MISSOURI DEPARTMENT OF AGRICULTURE
DIVISION OF WEIGHTS, MEASURES AND CONSUMER PROTECTION
LAND SURVEY PROGRAM
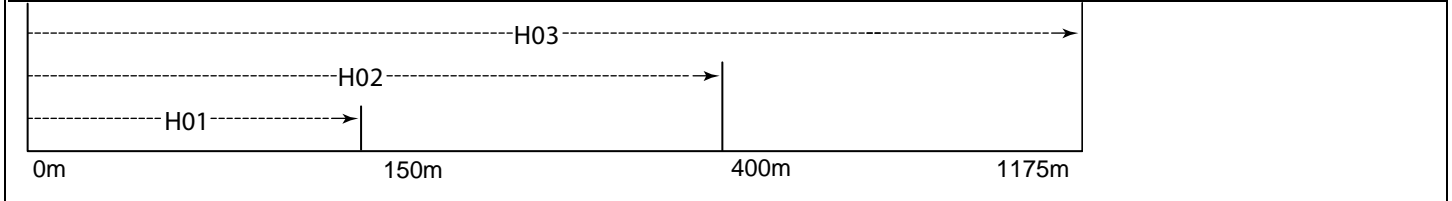# EDM CALIBRATION REPORT – POMONA EDM BASELINE (HORIZONTAL)

DATE	COMPANY	REFLECTOR SETUP
		☐ Tripod with tribrach ☐ Prism pole ☐ Bipod pole

INSTRUMENT TYPE, MODEL AND SERIAL NUMBER

NOTE: ALL DISTANCES SUBMITTED SHALL BE HORIZONTAL.

E.D.M. AT 0m

0m   150m   400m   1175m

H01 =	H02 =	H03 =	TEMP
H01 = (149.9735m)	H02 = (399.9722m)	H03 = (1175.0458m)	❖ PRESS

E.D.M. AT 150m

0m   150m   400m   1175m
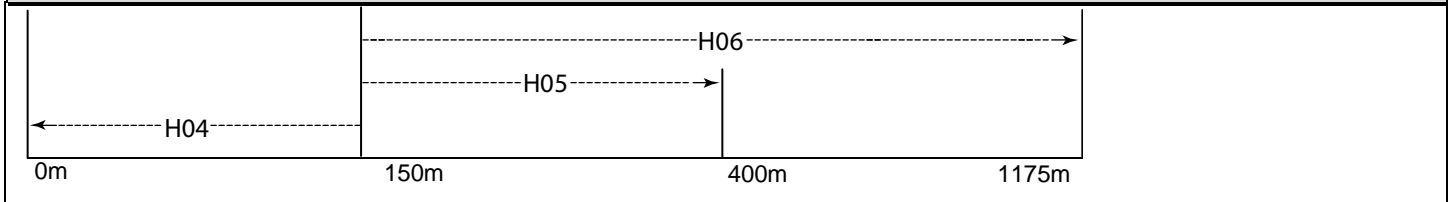
H04 =	H05 =	H06 =	TEMP
H04 = (149.9735m)	H05 = (249.9987m)	H06 = (1025.0723m)	❖ PRESS

E.D.M. AT 400m

0m   150m   400m   1175m
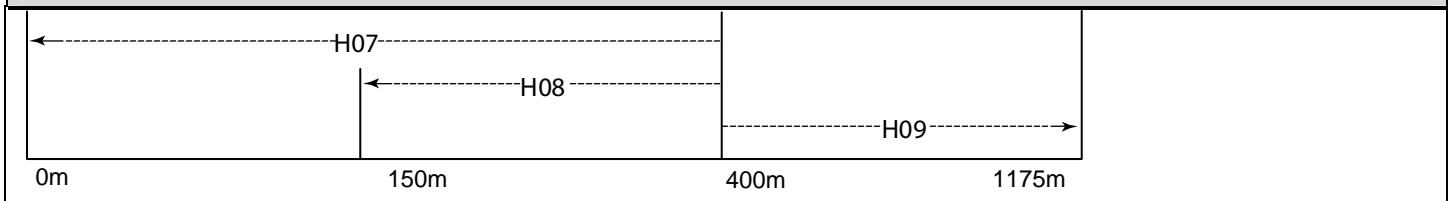
H07 =	H08 =	H09 =	TEMP
H07 = (399.9722m)	H08 = (249.9987m)	H09 = (775.0736m)	❖ PRESS

