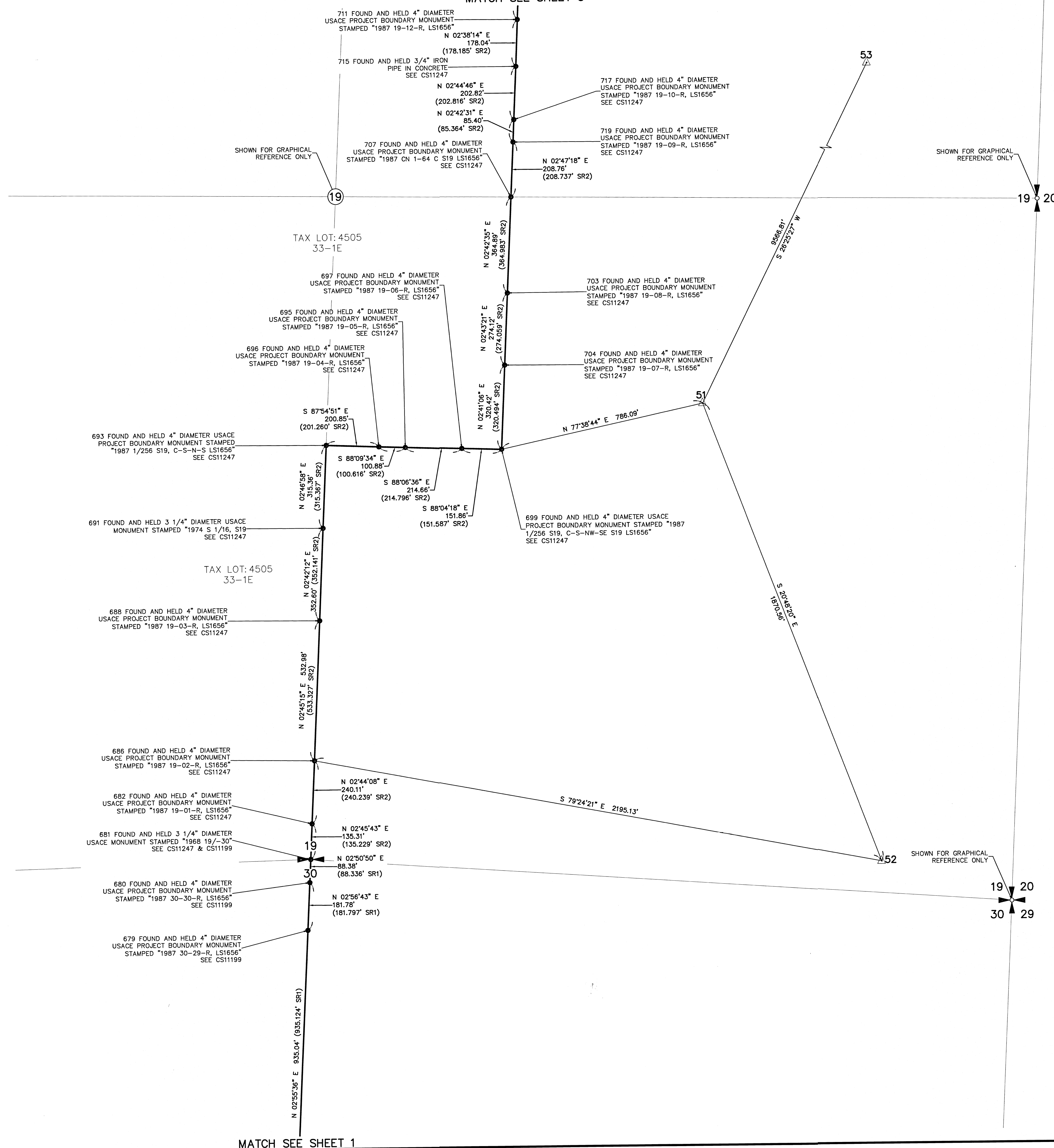


DESIGNED BY: DAN RENTON	CKD BY: DAR	SURVEY DATE: 2019/1/05
DWN BY: NG	FILE NUMBER:	
SUBMITTED BY: DAN RENTON	FILE DATE: 1/4/20	
SCALE: 1"=400'	FILE NAME: 18306_ELK_CREEK_ST.DWG	
SIZE: ARCH D		

U.S. ARMY
CORPS OF ENGINEERS
PORTLAND DISTRICT
333 SW FIRST AVE
PORTLAND OR 97204

RECORD OF SURVEY
ELK CREEK LAKE PROJECT BOUNDARY
LAND SURVEY FOR PROJECT BOUNDARY MAINTENANCE
CONTRACT NO. W9127N-16-D-3003
DELIVERY ORDER NO. W9127N18F0147
OPTIONAL TASK 14

SHEET
IDENTIFICATION
2 OF 11



- LEGEND:**
- () INDICATES RECORD DATA PER SURVEY REFERENCE
 - R.O.S. INDICATES RECORD OF SURVEY
 - U.S.A.C.E. INDICATES UNITED STATES ARMY CORPS OF ENGINEERS
 - △ INDICATES SURVEY CONTROL POINT
 - INDICATES STANDARD USACE ALUMINUM CAP FOUND
 - OPUS INDICATES ONLINE POSITIONING USER SERVICE
 - ⊙ INDICATES 5/8" X 30" REBAR WITH STANDARD 3-1/2" U.S.A.C.E. ALUMINUM CAP STAMPED DESIGNATOR, SET
 - INDICATES U.S.A.C.E. PROJECT BOUNDARY
 - x-x- INDICATES FENCE LINE

FILED
Date: 12/14/19
This Survey Consist Of:
11 sheet(s) Map
2 page(s) Narrative
JACKSON COUNTY
SURVEYOR

12/09/19
REGISTERED
PROFESSIONAL
LAND SURVEYOR
Dolan
OREGON
JUNE 30, 1997
DANIEL A. RENTON
2830
Expires 12-31-2020

200 100 0 200 300 400
SCALE 1 INCH = 200 FEET

SURVEY

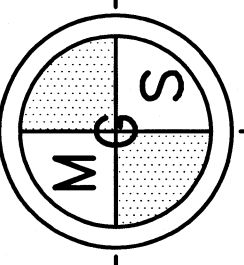
LOCATED IN A PORTION OF SECTIONS 30,
19, 18, 17, 8, 5, & 32
T. 33 S., R. 1 E., W.M.
AND A PORTION OF SECTIONS 28 & 33
T. 32 S., R. 1 E., W.M.
JACKSON COUNTY, OREGON



