

A Summary of the effects of Barangaroo Concept Plan (06_0162) Mod 9 on Sydney Observatory

Barangaroo Concept Plan (06_0162) Mod 9 includes a proposed 74-metre tall tower (Block 7) located directly west of Sydney Observatory.

An analysis of the tower's impact on viewing from Sydney Observatory (Appendix G at [Barangaroo Concept Plan \(Mod 9\) \(nsw.gov.au\)](https://www.nsw.gov.au/barangaroo-concept-plan-mod-9)) concludes there are no impacts that will adversely affect the view. This analysis was prepared by AECOM Australia on behalf of Infrastructure NSW and relies heavily on a consultant's report from UNSW Unisearch.

However, both the AECOM assessment and Unisearch report contain major errors and omissions which negate their conclusions.

The AECOM Assessment is in error in four significant ways:

1 The AECOM Assessment assumes a "lowest practical angle of viewing" (of 10-degrees altitude) from Sydney Observatory. **No such angle exists.** Sydney Observatory as a public observatory regularly views objects down to the horizon including, for example, sunsets, moonsets, planets, the Balmain Post Office clock tower and St Augustine's church tower. See Fig. 1 below.

2 The AECOM Assessment assumes all viewing is by telescope from the North and South Domes. In fact, viewing is by telescope, binoculars and the naked eye from throughout the site, including the grounds. See Fig. 2 below.

3 The AECOM Assessment fails to acknowledge the heritage significance of views to and from the harbour (shipping time service), surveying stations (historical survey of NSW) and the horizon (sunset as a prelude to a night of astronomical observations). It fails to acknowledge the historical significance of observing the seasonal sweep of sunset along the western horizon during the year. Appendix S – "Heritage Assessment and Impact Statement" relies on the AECOM & Unisearch reports and perpetuates their incorrect conclusions.

4 The light produced by this development will only increase the loss of sky view over and above that already existing.

In addition,

The AECOM and Unisearch reports rely on old and partially outdated information from Sydney Observatory on the viewing requirements.

The maximum envelope of obstruction due to Block 7, as seen from the whole Observatory site, is between azimuths of 250 to 275 degrees, and up to 9 degrees altitude.

Sunset is blocked for about 160 days per year. Moonset is blocked for about 96 days per year.

Examples of astronomical events affected

The December 2020 close conjunction of Jupiter & Saturn occurred below 10-degrees altitude but would have been hidden by Block 7. Although the Observatory was closed due to covid, this would have been a major public event.

Future events that will be hidden by Block 7 include: total lunar eclipse in 2025, partial solar eclipse in 2030, transits of Mercury in 2032 & 2039 and the extraordinary planetary grouping (5 planets plus Moon within a 10-degree circle) in 2040.

Viewing the 2004 Transit of Venus from Sydney Observatory – viewing continued until the Sun set

