

CA_UpperSouthAmerican_Eldorado_2019_B19 D1

Survey Report

Contract Number: G17PC00044

Task Order Number: 140G0219F0344



Government Point-of-Contact (POC)

Organization: United States Geological Survey

Telephone: True

Address: Gail Dunn, MS 663

1400 Independence Road

Rolla, MO, 65401



Contractor Point-of-Contact (POC)

Address: Digital Aerial Solutions, LLC

Telephone: (813) 628-0788

Joshua Helton (VP)

4027 Crescent Park Drive

Riverview, FL 33578

Overview

Digital Aerial Solutions, LLC (DAS) with contract number G17PC00044 was contracted by the United States Geological Survey under task order number 140G0219F0344 collect a high-resolution LiDAR data set covering 1,978 square miles affecting Alpine, Amador, Calaveras, El Dorado, Placer, Sacramento and Sutter counties in California. Each of these categories was spread out as evenly as possible throughout the Area of Interest D1 (AOI). The survey was completed using the Global Positioning System (GPS). Each observation was identified in the field and surveyed utilizing GPS receivers, collecting GNSS and GLONASS information and utilizing a Leica Smart-Net RTK network. In accordance with section C.1.e.(i)(f) of the task order, the spatial reference system used was:

Spatial Reference System:

Coordinate System: NAD_1983_StatePlane_California_II_FIPS_0402_Feet

Horizontal Datum: North American Datum 1983 (2011)

Vertical Datum: North American Vertical Datum of 1988

Units: US SURVEY FEET

Geoid Model: Geoid12B

Section C.1.b. (viii)(a) of the task order outlines the ground control minimum requirements and specifications for this LiDAR project. 23 Supplemental ground control points were collected and used to support the airborne GPS solution and positional accuracy. DAS also collected more than the required number of Non-Vegetated Vertical Accuracy (NVA) and Vegetated Vertical Accuracy (VVA) Quality Checkpoints as stated in the task order. These checkpoints serve as an independent delivery to the client and were not incorporated into the vertical solution.

Glossary of Terms

Term - Definition

ATTN	-	Attention
BE	-	Bare Earth Checkpoint (see NVA)
CTRL	-	Control
DAS	-	Digital Aerial Solutions, LLC
Ellip	-	Ellipsoid Height
FIPS	-	Federal Information Processing Standard
GPS	-	Global Positioning Systems
UT	-	Urban Terrain (see NVA)
HV	-	High Vegetation (see VVA)
ID	-	Identification
LV	-	Low Vegetation (see VVA)
LiDAR	-	Light Detection and Ranging
MV	-	Medium Vegetation (see VVA)
NAD83	-	North American Datum of 1983
NAVD88	-	North American Vertical Datum of 1988
NGS	-	National Geodetic Survey
NGTOC	-	National Geospatial Technical Operations Center
NVA	-	Non-Vegetated Vertical Accuracy
Ortho	-	Orthometric Height
POC	-	Point of Contact
RTK	-	Real Time Kinematics
USGS	-	United States Geological Survey
VP	-	Vice President
VVA	-	Vegetated Vertical Accuracy

Supplemental Ground Control

The Map shows the overall distribution of the Supplemental Ground Control throughout the D1 AOI. The following tables contain a list of the control using Easting, Northing, and Orthometric height. The coordinate system displayed as NAD_1983_StatePlane_California_II_FIPS_0402_Feet, North American Datum 1983 (2011), North American Vertical Datum of 1988, Geoid12B and using US SURVEY FEET for measurement.

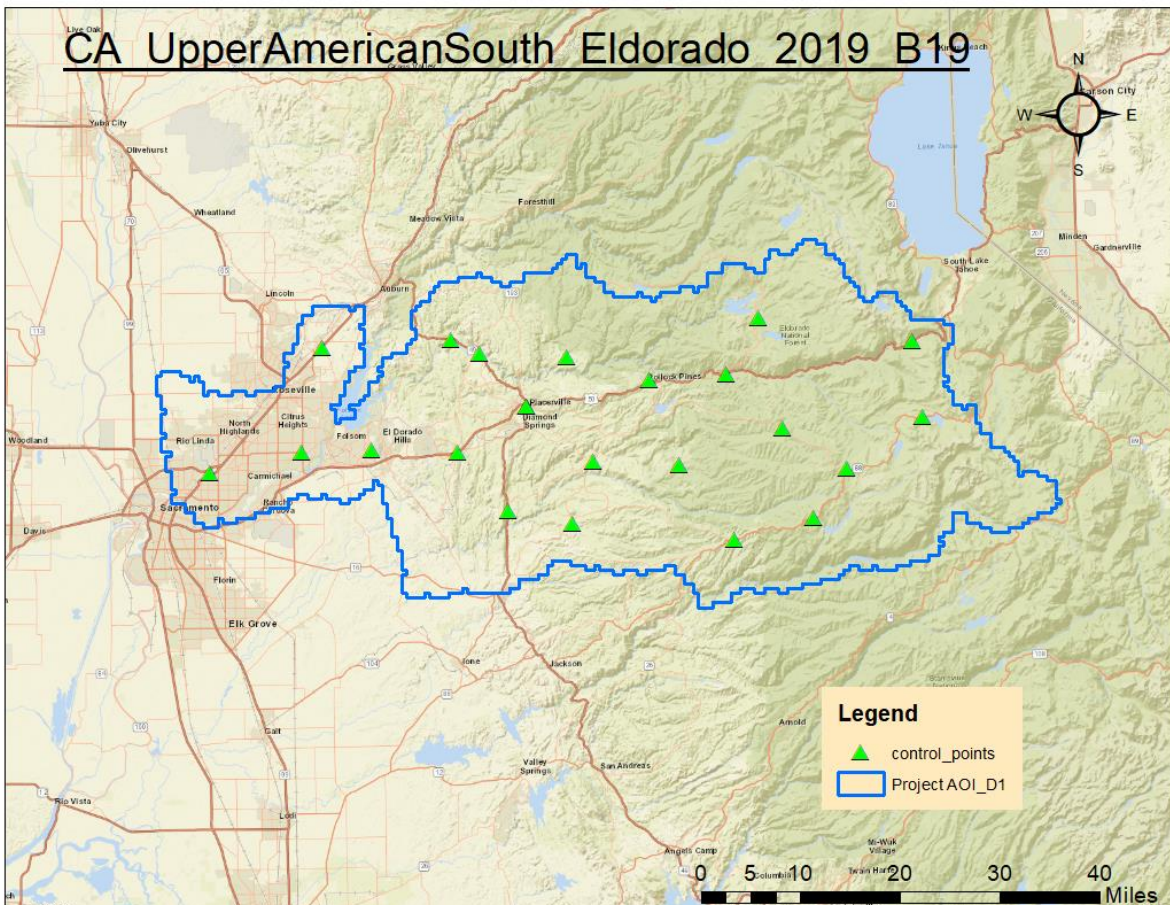


TABLE: Ground Control Points

Point ID	Easting	Northing	Ortho
1_GS0093	6891649.116	1973215.168	841.823
1_GS0117	6936714.846	1999839.419	2037.443
1_GS0122	6982539.302	1997546.376	3933.615
1_GS0152	6865132.993	2004181.902	1528.385
1_GS0001	6793114.78	2059695.761	374.764
1_GS0010	7106552.001	2063614.828	6706.553
1_GS0017	7024625.907	2075545.617	4973.298
1_GS0026	7007761.672	2046107.946	3326.169
1_GS0035	6966807.569	2042560.692	3963.258
1_GS0040	6922796.372	2054856.158	2545.076
1_GS0049	6861486.727	2064387.58	691.219
1_GS0054	6876663.181	2056773.21	749.935
1_GS0064	7037594.566	2017163.299	6175.319
1_GS0069	7071578.922	1995727.514	7359.954
1_GS0074	7111615.926	2023610.334	7687.935
1_GS0083	7054102.746	1970004.851	6513.184
1_GS0087	7011727.128	1958321.364	4988.5
1_GS0108	6925914.414	1966783.683	2134.213
1_GS0134	6733244.338	1993294.017	61.615
1_GS0140	6782069.104	2004449.656	230.042
1_GS0145	6819237.93	2005963.752	509.462
1_GS0161	6901392.431	2029059.333	1824.852
1_GS0162	6901554.723	2029059.732	1822.049

1_GS0093



Point ID: 1_GS0093

Northing: 1973215.168 US Survey Feet

Easting: 6891649.116 US Survey Feet

Orthometric Height: 841.823 US Survey Feet

Latitude: 38° 34' 28.96137" N

Longitude: 120° 50' 44.62349" W

Ellipsoid Height: 228.1175 US Survey Feet

1_GS0117



Point ID: 1_GS0117

Northing: 1999839.419 US Survey Feet

Easting: 6936714.846 US Survey Feet

Orthometric Height: 2037.443 US Survey Feet

Latitude: 38° 38' 46.07593" N

Longitude: 120° 41' 12.35303" W

Ellipsoid Height: 593.7307 US Survey Feet

1_GS0122



Point ID: 1_GS0122

Northing: 1997546.376 US Survey Feet

Easting: 6982539.302 US Survey Feet

Orthometric Height: 3933.615 US Survey Feet

Latitude: 38° 38' 16.46631" N

Longitude: 120° 31' 35.28001" W

Ellipsoid Height: 1172.9651 US Survey Feet

1_GS0152



Point ID: 1_GS0152

Northing: 2004181.902 US Survey Feet

Easting: 6865132.993 US Survey Feet

Orthometric Height: 1528.385 US Survey Feet

Latitude: 38° 39' 38.24857" N

Longitude: 120° 56' 13.94162" W

Ellipsoid Height: 437.4278 US Survey Feet

1_GS0001



Point ID: 1_GS0001

Northing: 2059695.761 US Survey Feet

Easting: 6793114.78 US Survey Feet

Orthometric Height: 374.764 US Survey Feet

Latitude: 38° 48' 54.32726" N

Longitude: 121° 11' 15.62472" W

Ellipsoid Height: 84.6636 US Survey Feet

1_GS0010



Point ID: 1_GS0010

Northing: 2063614.828 US Survey Feet

Easting: 7106552.001 US Survey Feet

Orthometric Height: 6706.553 US Survey Feet

Latitude: 38° 48' 46.61584" N

Longitude: 120° 05' 15.09792" W

Ellipsoid Height: 2020.3953 US Survey Feet

1_GS0017



Point ID: 1_GS0017

Northing: 2075545.617 US Survey Feet

Easting: 7024625.907 US Survey Feet

Orthometric Height: 4973.298 US Survey Feet

Latitude: 38° 51' 00.29456" N

Longitude: 120° 22' 27.33879" W

Ellipsoid Height: 1491.2927 US Survey Feet

1_GS0026



Point ID: 1_GS0026

Northing: 2046107.946 US Survey Feet

Easting: 7007761.672 US Survey Feet

Orthometric Height: 3326.169 US Survey Feet

Latitude: 38° 46' 12.27123" N

Longitude: 120° 26' 06.89800" W

Ellipsoid Height: 988.7138 US Survey Feet

1_GS0035



Point ID: 1_GS0035

Northing: 2042560.692 US Survey Feet

Easting: 6966807.569 US Survey Feet

Orthometric Height: 3963.258 US Survey Feet

Latitude: 38° 45' 43.86073" N

Longitude: 120° 34' 44.66112" W

Ellipsoid Height: 1181.9785 US Survey Feet

1_GS0040



Point ID: 1_GS0040

Northing: 2054856.158 US Survey Feet

Easting: 6922796.372 US Survey Feet

Orthometric Height: 2545.076 US Survey Feet

Latitude: 38° 47' 51.82381" N

Longitude: 120° 43' 58.10881" W

Ellipsoid Height: 748.7711 US Survey Feet

1_GS0049



Point ID: 1_GS0049

Northing: 2064387.58 US Survey Feet

Easting: 6861486.727 US Survey Feet

Orthometric Height: 691.219 US Survey Feet

Latitude: 38° 49' 33.76976" N

Longitude: 120° 56' 51.11868" W

Ellipsoid Height: 182.6368 US Survey Feet

1_GS0054



Point ID: 1_GS0054

Northing: 2056773.21 US Survey Feet

Easting: 6876663.181 US Survey Feet

Orthometric Height: 749.935 US Survey Feet

Latitude: 38° 48' 16.72523" N

Longitude: 120° 53' 40.51989" W

Ellipsoid Height: 200.6781 US Survey Feet

1_GS0064



Point ID: 1_GS0064

Northing: 2017163.299 US Survey Feet

Easting: 7037594.566 US Survey Feet

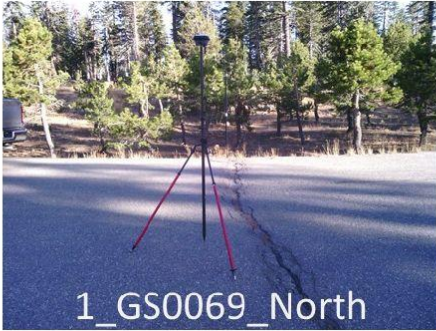
Orthometric Height: 6175.319 US Survey Feet