US Army Corps
of Engineers

PREPARED FOR:
ELK CREEK LAKE PROJECT
PORTLAND DISTRICT
333 SW FIRST AVE
PORTLAND OR 97204

MINISTER-GLAESER
SURVEYING INC.
2200 E. EVERGREEN BLVD.
VANCOUVER, WA 98661
(360) 694-3313

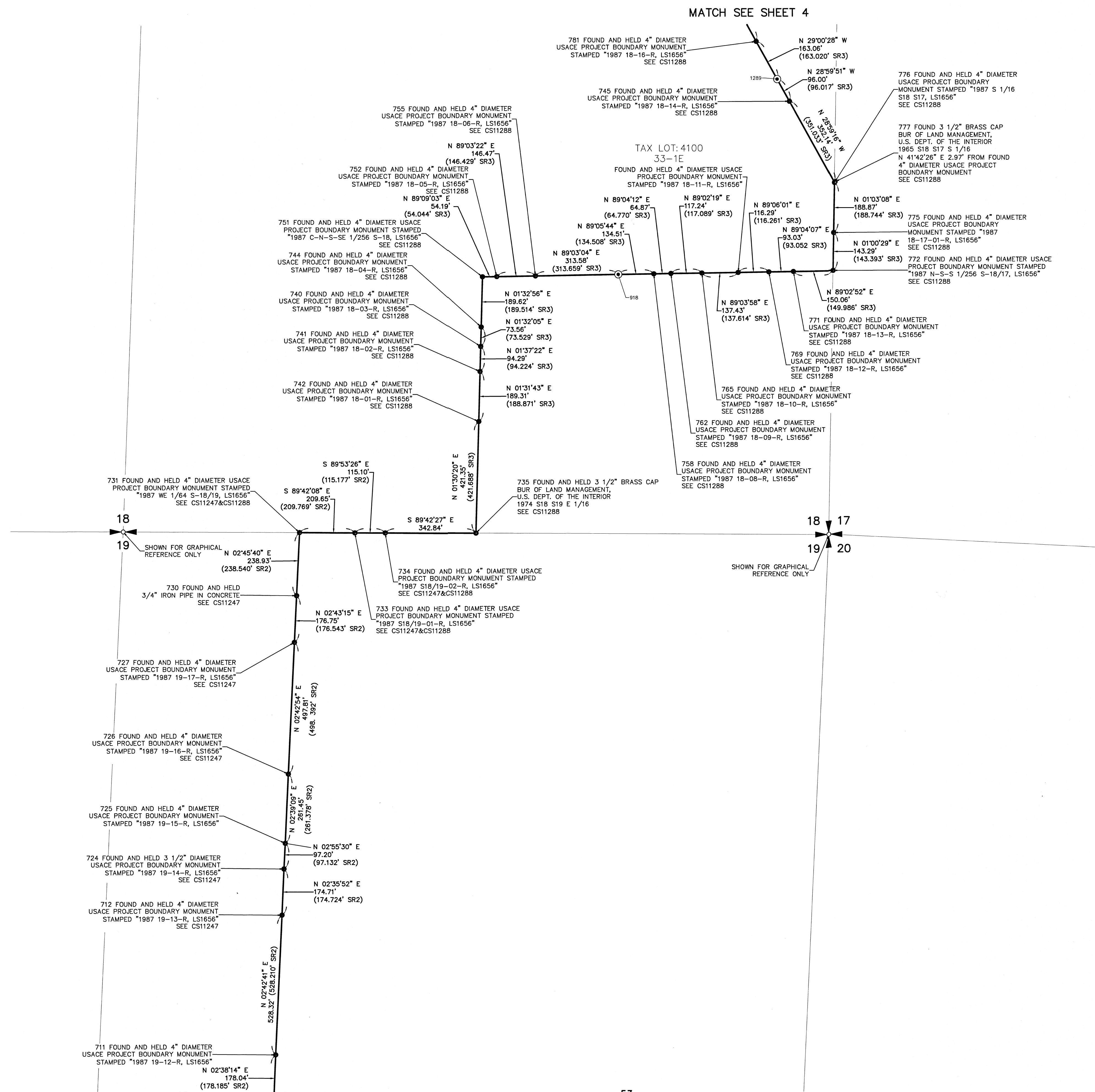


DESIGNED BY:	DAN RENTON
DRAWN BY:	DAN RENTON
CAD BY:	DAN RENTON
SUBMITTED BY:	DAN RENTON
FILE NUMBER:	
FILE NAME:	1835_ELV_CREEK_S1.DWG
SIZE:	A
DATE:	2019/10/09

U.S. ARMY
CORPS OF ENGINEERS
PORTLAND DISTRICT
333 SW FIRST AVE
PORTLAND OR 97204

RECORD OF SURVEY
ELK CREEK LAKE PROJECT BOUNDARY
LAND SURVEY FOR PROJECT BOUNDARY MAINTENANCE
CONTRACT NO. W972N-16-D-3003
DELIVERY ORDER NO. W972N16D0147
OPTIONAL TASK 14

SHEET
IDENTIFICATION
3 OF 11



- LEGEND:**
- () INDICATES RECORD DATA PER SURVEY REFERENCE
 - R.O.S. INDICATES RECORD OF SURVEY
 - U.S.A.C.E. INDICATES UNITED STATES ARMY CORPS OF ENGINEERS
 - △ INDICATES SURVEY CONTROL POINT
 - INDICATES STANDARD USACE ALUMINUM CAP FOUND
 - OPUS INDICATES ONLINE POSITIONING USER SERVICE
 - ⊙ INDICATES 5/8" X 30" REBAR WITH STANDARD 3-1/2" U.S.A.C.E. ALUMINUM CAP STAMPED DESIGNATOR, SET
 - INDICATES U.S.A.C.E. PROJECT BOUNDARY
 - x-x- INDICATES FENCE LINE

FILED
Date: 12/11/19 By: PB
This Survey Consist Of:
11 sheet(s) Map
7 page(s) Narrative
JACKSON COUNTY
SURVEYOR

12/09/19
**REGISTERED
PROFESSIONAL
LAND SURVEYOR**
Daniel A. Renton
DANIEL A. RENTON
2830
Expires 12-31-2020

0 100 200 300 400
SCALE 1 INCH = 200 FEET

SURVEY

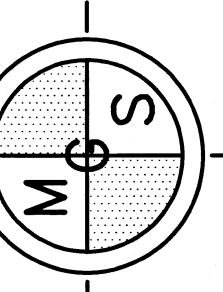
LOCATED IN A PORTION OF SECTIONS 30,
19, 18, 17, 8, 5, & 32
T. 33 S., R. 1 E., W.M.
AND A PORTION OF SECTIONS 28 & 33
T. 32²² S., R. 1 E., W.M.
JACKSON COUNTY, OREGON



U.S. Army Corps of Engineers

PREPARED FOR:
U.S. ARMY CORPS OF ENGINEERS
PORTLAND DISTRICT
3000 NE 11TH AVE
PORTLAND OR 97204

MINISTER-GLAESER
SURVEYING INC.
2200 E. EVERGREEN BLVD.
VANGOLVER, WA 98661
(360) 694-3313

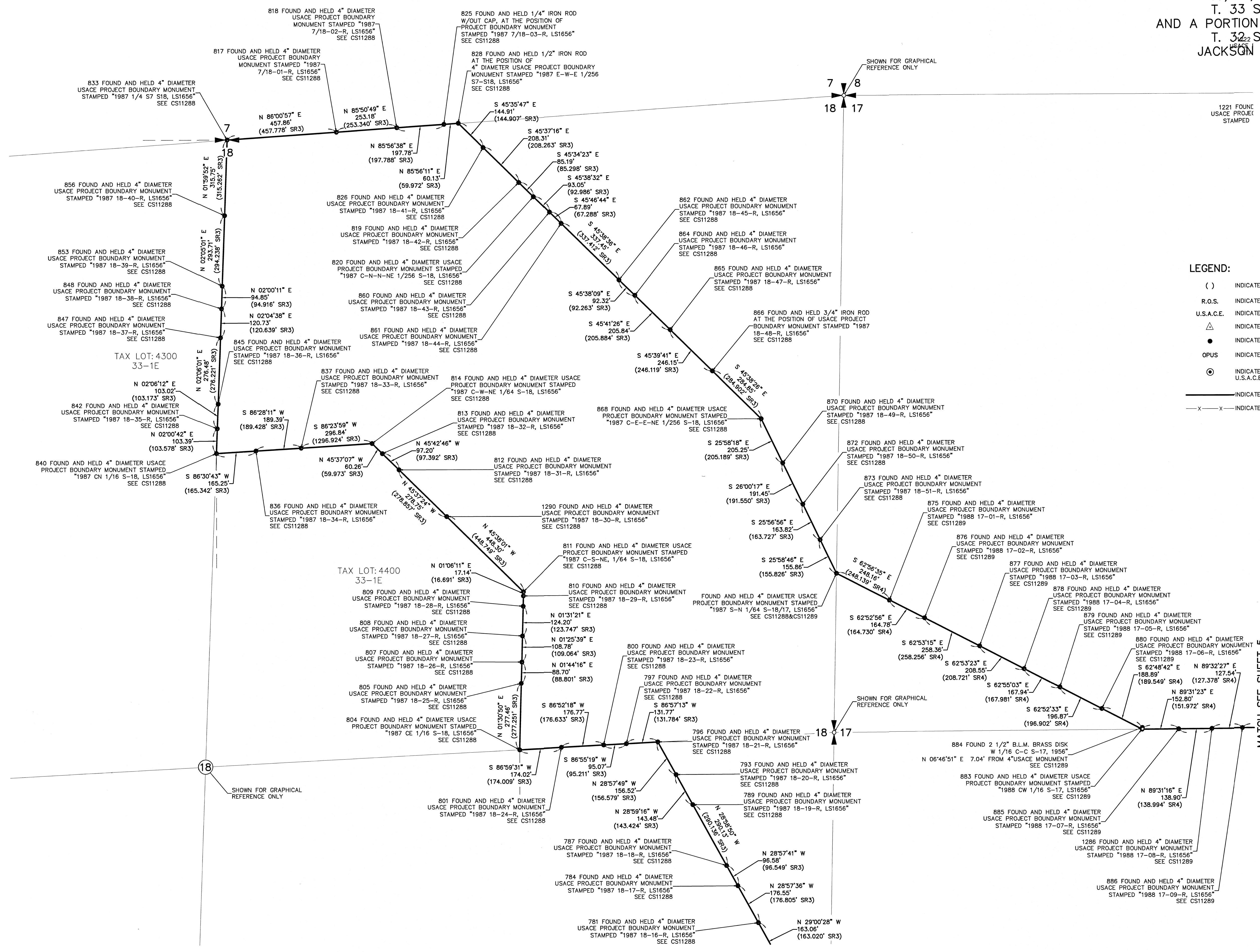


DESIGNED BY:	DAN RENTON
DATE:	2018/11/05
CHK BY:	DR
DATE:	
FILE NUMBER:	
FILE NAME:	
ARCH ID:	15038.ELK_CREEK_S1.DWG

U.S. ARMY CORPS OF ENGINEERS
PORTLAND DISTRICT
3333 SW FIRST AVE
PORTLAND OR 97204

RECORD OF SURVEY
ELK CREEK LAKE PROJECT BOUNDARY MAINTENANCE
CONTRACT NO. W9127N16D-3003
DELIVERY ORDER NO. W9127N16D0147
OPTIONAL TASK 14

