



Office of  
Environment  
& Heritage

Our reference: DOC11/43433  
Your reference: MP09\_0131  
Contact: Marnie Stewart 9995 6861

Mr Michael Woodland  
Director  
Metropolitan and Regional Projects South  
Department of Planning and Infrastructure  
GPO Box 39  
SYDNEY NSW 2001

Dear Mr Woodland

I refer to your letter received by the Office of Environment and Heritage (OEH) on 20 September 2011 inviting comments on the exhibited Environmental Assessment (EA) for the Tallawarra Lands Concept Plan MP09\_0131 at Yallah.

It is understood the Concept Plan proposes the following:

- three residential precincts containing 1010 lots,
- a retirement village comprising 200 dwellings,
- a neighbourhood centre,
- a primary school,
- business uses,
- industrial and light industrial uses,
- a tourist facility, and
- conservation lands and open space.

As the Department of Planning and Infrastructure (DoP&I) is aware, OEH has provided detailed advice on the Concept Plan application in correspondence dated 22 September 2009 and 22 March 2011.

OEH has reviewed the EA and provides detailed comments in Attachment 1 in regard to the biodiversity, flood risk management, Aboriginal cultural heritage, contamination and noise aspects of the proposal. Significant concerns are raised regarding biodiversity, flood risk management and noise issues.

In relation to biodiversity, OEH recommends the identification and securing of an appropriate legal mechanism or instrument in the EA to ensure perpetual conservation of the retained vegetation. This is a key issue that requires resolution prior to determination.

In regard to flood risk management, OEH has previously provided detailed flood related advice to Wollongong City Council and DoP&I to assist in addressing complex flood related issues. Many of OEH's issues remain unaddressed and therefore this previous advice remains relevant to the current EA. OEH has significant concerns with the current proposal as it is unclear whether there is adequate information regarding flood behaviour to enable the DoP&I to be satisfied that the:

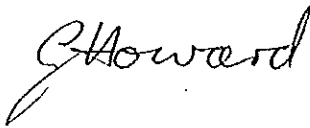
The Department of Environment, Climate Change and Water is now known as the Office of Environment and Heritage, Department of Premier and Cabinet

- proposal will ensure that future development will be protected from flood damage to a reasonable flood standard;
- risks to future occupants of the floodplain and development have been adequately considered and managed; and
- proposal is being considered in a manner consistent with the NSW Government's flood prone land policy as set out in the Floodplain Development Manual (2005).

In terms of noise, OEH has previously requested a more detailed assessment of the proposed industrial noise sources (industrially zoned land and power stations) on the proposed residential areas. The objective of this assessment would be to determine whether unacceptable land use conflicts are likely, or whether these can be mitigated through planning measures such as noise emissions controls on industrial uses or mitigation measures on residential uses, or other mechanisms, for example, boundary adjustments, increased buffer distances or revised land uses. Based on the information provided, OEH is not confident that noise limits can be met at the Tallawarra Lands residential precincts. It is essential that noise impacts are adequately assessed and impacts resolved given the potential health impacts to future residents and the costs of regulating noise impacts on an on-going basis.

If you have any queries, please contact Marnie Stewart, Conservation Planning Officer on 9995 6861 or [marnie.stewart@environment.nsw.gov.au](mailto:marnie.stewart@environment.nsw.gov.au).

Yours sincerely



07 NOV 2011

**GISELLE HOWARD**  
**Director Metropolitan**  
**Environment Protection and Regulation**  
**Office of Environment and Heritage**  
**Department of Premier and Cabinet**

## Attachment 1 - OEH comments on the Environmental Assessment for the Tallawarra Lands Concept Plan

### Threatened Biodiversity Assessment

Illawarra Lowlands Grassy Woodland is endemic to the Illawarra, with an estimated 5-15 per cent of its original extent remaining. Consequently, this vegetation type is listed as an endangered ecological community (EEC) under the *Threatened Species Conservation Act 1995* (NSW) (TSC Act). With only 47ha currently represented within conservation reserves, Illawarra Lowlands Grassy Woodland EEC is the highest priority vegetation type in the Illawarra, as identified in regional studies such as the *Illawarra NRM Action Plan* (SRCMA 2010) and the *Illawarra Biodiversity Strategy* (Illawarra Councils 2011).