Latitude: 38° 41' 20.94983" N

Longitude: 120° 19' 56.96837" W

Ellipsoid Height: 1857.5627 US Survey Feet

1_GS0069



Point ID: 1_GS0069

Northing: 1995727.514 US Survey Feet

Easting: 7071578.922 US Survey Feet

Orthometric Height: 7359.954 US Survey Feet

Latitude: 38° 37' 42.70998" N

Longitude: 120° 12' 53.72963" W

Ellipsoid Height: 2219.0712 US Survey Feet

1_GS0074



Point ID: 1_GS0074

Northing: 2023610.334 US Survey Feet

Easting: 7111615.926 US Survey Feet

Orthometric Height: 7687.935 US Survey Feet

Latitude: 38° 42' 10.19664" N

Longitude: 120° 04' 21.84989" W

Ellipsoid Height: 2319.4914 US Survey Feet

1_GS0083



Point ID: 1_GS0083

Northing: 1970004.851 US Survey Feet

Easting: 7054102.746 US Survey Feet

Orthometric Height: 6513.184 US Survey Feet

Latitude: 38° 33' 31.81658" N

Longitude: 120° 16' 40.06549" W

Ellipsoid Height: 1960.4789 US Survey Feet

1_GS0087



Point ID: 1_GS0087

Northing: 1958321.364 US Survey Feet

Easting: 7011727.128 US Survey Feet

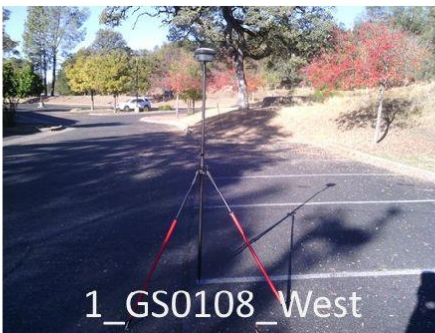
Orthometric Height: 4988.5 US Survey Feet

Latitude: 38° 31' 43.93641" N

Longitude: 120° 25' 36.02338" W

Ellipsoid Height: 1494.8048 US Survey Feet

1_GS0108



Point ID: 1_GS0108

Northing: 1966783.683 US Survey Feet

Easting: 6925914.414 US Survey Feet

Orthometric Height: 2134.213 US Survey Feet

Latitude: 38° 33' 20.86553" N

Longitude: 120° 43' 34.31918" W

Ellipsoid Height: 622.7243 US Survey Feet

1_GS0134



Point ID: 1_GS0134

Northing: 1993294.017 US Survey Feet

Easting: 6733244.338 US Survey Feet

Orthometric Height: 61.615 US Survey Feet

Latitude: 38° 38' 02.55571" N

Longitude: 121° 23' 57.61441" W

Ellipsoid Height: -11.8109 US Survey Feet

1_GS0140



Point ID: 1_GS0140

Northing: 2004449.656 US Survey Feet

Easting: 6782069.104 US Survey Feet

Orthometric Height: 230.042 US Survey Feet

Latitude: 38° 39' 49.18359" N

Longitude: 121° 13' 41.11030" W

Ellipsoid Height: 40.0748 US Survey Feet

1_GS0145



Point ID: 1_GS0145
Northing: 2005963.752 US Survey Feet
Easting: 6819237.93 US Survey Feet
Orthometric Height: 509.462 US Survey Feet
Latitude: 38° 40' 00.76605" N
Longitude: 121° 05' 52.31537" W
Ellipsoid Height: 125.8685 US Survey Feet

1_GS0161



Point ID: 1_GS0161

Northing: 2029059.333 US Survey Feet

Easting: 6901392.431 US Survey Feet

Orthometric Height: 1824.852 US Survey Feet

Latitude: 38° 43' 39.70333" N

Longitude: 120° 48' 32.72754" W

Ellipsoid Height: 528.4928 US Survey Feet

1_GS0162



Point ID: 1_GS0162

Northing: 2029059.732 US Survey Feet

Easting: 6901554.723 US Survey Feet

Orthometric Height: 1822.049 US Survey Feet

Latitude: 38° 43' 39.68626" N

Longitude: 120° 48' 30.67962" W

Ellipsoid Height: 527.6421 US Survey Feet

Non-Vegetated Vertical Accuracy Checkpoints Bare Earth

The Map shows the overall distribution of the Non-Vegetated Vertical Accuracy Checkpoint throughout the D1 AOI. The following tables contain a list of the control using Easting, Northing, and Orthometric height. The coordinate system displayed as NAD_1983_StatePlane_California_II_FIPS_0402_Feet, North American Datum 1983 (2011), North American Vertical Datum of 1988, Geoid12B and using US SURVEY FEET for measurement.

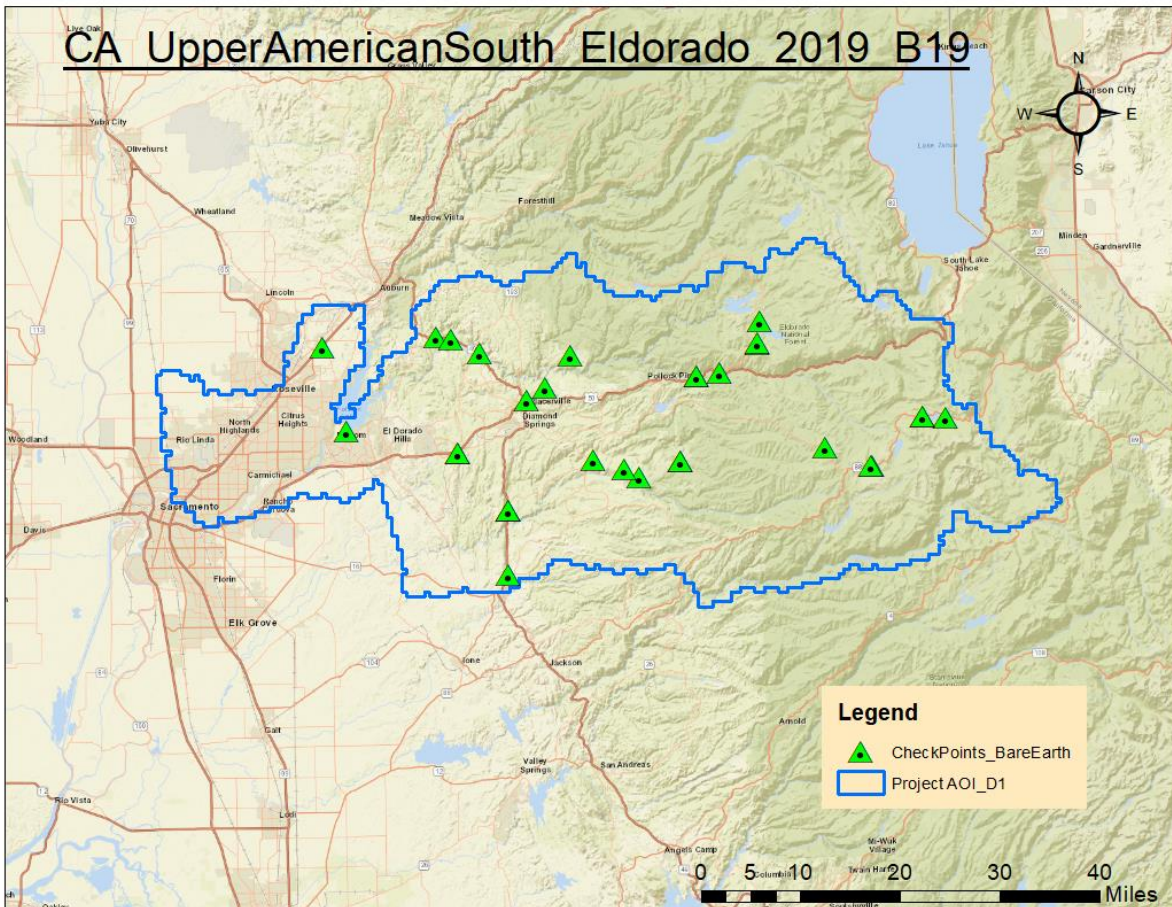


TABLE: Bare Earth

Point ID	Easting	Northing	Ortho
1_GS0002	6793174.799	2059631.071	372.876
1_GS0018	7025030.439	2074136.214	4974.264
1_GS0019	7023892.78	2061935.586	5311.03
1_GS0020	7023816.841	2062068.902	5314.301
1_GS0029	7003665.137	2046530.729	3244.797
1_GS0030	6991711.723	2044537.118	3369.136
1_GS0032	6991531.677	2044599.327	3376.3
1_GS0043	6924993.111	2055540.352	2601.263
1_GS0044	6911398.609	2038754.108	2431.152
1_GS0046	6901367.668	2031935.2	1917.438
1_GS0048	6853276.536	2065267.64	809.109
1_GS0050	6861548.062	2064333.639	688.43
1_GS0058	6876836.031	2056676.38	747.812
1_GS0068	7059914.245	2006796.028	6982.043
1_GS0073	7123885.604	2022709.732	7985.786
1_GS0075	7111849.276	2023618.893	7683.912
1_GS0076	7111946.287	2023625.818	7683.582
1_GS0078	7084755.22	1997406.915	7728.334
1_GS0080	7084545.301	1997351.707	7724.154
1_GS0094	6891619.552	1973154.359	841.151
1_GS0096	6891679.481	1973265.051	842.922
1_GS0097	6891732.388	1973335.412	845.728
1_GS0098	6892049.125	1939223.459	1084.706
1_GS0119	6936758.681	1999935.47	2046.39
1_GS0121	6961512.027	1990906.123	3160.405
1_GS0123	6983298.499	1999288.716	3995.837
1_GS0124	6983360.033	1999348.48	3996.072
1_GS0126	6953533.312	1995569.604	3023.332
1_GS0144	6806086.728	2015626.584	440.136
1_GS0154	6865075.386	2004123.417	1527.15
1_GS0155	6865177.711	2004107.518	1526.943