SHEET IDENTIFICATION
4 OF 11



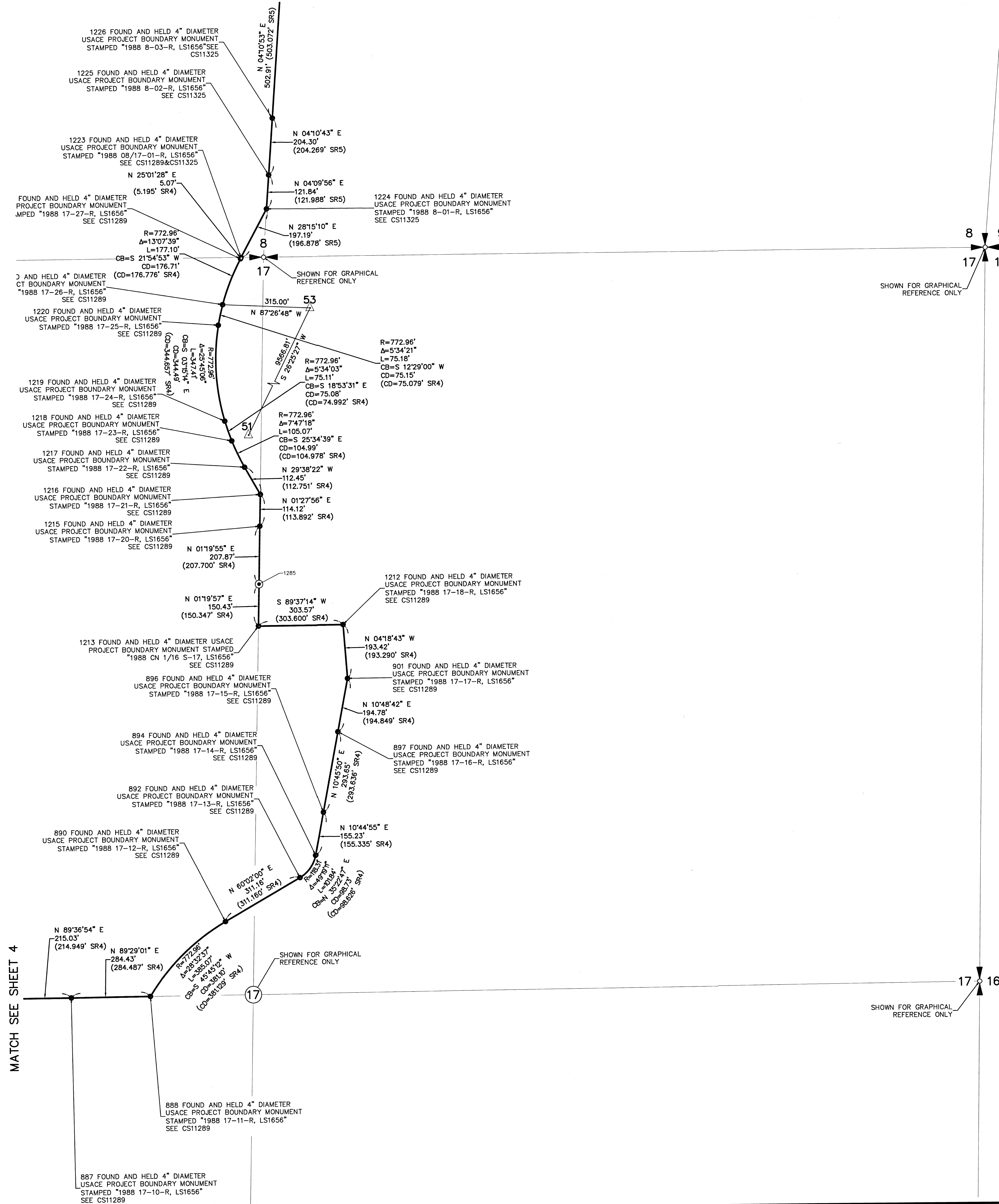
- LEGEND:**
- () INDICATES RECORD DATA PER SURVEY REFERENCE
 - R.O.S. INDICATES RECORD OF SURVEY
 - U.S.A.C.E. INDICATES UNITED STATES ARMY CORPS OF ENGINEERS
 - ▲ INDICATES SURVEY CONTROL POINT
 - INDICATES STANDARD USACE ALUMINUM CAP FOUND
 - OPUS INDICATES ONLINE POSITIONING USER SERVICE
 - ⊙ INDICATES 5/8" X 30" REBAR WITH STANDARD 3-1/2" U.S.A.C.E. ALUMINUM CAP STAMPED DESIGNATOR, SET
 - INDICATES U.S.A.C.E. PROJECT BOUNDARY
 - x-x- INDICATES FENCE LINE

FILED
Date: 12/19/19 By: PR
This Survey Consist of:
11 sheet(s) Map
7 page(s) Narrative
JACKSON COUNTY
SURVEYOR

12/09/19
REGISTERED
PROFESSIONAL
LAND SURVEYOR
Daniel A. Renton
OREGON
JUNE 30, 1997
DANIEL A. RENTON
2830
Expires 12-31-2020

SCALE 1 INCH = 200 FEET

MATCH SEE SHEET 6



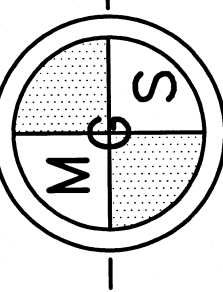
SURVEY

LOCATED IN A PORTION OF SECTIONS 30,
19, 18, 17, 8, 5, & 32
T. 33 S., R. 1 E., W.M.
AND A PORTION OF SECTIONS 28 & 33
T. 32 S., R. 1 E., W.M.
JACKSON COUNTY, OREGON



PREPARED FOR:
U.S. ARMY CORPS OF ENGINEERS
PORTLAND DISTRICT
333 SW FIRST AVE
PORTLAND OR 97204

MINISTER-GIAESER
SURVEYING INC.
2200 E. EVERGREEN BLVD.
VANCOUVER, WA 98661
(360) 894-3313



- LEGEND:**
- () INDICATES RECORD DATA PER SURVEY REFERENCE
 - R.O.S. INDICATES RECORD OF SURVEY
 - U.S.A.C.E. INDICATES UNITED STATES ARMY CORPS OF ENGINEERS
 - △ INDICATES SURVEY CONTROL POINT
 - INDICATES STANDARD USACE ALUMINUM CAP FOUND
 - OPUS INDICATES ONLINE POSITIONING USER SERVICE
 - ⊙ INDICATES 5/8" X 30" REBAR WITH STANDARD 3-1/2" U.S.A.C.E. ALUMINUM CAP STAMPED DESIGNATOR, SET
 - INDICATES U.S.A.C.E. PROJECT BOUNDARY
 - x-x- INDICATES FENCE LINE

FILED
Date: 12/09/19
This Survey Consist Of:
11 sheet(s) Map
7 page(s) Narrative
JACKSON COUNTY SURVEYOR

12/09/19
REGISTERED PROFESSIONAL LAND SURVEYOR
Daniel A. Renton
OREGON
JUNE 30, 1997
DANIEL A. RENTON
2830
Expires 12-31-2020

200 100 0 200 300 400
SCALE 1 INCH = 200 FEET

DESIGNED BY: DAN RENTON	CHKD BY: DAR	SURVEY DATE: 2019/11/05
SUBMITTED BY: DAN RENTON	FILE NUMBER:	
PLOT SCALE: 1"=400'	PLOT DATE: 2019/12/09	
FILE NAME: 18050_ECR_CREEK_S1.DWG		

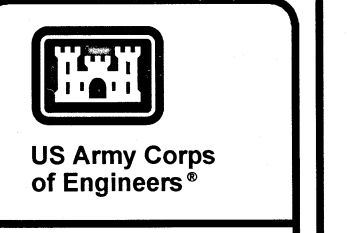
U.S. ARMY
CORPS OF ENGINEERS
PORTLAND DISTRICT
333 SW FIRST AVE
PORTLAND OR 97204

RECORD OF SURVEY
ELK CREEK LAKE PROJECT BOUNDARY
LAND SURVEY FOR PROJECT BOUNDARY MAINTENANCE
CONTRACT NO. W8127N-16-D-3003
DELIVERY ORDER NO. W8127N16F0147
OPTIONAL TASK 14

SHEET
IDENTIFICATION
5 OF 11

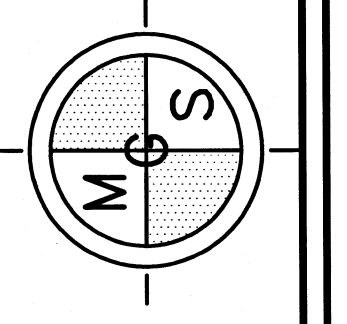
SURVEY

LOCATED IN A PORTION OF SECTIONS 30,
19, 18, 17, 8, 5, & 32
T. 33 S., R. 1 E., W.M.
AND A PORTION OF SECTIONS 28 & 33
T. 32 S., R. 1 E., W.M.
JACKSON COUNTY, OREGON



