ECO LOGICAL AUSTRALIA PTY LTD
ABN 87 096 512 088
www.ecoaus.com.au

Ms Carolyn McNally
Secretary
Department of Planning and Environment
33 Bridge Street
SYDNEY 2000

15SUT-2482

25 November 2015

Dear Ms McNally,

Woolooware Bay Town Centre (WBTC) – Landscaping Section 75W Application

This letter provides the ecological context to the proposed section 75W application for the WBTC concept plan. The section 75W application relates to all foreshore areas of the approved Concept Plan.

Previous ecological studies

Eco Logical Australia has undertaken a number of studies relevant to the WBTC since 2011. These include:

- Ecological assessment of the Concept Plan for Cronulla Sharks Redevelopment (July 2011)
- Letter response to DPI Test of Adequacy comments regarding flora and fauna (Sept 2011)
- Fauna survey report (birds, frogs and microbats - including recommendation for additional microbat monitoring) (February 2012)
- Letter response to OEH comments regarding ecological surveys and proposed landscaping concept for the foreshore setback (May 2012)
- Microbat Monitoring Report WBTC (including impact assessment and mitigation measures) (January 2013)
- Vegetation Management Plan – WBTC Residential Project Application (February 2013)
- Vegetation Management Plan – WBTC Retail Project Application (February 2013)
- Letter response to OEH comments regarding the Environmental Assessment for WBTC (October 2013)
- Review of Noise, Light and Bird Strike Potential – WBTC Residential 1 (prepared in response to matters raised under the Concept Plan Approval) (February 2013)
- Noise, Light and Bird Strike Potential – WBTC Retail (June 2014)

- Review of Noise, Light and Bird Strike Potential – WBTC Residential Stage 2 (August 2014)
- Ecological advice to Sutherland Shire Council (SSC) for the Stage 1 Residential Construction Certificate (November 2014)
- Ecological advice for a s75W Stage 4 residential enhancement (December 2014)
- Water quality and mangrove assessment, including further microbat analysis, for the channel (January 2015)
- Review of Noise, Light and Bird Strike Potential – WBTC Retail Project Application (October 2015)
- Ecological advice to SSC for the Stage 2 Residential Construction Certificate (October 2015)
- Liaison with NSW DPI Fisheries regarding requirements for in-perpetuity management of mangrove propagules in the channel to allow for flood flows, and requirements for permits to remove <10 mature mangroves in the channel for proposed crossings (October 2015)
- Vegetation Management Plan for the Landscape Development Application (in progress) - this detailed VMP is being developed consistent with the principles in the original concept VMP e.g. species to be planted are of local provenance and appropriate vegetation communities
- Seed collection from the Kurnell peninsula (which will be used to propagate plants for rehabilitation of the foreshore areas) (in progress)

Ecological features of the site

The current ecological conditions of the foreshore areas can be summarised as follows:

- A substantial and healthy mangrove forest fringes Woolooware Bay Aquatic Reserve – this is outside the proposed development footprint.
- The area within the development footprint on the northern side of the proposed retail centre comprises an asphalt carpark which was built on landfill. There is a steep bank / informal sea wall generally comprising rubble and weeds between the edge of the car park and mangroves.
- The area on the northern side of the proposed residential precinct comprised a grass playing field gradually sloping into the mangroves. The field has recently been used to stockpile spoil for the Stage 1 residential development. The fringe of the mangroves is degraded by weeds and rubbish.
- Dense vegetation on the steep northern side of the ‘Family Hill’ of the stadium primarily comprises weeds and rubbish with some remnant trees.
- The drainage channel parallel to the western side of the stadium contains mangroves and discharges into the bay.
- Outside the development footprint, foreshore areas around the eastern part of Woolooware Bay are mostly protected under the Towra Point Nature Reserve. Foreshore areas around the western part of the bay generally comprise a path or boardwalk under the electricity easement along the edge of mangroves and a narrow band of riparian vegetation or grass on the side of the path next to light industrial land use.

Proposed rehabilitation

The WBTC foreshore planting, which is to be delivered through the proposed modification to the Concept Plan, would represent an ecological improvement compared to current conditions. A variable buffer of continuous riparian planting would be created immediately along the foreshore of Woolooware Bay before intermittent riparian planting is provided around areas of turf and a new all-abilities playground. The proposal for foreshore rehabilitation would involve revegetation with local provenance species associated with communities that would naturally occur on the edge of mangroves in this area.

Where required due to steep gradient (i.e. north of the stadium and retail centre), a seawall would be installed or reconstructed in accordance with the *Environmentally Friendly Seawall Guidelines* (DECCW 2009). This would provide additional habitat opportunities for aquatic organisms and stabilise the bank.

There would be an in-perpetuity commitment to maintain the re-created vegetation communities through weed and rubbish control at WBTC. This is an important positive feature of the proposal, as rehabilitated areas are often unmanaged and become weed-infested in the long term.

Evaluation of the proposed buffer

The proposed rehabilitation would provide benefits to ecology and amenity at the subject site itself. The benefits of the proposed rehabilitation would be similar to those in the Concept Plan. That is, the values of the adjacent Towra Point Aquatic Reserve (e.g. water quality, habitat, fauna populations and diversity) are not expected to be significantly impacted (positively or negatively) by the proposed rehabilitation.

The main ecological benefit of the proposed buffer would be to establish additional habitat for saltmarsh and other riparian species at the site itself. This is expected to benefit invertebrates (e.g. crabs and snails), in particular. Care will be needed to avoid creating mosquito habitat.

There is expected to be an improvement in water quality entering the bay as a result of changing the land use from playing field and car park to foreshore plantings. Runoff from the rehabilitated foreshore areas would enter the bay via overland flow and infiltration. Stormwater from the proposed residential and retail developments at WBTC would be discharged via the existing channels and outlets to the bay and achieve target reduction in water quality in accordance with SSC's *Stormwater Management Environmental Specification* (2009).

The proposed foreshore vegetation would establish a buffer between human activities at WBTC and the existing mangrove habitat. Birds and microbats have been recorded in the mangroves even though there is currently no buffer and the immediately adjacent areas have been used for sporting activities and vehicle parking. The proposed buffer may encourage additional fauna to this area, although territorial behaviour and available habitat (e.g. hollows), as well as more human activity associated with the redevelopment, may limit this.

Yours sincerely,

Beth Medway
Associate Director