Finalization

EDMI CALIBRATION BASELINE DATA FORM

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SECTION 1:

FIRM: _____ DATE: - Field Data -

INSTRUMENT: [redacted]

SERIAL NO.: - Field Data -

TELEPHONE NO. (____)_____ FAX (____)_____ SHEET _____ of _____

SECTION 2:

OCCUPIED STATION: - Field Data - OBSERVED STATION: - Field Data -

SECTION 3:

CALIBRATION BASELINE: - Field Data - LOCATION: - Field Data -

Instrument Operator: - Field Data - Note Keeper: - Field Data - Time: - Field Data -

WEATHER

Temperature: - Field Data -

Barometric Pressure: - Field Data -

Actual/Relative

P.P.M. Set at - Field Data -

Wind: - Field Data -

Humidity: - Field Data -

Climate/Comments: - Field Data -

ZENITH ANGLE CHECK

Z.A. Direct: - Field Data -

Z.A. Reversed: + - Field Data -

D. & R. Sum: _____

Circle: 01

Difference: _____

MEAN Z.A. Dir.: 02

INSTRUMENT SETTINGS

Manufac. Instr. Constant: _____

Prism Offset: (+/-) - Field Data -

Computed Instr. Offset: 03

Difference: _____

Instr. Constant Set to: - Field Data -

Meter/Feet Conversion: 04

SECTION 4:

FROM STATION: - Field Data - Sta. Elev.: (m) . (ft) .

Instrument Height: (m) - Field Data - (ft) - Field Data -

Height of Instrument: (m) . (ft) .

TO STATION: - Field Data - Sta. Elev.: (m) . (ft) .

Prism or Target Height: (m) - Field Data - (ft) - Field Data -

Height of Prism or Target: (m) . (ft) .

Published Diff. in Elev.: 05 .

Field Diff. in Elevation: 06

Calculated Difference: 07 .

(Z.A. Instr. Precision / SIN)(Segment Length) = 08

SECTION 5:

OBSERVATION GROUP NO. 1 (DIRECT)

	Slope Distance (m/ft)	Horizontal Distance (m/ft)	Vert. Height Diff. (m/ft)
1.	[redacted]	- Field Data -	- Field Data -
2.			
3.			
4.			
5.			

OBSERVATION GROUP NO. 2 (REVERSED)

6.	- Field Data -	- Field Data -	- Field Data -
7.			
8.			
9.			
10.			

SECTION 6:

Mean Horizontal Distance: _____

Standard Deviation: 09

Sigma Value: 10 (Std. Deviation) (2.5)

High/Low Spread: 11 / 12

Number of Rejections: 13

Published Horiz. Distance: _____

Adjusted Field Distance: 14

Difference: _____

Manuf. DIN Spec. (Tolerance): [+/-] 15

Correction applied to EDMI: [+/-] 16

SECTION 7: I hereby acknowledge, as witnessed by my signature and embossed seal, that I have personnally compared my EDMI in accordance with the laws of the State of New Jersey and that I shall apply the appropriate linear corrections to the EDMI measurements observed with this instrument.

N.J. Professional Land Surveyor/License No. SEAL Form: NJSA 51:1-6/8.8.94

Formulas & Equations: EDMI CBL Data Form

1. = 360° 00' 00"

2. = IF D&R Sum > 360° Then (Z.A.Direct) – (1/2 * (Difference))
   Else (Z.A.Direct) + (1/2 * (Difference))

3. = If Necessary then: (Manufac. Instr. Constant) + (Prism Offset)

4. = 3.280833

5. = ABS | (From Station Elevation) – (To Station Elevation) |

6. = ABS | Average of (Vert Height Diff) | (Note: from Sec #5 groups 1 & 2)

7. = ABS | (Published Diff In Elev) – (Field Diff In Elev) |

8. = (SIN (Z.A. Instr Precision)) * (Baseline Segment Length)

9. =

$$S = \sqrt{\frac{\sum (X - \bar{X})^2}{n-1}}$$

   a. X = Horiz Observation Data

   b. X "bar" = Horizontal Mean

   c. n = Total Number Of Observations

10. = (Std. Deviation As Calculated Above) * (2.5)

11. = (Mean Horiz Distance) + (Sigma Value)

12. = (Mean Horiz Distance) – (Sigma Value)

13. = Total Number of Values Either Above or Below the High / Low Spread (Note: must maintain 8 acceptable observations)

14. = (Mean Horiz Distance) Note: rejected data removed and reaveraged

15. = ± (X mm + Y ppm * Distance)

   a. Example:(5mm + (5ppm * 150m) = (0.005 + ((5/1,000,000)*150)) = ±0.0058

16. = IF (Manufacturer DIN Spec) < (Difference)

   a. THEN #15 = (Difference) – (DIN Spec)

   b. ELSE #15 = 0.0