PREPARED FOR:
U.S. ARMY CORPS OF ENGINEERS
PORTLAND DISTRICT
PORTLAND, OR 97204

MINISTER-GLAESER
SURVEYING INC.
2200 E. EVERGREEN BLVD.
VANCOUVER, WA 98661
(360) 694-3313

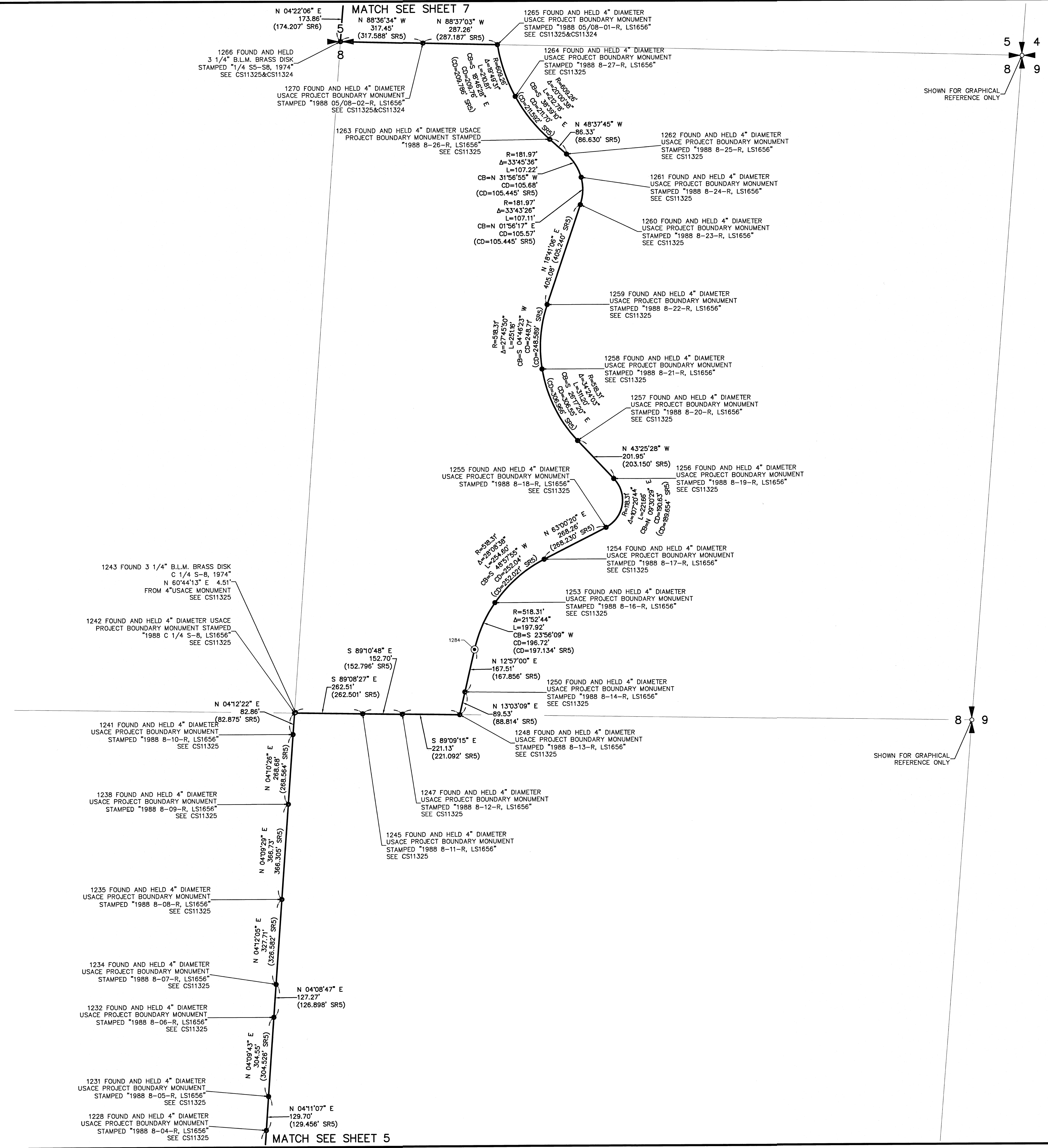


DESIGNED BY: DAN RENTON
DRAWN BY: DAN RENTON
SUBMITTED BY: DAN RENTON
PROJECT NO.: 18336_EK_CREEK_S1.DWG
ARCH'D: 18336_EK_CREEK_S1.DWG

U.S. ARMY
CORPS OF ENGINEERS
PORTLAND DISTRICT
PORTLAND, OREGON 97204

RECORD OF SURVEY
ELK CREEK LAKE PROJECT BOUNDARY
LAND SURVEY FOR PROJECT BOUNDARY MAINTENANCE
CONTRACT NO. W9127N-16-D-3003
DELIVERY ORDER NO. W9127N18F047
OPTIONAL TASK 14

SHEET
IDENTIFICATION
6 of 11



- LEGEND:**
- () INDICATES RECORD DATA PER SURVEY REFERENCE
 - R.O.S. INDICATES RECORD OF SURVEY
 - U.S.A.C.E. INDICATES UNITED STATES ARMY CORPS OF ENGINEERS
 - △ INDICATES SURVEY CONTROL POINT
 - INDICATES STANDARD USACE ALUMINUM CAP FOUND
 - OPUS INDICATES ONLINE POSITIONING USER SERVICE
 - ⊙ INDICATES 5/8" X 30" REBAR WITH STANDARD 3-1/2" U.S.A.C.E. ALUMINUM CAP STAMPED DESIGNATOR, SET
 - — — INDICATES U.S.A.C.E. PROJECT BOUNDARY
 - x-x- INDICATES FENCE LINE

FILED
Date: 7/11/19 by: PB
This Survey Consist Of:
11 sheet(s) Map
7 page(s) Narrative
JACKSON COUNTY
SURVEYOR

REGISTRATION
12/09/19
REGISTERED
PROFESSIONAL
LAND SURVEYOR
DANIEL A. RENTON
2830
Expires 12-31-2020

Expire 12-31-2020

SURVEY

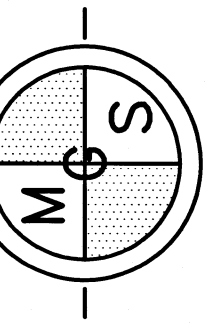
LOCATED IN A PORTION OF SECTIONS 30,
19, 18, 17, 8, 5, & 32
T. 33 S., R. 1 E., W.M.
AND A PORTION OF SECTIONS 28 & 33
T. 32 S., R. 1 E., W.M.
JACKSON COUNTY, OREGON



US Army Corps
of Engineers®

PREPARED FOR:
U.S. ARMY CORPS OF ENGINEERS
PORTLAND DISTRICT
333 SW FIRST AVE
PORTLAND OR 97204

MINISTER-GLAESER
SURVEYING INC.
2200 E. EVERGREEN BLVD.
VANCOUVER, WA 98661
(360) 694-3515

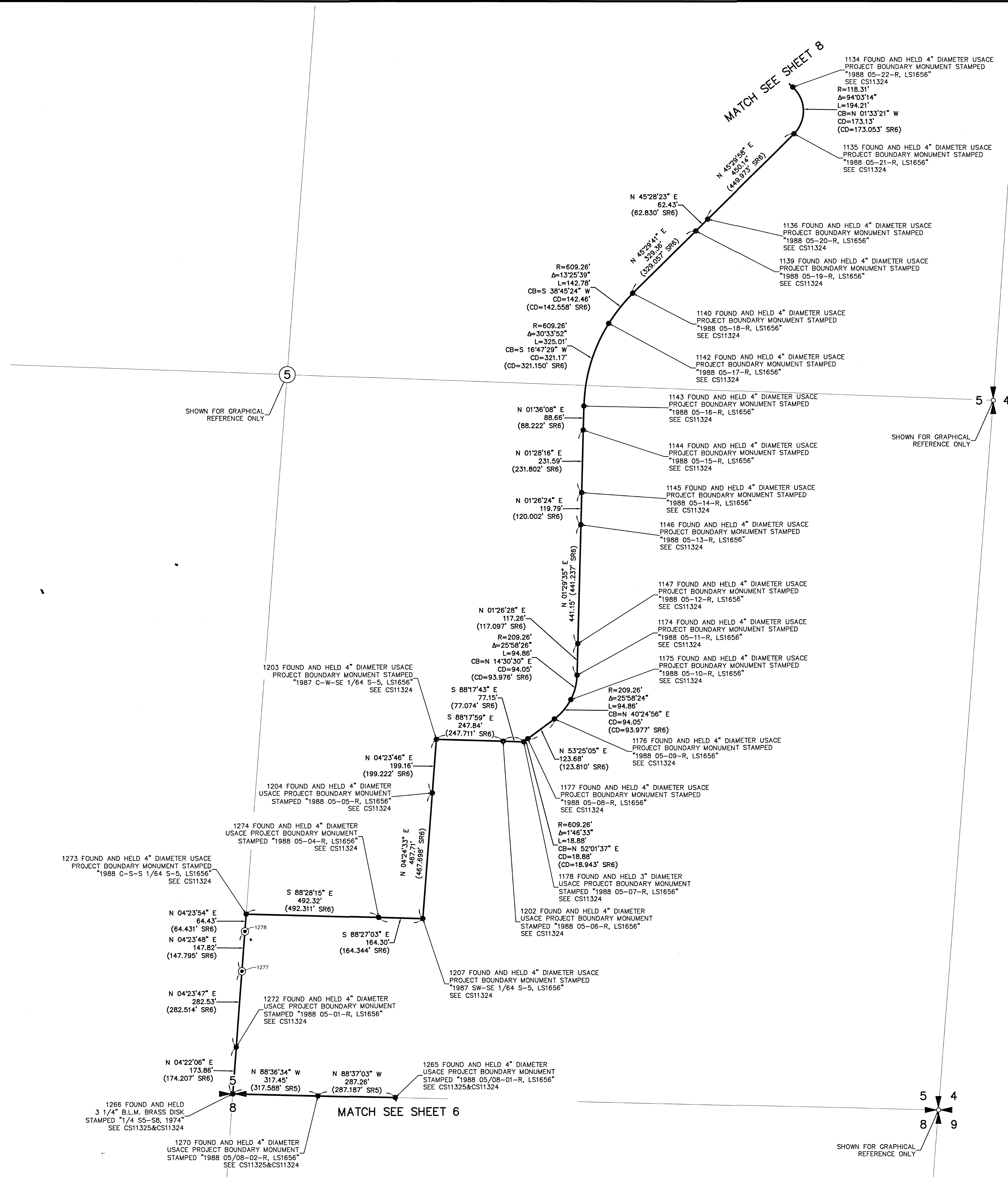


RESUBMITTED BY: DAN RENTON
OWN BY: NG
SUBMITTED BY: DAN RENTON
PLOT SCALE: 1"=400'
DATE: 12/09/11
FILE NAME: 1830_ELK_CREEK_S1.DWG