1_GS0002



Point ID: 1_GS0002

Northing: 2059631.071 US Survey Feet

Easting: 6793174.799 US Survey Feet

Orthometric Height: 372.876 US Survey Feet

Latitude: 38° 48' 53.68252" N

Longitude: 121° 11' 14.87371" W

Ellipsoid Height: 84.0886 US Survey Feet

1_GS0018



Point ID: 1_GS0018

Northing: 2074136.214 US Survey Feet

Easting: 7025030.439 US Survey Feet

Orthometric Height: 4974.264 US Survey Feet

Latitude: 38° 50' 46.29319" N

Longitude: 120° 22' 22.54485" W

Ellipsoid Height: 1491.589 US Survey Feet

1_GS0019



Point ID: 1_GS0019

Northing: 2061935.586 US Survey Feet

Easting: 7023892.78 US Survey Feet

Orthometric Height: 5311.03 US Survey Feet

Latitude: 38° 48' 45.90931" N

Longitude: 120° 22' 39.67604" W

Ellipsoid Height: 1594.1673 US Survey Feet

1_GS0020



Point ID: 1_GS0020

Northing: 2062068.902 US Survey Feet

Easting: 7023816.841 US Survey Feet

Orthometric Height: 5314.301 US Survey Feet

Latitude: 38° 48' 47.24034" N

Longitude: 120° 22' 40.60529" W

Ellipsoid Height: 1595.1642 US Survey Feet

1_GS0029



Point ID: 1_GS0029

Northing: 2046530.729 US Survey Feet

Easting: 7003665.137 US Survey Feet

Orthometric Height: 3244.797 US Survey Feet

Latitude: 38° 46' 17.14389" N

Longitude: 120° 26' 58.52615" W

Ellipsoid Height: 963.8296 US Survey Feet

1_GS0030



Point ID: 1_GS0030

Northing: 2044537.118 US Survey Feet

Easting: 6991711.723 US Survey Feet

Orthometric Height: 3369.136 US Survey Feet

Latitude: 38° 45' 59.42799" N

Longitude: 120° 29' 29.86137" W

Ellipsoid Height: 1001.4423 US Survey Feet

1_GS0032



Point ID: 1_GS0032

Northing: 2044599.327 US Survey Feet

Easting: 6991531.677 US Survey Feet

Orthometric Height: 3376.3 US Survey Feet

Latitude: 38° 46' 00.07241" N

Longitude: 120° 29' 32.12133" W

Ellipsoid Height: 1003.6217 US Survey Feet

1_GS0043



Point ID: 1_GS0043

Northing: 2055540.352 US Survey Feet

Easting: 6924993.111 US Survey Feet

Orthometric Height: 2601.263 US Survey Feet

Latitude: 38° 47' 58.28280" N

Longitude: 120° 43' 30.24135" W

Ellipsoid Height: 765.9601 US Survey Feet

1_GS0044



Point ID: 1_GS0044

Northing: 2038754.108 US Survey Feet

Easting: 6911398.609 US Survey Feet

Orthometric Height: 2431.152 US Survey Feet

Latitude: 38° 45' 14.21370" N

Longitude: 120° 46' 24.81561" W

Ellipsoid Height: 713.6074 US Survey Feet

1_GS0046



Point ID: 1_GS0046

Northing: 2031935.2 US Survey Feet

Easting: 6901367.668 US Survey Feet

Orthometric Height: 1917.438 US Survey Feet

Latitude: 38° 44' 08.13252" N

Longitude: 120° 48' 32.56442" W

Ellipsoid Height: 556.7421 US Survey Feet

1_GS0048



Point ID: 1_GS0048

Northing: 2065267.64 US Survey Feet

Easting: 6853276.536 US Survey Feet

Orthometric Height: 809.109 US Survey Feet

Latitude: 38° 49' 43.39571" N

Longitude: 120° 58' 34.73823" W

Ellipsoid Height: 218.4674 US Survey Feet

1_GS0050



Point ID: 1_GS0050

Northing: 2064333.639 US Survey Feet

Easting: 6861548.062 US Survey Feet

Orthometric Height: 688.43 US Survey Feet

Latitude: 38° 49' 33.22957" N

Longitude: 120° 56' 50.35154" W

Ellipsoid Height: 181.7869 US Survey Feet

1_GS0058



Point ID: 1_GS0058

Northing: 2056676.38 US Survey Feet

Easting: 6876836.031 US Survey Feet

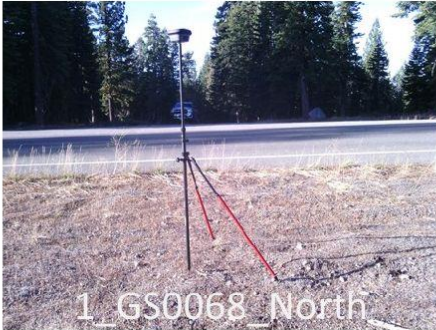
Orthometric Height: 747.812 US Survey Feet

Latitude: 38° 48' 15.74733" N

Longitude: 120° 53' 38.35133" W

Ellipsoid Height: 200.0331 US Survey Feet

1_GS0068



Point ID: 1_GS0068

Northing: 2006796.028 US Survey Feet

Easting: 7059914.245 US Survey Feet

Orthometric Height: 6982.043 US Survey Feet

Latitude: 38° 39' 34.34325" N

Longitude: 120° 15' 18.02136" W

Ellipsoid Height: 2103.7746 US Survey Feet

1_GS0073



Point ID: 1_GS0073

Northing: 2022709.732 US Survey Feet

Easting: 7123885.604 US Survey Feet

Orthometric Height: 7985.786 US Survey Feet

Latitude: 38° 41' 58.69546" N

Longitude: 120° 01' 47.35011" W

Ellipsoid Height: 2410.3292 US Survey Feet

1_GS0075



Point ID: 1_GS0075

Northing: 2023618.893 US Survey Feet

Easting: 7111849.276 US Survey Feet

Orthometric Height: 7683.912 US Survey Feet

Latitude: 38° 42' 10.23230" N

Longitude: 120° 04' 18.90455" W

Ellipsoid Height: 2318.2664 US Survey Feet

1_GS0076



Point ID: 1_GS0076

Northing: 2023625.818 US Survey Feet

Easting: 7111946.287 US Survey Feet

Orthometric Height: 7683.582 US Survey Feet

Latitude: 38° 42' 10.28037" N

Longitude: 120° 04' 17.67919" W

Ellipsoid Height: 2318.1657 US Survey Feet

1_GS0078



Point ID: 1_GS0078

Northing: 1997406.915 US Survey Feet

Easting: 7084755.22 US Survey Feet

Orthometric Height: 7728.334 US Survey Feet

Latitude: 38° 37' 56.71654" N

Longitude: 120° 10' 07.29067" W

Ellipsoid Height: 2331.5277 US Survey Feet

1_GS0080



Point ID: 1_GS0080

Northing: 1997351.707 US Survey Feet

Easting: 7084545.301 US Survey Feet

Orthometric Height: 7724.154 US Survey Feet

Latitude: 38° 37' 56.21272" N

Longitude: 120° 10' 09.94967" W

Ellipsoid Height: 2330.2512 US Survey Feet

1_GS0094



1_GS0094_North



1_GS0094_East



1_GS0094_West



1_GS0094_South

Point ID: 1_GS0094

Northing: 1973154.359 US Survey Feet

Easting: 6891619.552 US Survey Feet

Orthometric Height: 841.151 US Survey Feet

Latitude: 38° 34' 28.36400" N

Longitude: 120° 50' 45.00546" W

Ellipsoid Height: 227.9115 US Survey Feet

1_GS0096



Point ID: 1_GS0096

Northing: 1973265.051 US Survey Feet

Easting: 6891679.481 US Survey Feet

Orthometric Height: 842.922 US Survey Feet

Latitude: 38° 34' 29.45060" N

Longitude: 120° 50' 44.23314" W

Ellipsoid Height: 228.4539 US Survey Feet

1_GS0097



Point ID: 1_GS0097

Northing: 1973335.412 US Survey Feet

Easting: 6891732.388 US Survey Feet

Orthometric Height: 845.728 US Survey Feet

Latitude: 38° 34' 30.13944" N

Longitude: 120° 50' 43.55573" W

Ellipsoid Height: 229.3106 US Survey Feet

1_GS0098



Point ID: 1_GS0098

Northing: 1939223.459 US Survey Feet

Easting: 6892049.125 US Survey Feet

Orthometric Height: 1084.706 US Survey Feet

Latitude: 38° 28' 52.92251" N

Longitude: 120° 50' 45.02279" W

Ellipsoid Height: 301.7605 US Survey Feet

1_GS0119



Point ID: 1_GS0119
Northing: 1999935.47 US Survey Feet
Easting: 6936758.681 US Survey Feet
Orthometric Height: 2046.39 US Survey Feet
Latitude: 38° 38' 47.01906" N
Longitude: 120° 41' 11.78304" W
Ellipsoid Height: 596.46 US Survey Feet

1_GS0121



Point ID: 1_GS0121

Northing: 1990906.123 US Survey Feet

Easting: 6961512.027 US Survey Feet

Orthometric Height: 3160.405 US Survey Feet

Latitude: 38° 37' 14.11981" N

Longitude: 120° 36' 01.55565" W

Ellipsoid Height: 936.5949 US Survey Feet

1_GS0123



Point ID: 1_GS0123

Northing: 1999288.716 US Survey Feet

Easting: 6983298.499 US Survey Feet

Orthometric Height: 3995.837 US Survey Feet

Latitude: 38° 38' 33.56565" N

Longitude: 120° 31' 25.35601" W

Ellipsoid Height: 1191.9652 US Survey Feet

1_GS0124



Point ID: 1_GS0124

Northing: 1999348.48 US Survey Feet

Easting: 6983360.033 US Survey Feet

Orthometric Height: 3996.072 US Survey Feet

Latitude: 38° 38' 34.14647" N

Longitude: 120° 31' 24.56826" W

Ellipsoid Height: 1192.039 US Survey Feet

1_GS0126



Point ID: 1_GS0126

Northing: 1995569.604 US Survey Feet

Easting: 6953533.312 US Survey Feet

Orthometric Height: 3023.332 US Survey Feet

Latitude: 38° 38' 01.41652" N

Longitude: 120° 37' 41.19287" W

Ellipsoid Height: 894.6397 US Survey Feet

1_GS0144



Point ID: 1_GS0144

Northing: 2015626.584 US Survey Feet

Easting: 6806086.728 US Survey Feet

Orthometric Height: 440.136 US Survey Feet

Latitude: 38° 41' 37.53827" N

Longitude: 121° 08' 36.97908" W

Ellipsoid Height: 104.498 US Survey Feet

1_GS0154



Point ID: 1_GS0154

Northing: 2004123.417 US Survey Feet

Easting: 6865075.386 US Survey Feet

Orthometric Height: 1527.15 US Survey Feet

Latitude: 38° 39' 37.67714" N

Longitude: 120° 56' 14.67649" W

Ellipsoid Height: 437.0496 US Survey Feet

1_GS0155



Point ID: 1_GS0155

Northing: 2004107.518 US Survey Feet

Easting: 6865177.711 US Survey Feet

Orthometric Height: 1526.943 US Survey Feet

Latitude: 38° 39' 37.50815" N

Longitude: 120° 56' 13.38884" W

Ellipsoid Height: 436.9879 US Survey Feet

Non-Vegetated Vertical Accuracy Checkpoints Urban Terrain

The Map shows the overall distribution of the Non-Vegetated Vertical Accuracy Checkpoint, Urban Terrain throughout the D1 AOI. The following tables contain a list of the control using Easting, Northing, and Orthometric height. The coordinate system displayed as NAD_1983_StatePlane_California_II_FIPS_0402_Feet, North American Datum 1983 (2011), North American Vertical Datum of 1988, Geoid12B and using US SURVEY FEET for measurement.