Illawarra Lowlands Grassy Woodland EEC on the subject site is known to provide habitat for a number of threatened species and populations listed under the TSC Act and *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) including, but not necessarily limited to, *Chorizema parviflorum*, Illawarra greenhood orchid (*Pterostylis gibbosa*), scarlet robin (*Petroica boodang*), grey-headed flying fox (*Pteropus poliocephalus*) and six threatened microchiropteran bat species.

The *Ecological Assessment* (ELA 2011) indicates that the proposed development will result in the removal of 4.37 ha of endangered ecological communities. Of this direct impact, 75 per cent or 3.28 ha will be from Illawarra Lowlands Grassy Woodland EEC, for the development of access roads (1.50 ha), residential lots (1.01 ha) and employment land (0.75 ha).

#### Measures to avoid

In correspondence dated 22 March 2011, OEH sought clarification on measures to avoid or mitigate impacts associated with the proposal on Illawarra Lowlands Grassy Woodland EEC. OEH acknowledges that the proponent has attempted to respond to this request, however no evaluation of alternatives is provided in the correspondence dated 29 August 2011 to justify that impact on Illawarra Lowlands Grassy Woodland EEC and *Chorizema parviflorum* cannot be avoided or mitigated.

Illawarra Lowlands Grassy Woodland EEC within the Lakeside Precinct is known to provide habitat for *Chorizema parviflorum*, an endangered population listed under the TSC Act. The *Chorizema parviflorum* population is of significant conservation value. Only a small number of remnant sites remain in the Wollongong and Shellharbour local government areas, with few individuals known from each site. The *Chorizema parviflorum* population of the Lakeside Precinct represents the most easterly limit to its distribution in Wollongong.

The proposed access road into the enterprise / business zone of the Lakeside Precinct is sited north of the identified *Chorizema parviflorum* population, with enterprise / business zones proposed to the south and east of the population. As such, the proposed access road will isolate the *Chorizema parviflorum* population from other areas of contiguous *Chorizema parviflorum* habitat, as well as remove Illawarra Lowlands Grassy Woodland EEC and *Chorizema parviflorum* habitat. OEH raises significant concern regarding the *Chorizema parviflorum*'s ability to sustain a viable population should the proposed access road be constructed along the proposed alignment.

Illawarra Lowlands Grassy Woodland EEC on Lot 1 DP 543285, Lot 10 DP 552933 and Lot 151 DP 628980 is zoned E2 Environment Conservation under the Wollongong Local Environment Plan 2009 and covered by Council's *Environmentally Sensitive Areas – Biodiversity Map*. The proposed access road is not a permitted use, nor consistent with the objectives of the E2 zoning or *Environmentally Sensitive Areas – Biodiversity Map* under Wollongong LEP 2009.

In light of the above, the EA should canvass and evaluate all reasonable alternatives to the proposed access road into the enterprise / business zone of the Lakeside Precinct to demonstrate that impacts on Illawarra Lowlands Grassy Woodland EEC and *Chorizema parviflorum* have been avoided.

Furthermore, the EA should canvass and evaluate all reasonable alternatives to the proposed precinct boundaries in the south-western edge of the Northside Precinct to demonstrate that impacts on Illawarra Lowlands Grassy Woodland EEC have been avoided.

#### Measures to offset

The guiding principles for a threatened biodiversity assessment are that where impacts cannot be avoided or mitigated, residual impacts must be compensated by a suitable biodiversity offset package.

In correspondence dated 22 March 2011, OEH sought clarification of the measures to be put in place as part of the proposal to compensate for the permanent loss of 4.37 ha of endangered ecological communities. In accordance with OEH's offset principles, OEH advised the proponent that offsets should be managed under effective and secure long term management arrangements.