E.D.M. AT 1175m

0m   150m   400m   1175m
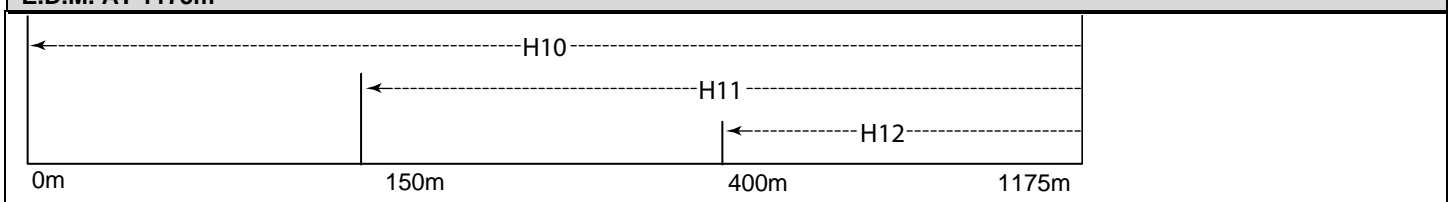
H10 =	H11 =	H12 =	TEMP
H10 = (1175.0458m)	H11 = (1025.0723m)	H12 = (775.0736m)	❖ PRESS

❖ Barometric pressure for EDM calibration **must be station pressure**. Do not use barometric pressure reduced to sea level.

MO 780-1859 (08-13)

MISSOURI DEPARTMENT OF AGRICULTURE
DIVISION OF WEIGHTS, MEASURES AND CONSUMER PROTECTION
LAND SURVEY PROGRAM
EDM CALIBRATION REPORT – POMONA EDM BASELINE (SLOPE)

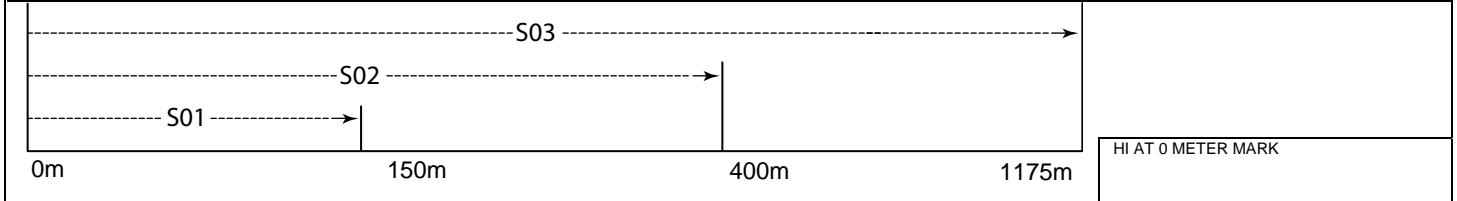| DATE	COMPANY	REFLECTOR SETUP
		☐ Tripod with tribrach ☐ Prism pole ☐ Bipod pole

INSTRUMENT TYPE, MODEL AND SERIAL NUMBER

NOTE: ALL DISTANCES SUBMITTED SHALL BE SLOPE.