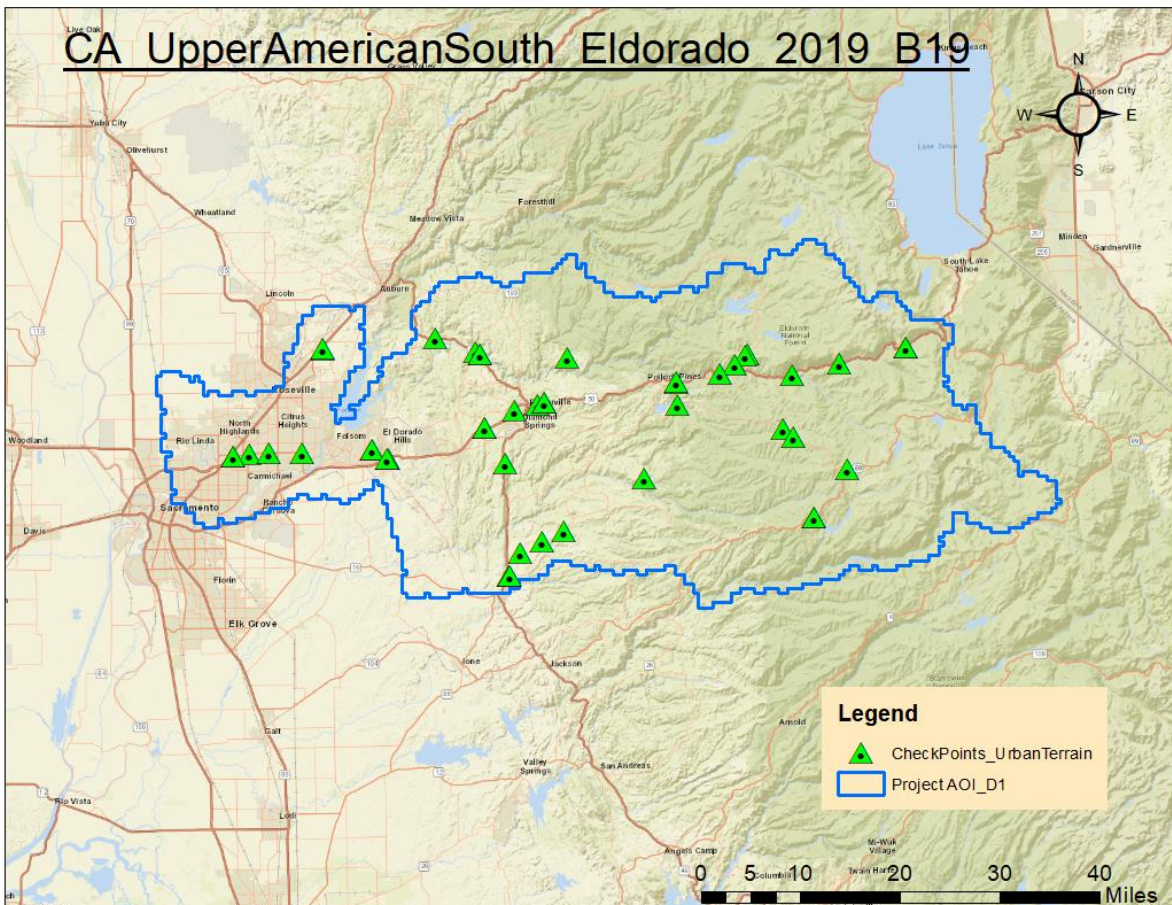


TABLE: Urban Terrain

Point ID	Easting	Northing	Ortho
1_GS0003	6793269.679	2059478.112	370.584
1_GS0004	6793068.338	2059769.39	375.262
1_GS0012	7102392.67	2060484.819	6551.945
1_GS0014	7102531.412	2060425.567	6557.01
1_GS0015	7067497.922	2051977.323	5258.559
1_GS0016	7042030.553	2046147.661	3998.669
1_GS0021	7018458.324	2056619.963	5243.02
1_GS0022	7017369.352	2056099.295	5196.532
1_GS0023	7012013.937	2051619.356	4294.104
1_GS0027	7003773.919	2046437.442	3247
1_GS0033	6980726.971	2041907.44	3619.086
1_GS0034	6980803.495	2042027.906	3619.072
1_GS0042	6922955.329	2054845.46	2551.566
1_GS0045	6907255.959	2030136.728	1903.731
1_GS0047	6853181.649	2065315.353	812.701
1_GS0053	6874344.255	2057903.222	740.292
1_GS0055	6876605.033	2056895.709	749.94
1_GS0059	6876800.065	2056748.301	749.298
1_GS0062	6981173.102	2029835.045	3988.957
1_GS0065	7037543.415	2017186.685	6175.551
1_GS0067	7042878.194	2012926.786	6312.459
1_GS0072	7071672.292	1995747.202	7360.08
1_GS0084	7054133.911	1970279.644	6541.405
1_GS0085	7053848.964	1970244.233	6531.445
1_GS0091	6889814.826	1998903.916	1803.927
1_GS0099	6892119.59	1939246.455	1085.626
1_GS0101	6892195.795	1939157.701	1085.529
1_GS0102	6898228.617	1951735.197	1451.154
1_GS0104	6909799.443	1957755.137	1780.25
1_GS0106	6921000.778	1963179.464	1992.486
1_GS0125	6963684.707	1991027.224	3103.782
1_GS0132	6754284.122	2003662.79	113.336
1_GS0136	6745739.037	2002680.425	109.986
1_GS0137	6745594.977	2002580.226	109.158
1_GS0139	6764270.003	2004646.349	184.161

1_GS0142	6781952.593	2004405.237	231.963
1_GS0147	6819257.304	2006046.168	510.279
1_GS0148	6819159.419	2006038.72	509.077
1_GS0150	6827619.551	2001551.415	623.178
1_GS0151	6827443.085	2001399.362	623.048
1_GS0157	6878970.988	2017697.721	1373.097
1_GS0158	6878970.467	2017597.68	1375.17
1_GS0160	6894743.655	2027075.401	1776.245
1_GS0164	6910709.727	2031073.592	1988.096
1_GS0165	6910576.841	2030998.606	1984.116