The EA outlines a proposal to compensate for the permanent loss of biodiversity through the retention and management of native vegetation elsewhere in the study area. Mechanisms to ensure the security and long term management of the proposed offsets are not identified in the EA. Retained vegetation is proposed to be managed through a *Vegetation Management Plan* (ELA 2011), at a cost of \$3,881,538 for a five year period. While active management of endangered ecological communities will contribute to the long-term viability of biodiversity on the Illawarra Coastal Plain, active management in the absence of effective and secure long term management arrangements does not constitute an effective offset under the *Principles for the use of Biodiversity Offsets in NSW*, nor the *NSW OEH Interim Policy on Assessing and Offsetting Biodiversity Impacts of Part 3A, State Significant Development (SSD) and State Significant Infrastructure (SSI) Projects* (OEH 2011).

It is noted the proponent commits to implement measures outlined in the *Vegetation Management Plan* for a five year period, however the land subject to these measures is not protected in perpetuity and could therefore be rezoned or redeveloped in the future. Furthermore, the benefits of measures outlined in the *Vegetation Management Plan* could be lost if works cease before the vegetation is self-sustaining. Typically, this entails maintaining a site for more than a five year period. The proponent has also indicated a willingness to transfer areas of open space to a public authority, such as Wollongong City Council or Lake Illawarra Authority. OEH notes, however, that these public authorities are yet to express an interest in accepting these areas.

Offsetting should only proceed if an appropriate legal mechanism or instrument is used to secure the required actions. In the absence of any mechanism or instrument in the EA to ensure conservation of the offset area in perpetuity, the question arises as to whether the proposal satisfies the Director General's Requirement to offset the potential impacts of the proposal.

In light of the above, OEH is unable to support the proposal as currently proposed.

OEH would, however, be prepared to review its position should the proponent commit to secure a suitable offset to compensate for the impact of the proposal on threatened species, populations, endangered ecological communities and their habitats. In this regard, it is recommended that the Statement of Commitments (SoC) be amended to include:

1. The proponent shall provide a suitable offset to compensate for the impact of the development on threatened species, populations, endangered ecological communities and their habitats to the satisfaction of the Director-General of Planning and Infrastructure, in consultation with OEH, prior to the commencement of construction.

2. This offset package shall:
  - 2.1. Detail conservation mechanisms to ensure the long term protection and management of the offset sites, through:
    - the establishment of biobanking sites with biobanking agreements under the TSC Act, or
    - the retirement of biobanking credits (where appropriate credits are available), or
    - the establishment of Conservation Agreements under the NPW Act, or
    - Trust Agreements under the *Nature Conservation Trust Act 2001*, or
    - Planning Agreements under s 93F of the *Environmental Planning and Assessment Act 1979* (EP&A Act) (being agreements that directly impose measures to conserve or enhance the natural environment), or
    - some other mechanisms agreed to by the proponent, DoP&I, OEH and other relevant parties.
  - 2.2. Meet the *Principles for the use of Biodiversity Offsets in NSW*, which are available at: [www.environment.nsw.gov.au/biocertification/offsets.htm](http://www.environment.nsw.gov.au/biocertification/offsets.htm).
  - 2.3. Include an appropriate Management Plan (such as vegetation or habitat) that has been developed as a key amelioration measure to ensure any proposed compensatory offsets, retained habitat enhancement features within the development footprint and/or impact mitigation measures (including proposed rehabilitation and/or monitoring programs) are appropriately managed and funded.

### Licensing

The proponent should note that measures undertaken as part of the *Vegetation Management Plan* may require a licence under section 91 of the TSC Act i.e. where seed collection from an endangered ecological community offsite is proposed.

### **Flood Risk Management**

OEH has provided detailed flood related advice to Wollongong City Council and DoP&I to assist in addressing complex flood related issues to the Tallawarra lands since 2006. Many of OEH's comments remain unaddressed and therefore the previous advice remains relevant to the current EA for the Tallawarra Lands Concept Plan. OEH has encouraged the preparation of a catchment based Floodplain Risk Management Study and Plan (FRMS&P) as the appropriate basis to manage future development on floodplains in this catchment. This approach would enable planning authorities to consider and address the complexity of flood related issues and work toward consistency with the Floodplain Development Manual (2005), the relevant section 117 direction and the Illawarra Regional Strategy.