U.S. ARMY
CORPS OF ENGINEERS
PORTLAND DISTRICT
333 SW FIRST AVE
PORTLAND OR 97204

RECORD OF SURVEY
ELK CREEK LAKE PROJECT BOUNDARY
LAND SURVEY FOR PROJECT BOUNDARY MAINTENANCE
CONTRACT NO. W9127N-16D-3003
DELIVERY ORDER NO. W9127N16D0147
OPTIONAL TASK 14

SHEET
IDENTIFICATION
7 of 11



- LEGEND:**
- () INDICATES RECORD DATA PER SURVEY REFERENCE
 - R.O.S. INDICATES RECORD OF SURVEY
 - U.S.A.C.E. INDICATES UNITED STATES ARMY CORPS OF ENGINEERS
 - ▲ INDICATES SURVEY CONTROL POINT
 - INDICATES STANDARD USACE ALUMINUM CAP FOUND
 - OPUS INDICATES ONLINE POSITIONING USER SERVICE
 - ⊙ INDICATES 5/8" X 30" REBAR WITH STANDARD 3-1/2" U.S.A.C.E. ALUMINUM CAP STAMPED DESIGNATOR, SET
 - INDICATES U.S.A.C.E. PROJECT BOUNDARY
 - - - - - INDICATES FENCE LINE

FILED
Date: 12/09/11
This Survey Consist Of:
11 sheet(s) Map
7 page(s) Narrative
JACKSON COUNTY
SURVEYOR

BASE OF BEARING AND DISTANCE (PERCSA 2010, 2010, 2010)
OREGON STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, U.S.
SURVEY FEET AT CONTROL POINT 52
CONVERGENCE ANGLE = -0°3'15.4"
COMBINED SCALE FACTOR = 0.9999951

12/09/11
REGISTERED PROFESSIONAL LAND SURVEYOR
Daniel A. Renton
OREGON
JUNE 30, 1997
DANIEL A. RENTON
2830
Expires 12-31-2020

200 100 0 200 300 400
SCALE 1 INCH = 200 FEET

SURVEY

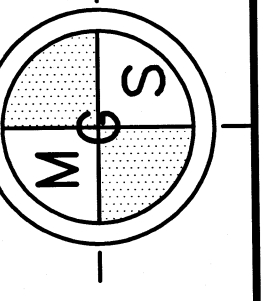
LOCATED IN A PORTION OF SECTIONS 30,
19, 18, 17, 8, 5, & 32
T. 33 S., R. 1 E., W.M.
AND A PORTION OF SECTIONS 28 & 33
T. 32 S., R. 1 E., W.M.
JACKSON COUNTY, OREGON



US Army Corps
of Engineers

PREPARED FOR:
U.S. ARMY CORPS OF ENGINEERS
PORTLAND DISTRICT
333 SW FIRST AVE
PORTLAND OR 97204

MINISTER-GLAESER
SURVEYING INC.
2200 E. EVERGREEN BLVD.
VANCOUVER, WA 98661
(360) 694-3313



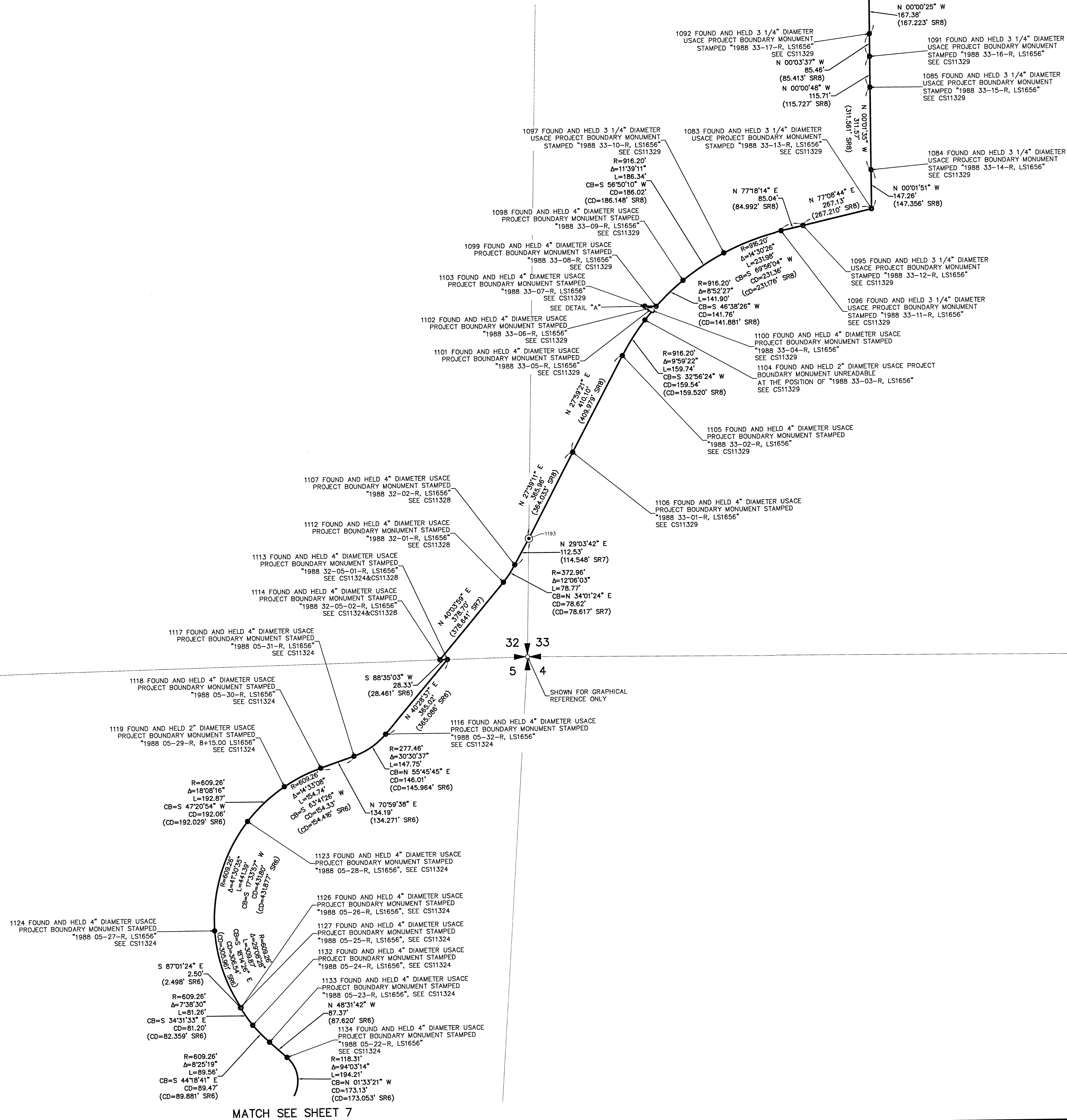
DESIGNED BY: DAN RENTON
DRAWN BY: DAN RENTON
CHECKED BY: DAN RENTON
DATE: 2019/11/05
FILE NUMBER: 1898 ELK CREEK ST.DWG

U.S. ARMY CORPS OF ENGINEERS
PORTLAND DISTRICT
333 SW FIRST AVE
PORTLAND OR 97204

RECORD OF SURVEY
ELK CREEK LAKE PROJECT BOUNDARY
LAND SURVEY FOR PROJECT BOUNDARY MAINTENANCE
CONTRACT NO. W9127N-16-D-3003
DELIVERY ORDER NO. W9127N16D0147
OPTIONAL TASK 14

SHEET
IDENTIFICATION
8 OF 11

MATCH SEE SHEET 9



LEGEND:

- () INDICATES RECORD DATA PER SURVEY REFERENCE
- R.O.S. INDICATES RECORD OF SURVEY
- U.S.A.C.E. INDICATES UNITED STATES ARMY CORPS OF ENGINEERS
- △ INDICATES SURVEY CONTROL POINT
- INDICATES STANDARD USACE ALUMINUM CAP FOUND
- INDICATES ONLINE POSITIONING USER SERVICE
- INDICATES 5/8" X 30" REBAR WITH STANDARD 3-1/2" U.S.A.C.E. ALUMINUM CAP STAMPED DESIGNATOR, SET
- INDICATES U.S.A.C.E. PROJECT BOUNDARY
- X — INDICATES FENCE LINE

FILED
Date 11/19/19
This Survey Consist Of:
11 sheet(s) Map
7 page(s) Narrative
JACKSON COUNTY
SURVEYOR

REGISTRATION
BASED ON BEARINGS AND DISTANCES (NAD 83) (GEOID 2010.0000)
OREGON STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, U.S.
SURVEY FEET AT CONTROL POINT 52
CONVERGENCE ANGLE = -01°31'52"
COMBINED SCALE FACTOR = 0.999986151

12/09/19
REGISTERED
PROFESSIONAL
LAND SURVEYOR
Daniel A. Renton
OREGON
JUNE 30, 1997
DANIEL A. RENTON
2830
Expires 12-31-2020

SCALE 1 INCH = 200 FEET

SURVEY

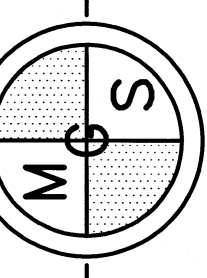
LOCATED IN A PORTION OF SECTIONS 30,
19, 18, 17, 8, 5, & 32
T. 33 S., R. 1 E., W.M.
AND A PORTION OF SECTIONS 28 & 33
T. 32 S., R. 1 E., W.M.
JACKSON COUNTY, OREGON



US Army Corps of Engineers

PREPARED FOR:
U.S. ARMY CORPS OF ENGINEERS
PORTLAND DISTRICT
333 SW FIRST AVE
PORTLAND OR 97204

MINISTER-GLAESER
SURVEYING INC.
2200 E. EVERGREEN BLVD.
VANCOUVER, WA 98661
(360) 694-3313

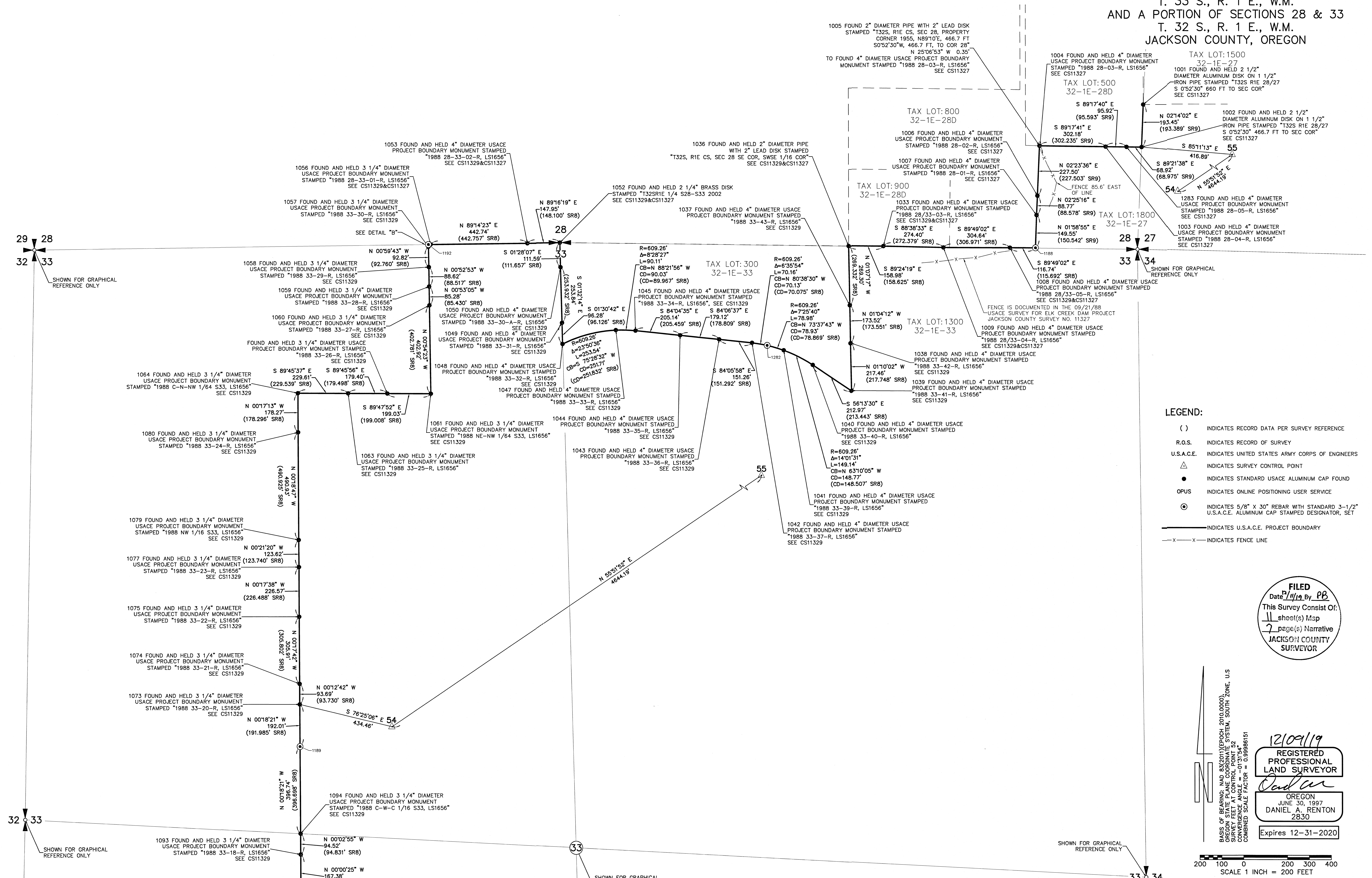


DATE:	2019/11/09
BY:	DAN RENTON
CHECKED BY:	DAR
FILE NUMBER:	

U.S. ARMY CORPS OF ENGINEERS
PORTLAND DISTRICT
333 SW FIRST AVE
PORTLAND OR 97204

RECORD OF SURVEY
ELK CREEK LAKE PROJECT BOUNDARY MAINTENANCE
CONTRACT NO. W9127N-16D-3003
DELIVERY ORDER NO. W9127N16D0147
OPTIONAL TASK 14

SHEET IDENTIFICATION
9 of 11



- ### LEGEND:
- () INDICATES RECORD DATA PER SURVEY REFERENCE
 - R.O.S. INDICATES RECORD OF SURVEY
 - U.S.A.C.E. INDICATES UNITED STATES ARMY CORPS OF ENGINEERS
 - △ INDICATES SURVEY CONTROL POINT
 - INDICATES STANDARD USACE ALUMINUM CAP FOUND
 - OPUS INDICATES ONLINE POSITIONING USER SERVICE
 - ⊙ INDICATES 5/8" X 30" REBAR WITH STANDARD 3-1/2" U.S.A.C.E. ALUMINUM CAP STAMPED DESIGNATOR, SET
 - X—X— INDICATES FENCE LINE

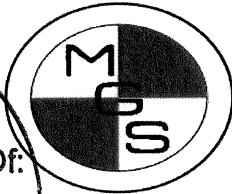
FILED
Date: 7/14/19 By: PR
This Survey Consist Of:
11 sheet(s) Map
7 page(s) Narrative
JACKSON COUNTY
SURVEYOR

12/09/19
REGISTERED
PROFESSIONAL
LAND SURVEYOR
Daniel A. Renton
OREGON
JUNE 30, 1997
DANIEL A. RENTON
2830
Expires 12-31-2020

BASIS OF BEARING: NAD 83(2011) EPOCH 2010.0000, U.S. OREGON STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, U.S. CONVERGENCE ANGLE = -0.317154" COMBINED SCALE FACTOR = 0.999966151

200 0 200 300 400
SCALE 1 INCH = 200 FEET

FILED
Date 12/11/19 By RS
This Survey Consist Of:
11 sheet(s) Map
7 page(s) Narrative
**JACKSON COUNTY
SURVEYOR**



MINISTER-GLAESER SURVEYING INC.

*Vancouver Office – 2200 E. Evergreen Blvd., Vancouver, Washington 98661 (360) 694-3313
Pasco Office – 6303 Burden Boulevard Suite B, Pasco, Washington 99301 (509) 544-7802*

SURVEY NARRATIVE

**UNITED STATES ARMY CORPS OF ENGINEERS
PORTLAND DISTRICT
LAND SURVEY FOR PROJECT BOUNDARY LINE MAINTENANCE
CONTRACT NO. W9127N-16-D-3003,
MINISTER & GLAESER SURVEYING, INC.
TASK ORDER W9127N18F0147
OPTIONAL TASK 14
ELK CREEK BOUNDARY
JACKSON COUNTY, OREGON
DECEMBER 9, 2019**

The purpose of this survey was to monument, mark and post the United States Army Corps of Engineers (USACE), Portland District, Elk Creek Dam and Lake Project Boundary.