1_GS0003



Point ID: 1_GS0003

Northing: 2059478.112 US Survey Feet

Easting: 6793269.679 US Survey Feet

Orthometric Height: 370.584 US Survey Feet

Latitude: 38° 48' 52.16217" N

Longitude: 121° 11' 13.69224" W

Ellipsoid Height: 83.3901 US Survey Feet

1_GS0004



Point ID: 1_GS0004

Northing: 2059769.39 US Survey Feet

Easting: 6793068.338 US Survey Feet

Orthometric Height: 375.262 US Survey Feet

Latitude: 38° 48' 55.05917" N

Longitude: 121° 11' 16.20318" W

Ellipsoid Height: 84.8157 US Survey Feet

1_GS0012



Point ID: 1_GS0012

Northing: 2060484.819 US Survey Feet

Easting: 7102392.67 US Survey Feet

Orthometric Height: 6551.945 US Survey Feet

Latitude: 38° 48' 16.54399" N

Longitude: 120° 06' 08.46356" W

Ellipsoid Height: 1973.2326 US Survey Feet

1_GS0014



Point ID: 1_GS0014

Northing: 2060425.567 US Survey Feet

Easting: 7102531.412 US Survey Feet

Orthometric Height: 6557.01 US Survey Feet

Latitude: 38° 48' 15.92979" N

Longitude: 120° 06' 06.72684" W

Ellipsoid Height: 1974.7767 US Survey Feet

1_GS0015



Point ID: 1_GS0015

Northing: 2051977.323 US Survey Feet

Easting: 7067497.922 US Survey Feet

Orthometric Height: 5258.559 US Survey Feet

Latitude: 38° 46' 59.43241" N

Longitude: 120° 13' 31.30674" W

Ellipsoid Height: 1578.6874 US Survey Feet

1_GS0016



Point ID: 1_GS0016

Northing: 2046147.661 US Survey Feet

Easting: 7042030.553 US Survey Feet

Orthometric Height: 3998.669 US Survey Feet

Latitude: 38° 46' 06.60738" N

Longitude: 120° 18' 54.25115" W

Ellipsoid Height: 1194.2525 US Survey Feet

1_GS0021



Point ID: 1_GS0021

Northing: 2056619.963 US Survey Feet

Easting: 7018458.324 US Survey Feet

Orthometric Height: 5243.02 US Survey Feet

Latitude: 38° 47' 54.32530" N

Longitude: 120° 23' 49.51175" W

Ellipsoid Height: 1573.3062 US Survey Feet

1_GS0022



Point ID: 1_GS0022

Northing: 2056099.295 US Survey Feet

Easting: 7017369.352 US Survey Feet

Orthometric Height: 5196.532 US Survey Feet

Latitude: 38° 47' 49.36884" N

Longitude: 120° 24' 03.38120" W

Ellipsoid Height: 1559.1102 US Survey Feet

1_GS0023



Point ID: 1_GS0023

Northing: 2051619.356 US Survey Feet

Easting: 7012013.937 US Survey Feet

Orthometric Height: 4294.104 US Survey Feet

Latitude: 38° 47' 06.01681" N

Longitude: 120° 25' 12.00303" W

Ellipsoid Height: 1283.8857 US Survey Feet

1_GS0027



Point ID: 1_GS0027

Northing: 2046437.442 US Survey Feet

Easting: 7003773.919 US Survey Feet

Orthometric Height: 3247 US Survey Feet

Latitude: 38° 46' 16.20351" N

Longitude: 120° 26' 57.17287" W

Ellipsoid Height: 964.5025 US Survey Feet

1_GS0033



Point ID: 1_GS0033

Northing: 2041907.44 US Survey Feet

Easting: 6980726.971 US Survey Feet

Orthometric Height: 3619.086 US Survey Feet

Latitude: 38° 45' 35.21586" N

Longitude: 120° 31' 49.07723" W

Ellipsoid Height: 1077.3676 US Survey Feet

1_GS0034



Point ID: 1_GS0034

Northing: 2042027.906 US Survey Feet

Easting: 6980803.495 US Survey Feet

Orthometric Height: 3619.072 US Survey Feet

Latitude: 38° 45' 36.39431" N

Longitude: 120° 31' 48.08662" W

Ellipsoid Height: 1077.3659 US Survey Feet

1_GS0042



Point ID: 1_GS0042

Northing: 2054845.46 US Survey Feet

Easting: 6922955.329 US Survey Feet

Orthometric Height: 2551.566 US Survey Feet

Latitude: 38° 47' 51.69617" N

Longitude: 120° 43' 56.10293" W

Ellipsoid Height: 750.7534 US Survey Feet

1_GS0045



Point ID: 1_GS0045

Northing: 2030136.728 US Survey Feet

Easting: 6907255.959 US Survey Feet

Orthometric Height: 1903.731 US Survey Feet

Latitude: 38° 43' 49.58651" N

Longitude: 120° 47' 18.55839" W

Ellipsoid Height: 552.667 US Survey Feet

1_GS0047



Point ID: 1_GS0047

Northing: 2065315.353 US Survey Feet

Easting: 6853181.649 US Survey Feet

Orthometric Height: 812.701 US Survey Feet

Latitude: 38° 49' 43.87789" N

Longitude: 120° 58' 35.93047" W

Ellipsoid Height: 219.5613 US Survey Feet

1_GS0053



Point ID: 1_GS0053

Northing: 2057903.222 US Survey Feet

Easting: 6874344.255 US Survey Feet

Orthometric Height: 740.292 US Survey Feet

Latitude: 38° 48' 28.17249" N

Longitude: 120° 54' 09.64060" W

Ellipsoid Height: 197.7121 US Survey Feet

1_GS0055



Point ID: 1_GS0055

Northing: 2056895.709 US Survey Feet

Easting: 6876605.033 US Survey Feet

Orthometric Height: 749.94 US Survey Feet

Latitude: 38° 48' 17.94305" N

Longitude: 120° 53' 41.23562" W

Ellipsoid Height: 200.6804 US Survey Feet

1_GS0059



Point ID: 1_GS0059

Northing: 2056748.301 US Survey Feet

Easting: 6876800.065 US Survey Feet

Orthometric Height: 749.298 US Survey Feet

Latitude: 38° 48' 16.46256" N

Longitude: 120° 53' 38.79457" W

Ellipsoid Height: 200.4859 US Survey Feet

1_GS0062



Point ID: 1_GS0062

Northing: 2029835.045 US Survey Feet

Easting: 6981173.102 US Survey Feet

Orthometric Height: 3988.957 US Survey Feet

Latitude: 38° 43' 35.82267" N

Longitude: 120° 31' 45.91174" W

Ellipsoid Height: 1190.0282 US Survey Feet

1_GS0065



Point ID: 1_GS0065

Northing: 2017186.685 US Survey Feet

Easting: 7037543.415 US Survey Feet

Orthometric Height: 6175.551 US Survey Feet

Latitude: 38° 41' 21.19026" N

Longitude: 120° 19' 57.60801" W

Ellipsoid Height: 1857.6334 US Survey Feet

1_GS0067



Point ID: 1_GS0067

Northing: 2012926.786 US Survey Feet

Easting: 7042878.194 US Survey Feet

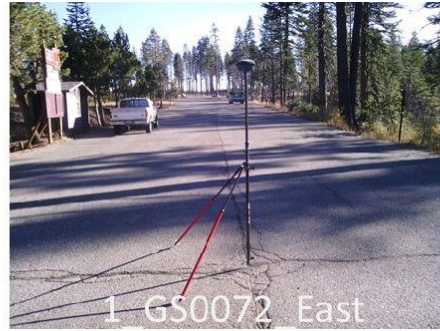
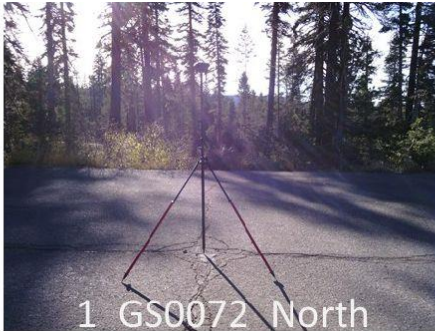
Orthometric Height: 6312.459 US Survey Feet

Latitude: 38° 40' 38.11472" N

Longitude: 120° 18' 51.33058" W

Ellipsoid Height: 1899.4331 US Survey Feet

1_GS0072



Point ID: 1_GS0072

Northing: 1995747.202 US Survey Feet

Easting: 7071672.292 US Survey Feet

Orthometric Height: 7360.08 US Survey Feet

Latitude: 38° 37' 42.88643" N

Longitude: 120° 12' 52.54836" W

Ellipsoid Height: 2219.1111 US Survey Feet

1_GS0084



Point ID: 1_GS0084

Northing: 1970279.644 US Survey Feet

Easting: 7054133.911 US Survey Feet

Orthometric Height: 6541.405 US Survey Feet

Latitude: 38° 33' 34.52663" N

Longitude: 120° 16' 39.60765" W

Ellipsoid Height: 1969.0847 US Survey Feet

1_GS0085



Point ID: 1_GS0085

Northing: 1970244.233 US Survey Feet

Easting: 7053848.964 US Survey Feet

Orthometric Height: 6531.445 US Survey Feet

Latitude: 38° 33' 34.23004" N

Longitude: 120° 16' 43.20283" W

Ellipsoid Height: 1966.044 US Survey Feet

1_GS0091



Point ID: 1_GS0091

Northing: 1998903.916 US Survey Feet

Easting: 6889814.826 US Survey Feet

Orthometric Height: 1803.927 US Survey Feet

Latitude: 38° 38' 43.10950" N

Longitude: 120° 51' 03.62997" W

Ellipsoid Height: 521.6294 US Survey Feet

1_GS0099



Point ID: 1_GS0099
Northing: 1939246.455 US Survey Feet
Easting: 6892119.59 US Survey Feet
Orthometric Height: 1085.626 US Survey Feet
Latitude: 38° 28' 53.14097" N
Longitude: 120° 50' 44.13300" W
Ellipsoid Height: 302.0429 US Survey Feet

1_GS0101



Point ID: 1_GS0101

Northing: 1939157.701 US Survey Feet

Easting: 6892195.795 US Survey Feet

Orthometric Height: 1085.529 US Survey Feet

Latitude: 38° 28' 52.25411" N

Longitude: 120° 50' 43.18891" W

Ellipsoid Height: 302.0144 US Survey Feet

1_GS0102



Point ID: 1_GS0102

Northing: 1951735.197 US Survey Feet

Easting: 6898228.617 US Survey Feet

Orthometric Height: 1451.154 US Survey Feet

Latitude: 38° 30' 55.81048" N

Longitude: 120° 49' 25.27982" W

Ellipsoid Height: 413.7472 US Survey Feet

1_GS0104



Point ID: 1_GS0104

Northing: 1957755.137 US Survey Feet

Easting: 6909799.443 US Survey Feet

Orthometric Height: 1780.25 US Survey Feet

Latitude: 38° 31' 53.80771" N

Longitude: 120° 46' 58.69515" W

Ellipsoid Height: 514.3866 US Survey Feet

1_GS0106



Point ID: 1_GS0106

Northing: 1963179.464 US Survey Feet

Easting: 6921000.778 US Survey Feet

Orthometric Height: 1992.486 US Survey Feet

Latitude: 38° 32' 45.91663" N

Longitude: 120° 44' 36.79853" W

Ellipsoid Height: 579.3843 US Survey Feet

1_GS0125



Point ID: 1_GS0125

Northing: 1991027.224 US Survey Feet

Easting: 6963684.707 US Survey Feet

Orthometric Height: 3103.782 US Survey Feet

Latitude: 38° 37' 14.98514" N

Longitude: 120° 35' 34.15851" W

Ellipsoid Height: 919.4026 US Survey Feet

1_GS0132



Point ID: 1_GS0132
Northing: 2003662.79 US Survey Feet
Easting: 6754284.122 US Survey Feet
Orthometric Height: 113.336 US Survey Feet
Latitude: 38° 39' 43.59135" N
Longitude: 121° 19' 31.49021" W
Ellipsoid Height: 4.1687 US Survey Feet

1_GS0136



Point ID: 1_GS0136

Northing: 2002680.425 US Survey Feet

Easting: 6745739.037 US Survey Feet

Orthometric Height: 109.986 US Survey Feet

Latitude: 38° 39' 34.49383" N

Longitude: 121° 21' 19.31029" W

Ellipsoid Height: 3.0603 US Survey Feet

1_GS0137



Point ID: 1_GS0137

Northing: 2002580.226 US Survey Feet

Easting: 6745594.977 US Survey Feet

Orthometric Height: 109.158 US Survey Feet

Latitude: 38° 39' 33.51349" N

Longitude: 121° 21' 21.13543" W

Ellipsoid Height: 2.8062 US Survey Feet

1_GS0139



Point ID: 1_GS0139

Northing: 2004646.349 US Survey Feet

Easting: 6764270.003 US Survey Feet

Orthometric Height: 184.161 US Survey Feet

Latitude: 38° 39' 52.56202" N

Longitude: 121° 17' 25.49695" W

Ellipsoid Height: 25.8743 US Survey Feet

1_GS0142



1_GS0142_North



1_GS0142_East



1_GS0142_West



1_GS0142_South

Point ID: 1_GS0142

Northing: 2004405.237 US Survey Feet

Easting: 6781952.593 US Survey Feet

Orthometric Height: 231.963 US Survey Feet

Latitude: 38° 39' 48.75431" N

Longitude: 121° 13' 42.58394" W

Ellipsoid Height: 40.6594 US Survey Feet

1_GS0147



Point ID: 1_GS0147

Northing: 2006046.168 US Survey Feet

Easting: 6819257.304 US Survey Feet

Orthometric Height: 510.279 US Survey Feet

Latitude: 38° 40' 01.57882" N

Longitude: 121° 05' 52.06081" W

Ellipsoid Height: 126.1194 US Survey Feet

1_GS0148



Point ID: 1_GS0148

Northing: 2006038.72 US Survey Feet

Easting: 6819159.419 US Survey Feet

Orthometric Height: 509.077 US Survey Feet

Latitude: 38° 40' 01.51478" N

Longitude: 121° 05' 53.29588" W

Ellipsoid Height: 125.7502 US Survey Feet

1_GS0150



Point ID: 1_GS0150

Northing: 2001551.415 US Survey Feet

Easting: 6827619.551 US Survey Feet

Orthometric Height: 623.178 US Survey Feet

Latitude: 38° 39' 16.31569" N

Longitude: 121° 04' 07.20995" W

Ellipsoid Height: 160.699 US Survey Feet

1_GS0151



Point ID: 1_GS0151

Northing: 2001399.362 US Survey Feet

Easting: 6827443.085 US Survey Feet

Orthometric Height: 623.048 US Survey Feet

Latitude: 38° 39' 14.83054" N

Longitude: 121° 04' 09.45408" W

Ellipsoid Height: 160.6537 US Survey Feet

1_GS0157



Point ID: 1_GS0157

Northing: 2017697.721 US Survey Feet

Easting: 6878970.988 US Survey Feet

Orthometric Height: 1373.097 US Survey Feet

Latitude: 38° 41' 50.20883" N

Longitude: 120° 53' 17.40658" W

Ellipsoid Height: 390.3553 US Survey Feet

1_GS0158



Point ID: 1_GS0158

Northing: 2017597.68 US Survey Feet

Easting: 6878970.467 US Survey Feet

Orthometric Height: 1375.17 US Survey Feet

Latitude: 38° 41' 49.22003" N

Longitude: 120° 53' 17.42858" W

Ellipsoid Height: 390.9859 US Survey Feet

1_GS0160



Point ID: 1_GS0160

Northing: 2027075.401 US Survey Feet

Easting: 6894743.655 US Survey Feet

Orthometric Height: 1776.245 US Survey Feet

Latitude: 38° 43' 20.94629" N

Longitude: 120° 49' 56.94610" W

Ellipsoid Height: 513.532 US Survey Feet

1_GS0164



Point ID: 1_GS0164

Northing: 2031073.592 US Survey Feet

Easting: 6910709.727 US Survey Feet

Orthometric Height: 1988.096 US Survey Feet

Latitude: 38° 43' 58.38933" N

Longitude: 120° 46' 34.81686" W

Ellipsoid Height: 578.4674 US Survey Feet

1_GS0165



Point ID: 1_GS0165

Northing: 2030998.606 US Survey Feet

Easting: 6910576.841 US Survey Feet

Orthometric Height: 1984.116 US Survey Feet

Latitude: 38° 43' 57.66584" N

Longitude: 120° 46' 36.50651" W

Ellipsoid Height: 577.2502 US Survey Feet

Vegetated Vertical Accuracy Checkpoints Low Vegetation

The Map shows the overall distribution of the Vegetated Vertical Accuracy Checkpoint, Low Vegetation throughout the D1 AOI. The following tables contain a list of the control using Easting, Northing, and Orthometric height. The coordinate system displayed as NAD_1983_StatePlane_California_II_FIPS_0402_Feet, North American Datum 1983 (2011), North American Vertical Datum of 1988, Geoid12B and using US SURVEY FEET for measurement.

