

An Evaluation of Rapid Static Application for GNSS Positioning in Surveying

CAHS Perera¹, CP Ranawaka¹

¹ Faculty of Built Environment and Spatial Sciences, General Sir John Kotelawala Defence University, Southern Campus, Suriyawewa, Sri Lanka

* perera.95@live.com

In the modern world Global Positioning System (GPS) has become most valuable technology among other Global Navigation Satellite System (GNSS) because of the variety of usages and facilities. Basically, GPS techniques can be divided as Static GPS and Real Time Kinematic GPS. Static GPS technique used for the control point establishment and Real Time Kinematic GPS technique is used for the real time surveys. The Real Time Kinematic GPS survey can be done in few minutes. But the time duration of static GPS is very high because to establish a point, data should be collected more than 45 minutes.

This study was based on height observations through the rapid static GNSS method. Moreover, this study only investigated about the best time duration for the rapid static GPS and the availability of using GPS techniques for the height observations and Surface modeling. Comparison investigation was done for the height observation and creation of surface modeling from Rapid Static GPS and the normal height measurements during this study.

Finally, the results of this study illustrate the 2-minute interval is the best time duration for the rapid static GPS. And also, rather than using of traditional height observation techniques, rapid static GPS survey technique gives more advantages. And also, this study has investigated the using of Rapid Static height observation is acceptable for the surface modeling.

Key Words: GPS, GPS Static and RTK Methods, GPS Rapid Static Method, Height Observation