E.D.M. AT 0m
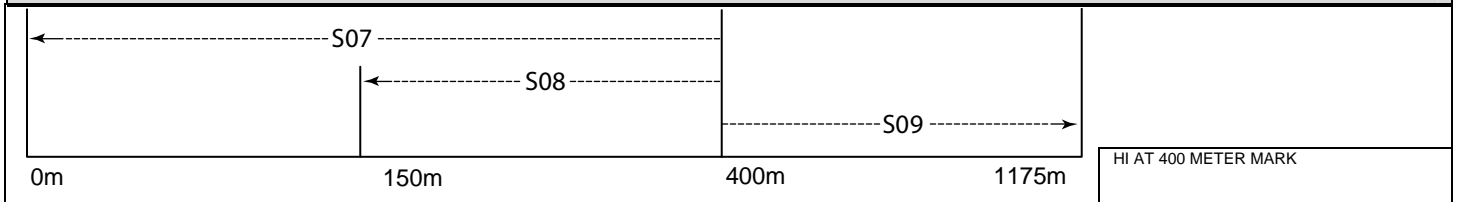

| 0m | 150m | 400m | 1175m | HI AT 0 METER MARK |

S01 =	S02 =	S03 =	TEMP
H0 =	H0 =	H0 =	❖ PRESS

E.D.M. AT 150m
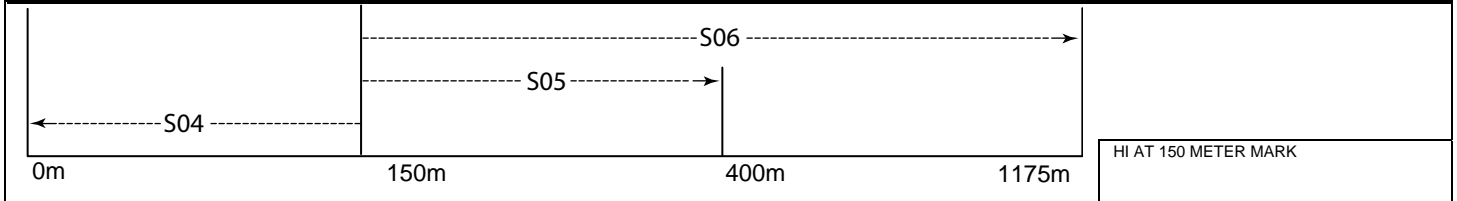
| 0m | 150m | 400m | 1175m | HI AT 150 METER MARK |

S04 =	S05 =	S06 =	TEMP
H0 =	H0 =	H0 =	❖ PRESS

E.D.M. AT 400m

| 0m | 150m | 400m | 1175m | HI AT 400 METER MARK |

S07 =	S08 =	S09 =	TEMP
H0 =	H0 =	H0 =	❖ PRESS

E.D.M. AT 1175m
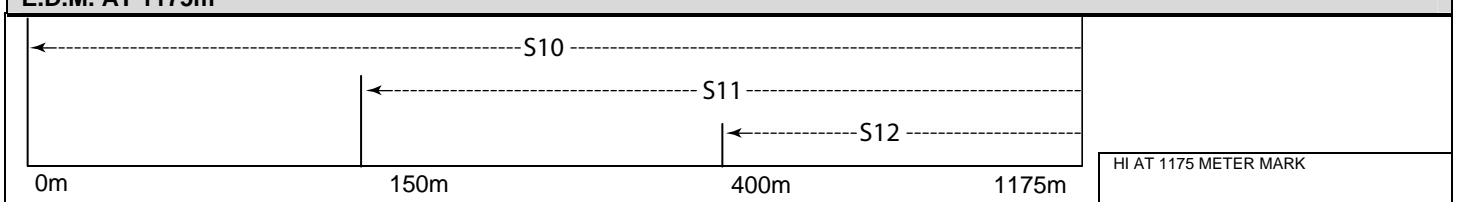
| 0m | 150m | 400m | 1175m | HI AT 1175 METER MARK |

S10 =	S11 =	S12 =	TEMP
H0 =	H0 =	H0 =	❖ PRESS

Heights or delta elevations between monuments (referenced to NAVD88).
0m = 372.359m   150m = 371.986m   400m = 371.698m   1175m = 372.454m
❖ Barometric pressure for EDM calibration **must be station pressure**. Do not use barometric pressure reduced to sea level.