OEH understands that assessment of the flood related issues to date have been based on a locality specific flood study (Cardno September 2006 & November 2006) without the benefit of an overall catchment wide FRMS&P. Bewsher Consulting has provided supplementary advice based on Cardno's 2006 flood study titled 'Flood Risk Assessment' dated December 2010 and further advice dated 9 August 2011 in support of the application. Previous advice from OEH dated 22 September 2009 identified a number of issues with the studies which do not appear to have been addressed to date. OEH therefore has concerns with the current proposal and associated land use planning decisions particularly with regard to:

- Estimation of appropriate design flood levels and reporting of flood planning levels – these are not clearly articulated and do not appear to be based on likely future conditions including potential implications of land form modifications, future development in the catchment, impacts of proposed riparian rehabilitation works and potential impacts of climate change given the lack of post developed flood modelling;
- Consideration of Council's (draft) Lake Illawarra FRMS&P (latest version being Cardno 2011) including downstream boundary conditions that account for the potential impact of sea level rise and associated impact from further foreshore filling of the floodplain;

- Consideration of impacts of existing infrastructure upstream of the site including potential attenuation and flow diversion impacts on flood flows and the potential to augment these existing waterway openings into the future. It is not considered appropriate to attenuate peak flood flows for design modelling as these structures have not been designed for flood detention. This issue also relates to structure differences identified on site by Bewsher (Dec 2010) as opposed to those utilised in the Cardno modelling; and
- Emergency management considerations for floods greater than the design flood in the absence of post-developed flood analysis.

It is therefore unclear to OEH whether there is adequate information regarding flood behaviour to enable the DoP&I to be satisfied that:

- the proposal will ensure that future development will be protected from flood damages to a reasonable flood standard;
- that risks to future occupants of the floodplain and development have been adequately considered and managed; and
- that the proposal is being considered in a manner consistent with the NSW Government's flood prone land policy as set out in the Floodplain Development Manual (2005).

OEH understands that Council has engaged BMT WBM to conduct an analysis on flooding within the Duck Creek catchment as part of the planning for Yallah Marshall Mount. Whilst OEH has not been involved with the development of this particular study, it is understood that Wollongong City Council has employed a catchment wide approach to assist in the consideration of flood risk and potential management options in the Duck Creek catchment. DoP&I may wish to liaise with Council regarding this proposal as it relates to the Duck Creek study as it may provide relevant flood information for this site.

### **Aboriginal Cultural Heritage**

OEH notes that the proponent commits to implementing the recommendations of the Aboriginal Archaeological Assessment, however, OEH considers that these recommendations are very broad in nature and not expressed in terms that are clear, unambiguous or enforceable.

OEH further notes that six areas within the Tallawarra Lands have been identified as 'Defined Area of Aboriginal Cultural Sensitivity'. Those areas are Mount Brown, Duck Creek, Fig Tree, Lake Illawarra Foreshore, Wollingurri Point and Ridgeline Access – Mt Brown to the Lake. OEH recommends that DoP&I require the proponent to clarify what activities will be undertaken in the vicinity of these areas and how it plans to conserve the cultural values of these areas. OEH considers that continued consultation with the local Aboriginal community is essential throughout the proposed development, particularly in relation to the protection and management of the cultural values of those areas identified as 'Defined Area of Aboriginal Cultural Sensitivity'.

OEH also recommends that DoP&I require the proponent to draft a clear and unambiguous SoC with regard to Aboriginal Cultural Heritage. Any statement of commitments that ascribes a role for OEH must be endorsed by OEH in writing prior to final approval.

### **Contamination**

#### Asbestos Soil Sampling

The asbestos surface sampling over the site has been undertaken on a 100m grid spacing which is consistent with our previous recommendations. OEH has previously sought a detailed description of the soil sampling methodology. This description is not provided in the EA. It is unclear to OEH how much, if any, topsoil was removed during the asbestos sampling.

OEH therefore still recommends a detailed description of the soil sampling methodology be provided.

#### Accredited Auditor

Previously OEH has recommended the involvement of an auditor accredited under the *Contaminated Land Management Act 1997* (CLM Act) be engaged to verify the adequacy of the investigation, the effectiveness of remediation, and to certify the suitability of the land for its proposed use.

On 30 September 2011 TRUenergy submitted a separate report to OEH titled *Revised Asbestos Investigation Review – Tallawarra Lands* completed by Environ Pty Ltd. On review, the report is a peer review not performed in the capacity of an auditor accredited under the CLM Act. This is not consistent with the above recommendation.

