

## Voluntary Submission of PSM coordinates or raw survey data

Any authorities or individuals performing fieldwork for the coordination of PSMs, other than those on certified cadastral surveys that are lodged with Land Services SA, may voluntarily provide those coordinates to the Surveyor-General's Survey Operations Unit for inclusion in the Survey Mark database (SDB) using the [template for the provision of permanent survey mark coordinates](#) and the online [provision of coordinates](#) form. Voluntarily supplied coordinates are not required to meet survey instruction accuracy requirements however, any information that will enable a more meaningful Positional Uncertainty (PU) to be quoted for the coordinates should be provided.

### Requirements for submitting GNSS observations of duration greater than 6 hours

The surveying community is encouraged to provide RINEX 6+ hour GNSS observations logged by surveyors in the course of base station establishment; generally where a survey in the vicinity takes a day or more. Survey Operations will process the data using the AUSPOS service, unless already processed and submitted by the surveyor. If the data is considered valuable it will be submitted by the Surveyor-General to Geoscience Australia to form part of the State's geodetic network. Alternatively, CORS RINEX data will be processed by the Surveyor-General to add GNSS baselines to the State adjustment.

To be of value the RINEX data should be collected:

- for a PSM, (new mark numbers are available from [DPTI.SurveyOperations@sa.gov.au](mailto:DPTI.SurveyOperations@sa.gov.au))
- for 6 or more hours,
- with a 10° elevation mask,
- with a 30 second epoch collection rate (or lesser factor of 30 such as 1, 5 or 15 seconds),
- from a clear site,
- and submitted with appropriate metadata, including rigorous measurements of antenna height. (See Appendix A for the recommended booking sheet for these observations.)

Raw data files from the receiver must be converted to RINEX v2.11 format or a Trimble proprietary format.

Observations taken at PSMs with 3<sup>rd</sup> order AHD values provide the greatest benefit to the network. RINEX data files should be zipped and provided to Survey Operations using the online [provision of coordinates](#) form. There is a file size limit of 25600 KB for this submission. To submit files larger than 25600 KB email [DPTI.SurveyOperations@sa.gov.au](mailto:DPTI.SurveyOperations@sa.gov.au) to arrange an alternate delivery method.

### Requirements for submitting other PSM coordinate data

Other PSM coordinate data collected by the surveying community, including GNSS less than 6 hours in duration, terrestrial measurements or levelling (two way) that connects multiple PSM is also encouraged to be provided for inclusion in the SDB. This may be observations or coordinates only and can be provided using the [template for the provision of permanent survey mark coordinates](#) and the online [provision of coordinates](#) form.

Data requirements are:

- GNSS data is submitted in either a RINEX format or a Trimble proprietary format
- terrestrial data is submitted in either LISCAD or Trimble proprietary formats
- the data contains the survey measurements in a raw unadjusted form
- sufficient and acceptable metadata accompany the data

The provision of this data is most valuable outside DSAs, however any data may be submitted.

Data with no independent field checks, or that straddles (without connecting) existing control, or has RTK baselines greater than 10km may be included in the Survey Mark database, however these PSM coordinates may be assigned a PU that is higher than expected.

**Appendix A**

**GNSS BOOKING SHEET**

**Project Name:** \_\_\_\_\_

**Survey Mark Occupied**

Mark Number: \_\_\_\_\_ Mark Name: \_\_\_\_\_

**Antenna setup & height**

Instrument set up by: Name: \_\_\_\_\_ Company/Agency \_\_\_\_\_

<b>Start of occupation (circle Tripod or Pillar)</b> Antenna centred over mark and levelled checked <input type="checkbox"/> Antenna height independent check <input type="checkbox"/>	
<b>Tripod</b>	<b>Pillar</b>
Measured to	Measured to
Slope/Vertical 1	<b>Measured height</b>
Slope/Vertical 2	
Slope/Vertical 3	
<b>Mean/Height entered</b>	
Antenna height check (Imperial or other method)	Antenna height check (Imperial or other method)
<b>End of occupation</b> Antenna height checked <input type="checkbox"/>	
<b>Tripod</b>	<b>Pillar</b>
Measured to	Measured to
Slope/Vertical	Measured height

Epoch Interval: \_\_\_\_\_ secs  Checked  
 Elevation Mask: \_\_\_\_\_ °  Checked

**Occupation Times**

	Local date	Local Time	Julian Day	UTC time	Check logging
Started Logging at:					<input type="checkbox"/>
Periodically checked					<input type="checkbox"/>
Finished Logging at:					<input type="checkbox"/>

**Equipment Used**

GNSS Unit ID: \_\_\_\_\_

	Type	Model	S/N
Receiver			
Antenna			
Controller			

**Data Files**

Data stored in: (circle applicable)  Controller/Receiver   
 Data directory: \_\_\_\_\_ Raw Data file name \_\_\_\_\_

**AUSPOS submission**

RINEX file name: \_\_\_\_\_  
 Antenna height (vertical) to ARP: \_\_\_\_\_ IGS Antenna name \_\_\_\_\_

**Problems encountered or other comments:**

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