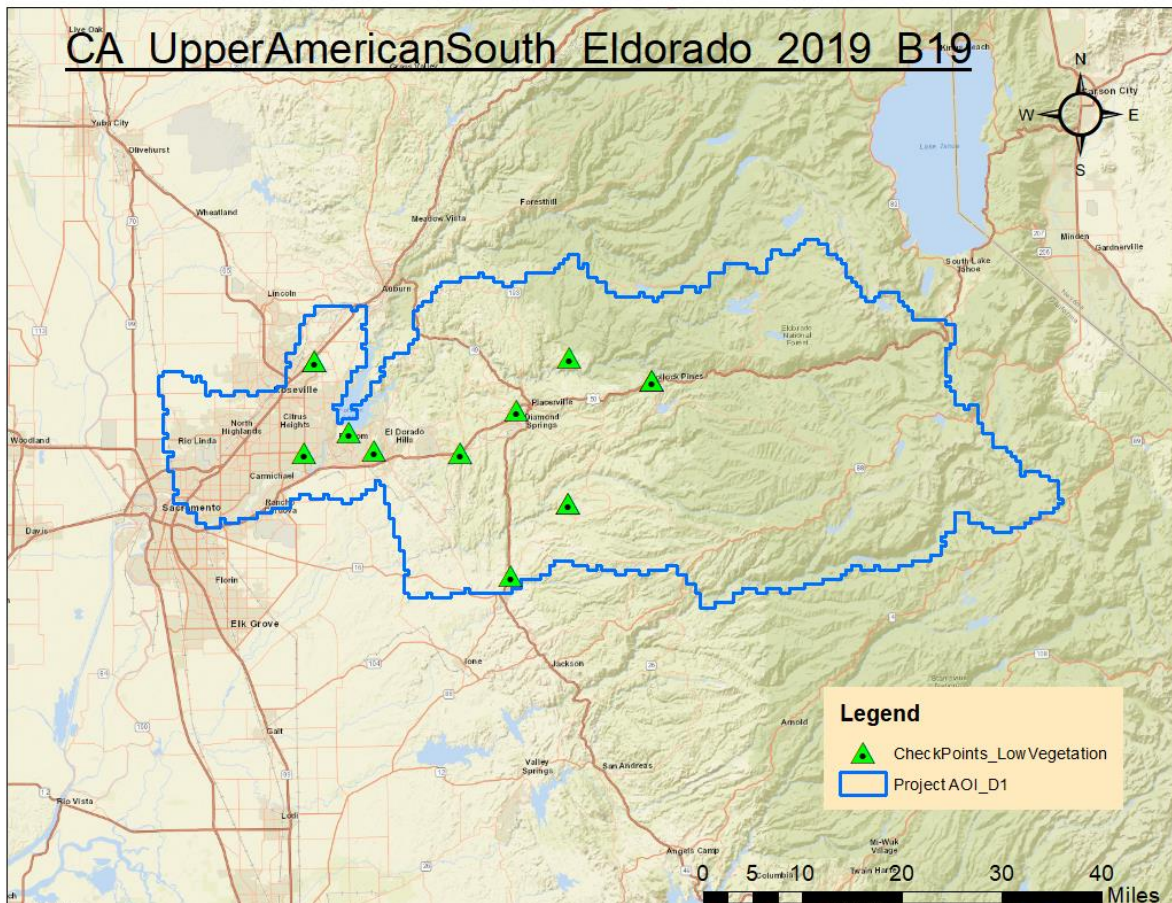


TABLE: Low Vegetation

Point ID	Easting	Northing	Ortho
1_GS0005	6787848.93	2053434.505	317.735
1_GS0007	6787907.717	2053413.949	316.437
1_GS0036	6966897.361	2042559.418	3962.842
1_GS0038	6966732.209	2042669.674	3963.921
1_GS0039	6966746.746	2042547.085	3965.064
1_GS0041	6922860.988	2054831.666	2548.838
1_GS0100	6892083.28	1939014.576	1074.838
1_GS0113	6922481.287	1977711.258	1840.258
1_GS0114	6922509.6	1977828.058	1839.397
1_GS0141	6781956.786	2004491.536	231.696
1_GS0143	6806005.834	2015569.395	439.25
1_GS0146	6819331.382	2005938.382	510.193
1_GS0153	6865000.41	2004233.459	1524.232
1_GS0159	6894783.229	2026986.82	1777.604

1_GS0005



Point ID: 1_GS0005

Northing: 2053434.505 US Survey Feet

Easting: 6787848.93 US Survey Feet

Orthometric Height: 317.735 US Survey Feet

Latitude: 38° 47' 52.89645" N

Longitude: 121° 12' 22.84684" W

Ellipsoid Height: 67.115 US Survey Feet

1_GS0007



Point ID: 1_GS0007

Northing: 2053413.949 US Survey Feet

Easting: 6787907.717 US Survey Feet

Orthometric Height: 316.437 US Survey Feet

Latitude: 38° 47' 52.68819" N

Longitude: 121° 12' 22.10656" W

Ellipsoid Height: 66.7199 US Survey Feet

1_GS0036



Point ID: 1_GS0036

Northing: 2042559.418 US Survey Feet

Easting: 6966897.361 US Survey Feet

Orthometric Height: 3962.842 US Survey Feet

Latitude: 38° 45' 43.83428" N

Longitude: 120° 34' 43.52784" W

Ellipsoid Height: 1181.8527 US Survey Feet

1_GS0038



Point ID: 1_GS0038

Northing: 2042669.674 US Survey Feet

Easting: 6966732.209 US Survey Feet

Orthometric Height: 3963.921 US Survey Feet

Latitude: 38° 45' 44.94955" N

Longitude: 120° 34' 45.59094" W

Ellipsoid Height: 1182.1789 US Survey Feet

1_GS0039



Point ID: 1_GS0039

Northing: 2042547.085 US Survey Feet

Easting: 6966746.746 US Survey Feet

Orthometric Height: 3965.064 US Survey Feet

Latitude: 38° 45' 43.73564" N

Longitude: 120° 34' 45.43161" W

Ellipsoid Height: 1182.5273 US Survey Feet

1_GS0041



Point ID: 1_GS0041

Northing: 2054831.666 US Survey Feet

Easting: 6922860.988 US Survey Feet

Orthometric Height: 2548.838 US Survey Feet

Latitude: 38° 47' 51.57283" N

Longitude: 120° 43' 57.29697" W

Ellipsoid Height: 749.9191 US Survey Feet

1_GS0100



Point ID: 1_GS0100

Northing: 1939014.576 US Survey Feet

Easting: 6892083.28 US Survey Feet

Orthometric Height: 1074.838 US Survey Feet

Latitude: 38° 28' 50.85354" N

Longitude: 120° 50' 44.62665" W

Ellipsoid Height: 298.7512 US Survey Feet

1_GS0113



Point ID: 1_GS0113

Northing: 1977711.258 US Survey Feet

Easting: 6922481.287 US Survey Feet

Orthometric Height: 1840.258 US Survey Feet

Latitude: 38° 35' 09.35006" N

Longitude: 120° 44' 15.62400" W

Ellipsoid Height: 533.1201 US Survey Feet

1_GS0114



Point ID: 1_GS0114

Northing: 1977828.058 US Survey Feet

Easting: 6922509.6 US Survey Feet

Orthometric Height: 1839.397 US Survey Feet

Latitude: 38° 35' 10.50066" N

Longitude: 120° 44' 15.24700" W

Ellipsoid Height: 532.8589 US Survey Feet

1_GS0141



Point ID: 1_GS0141

Northing: 2004491.536 US Survey Feet

Easting: 6781956.786 US Survey Feet

Orthometric Height: 231.696 US Survey Feet

Latitude: 38° 39' 49.60698" N

Longitude: 121° 13' 42.52183" W

Ellipsoid Height: 40.5776 US Survey Feet

1_GS0143



Point ID: 1_GS0143

Northing: 2015569.395 US Survey Feet

Easting: 6806005.834 US Survey Feet

Orthometric Height: 439.25 US Survey Feet

Latitude: 38° 41' 36.98050" N

Longitude: 121° 08' 38.00621" W

Ellipsoid Height: 104.2257 US Survey Feet

1_GS0146



Point ID: 1_GS0146

Northing: 2005938.382 US Survey Feet

Easting: 6819331.382 US Survey Feet

Orthometric Height: 510.193 US Survey Feet

Latitude: 38° 40' 00.50609" N

Longitude: 121° 05' 51.14029" W

Ellipsoid Height: 126.0944 US Survey Feet

1_GS0153



Point ID: 1_GS0153

Northing: 2004233.459 US Survey Feet

Easting: 6865000.41 US Survey Feet

Orthometric Height: 1524.232 US Survey Feet

Latitude: 38° 39' 38.77351" N

Longitude: 120° 56' 15.60547" W

Ellipsoid Height: 436.1613 US Survey Feet

1_GS0159



Point ID: 1_GS0159

Northing: 2026986.82 US Survey Feet

Easting: 6894783.229 US Survey Feet

Orthometric Height: 1777.604 US Survey Feet

Latitude: 38° 43' 20.06570" N

Longitude: 120° 49' 56.46115" W

Ellipsoid Height: 513.9461 US Survey Feet

Vegetated Vertical Accuracy Checkpoints Medium Vegetation

The Map shows the overall distribution of the Vegetated Vertical Accuracy Checkpoint, Medium Vegetation throughout the D1 AOI. The following tables contain a list of the control using Easting, Northing, and Orthometric Height. The coordinate system displayed as NAD_1983_StatePlane_California_II_FIPS_0402_Feet, North American Datum 1983 (2011), North American Vertical Datum of 1988, Geoid12B and using US SURVEY FEET for measurement.