Equipment

- 2018 GMC Sierra 2500 HD Survey Rig
- 3 Trimble R8s GNSS Receiver's
- 1 Trimble R10-2 GNSS Receiver
- 1 Trimble S8 Total Station
- 3 Trimble TDL 450H 35-Watt Radio
- 1 Trimble TSC3 Data Collector with Trimble Access Software
- AutoDesk Civil 3D (2020)
- Trimble Business Center
- Star-Net Least Squares Adjustment Software

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
JUNE 30, 1997
DANIEL A. RENTON
2830

Expires 12-31-2020

Procedure

A Trimble R8s GNSS base receiver was set on OPUS Shared Solution Point "TE-28" (PID: BBBK92, see attachment "A"). A second Trimble R8s GNSS base receiver was set on OPUS Shared Solution Point "ELK-1" (PID: BBGQ03 see attachment "A"). A third Trimble R8s GNSS base receiver was set on OPUS Shared Solution Point "SCALES"

(PID: BBGP99 see attachment "A") All three base receivers were operating in a Real Time Kinematic (RTK) mode and all three were transmitted the real time correction using a Trimble TDL 450H 35-Watt Radio.

A Trimble R10-2 GNSS rover receiver operating in a RTK mode and receiving corrections from all three base receivers, was used to check existing USACE control, set additional control, tie GPS accessible found monuments and tie fences. All points tied with the RTK GPS had two 3-minute occupation from each base station and was averaged to a single position. Daily checks were made to OPUS Shared Solution Point "51" (PID: BBGP98 see attachment "A") and OPUS Shared Solution Point "ELK-2" (PID: BBGQ02 see attachment "A"). A Trimble S8 total station was used to set corners and tie corners that were not GPS accessible. All data was processed in Trimble Business Center (TBC). All traverses were balanced using Star-Net Least Squares Adjustment Software.

All mapping was done in AutoDesk Civil3D (2020) software. All control monument found monuments and set monuments were submitted the USACE Survey Monument Archival and Retrieval Tool (U-SMART).

Boundary Resolution

The project boundary was dependent on the following Jackson County Surveys:

CS 11199
 CS 11247
 CS 11288
 CS 11289
 CS 11325
 CS 11324
 CS 11327
 CS 11328
 CS 11329

The project boundary retracement consisted of surveying the right bank project area and a portion of the left bank project are in Section 30, Township 33 South, Range 1 East, Willamette Meridian, Jackson County, Oregon. I found a total of 291 monuments and had to replace only 15 monuments. I used record information to replace the missing monuments

All found and set monuments had an orange Carsonite post set next to them, except for areas where the post could be destroyed by mowing or in a road. All distances greater than 500 feet between monuments required inter-visible Carsonite post set. All use lines, ie fences are shown on this survey. The center of Elk Creek as shown on Sheet 1 was created by digitizing the left bank and right bank using a 2012 (clear image) Google image. Once I had the polyline for the left and right bank, I used the AutoCAD LISP routine "Rolling Ball" to create the center of the channel.

Shared Solution

ATTACHMENT "A"

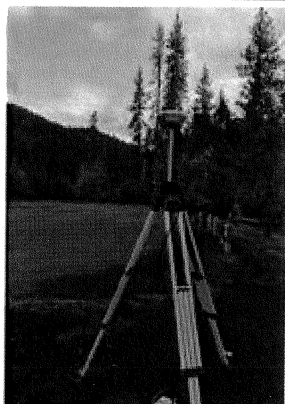
PID: BBGP98
Designation: 51
Stamping: NONE
Stability: Monuments of questionable or unknown reliability
Setting: Pavement (street, sidewalk, curb, etc.)
Description: MAG-NAIL WITH 2" ALUMINUM WASHER STAMPED "MGS CONTROL" SET IN ASPHALT, SE SIDE OF PARKING LOT, 2.5' E TO EDGE OF PAVEMENT, 13.1' NE TO 5' CHAIN LINK FENCE AT END, 9.8' SW TO 2.5' TALL WOODEN BOLLARD
Observed: 2018-11-06T00:25:00Z
Source: OPUS - page5 1801.18



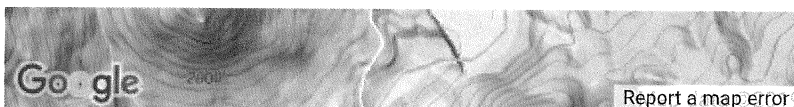
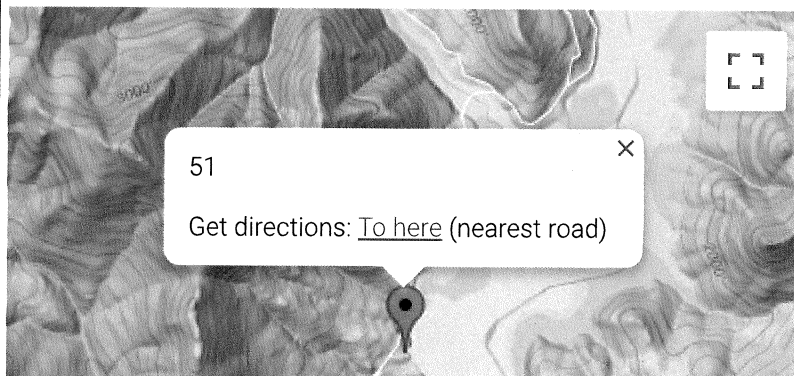
Close-up View

REF_FRAME: NAD_83(2011)	EPOCH: 2010.0000	SOURCE: NAVD88 (Computed using GEOID18)	UNITS: m	SET PROFILE	DETAILS
LAT: 42° 41' 3.04192" ± 0.006 m LON: -122° 44' 29.95969" ± 0.004 m ELL HT: 521.679 ± 0.007 m X: -2539945.564 ± 0.008 m Y: -3950051.943 ± 0.005 m Z: 4302130.423 ± 0.005 m ORTHO HT: 545.472 ± 0.033 m		UTM 10 SPC 3602(OR S) NORTHING: 4725776.655m 115486.680m EASTING: 521164.769m 1316314.639m CONVERGENCE: 0.17514722° -1.53362222° POINT SCALE: 0.99960551 0.99993012 COMBINED FACTOR: 0.99952373 0.99984832			

CONTRIBUTED BY
 crew
 MINISTER & GLAESER SURVEYING



Horizon View



The numerical values for this position solution have satisfied the quality control criteria of the National Geodetic Survey. The contributor has verified that the information submitted is accurate and complete.

Shared Solution

ATTACHMENT "A"


PID: BBBK92
Designation: TE-28
Stamping: TE-28 LS 1915 1991
Stability: Monument will probably hold position well
Setting: Large structures with deep foundations
Mark G
Condition:
Description: 3" BRASS DISK IN CONCRETE DECK, AT THE SOUTH END OF WALKWAY, OF THE EXTREME DOWNSTREAM END OF THE SPILLWAY WING WALL. TE-28 IS THE PRIMARY BENCHMARK FOR THE NON-FUNCTIONING GAGE AT ELK CREEK DAM AS THE SPILLWAY WAS DEMOLISHED PRIOR TO SITE VISIT BACK IN 2009.
 160' S OF EAST BLDG AT THE E CORNER, 700' E OF OLD ELK CREEK RD. AT BEND
Observed: 2018-11-05T23:21:00Z See Also [2009-08-31](#)
Source: OPUS - page5 1801.18

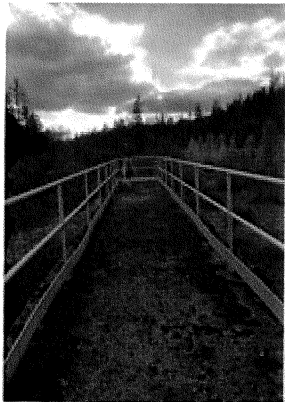


Close-up View

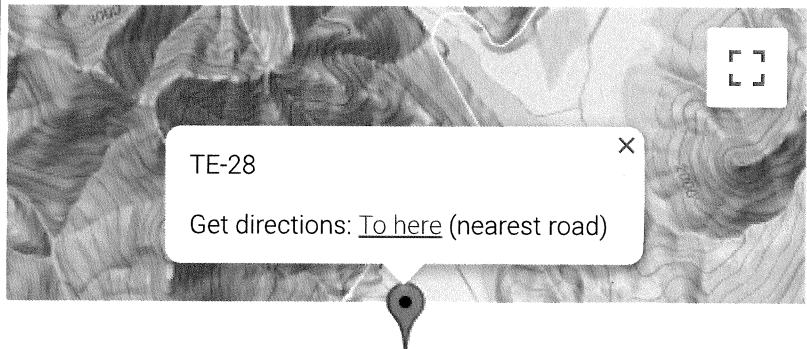
REF FRAME: NAD_83(2011)	EPOCH: 2010.0000	SOURCE: NAVD88 (Computed using GEOID18)	UNITS: m	SET PROFILE	DETAILS
LAT: 42° 40' 45.95041" ± 0.011 m LON: -122° 44' 20.44086" ± 0.006 m ELL HT: 441.967 ± 0.015 m X: -2539924.957 ± 0.009 m Y: -3950420.627 ± 0.008 m Z: 4301688.648 ± 0.014 m ORTHO HT: 465.775 ± 0.036 m		UTM 10 SPC 3602(OR S) NORTHING: 4725250.132m 114953.711m EASTING: 521383.015m 1316517.154m CONVERGENCE: 0.17692500° -1.53181389° POINT SCALE: 0.99960563 0.99993082 COMBINED FACTOR: 0.99953635 0.99986152			

CONTRIBUTED BY

[crew](#)
 **MINISTER & GLAESER SURVEYING**



Horizon View



Google

[Report a map error](#)

The numerical values for this position solution have satisfied the quality control criteria of the National Geodetic Survey. The contributor has verified that the information submitted is accurate and complete.

