

APPENDIX A ECOLOGICAL ASSESSMENT

ECOLOGICAL ASSESSMENT TO SUPPORT A SECTION 75W APPLICATION TO MODIFY CONSENT MP10_0076 BY REMOVING THE POND FROM THE PUBLIC PARK.

Background - 2012 Approval

Schedule 1 of MP10_0076 contains the following description of the approved development.

PART A: PARTICULARS

Mixed use development, including:

- (a) Use of the site for a mixed use development with associated public open space;*
- (b) Indicative building envelopes for 9 buildings to a maximum height of 14 Storeys;*
- (c) 60,735m² of Gross Floor Area, comprising 45,505m² of residential (432 dwellings) and 15,230m² of retail/commercial floor space (including 3,900m² supermarket and 1,470m² discount supermarket);*
- (d) Basement level, ground and above ground car parking;*
- (e) Road layout to support the development;*
- (f) Public pedestrian and cycle pathway;*
- (g) Public park with lake and surrounding forest; and*
- (h) Landscaping areas throughout the site.*

Of particular interest to this modification is (g) which describes a “Public park with lake and surrounding forest”. This modification seeks to remove the lake from the Public Park.

Condition A11 specifies the broad principles for the Public Park.

A11 PUBLIC PARK

The development application for the first substantive stage of the development must provide for the design, management and tenure of the public park on the land within Zone 13.

The public park must:

- a) Be designed generally in accordance with the plans and documents referred to in Condition A2; and*
- b) Provide for the conservation of the Sydney Turpentine Ironbark Forest; and*
- c) Be publicly accessible*

Here the prime conservation purpose of the Public Park is “provide for the conservation of the Sydney Turpentine Ironbark Forest”. No mention is made of the lake.

The statement of commitments (Schedule 4) to MP10_0076 states:

8. Drainage and stormwater management

Subsequent applications will be based on the stormwater concept design prepared by Northrop Engineers dated 29 October 2010 with the exception of the proposed water quality standard for the compensatory water body for the threatened bat species which is dealt with in the revised Biodiversity Management Plan at Appendix 7 of the PPR and Equatica report at Appendix 19.

This commitment makes specific reference to the provision of a compensatory water body for threatened bat species.

Background – usage of the site by threatened bats

Prior to development, the site contained a large water body that provided habitat for a range of species. This lake was a remnant of former clay extraction on the site and measured approximately 200m x 75m. Historical records and observations indicate usage of this lake/pond by threatened bats including the Grey-headed Flying Fox and the Little Bent-wing Bat.

During assessment of the 2010 proposal, a Grey-headed Flying Fox camp established at Kareela approximately 2 kilometres from the Brickpit site. During peak occupation this camp contained around 15,000 bats.

At this time it was considered that retention of the pond on site would provide a continued source of drinking water for grey-headed flying fox for this and other potential camps in the area. Water quality within the proposed pond and size of the pond were designed to cater for the needs of the Grey-headed Flying Fox.

Changes since the 2012 Approval

There have been considerable changes to the nature of the development, the usage of the site by Grey-headed Flying Fox and the status of the Kareela camp since the 2012 approval.

Changes to the Approved Development

The initial concept approval consisted of 7 residential towers. The tower immediately to the north of the public park (Block H) was 5 stories in height. This provided a flight path for larger bats such as the Grey-headed Flying Fox to enter the site along a north south axis and drink from the pond within the park.

Subsequent amendments to the proposal (MOD 3) initially increased the height of this building (now Block A) to 8 stories, with the latest approval (DA15-1134) to 13 Stories. This substantial increase in building height significantly impacts on a bats ability to access the pond during flight for drinking purposes. Building A in the north west corner of the site, immediately north of the public park forms a substantial barrier to bats access to all areas of the park in a through flight mode, such as is required for drinking purposes.

The height and orientation of buildings to the east have also changed since the original approval. These amendments have basically made any pond within the park, in any location or orientation unusable to the bats for drinking purposes.

While a water body within the Public Park may potentially remain suitable for the Eastern Bent-wing Bat, this species has not been observed on the site since the commencement of construction works. Since the 2012 approval, road widening works on Oak Road has seen the removal of large portions of the original Sydney Turpentine Ironbark Forest that provided habitat and resources for this species. Very little suitable habitat now remains on site and the site is not considered to contain any resources critical to the survival of the species.