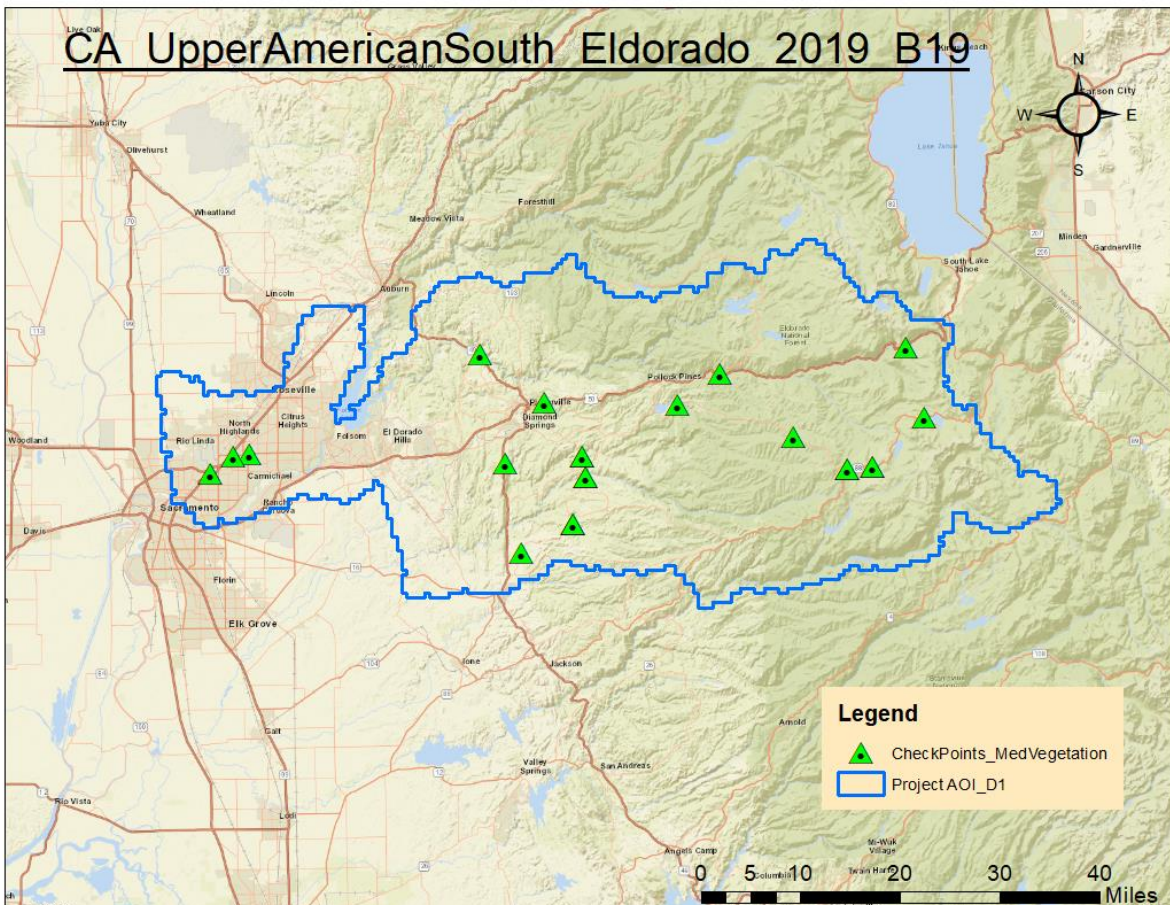


TABLE: Medium Vegetation

Point ID	Easting	Northing	Ortho
1_GS0013	7102417.677	2060638.739	6553.66
1_GS0028	7003892.906	2046342.959	3245.174
1_GS0060	6876893.564	2056849.165	750.83
1_GS0063	6981343.191	2029853.341	3991.279
1_GS0066	7042803.859	2012927.776	6308.758
1_GS0070	7071541.93	1995808.754	7359.294
1_GS0071	7071380.607	1995783.635	7364.928
1_GS0077	7112059.214	2023639.322	7683.036
1_GS0079	7084647.486	1997380.061	7722.699
1_GS0081	7084709.132	1997298.752	7729.112
1_GS0090	6889809.997	1998786.518	1805.529
1_GS0103	6898315.627	1951692.809	1448.295
1_GS0109	6926021.741	1966780.482	2141.879
1_GS0110	6925799.893	1966783.757	2135.082
1_GS0111	6925731.88	1966864.553	2142.306
1_GS0115	6932913.529	1991693.792	1749.795
1_GS0116	6932897.181	1991499.251	1758.444
1_GS0127	6930768.288	2002847.227	2019.448
1_GS0128	6930806.567	2002746.279	2009.089
1_GS0131	6754197.553	2003651.437	113.389
1_GS0133	6733354.014	1993344.445	62.895
1_GS0135	6745710.048	2002592.196	112.438
1_GS0163	6910617.17	2031063.801	1985.807

1_GS0013



Point ID: 1_GS0013

Northing: 2060638.739 US Survey Feet

Easting: 7102417.677 US Survey Feet

Orthometric Height: 6553.66 US Survey Feet

Latitude: 38° 48' 18.06003" N

Longitude: 120° 06' 08.10710" W

Ellipsoid Height: 1973.7566 US Survey Feet

1_GS0028



Point ID: 1_GS0028

Northing: 2046342.959 US Survey Feet

Easting: 7003892.906 US Survey Feet

Orthometric Height: 3245.174 US Survey Feet

Latitude: 38° 46' 15.24960" N

Longitude: 120° 26' 55.69097" W

Ellipsoid Height: 963.9475 US Survey Feet

1_GS0060



Point ID: 1_GS0060

Northing: 2056849.165 US Survey Feet

Easting: 6876893.564 US Survey Feet

Orthometric Height: 750.83 US Survey Feet

Latitude: 38° 48' 17.44830" N

Longitude: 120° 53' 37.59798" W

Ellipsoid Height: 200.9563 US Survey Feet

1_GS0063



Point ID: 1_GS0063

Northing: 2029853.341 US Survey Feet

Easting: 6981343.191 US Survey Feet

Orthometric Height: 3991.279 US Survey Feet

Latitude: 38° 43' 35.97633" N

Longitude: 120° 31' 43.76192" W

Ellipsoid Height: 1190.7403 US Survey Feet

1_GS0066



Point ID: 1_GS0066

Northing: 2012927.776 US Survey Feet

Easting: 7042803.859 US Survey Feet

Orthometric Height: 6308.758 US Survey Feet

Latitude: 38° 40' 38.13811" N

Longitude: 120° 18' 52.26759" W

Ellipsoid Height: 1898.3036 US Survey Feet

1_GS0070



Point ID: 1_GS0070

Northing: 1995808.754 US Survey Feet

Easting: 7071541.93 US Survey Feet

Orthometric Height: 7359.294 US Survey Feet

Latitude: 38° 37' 43.52008" N

Longitude: 120° 12' 54.17561" W

Ellipsoid Height: 2218.87 US Survey Feet

1_GS0071



Point ID: 1_GS0071

Northing: 1995783.635 US Survey Feet

Easting: 7071380.607 US Survey Feet

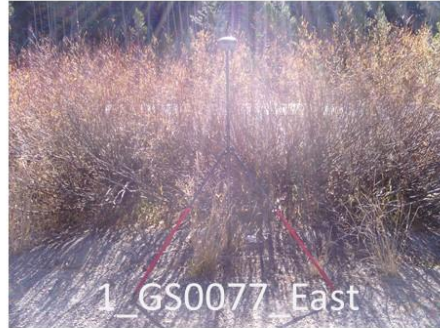
Orthometric Height: 7364.928 US Survey Feet

Latitude: 38° 37' 43.30316" N

Longitude: 120° 12' 56.21439" W

Ellipsoid Height: 2220.585 US Survey Feet

1_GS0077



Point ID: 1_GS0077

Northing: 2023639.322 US Survey Feet

Easting: 7112059.214 US Survey Feet

Orthometric Height: 7683.036 US Survey Feet

Latitude: 38° 42' 10.39017" N

Longitude: 120° 04' 16.25133" W

Ellipsoid Height: 2318.0003 US Survey Feet

1_GS0079



Point ID: 1_GS0079

Northing: 1997380.061 US Survey Feet

Easting: 7084647.486 US Survey Feet

Orthometric Height: 7722.699 US Survey Feet

Latitude: 38° 37' 56.47259" N

Longitude: 120° 10' 08.65492" W

Ellipsoid Height: 2329.8088 US Survey Feet

1_GS0081



Point ID: 1_GS0081

Northing: 1997298.752 US Survey Feet

Easting: 7084709.132 US Survey Feet

Orthometric Height: 7729.112 US Survey Feet

Latitude: 38° 37' 55.65671" N

Longitude: 120° 10' 07.89884" W

Ellipsoid Height: 2331.7635 US Survey Feet

1_GS0090



Point ID: 1_GS0090

Northing: 1998786.518 US Survey Feet

Easting: 6889809.997 US Survey Feet

Orthometric Height: 1805.529 US Survey Feet

Latitude: 38° 38' 41.94969" N

Longitude: 120° 51' 03.70951" W

Ellipsoid Height: 522.116 US Survey Feet

1_GS0103



Point ID: 1_GS0103

Northing: 1951692.809 US Survey Feet

Easting: 6898315.627 US Survey Feet

Orthometric Height: 1448.295 US Survey Feet

Latitude: 38° 30' 55.38039" N

Longitude: 120° 49' 24.19208" W

Ellipsoid Height: 412.8768 US Survey Feet

1_GS0109



Point ID: 1_GS0109

Northing: 1966780.482 US Survey Feet

Easting: 6926021.741 US Survey Feet

Orthometric Height: 2141.879 US Survey Feet

Latitude: 38° 33' 20.81901" N

Longitude: 120° 43' 32.96872" W

Ellipsoid Height: 625.0631 US Survey Feet

1_GS0110



Point ID: 1_GS0110

Northing: 1966783.757 US Survey Feet

Easting: 6925799.893 US Survey Feet

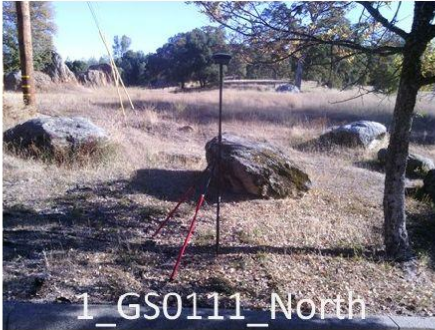
Orthometric Height: 2135.082 US Survey Feet

Latitude: 38° 33' 20.88214" N

Longitude: 120° 43' 35.76075" W

Ellipsoid Height: 622.9855 US Survey Feet

1_GS0111



Point ID: 1_GS0111

Northing: 1966864.553 US Survey Feet

Easting: 6925731.88 US Survey Feet

Orthometric Height: 2142.306 US Survey Feet

Latitude: 38° 33' 21.69015" N

Longitude: 120° 43' 36.60262" W

Ellipsoid Height: 625.1869 US Survey Feet

1_GS0115



Point ID: 1_GS0115

Northing: 1991693.792 US Survey Feet

Easting: 6932913.529 US Survey Feet

Orthometric Height: 1749.795 US Survey Feet

Latitude: 38° 37' 26.10320" N

Longitude: 120° 42' 01.73190" W

Ellipsoid Height: 505.8849 US Survey Feet

1_GS0116



Point ID: 1_GS0116

Northing: 1991499.251 US Survey Feet

Easting: 6932897.181 US Survey Feet

Orthometric Height: 1758.444 US Survey Feet

Latitude: 38° 37' 24.18263" N

Longitude: 120° 42' 01.97293" W

Ellipsoid Height: 508.5192 US Survey Feet

1_GS0127



Point ID: 1_GS0127

Northing: 2002847.227 US Survey Feet

Easting: 6930768.288 US Survey Feet

Orthometric Height: 2019.448 US Survey Feet

Latitude: 38° 39' 16.64841" N

Longitude: 120° 42' 26.76258" W

Ellipsoid Height: 588.1414 US Survey Feet

1_GS0128



Point ID: 1_GS0128

Northing: 2002746.279 US Survey Feet

Easting: 6930806.567 US Survey Feet

Orthometric Height: 2009.089 US Survey Feet

Latitude: 38° 39' 15.64523" N

Longitude: 120° 42' 26.29819" W

Ellipsoid Height: 584.9826 US Survey Feet

1_GS0131



Point ID: 1_GS0131

Northing: 2003651.437 US Survey Feet

Easting: 6754197.553 US Survey Feet

Orthometric Height: 113.389 US Survey Feet

Latitude: 38° 39' 43.48549" N

Longitude: 121° 19' 32.58267" W

Ellipsoid Height: 4.1835 US Survey Feet

1_GS0133



Point ID: 1_GS0133

Northing: 1993344.445 US Survey Feet

Easting: 6733354.014 US Survey Feet

Orthometric Height: 62.895 US Survey Feet

Latitude: 38° 38' 03.04702" N

Longitude: 121° 23' 56.22805" W

Ellipsoid Height: -11.4198 US Survey Feet

1_GS0135



Point ID: 1_GS0135

Northing: 2002592.196 US Survey Feet

Easting: 6745710.048 US Survey Feet

Orthometric Height: 112.438 US Survey Feet

Latitude: 38° 39' 33.62373" N

Longitude: 121° 21' 19.68367" W

Ellipsoid Height: 3.8072 US Survey Feet

1_GS0163



Point ID: 1_GS0163

Northing: 2031063.801 US Survey Feet

Easting: 6910617.17 US Survey Feet

Orthometric Height: 1985.807 US Survey Feet

Latitude: 38° 43' 58.30486" N

Longitude: 120° 46' 35.98650" W

Ellipsoid Height: 577.7671 US Survey Feet

Vegetated Vertical Accuracy Checkpoints High Vegetation

The Map shows the overall distribution of the Vegetated Vertical Accuracy Checkpoint, High Vegetation throughout the D1 AOI. The following tables contain a list of the control using Easting, Northing, and Orthometric 1 height. The coordinate system displayed as NAD_1983_StatePlane_California_II_FIPS_0402_Feet, North American Datum 1983 (2011), North American Vertical Datum of 1988, Geoid12B and using US SURVEY FEET for measurement.