OEH recommends a SoC from the proponent to engage an auditor accredited under the CLM Act. Alternatively, DoP&I could condition the involvement of an accredited auditor to verify the adequacy of the investigation, the effectiveness of remediation, and to certify the suitability of the land for its proposed use.

Apart from the above request on sampling methodologies and the involvement of an accredited auditor, OEH expects ongoing site contamination matters to be managed in accordance with *State Environmental Planning Policy No. 55 – Remediation of Land and the Managing Land Contamination: Planning Guidelines*.

#### **Noise**

In OEH's correspondence dated 22 September 2009 and 22 March 2011, OEH raised 6 issues (Points 1-6) to be addressed in the Environmental Assessment - Noise Impact Assessment (NIA). These issues were not adequately addressed in the draft EA.

In the exhibited EA, it is noted the NIA (Appendix 25) is unchanged but the proponent, in response to the OEH issues, has included an:

- i. addendum covering documentation, and
- ii. a separate NIA for the proposed Northern Residential Area.

#### Determine Noise Level at Proposed Residential Land Uses (Point 1)

The information provided in the EA and the noise limits in the Tallawarra Power Station Stage B Project Approval (Application Number 07-0124) addresses this matter.

#### Industrial Noise Contributions (Points 2, 3 and 4)

OEH previously requested that the proponent provide an assessment of:

- i. the allowable contribution noise level from the proposed industrial areas to not exceed acceptable noise levels at the residential areas (point 2), and
- ii. that the EA formulate a sound power allocation per lot in the industrial area and a judgement/analysis of whether the sound power level per lot can be achieved in practice (Points 3 and 4).

The addendum response states that "*it is recommended that this (part of the assessment) be undertaken as an additional study at the development application stage when consent for specific land uses is being sought*". OEH does not agree with this position and believes allowable noise contributions and sound power allocations must be calculated as part of this EA and would be instrumental to ensuring compliance with noise limits.

The extent of any noise mitigation measures required to address the cumulative impact of noise sources has not been provided. The NIA includes a separate assessment of each component (road, rail, power station, industrial/commercial areas) rather than a cumulative assessment including the industrial/commercial area. The addendum response also states "measures to mitigate power station, road and rail noise where required are outlined in the noise assessment", however this does not address the cumulative impact of the industrial/commercial space.

OEH recommends the above information be provided as previously requested. In the absence of this information, OEH does not have confidence that noise limits can be met at the Tallawarra Lands residential precincts.

#### Land Use Planning Controls (Point 5)

The NIA relies heavily on the use of building design to achieve the noise limits in internal spaces within residences. OEH notes this will not enable the proponent to achieve the external noise limits listed in the Station B approval (Table 2). Further, the Tallawarra Station B approval states that where operation of the power station will exceed the external noise limits in Tables 1 and 2, then all feasible and reasonable mitigation should be applied to the source to achieve the limits. If, after implementation of all feasible and reasonable source noise controls, the noise exceeds the limits in Tables 3 and 4 of the Approval, then the proponent should investigate at-receiver noise mitigation to ensure that the external noise limits specified in Tables 1 and 2 are achieved. Based on the information provided, OEH is of the opinion that building design will not enable compliance with external noise limits.

The Appendix 25B Supplementary Acoustic Assessment states after the assessment of acoustic treatment to residential buildings that noise criteria (that is, the Tallawarra Stage B Project Approval Noise Limits) for some residences in the Northern precinct cannot be met at all times. The zones noted as A and B in this precinct are predicted to experience noise levels that exceed the acquisition criteria (in the Tallawarra Stage B Project Approval). This contrasts with the Appendix 25 NIA which states that with building design the criteria can be met. This is conflicting advice, on which there is no discussion provided by the proponent. OEH recommends DoP&I seek clarification of this advice. OEH is not confident that noise limits can be met at all residential areas.

DoP&I will need to consider these matters in determining this application, however as the Stage B approval currently stands, it appears that external noise limits in the Tallawarra Lands northern residential precinct cannot be achieved at all times.

#### Identification of Land Use Planning Restrictions (Point 6)

This matter has been adequately addressed.