Changes to usage of the site by Grey-headed Flying Fox and other bats

While Grey-headed Flying Fox have previously been recorded using the site for drinking purposes, numbers of bats and frequency of use of the site was not known.

Since development of the site commenced, and the original pond drained, a temporary pond has been provided as an off set, to continue to provide a source of drinking water for bats in the area.

Anecdotal evidence indicated that no bats had used the original pond once development of the site commenced, and that none had used the temporary water bodies provided since draining of the original pond.

In order to confirm this, two round of monitoring of site usage were undertaken (see appendix A and B). This monitoring was undertaken in June 2017 and November 2017 and did not detect any usage or visitation of the site by Grey-headed Flying Fox, nor were any seen to overfly the site.

Ultrasonic monitoring for microbats was also undertaken in conjunction with spot lighting and IR motion sensing cameras. This failed to conclusively detect any microbats using the site.

There are a number of other freshwater water bodies within 2km of the Kareela Camp, which could serve as alternative drinking sites. These include Carina Reserve, Tudar Road wetlands, Oyster Creek and Burnum Burnum Sanctuary. Significantly more sites are available within 7km of the Kareela site including Camellia Gardens, Forbes Creek, Elouera Wetlands and Still Creek.

Prior to development, it is questionable as to the importance of the role that the water body on site played in meeting the Grey-headed Flying Fox's needs. Regardless of this, it now appears the site does not play an important ongoing role in local Grey-headed Flying Fox ecology, and it cannot be considered a critical resource.

Similarly with the Eastern Bent-wing Bat, initial monitoring detected several microbats, with an inconclusive identification of the Eastern Bentwing Bat (ultrasonic call too indistinct to get a positive identification). Prior to development there was no indication of the numbers or criticality of the site for this species, should it be present. Anecdotal evidence since construction commenced indicates that there has been minimal to no microbat activity on the site. Subsequent monitoring, including IR cameras confirms this.

Changes to the Presence of Grey-headed Flying Fox within the Sutherland Shire

The Sutherland Shire currently has two permanent Grey-headed Flying Fox camps, one at Kareela and one at the Camellia Gardens. Several other temporary camps also exist, including those on the Kurnell peninsula. Numbers within these camps has fluctuated significantly over the past 8 years (Appendix C).

In 2015 Council was granted a licence to disperse the camp at Kareela. While this was initially successful with the camp largely bat free for approximately 14 months, the dispersal was suspended in 2016 due to a state-wide food shortage for Flying Fox. Since this time bats have returned to the site in varying numbers.

Management of Grey-headed Flying Fox within the Sutherland Shire now looks to control impacts to residents and ecosystems by limiting and controlling numbers within camps. Habitat removal works have been undertaken at the Kareela camp which will restrict numbers into the future. Similar works are also proposed at Camellia Gardens.

The provision of widespread habitat and resources for Flying Fox throughout the Sutherland Shire is therefore not seen as critical, compared to earlier years when the concept approval was granted and numbers of Flying Fox just at the Kareela camp were over 15,000.

Alternative

It is felt that a better conservation outcome can be achieved, while still meeting the requirements of the initial concept approval, if the pond is deleted from the park and that area (800m²) is planted with the endangered ecological community (EEC) Sydney Turpentine Ironbark Forest. The site contains original remnants of this EEC. While some remnants are conserved within the Public Park, other have been removed by the development and are to be off set both within the park and off site. It is considered that the deletion of the pond provides an opportunity to increase the extent of off set planting within the park, increasing its ecological value and improving its long term sustainability.

On balance it is considered the deletion of the pond and increase in STIF planting by 800m² represents a better ecological outcome.

Conclusion

There have been significant changes to both the brickpit development and presence of Grey-headed Flying Fox within the Sutherland Shire since the original concept approval. The changes to the size of the development to the north of the pond mean that any provision of a water body within the park will be of little to no use to bats. Also the numbers and distribution of Grey-headed Flying Fox have changed significantly since the concept approval. Numbers have now decreased, and dispersal and habitat removal have also taken place. All this has served to decrease reliance of bats within the Sutherland Shire locality on any water body within the brickpit site. This has been borne out by recent monitoring of the site. While the initial presence of the Eastern Bentwing Bat on the site is questionable, changes to the site since commencement of development have resulted in very few resources for this species remaining on the site, and its presence is no longer considered likely.

It is considered that replacement of the 800m² water body with an additional 800m² of Sydney Turpentine Ironbark Forest represents a better ecological outcome.