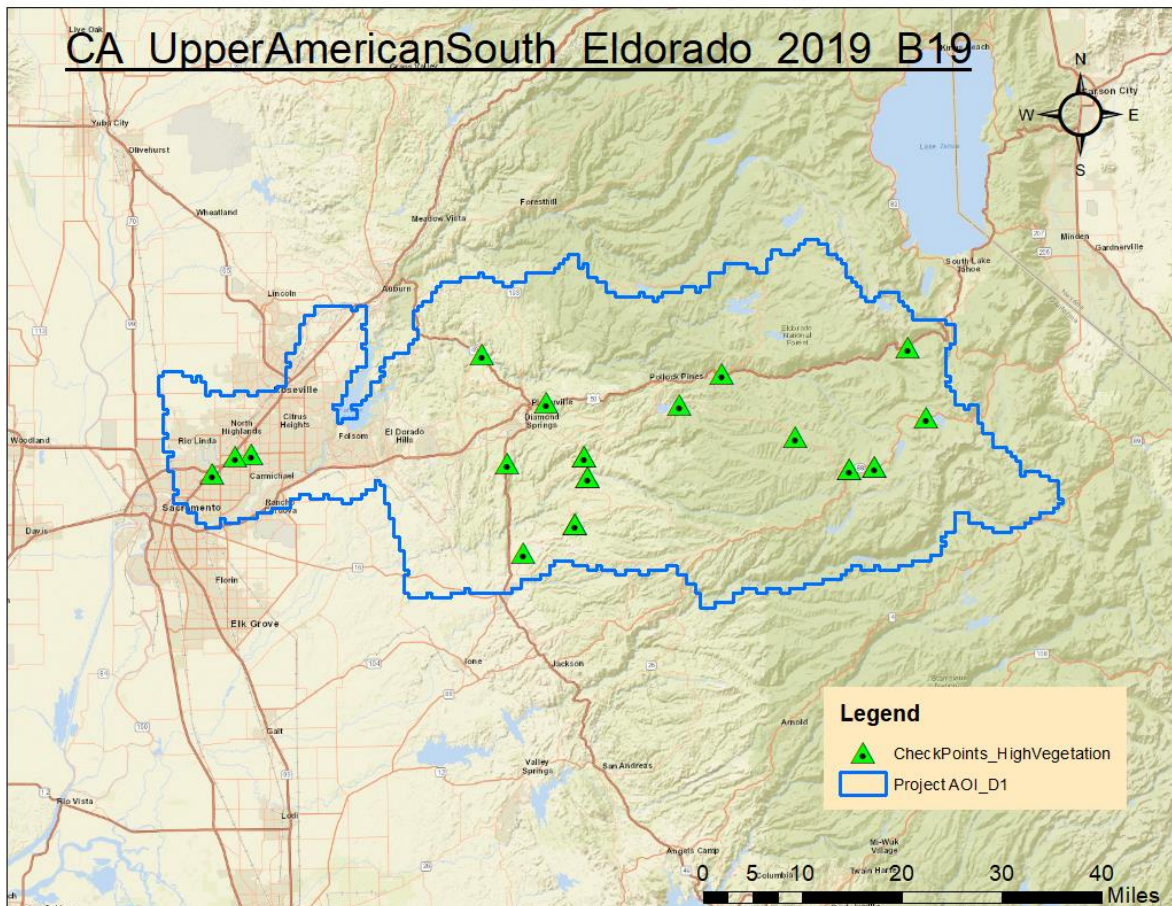


TABLE: High Vegetation

Point ID	Easting	Northing	Ortho
1_GS0006	6787889.617	2053352.031	316.981
1_GS0011	7102374.586	2060406.945	6548.93
1_GS0031	6991610.876	2044613.719	3375.995
1_GS0037	6966870.524	2042711.444	3961.167
1_GS0051	6874246.533	2057877.402	741.574
1_GS0052	6874258.038	2057973.901	742.252
1_GS0056	6876602.402	2056711.101	749.468
1_GS0057	6876720.483	2056673.332	749.06
1_GS0082	7084801.65	1997245.899	7730.074
1_GS0086	7053947.631	1970232.618	6535.236
1_GS0092	6889807.775	1998993.53	1801.509
1_GS0095	6891615.844	1973032.817	836.431
1_GS0105	6909796.41	1957673.578	1776.021
1_GS0107	6921052.639	1963373.233	1995.39
1_GS0112	6925584.893	1966653.356	2138.228
1_GS0118	6936680.521	1999743.119	2028.358
1_GS0120	6961575.496	1990867.592	3163.235
1_GS0138	6764177.241	2004702.004	184.627
1_GS0149	6827655.502	2001466.229	622.466

1_GS0006



Point ID: 1_GS0006

Northing: 2053352.031 US Survey Feet

Easting: 6787889.617 US Survey Feet

Orthometric Height: 316.981 US Survey Feet

Latitude: 38° 47' 52.07769" N

Longitude: 121° 12' 22.34198" W

Ellipsoid Height: 66.8846 US Survey Feet

1_GS0011



Point ID: 1_GS0011

Northing: 2060406.945 US Survey Feet

Easting: 7102374.586 US Survey Feet

Orthometric Height: 6548.93 US Survey Feet

Latitude: 38° 48' 15.77811" N

Longitude: 120° 06' 08.71251" W

Ellipsoid Height: 1972.3126 US Survey Feet

1_GS0031



Point ID: 1_GS0031

Northing: 2044613.719 US Survey Feet

Easting: 6991610.876 US Survey Feet

Orthometric Height: 3375.995 US Survey Feet

Latitude: 38° 46' 00.20166" N

Longitude: 120° 29' 31.11845" W

Ellipsoid Height: 1003.5309 US Survey Feet

1_GS0037



.66

Point ID: 1_GS0037

Northing: 2042711.444 US Survey Feet

Easting: 6966870.524 US Survey Feet

Orthometric Height: 3961.167 US Survey Feet

Latitude: 38° 45' 45.34104" N

Longitude: 120° 34' 43.83661" W

Ellipsoid Height: 1181.3427 US Survey Feet

1_GS0051



Point ID: 1_GS0051

Northing: 2057877.402 US Survey Feet

Easting: 6874246.533 US Survey Feet

Orthometric Height: 741.574 US Survey Feet

Latitude: 38° 48' 27.92893" N

Longitude: 120° 54' 10.87905" W

Ellipsoid Height: 198.1006 US Survey Feet

1_GS0052



Point ID: 1_GS0052

Northing: 2057973.901 US Survey Feet

Easting: 6874258.038 US Survey Feet

Orthometric Height: 742.252 US Survey Feet

Latitude: 38° 48' 28.88142" N

Longitude: 120° 54' 10.71900" W

Ellipsoid Height: 198.3091 US Survey Feet

1_GS0056



Point ID: 1_GS0056

Northing: 2056711.101 US Survey Feet

Easting: 6876602.402 US Survey Feet

Orthometric Height: 749.468 US Survey Feet

Latitude: 38° 48' 16.11863" N

Longitude: 120° 53' 41.29722" W

Ellipsoid Height: 200.534 US Survey Feet

1_GS0057



Point ID: 1_GS0057

Northing: 2056673.332 US Survey Feet

Easting: 6876720.483 US Survey Feet

Orthometric Height: 749.06 US Survey Feet

Latitude: 38° 48' 15.73111" N

Longitude: 120° 53' 39.81142" W

Ellipsoid Height: 200.4111 US Survey Feet

1_GS0082



Point ID: 1_GS0082

Northing: 1997245.899 US Survey Feet

Easting: 7084801.65 US Survey Feet

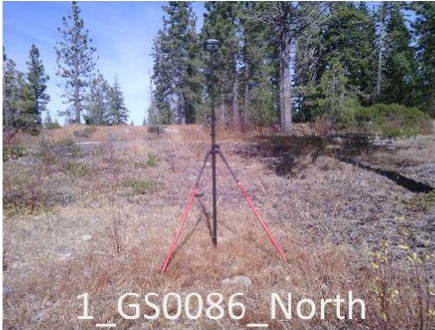
Orthometric Height: 7730.074 US Survey Feet

Latitude: 38° 37' 55.11592" N

Longitude: 120° 10' 06.74654" W

Ellipsoid Height: 2332.0577 US Survey Feet

1_GS0086



Point ID: 1_GS0086

Northing: 1970232.618 US Survey Feet

Easting: 7053947.631 US Survey Feet

Orthometric Height: 6535.236 US Survey Feet

Latitude: 38° 33' 34.09674" N

Longitude: 120° 16' 41.96365" W

Ellipsoid Height: 1967.2007 US Survey Feet

1_GS0092



Point ID: 1_GS0092

Northing: 1998993.53 US Survey Feet

Easting: 6889807.775 US Survey Feet

Orthometric Height: 1801.509 US Survey Feet

Latitude: 38° 38' 43.99617" N

Longitude: 120° 51' 03.70454" W

Ellipsoid Height: 520.8931 US Survey Feet

1_GS0095



Point ID: 1_GS0095

Northing: 1973032.817 US Survey Feet

Easting: 6891615.844 US Survey Feet

Orthometric Height: 836.431 US Survey Feet

Latitude: 38° 34' 27.16309" N

Longitude: 120° 50' 45.07155" W

Ellipsoid Height: 226.4724 US Survey Feet

1_GS0105



Point ID: 1_GS0105

Northing: 1957673.578 US Survey Feet

Easting: 6909796.41 US Survey Feet

Orthometric Height: 1776.021 US Survey Feet

Latitude: 38° 31' 53.00197" N

Longitude: 120° 46' 58.74705" W

Ellipsoid Height: 513.0973 US Survey Feet

1_GS0107



Point ID: 1_GS0107

Northing: 1963373.233 US Survey Feet

Easting: 6921052.639 US Survey Feet

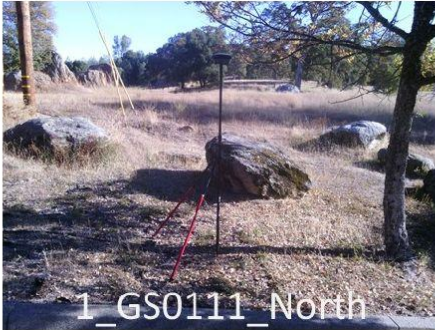
Orthometric Height: 1995.39 US Survey Feet

Latitude: 38° 32' 47.82481" N

Longitude: 120° 44' 36.11209" W

Ellipsoid Height: 580.2719 US Survey Feet

1_GS0112



Point ID: 1_GS0112

Northing: 1966653.356 US Survey Feet

Easting: 6925584.893 US Survey Feet

Orthometric Height: 2138.228 US Survey Feet

Latitude: 38° 33' 19.62298" N

Longitude: 120° 43' 38.49011" W

Ellipsoid Height: 623.9386 US Survey Feet

1_GS0118



Point ID: 1_GS0118

Northing: 1999743.119 US Survey Feet

Easting: 6936680.521 US Survey Feet

Orthometric Height: 2028.358 US Survey Feet

Latitude: 38° 38' 45.12900" N

Longitude: 120° 41' 12.80319" W

Ellipsoid Height: 590.9602 US Survey Feet

1_GS0120



1_GS0120_North



1_GS0120_East



1_GS0120_West



1_GS0120_South

Point ID: 1_GS0120

Northing: 1990867.592 US Survey Feet

Easting: 6961575.496 US Survey Feet

Orthometric Height: 3163.235 US Survey Feet

Latitude: 38° 37' 13.72931" N

Longitude: 120° 36' 00.76352" W

Ellipsoid Height: 937.4591 US Survey Feet

1_GS0138



Point ID: 1_GS0138

Northing: 2004702.004 US Survey Feet

Easting: 6764177.241 US Survey Feet

Orthometric Height: 184.627 US Survey Feet

Latitude: 38° 39' 53.11931" N

Longitude: 121° 17' 26.66099" W

Ellipsoid Height: 26.0152 US Survey Feet

1_GS0149



Point ID: 1_GS0149

Northing: 2001466.229 US Survey Feet

Easting: 6827655.502 US Survey Feet

Orthometric Height: 622.466 US Survey Feet

Latitude: 38° 39' 15.46998" N

Longitude: 121° 04' 06.76776" W

Ellipsoid Height: 160.4817 US Survey Feet