Pomona Baseline

1174 Meter
(Plainport Az.)
Centerline of runway 88.6'

West Plains Municipal Airport

Airport
office

Apron

400 Meter
(Plainport)
Centerline of runway 97.8'

NOT TO SCALE

Main Runway

150 Meter
East edge of runway 63.5'

0 Meter
East edge of runway 65'
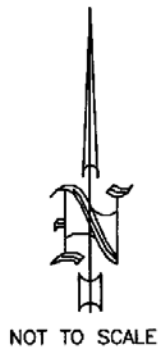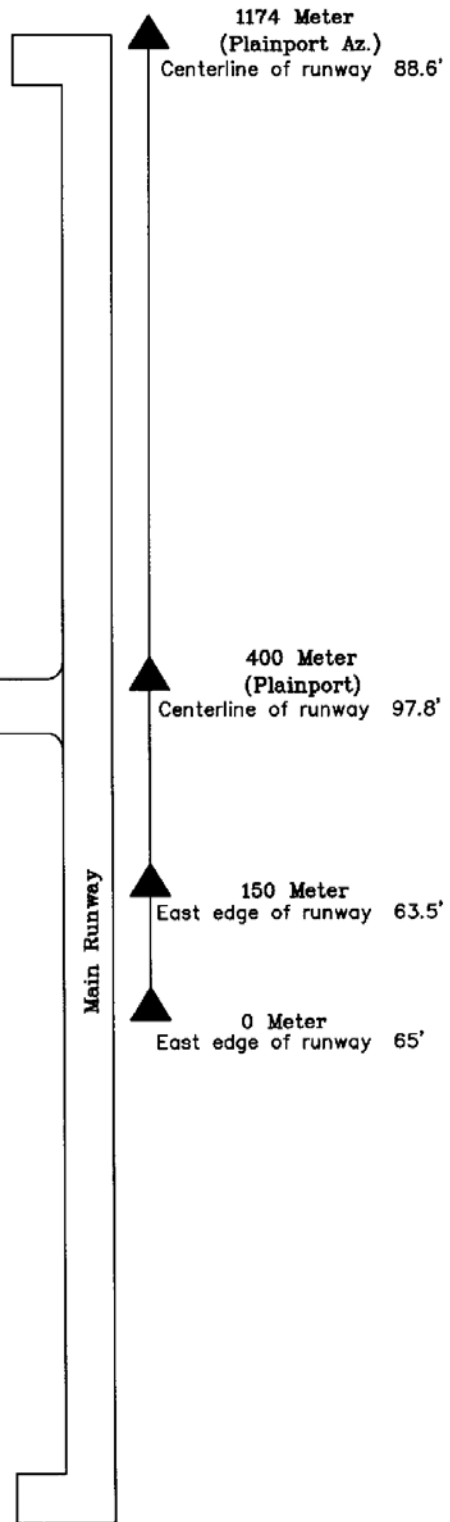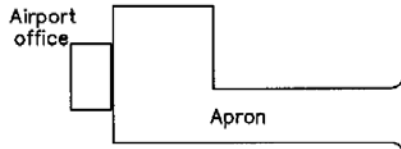
DATE OF SKETCH 2003

POMONA BASELINE

Electronic Distance Measurement (EDM) Calibration Baseline
Howell County, Missouri

Established by the
Missouri Department of Agriculture
Division of Weights, Measures & Consumer Protection
Land Survey Program

1996

The EDM baseline is located at the West Plains Municipal Airport 1.5 miles northeast of Pomona, Mo. and 8.0 miles north of West Plains. To reach the baseline from the junction of state Routes P and N and U.S. Highway 63 in the center of Pomona, go north on U.S. Highway 63 for 1.1 miles to the junction with Howell Road on right. Turn right and follow Howell Road for 0.3 mile to airport office. Airport manager is Jack Bowman and he is to be contacted prior to occupation to get the key to the gates. From the Airport office, go west on Howell Road for 0.1 mile to T-intersection with Howell County Road 1510 to the left. Turn left and follow County Road 1510 south for 0.75 mile to T-intersection with state Route N. Turn left and follow state Route N for 0.75 mile to intersection with County Road 1750 on left. Turn left and follow County Road 1750 for 0.75 mile to T-junction with County Road 2340. Turn left and go 0.25 mile to a locked gate leading onto Airport property. Go through gate and follow road for 0.15 mile to a locked gate on right. Go through second gate and follow trail for 0.10 mile to runway and station Plainport (400 meter station) on left.