4 of 7

Shared Solution

ATTACHMENT "A"

PID: BBGQ03
Designation: ELK-1
Stamping: ELK-1 2018 LS2830
Stability: Monuments of questionable or unknown reliability
Setting: Object driven into ground
Description: SET 3 1/4" ALUMINUM DISK ON 5/8" x 24" IRON ROD, 1' E TO 6' CARSONITE POST, 43.1' N 45° W TO 8' PINE TREE, 79.7' N 58° W TO FACE OF GUARDRAIL, 89' E OF CENTERLINE OF ELK CREEK RD.
Observed: 2018-11-06T17:06:00Z
Source: OPUS - page5 1801.18



Close-up View

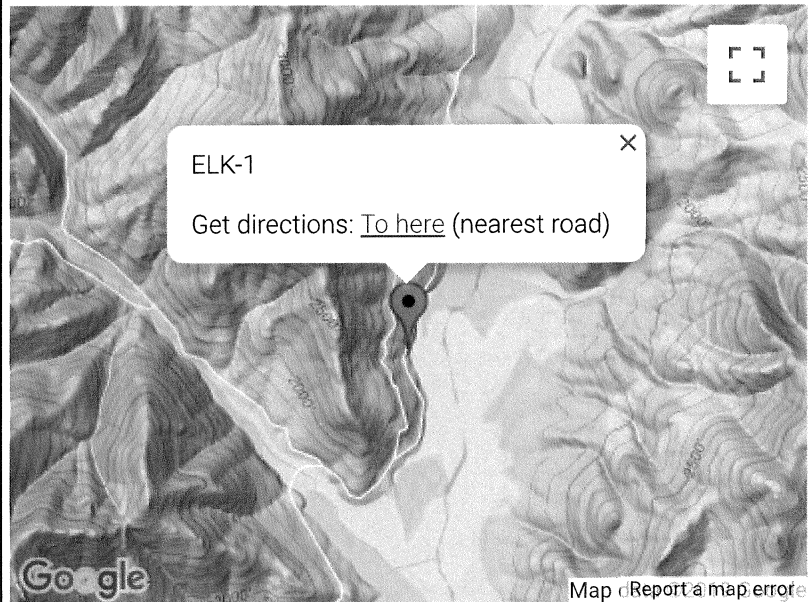
REF FRAME: NAD_83(2011)	EPOCH: 2010.0000	SOURCE: NAVD88 (Computed using GEOID18)	UNITS: m	SET PROFILE	DETAILS
LAT: 42° 42' 28.76497" ± 0.006 m	LON: -122° 43' 36.02626" ± 0.003 m	ELL HT: 517.943 ± 0.002 m	X: -2537941.319 ± 0.004 m	Y: -3949204.519 ± 0.002 m	Z: 4304072.163 ± 0.005 m
ORTHO HT: 541.671 ± 0.034 m	UTM 10 SPC 3602(OR S)		NORTHING: 4728424.655m 118098.002m	EASTING: 522383.570m 1317612.278m	CONVERGENCE: 0.18538611° -1.52337222°
			POINT SCALE: 0.99960616 0.99992672	COMBINED FACTOR: 0.99952497 0.99984550	

CONTRIBUTED BY

crew

MINISTER & GLAESER SURVEYING

Horizon View

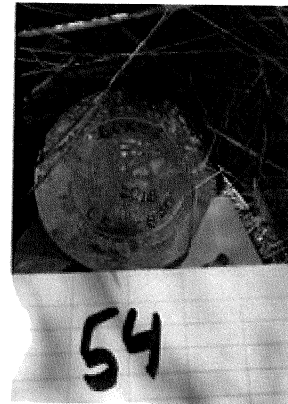


The numerical values for this position solution have satisfied the quality control criteria of the National Geodetic Survey. The contributor has verified that the information submitted is accurate and complete.

Shared Solution

ATTACHMENT "A"

PID: BBGQ02
Designation: ELK-2
Stamping: ELK-2 2018 LS2830
Stability: Monuments of questionable or unknown reliability
Setting: Object driven into ground
Description: 3 1/4" ALUMINUM DISK ON 5/8" x 24" IRON ROD ON S SIDE OF COUNTRY RD BLM 32-1E-27.0, 5' NW OF EDGE OF DIRT/GRAVEL RD, 26' E TO TOP OF CLIFF, 25' S 5' W TO CENTERLINE OF RD (BLM 32-1E-27.0) AT Y IN RD.
Observed: 2018-11-09T00:05:00Z
Source: OPUS - page5 1801.18



Close-up View

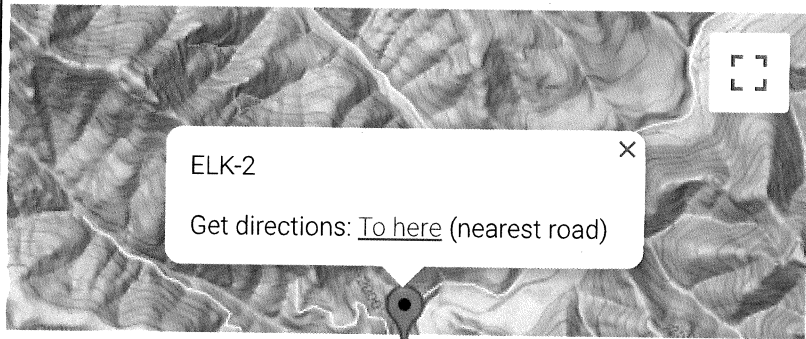
REF FRAME: NAD_83(2011)	EPOCH: 2010.0000	SOURCE: NAVD88 (Computed using GEOID18)	UNITS: m	SET PROFILE	DETAILS
LAT: 42° 44' 45.16688" ± 0.006 m LON: -122° 42' 34.31693" ± 0.005 m ELL HT: 560.943 ± 0.009 m X: -2535233.392 ± 0.007 m Y: -3947587.031 ± 0.007 m Z: 4307193.542 ± 0.007 m ORTHO HT: 584.567 ± 0.037 m		UTM 10 SPC 3602(OR S) NORTHING: 4732636.698m 122268.068m EASTING: 523772.871m 1319127.043m CONVERGENCE: 0.19715556° -1.51164444° POINT SCALE: 0.99960695 0.99992166 COMBINED FACTOR: 0.99951902 0.99983370			

CONTRIBUTED BY

crew

MINISTER & GLAESER SURVEYING

Horizon View



The numerical values for this position solution have satisfied the quality control criteria of the National Geodetic Survey. The contributor has verified that the information submitted is accurate and complete.

Shared Solution

ATTACHMENT "A"


PID: BBGP99
Designation: SCALES
Stamping: SCALES 1964 PORTLAND DISTRICT
Stability: Monuments of questionable or unknown reliability
Setting: Set in top of concrete monument
Description: 3 1/2" BRASS DISK IN CONCRETE, IN OPEN FIELD, AT EAST SIDE OF FIELD, 60' W OF EAST BRUSH LINE, 292' E OF ELK CREEK RD., 268' S OF NORTH BRUSH LINE.
Observed: 2018-11-10T21:46:00Z
Source: OPUS - page5 1801.18

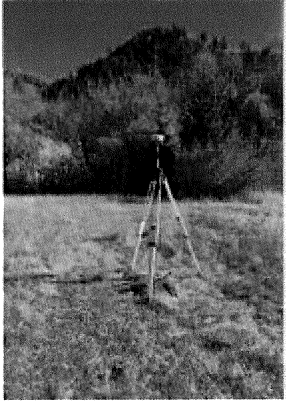


Close-up View

REF_FRAME: NAD_83(2011)	EPOCH: 2010.0000	SOURCE: NAVD88 (Computed using GEOID18)	UNITS: m	SET PROFILE	DETAILS
LAT: 42° 45' 11.90056" ± 0.001 m ELL HT: 510.190 ± 0.013 m X: -2533942.508 ± 0.016 m Y: -3947706.050 ± 0.014 m Z: 4307764.919 ± 0.009 m ORTHO HT: 533.796 ± 0.039 m		UTM 10 SPC 3602(OR S) NORTHING: 4733465.363m 123062.408m EASTING: 524919.975m 1320298.715m CONVERGENCE: 0.20672222° -1.50203333° POINT SCALE: 0.99960764 0.99992072 COMBINED FACTOR: 0.99952767 0.99984072			

CONTRIBUTED BY

[crew](#)
 **MINISTER & GLAESER SURVEYING**



Horizon View

The numerical values for this position solution have satisfied the quality control criteria of the National Geodetic Survey. The contributor has verified that the information submitted is accurate and complete.

7 of 7