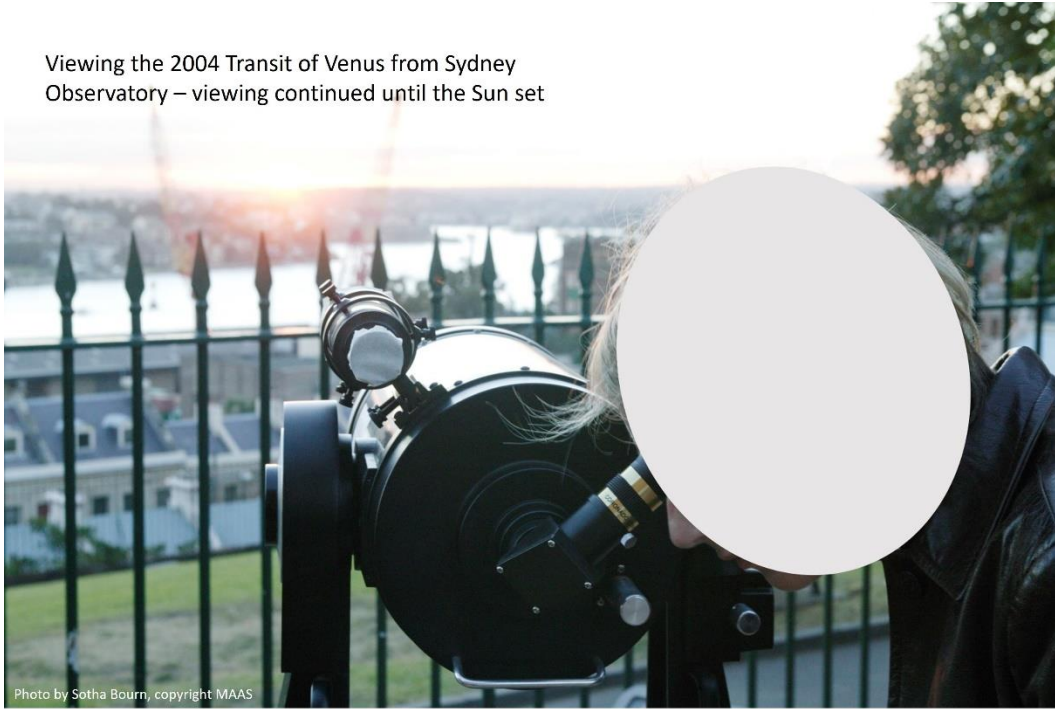


Photo by Sotha Bourn, copyright MAAS

Fig. 1 Viewing the 2004 Transit of Venus from the western driveway of Sydney Observatory. The transit was still in progress, and being viewed, at sunset. The telescope is pointing at the Sun on the horizon. Photo by Sotha Bourn, copyright MAAS.

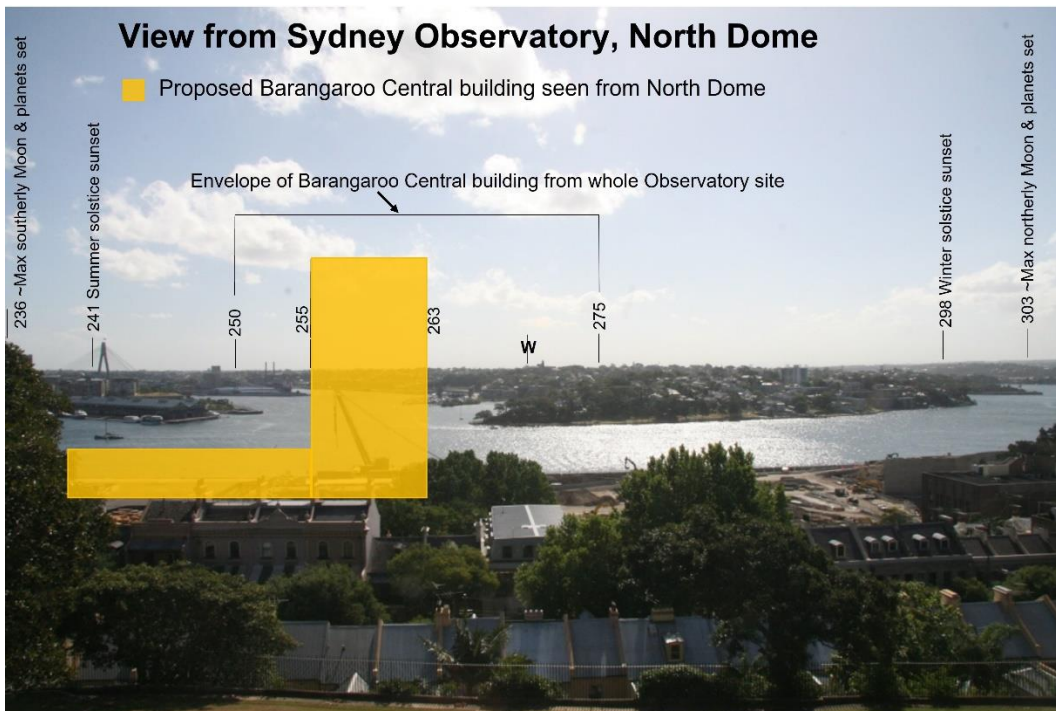


Fig. 2 View west from Sydney Observatory North Dome. The impact of the Barangaroo Central development on views from North Dome is shown in yellow. The envelope of impact on views from the whole site is from azimuths 250 to 275 degrees and up to 9 degrees altitude. Copyright MAAS.