



Redefined Horizons
3938 Kimball Lane
Stockton, California 95206

RH Guidelines
Static GPS Network Processing And
Adjustment

Static GPS Network Guidelines

What is it?

Static GPS surveying is a field survey method that we use to establish survey grade latitude/longitude coordinates and California State Plane Coordinates on our primary survey control for each project. These guidelines provide the workflow we use to process and adjust static GPS data in the office after it has been collected in the field.

Why is it important?

Our primary survey control is the foundation of all or subsequent work on the project. It is critical the coordinates we establish on the survey control be correct and accurate. It is important the processing and adjustment of the static GPS network be properly executed to establish accurate coordinates.

Roles and Responsibilities

The *Project Surveyor* is responsible for supervising the processing and adjustment of the static GPS control network.

The *Survey Tech* assists the project surveyor with the processing and adjustment of the static GPS control network.

Peer Review

The Land-Surveyor-In-Responsible-Charge should review the completed static GPS control network and the preliminary version of the survey control report.

Steps In The Static GPS Network Workflow

Our typical static GPS workflow has 5 steps:

- 1) In the first step the project surveyor imports the local receiver files. (Files may need to be converted to the RINEX format and edited before import if the data and times weren't set correctly in the data collector.) the project surveyor also imports the closes PBO/CORS files and the ephemeris files.



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- 2) In the second step the Project Surveyor processes the static GPS baselines in TBC. Bad baselines are rejected. (Talk to the licensed surveyor in responsible charge about the tolerances for baseline rejection.) Rejected (unprocessed) baselines should be deleted.
- 3) In the third step the Project Surveyor runs and reviews the loop closure report, checks for blunders, and saves the loop closure report.
- 4) In the fourth step the Project Surveyor adds a published coordinated to the seed point in TBC. The standard error values are set in the TBC project and a minimally constrained adjustments is performed. The project surveyor reviews the network adjustment report, checks for blunders, and saves the network adjustment report. The project surveyor then completes the minimally constrained network adjustment coordinate comparison spreadsheet.
- 5) In the fifth step the Project Surveyor exports the control point coordinates, chooses a scale factor point and combined scale factor, scales the control points to ground (from grid), and sets up a TBC working project. The project surveyor then completes the survey control report.