The baseline consists of four monuments. The 0 meter and 150 meter stations are Missouri Department of Natural Resources aluminum disks set in 12 inch concrete monuments, set flush with the ground with punch marks. Station Plainport and Plainport Az are stainless steel rods in sleeves accessed thru five inch PVC pipe with logo cap set flush with the ground with punch marks. The 0 meter station mark is 65 feet east of the east edge of runway, 146 feet south of the seventh runway light south of the crossover, 85 feet north of the eighth runway light south of the crossover, and 73.7 feet northwest of the northwest corner of a concrete ditch. The 150 meter station mark is 63.5 feet east of the east edge of the runway, 68.5 feet south of the fifth runway light south of the crossover, and 165.5 feet north of the sixth runway light south of the crossover. Plainport (400 meter station) is 97.8 feet east of the center of the runway, 105 feet northeast of a runway light, 69.2 feet southeast of a runway light and 1 foot west of a carsonite witness post. The Plainport Az Mark (1,174 M) is 51.2 feet northeast of the northeast corner of the runway, 88.6 feet east of the center of the runway, and 40.7 feet east of the eastern most end of runway lights.

Prior to using the baseline, contact Jack Bowman, Airport Manager at the West Plains Municipal Airport, 4523 County Road 2340, Pomona, MO 65789. Airport: 417-257-1530; Home: 417-257-1539; Fax: 417-257-7888.

The baseline station elevations are established on the North American Vertical Datum 1988 (NAVD88):

- 0 meter − 372.359 meters
- 150 meter − 371.986 meters
- 400 meter − 371.698 meters
- 1,175 meter − 372.454 meters

Baseline station autonomous point positions are:

	400 meter	1,175 meter
Latitude	36° 52' 40.50"	36° 53' 05.64"
Longitude	091° 54' 08.46"	091° 54' 08.09"

ELECTRONIC DISTANCE MEASURMENT (EDM)
CALIBRATION BASELINES IN MISSOURI

The Missouri Department of Agriculture has established 12 Electronic Distance Measurement (EDM) calibration baselines in Missouri. Modern equipment provides the user a multitude of options in the art of measurement. Inability, inexperience and incompetence using these systems can cause serious blunders. The EDM baseline will allow the operator to verify the instrument is in calibration, affirm the instrument is being operated properly and substantiate all the equipment utilized in measurement is properly adjusted and used correctly.

Each EDM baseline consists of four monumented stations. The monuments are nominally spaced at 0 meters, 150 meters, 400 meters and 1,175 meters. Each station will be occupied by the EDM instrument and a measurement made to the other three stations for a total of 12 measurements. The results will determine the scale factor, the system constant and the standard deviation of the measurement in parts per million.

The EDM should be tested using the same procedures as in every day fieldwork. This will not only confirm the EDM is in good working order, but will ensure the entire system is properly adjusted. The measuring system includes, but is not limited to, the instrument, the tripods, bipods, tribrachs, prisms, prism poles, thermometers and barometers/altimeters.

WHEN TO CALIBRATE YOUR INSTRUMENT?
- After taking delivery of a new or used instrument
- Immediately after service
- Anytime the operator feels the instrument is not working properly
- Before and after the Missouri Department of Natural Resources or other government agency contracts

BEFORE RUNNING THE BASELINE, PERFORM THE FOLLOWING:
- Check and adjust optical plummets, bull's-eye bubbles and plumbing poles
- Check thermometers and barometers/altimeters
- Make sure all tripods are rigid and stable
- Clean prisms
- Fully charge all batteries
- Have an EDM Calibration Report form for the baseline you are running

When filling out the EDM Calibration Report form, fill in all lines that apply and add additional information if needed.

IMPORTANT NOTE: Before each measurement, enter the temperature and station pressure or absolute <u>pressure</u> into the instrument. The barometric pressure given over the radio and at airports has been reduced to sea level. DO NOT ENTER SEA LEVEL PRESSURE INTO THE EDM. One method used to find station pressure or absolute pressure is by elevation. The barometric pressure is reduced 0.1 inches of mercury for every 90 feet of elevation. So, to correct the sea level pressure obtained from the radio or airport, pick an average elevation for your area and divide by 90. Example: if the elevation is 1,000 feet, dividing 1,000 by 90 equals 11.11. Therefore, subtract 1.11 inches from the sea level pressure to obtain station pressure or absolute pressure.