Santa Ana River Calibration Base Line

The Santa Ana River Calibration Base Line was established in 1972 and is maintained by the Orange County Surveyor. It is located on the east bank of the Santa Ana River between Lincoln Avenue and Ball Road, in the city of Orange. It was designed for calibration of EDM equipment and is available to the private and public companies and agencies. This base line can also be used for RTK accuracy checks.

In cooperation with the National Geodetic Survey (NGS), the SAR calibration base line is now part of the NGS EDMI Calibration Base Lines. The base line was re-measured in June 2006 by the G/LIS Geodetic Unit after being trained by the NGS in using their equipment and procedures.

This package includes a map showing the monument locations and reduction sheets for each of the different point to point measurements. Follow the steps necessary by comparing your measured horizontal distance to the record horizontal distance to compute your EDM difference.

Any questions, please contact the Geodetic Unit @ (714) 967-0823

Monument Descriptions & Locations

A - Found punched 2 1/2" brass O.C.F.C.D. disk stamped "BASE LINE" down 1.4' in 12" diameter corrugated metal pipe with lid, set in concrete, located from the intersection of Ball Road and the Santa Ana River, proceed northerly along the bike trail on the easterly side of the Santa Ana River 400' +/- to said monument located along the hinge point of the concrete lining of the river.

B - Found punched 2 1/2" brass O.C.F.C.D. disk stamped "BASE LINE" down 1.4' in 12" diameter corrugated metal pipe with lid, set in concrete, located from the intersection of Ball Road and the Santa Ana River, proceed northerly along the bike trail on the easterly side of the Santa Ana River 770' +/- to said monument located along the hinge point of the concrete lining of the river.

400 - Found punched 2 1/2" brass ORANGE COUNTY SURVEYOR disk stamped "400 METER BASE LINE" in a 2" iron pipe, down 1.4' in OCS well monument, located from the intersection of Ball Road and the Santa Ana River, proceed northerly along the bike trail on the easterly side of the Santa Ana River 0.3 miles +/- to said monument located along the westerly bike lane.

C - Found punched 2 1/2" brass O.C.F.C.D. disk stamped "BASE LINE" down 1.5' in OCS well monument, located from the intersection of Ball Road and the Santa Ana River, proceed northerly along the bike trail on the easterly side of the Santa Ana River 0.7 miles +/- to said monument located along the hinge point of the concrete lining of the river.

D - Found punched 2 1/2" brass O.C.F.C.D. disk stamped "BASE LINE" down 1.4' in 12" diameter corrugated metal pipe with lid, set in concrete, located from the intersection of Lincoln Avenue and the Santa Ana River, proceed southerly along the bike trail on the easterly side of the Santa Ana River 1050' /- to said monument located along the hinge point of the river and 35' +/- south of a concrete drop structure.

300 N. Flower Street, Santa Ana, CA 92703
P.O. Box 4048, Santa Ana, CA 92702-4048
www.ocpublicworks.com
714.667.8800 | Info@OCPW.ocgov.com

County of Orange / OC Survey / Geospatial - Geodetic Unit

Santa Ana River Calibration Baseline - Reduction Sheet - US Survey Feet

Name: _____ Date: _____ Instrument Used: _____ Temperature: _____

Company: _____ Time: _____ Instrument S/N _____ Barometric Pressure: _____

Prism Used: _____ Prism Offset: _____

Station A to Station B

Measured Horizontal Distances:

Direct 1: _____

Direct 2: _____

Direct Average: _____

Reverse 1: _____

Reverse 2: _____

Reverse Average: _____

A - B Mean Horizontal Distance: _____

Station B to Station A

Measured Horizontal Distances:

Direct 1: _____

Direct 2: _____

Direct Average: _____

Reverse 1: _____

Reverse 2: _____

Reverse Average: _____

B - A Mean Horizontal Distance: _____

Combined Mean Measured Horizontal Distance: = _____

OCS Calibration Horizontal Distance: = 371.957 ft

Difference: =

County of Orange / OC Survey / Geospatial - Geodetic Unit

Santa Ana River Calibration Baseline - Reduction Sheet - US Survey Feet

Name: _____ Date: _____ Instrument Used: _____ Temperature: _____

Company: _____ Time: _____ Instrument S/N _____ Barometric Pressure: _____

Prism Used: _____ Prism Offset: _____

Station A to Station 400

Measured Horizontal Distances:

Direct 1: _____

Direct 2: _____

Direct Average: _____

Reverse 1: _____

Reverse 2: _____

Reverse Average: _____

A - B Mean Horizontal Distance: _____

Station 400 to Station A

Measured Horizontal Distances:

Direct 1: _____

Direct 2: _____

Direct Average: _____

Reverse 1: _____

Reverse 2: _____

Reverse Average: _____

B - A Mean Horizontal Distance: _____

Combined Mean Measured Horizontal Distance: = _____

OCS Calibration Horizontal Distance: = 1,312.334 ft

Difference: =

County of Orange / OC Survey / Geospatial - Geodetic Unit

Santa Ana River Calibration Baseline - Reduction Sheet - US Survey Feet

Name: _____ Date: _____ Instrument Used: _____ Temperature: _____

Company: _____ Time: _____ Instrument S/N _____ Barometric Pressure: _____

Prism Used: _____ Prism Offset: _____

Station A to Station C

Measured Horizontal Distances:

Direct 1: _____

Direct 2: _____

Direct Average: _____

Reverse 1: _____

Reverse 2: _____

Reverse Average: _____

A - B Mean Horizontal Distance: _____

Station C to Station A

Measured Horizontal Distances:

Direct 1: _____

Direct 2: _____

Direct Average: _____

Reverse 1: _____

Reverse 2: _____

Reverse Average: _____

B - A Mean Horizontal Distance: _____

Combined Mean Measured Horizontal Distance: = _____

OCS Calibration Horizontal Distance: = 3,074.547 ft

Difference: =

County of Orange / OC Survey / Geospatial - Geodetic Unit

Santa Ana River Calibration Baseline - Reduction Sheet - US Survey Feet

Name: _____ Date: _____ Instrument Used: _____ Temperature: _____

Company: _____ Time: _____ Instrument S/N _____ Barometric Pressure: _____

Prism Used: _____ Prism Offset: _____

Station A to Station D

Measured Horizontal Distances:

Direct 1: _____

Direct 2: _____

Direct Average: _____

Reverse 1: _____

Reverse 2: _____

Reverse Average: _____

A - B Mean Horizontal Distance: _____

Station D to Station A

Measured Horizontal Distances:

Direct 1: _____

Direct 2: _____

Direct Average: _____

Reverse 1: _____

Reverse 2: _____

Reverse Average: _____

B - A Mean Horizontal Distance: _____

Combined Mean Measured Horizontal Distance: = _____

OCS Calibration Horizontal Distance: = 5,843.721 ft

Difference: =

County of Orange / OC Survey / Geospatial - Geodetic Unit

Santa Ana River Calibration Baseline - Reduction Sheet - US Survey Feet

Name: _____ Date: _____ Instrument Used: _____ Temperature: _____

Company: _____ Time: _____ Instrument S/N _____ Barometric Pressure: _____

Prism Used: _____ Prism Offset: _____

Station B to Station 400

Measured Horizontal Distances:

Direct 1: _____

Direct 2: _____

Direct Average: _____

Reverse 1: _____

Reverse 2: _____

Reverse Average: _____

A - B Mean Horizontal Distance: _____

Station 400 to Station B

Measured Horizontal Distances:

Direct 1: _____

Direct 2: _____

Direct Average: _____

Reverse 1: _____

Reverse 2: _____

Reverse Average: _____

B - A Mean Horizontal Distance: _____

Combined Mean Measured Horizontal Distance: = _____

OCS Calibration Horizontal Distance: = 940.377 ft

Difference: =

County of Orange / OC Survey / Geospatial - Geodetic Unit

Santa Ana River Calibration Baseline - Reduction Sheet - US Survey Feet

Name: _____ Date: _____ Instrument Used: _____ Temperature: _____

Company: _____ Time: _____ Instrument S/N _____ Barometric Pressure: _____

Prism Used: _____ Prism Offset: _____

Station B to Station C

Measured Horizontal Distances:

Direct 1: _____

Direct 2: _____

Direct Average: _____

Reverse 1: _____

Reverse 2: _____

Reverse Average: _____

A - B Mean Horizontal Distance: _____

Station C to Station B

Measured Horizontal Distances:

Direct 1: _____

Direct 2: _____

Direct Average: _____

Reverse 1: _____

Reverse 2: _____

Reverse Average: _____

B - A Mean Horizontal Distance: _____

Combined Mean Measured Horizontal Distance: = _____

OCS Calibration Horizontal Distance: = 2,702.590 ft

Difference: =

County of Orange / OC Survey / Geospatial - Geodetic Unit

Santa Ana River Calibration Baseline - Reduction Sheet - US Survey Feet

Name: _____ Date: _____ Instrument Used: _____ Temperature: _____

Company: _____ Time: _____ Instrument S/N _____ Barometric Pressure: _____

Prism Used: _____ Prism Offset: _____

Station B to Station D

Measured Horizontal Distances:

Direct 1: _____

Direct 2: _____

Direct Average: _____

Reverse 1: _____

Reverse 2: _____

Reverse Average: _____

A - B Mean Horizontal Distance: _____

Station D to Station B

Measured Horizontal Distances:

Direct 1: _____

Direct 2: _____

Direct Average: _____

Reverse 1: _____

Reverse 2: _____

Reverse Average: _____

B - A Mean Horizontal Distance: _____

Combined Mean Measured Horizontal Distance: = _____

OCS Calibration Horizontal Distance: = 5,471.764 ft

Difference: =

County of Orange / OC Survey / Geospatial - Geodetic Unit

Santa Ana River Calibration Baseline - Reduction Sheet - US Survey Feet

Name: _____ Date: _____ Instrument Used: _____ Temperature: _____

Company: _____ Time: _____ Instrument S/N _____ Barometric Pressure: _____

Prism Used: _____ Prism Offset: _____

Station 400 to Station C

Measured Horizontal Distances:

Direct 1: _____

Direct 2: _____

Direct Average: _____

Reverse 1: _____

Reverse 2: _____

Reverse Average: _____

A - B Mean Horizontal Distance: _____

Station C to Station 400

Measured Horizontal Distances:

Direct 1: _____

Direct 2: _____

Direct Average: _____

Reverse 1: _____

Reverse 2: _____

Reverse Average: _____

B - A Mean Horizontal Distance: _____

Combined Mean Measured Horizontal Distance: = _____

OCS Calibration Horizontal Distance: = 1,762.213 ft

Difference: =

County of Orange / OC Survey / Geospatial - Geodetic Unit

Santa Ana River Calibration Baseline - Reduction Sheet - US Survey Feet

Name: _____ Date: _____ Instrument Used: _____ Temperature: _____

Company: _____ Time: _____ Instrument S/N _____ Barometric Pressure: _____

Prism Used: _____ Prism Offset: _____

Station 400 to Station D

Measured Horizontal Distances:

Direct 1: _____

Direct 2: _____

Direct Average: _____

Reverse 1: _____

Reverse 2: _____

Reverse Average: _____

A - B Mean Horizontal Distance: _____

Station D to Station 400

Measured Horizontal Distances:

Direct 1: _____

Direct 2: _____

Direct Average: _____

Reverse 1: _____

Reverse 2: _____

Reverse Average: _____

B - A Mean Horizontal Distance: _____

Combined Mean Measured Horizontal Distance: = _____

OCS Calibration Horizontal Distance: = 4,531.387 ft

Difference: =

County of Orange / OC Survey / Geospatial - Geodetic Unit

Santa Ana River Calibration Baseline - Reduction Sheet - US Survey Feet

Name: _____ Date: _____ Instrument Used: _____ Temperature: _____

Company: _____ Time: _____ Instrument S/N _____ Barometric Pressure: _____

Prism Used: _____ Prism Offset: _____

Station C to Station D

Measured Horizontal Distances:

Direct 1: _____

Direct 2: _____

Direct Average: _____

Reverse 1: _____

Reverse 2: _____

Reverse Average: _____

A - B Mean Horizontal Distance: _____

Station D to Station C

Measured Horizontal Distances:

Direct 1: _____

Direct 2: _____

Direct Average: _____

Reverse 1: _____

Reverse 2: _____

Reverse Average: _____

B - A Mean Horizontal Distance: _____

Combined Mean Measured Horizontal Distance: = _____

OCS Calibration Horizontal Distance: = 2,769.174 ft

Difference: =