



A/Director Regional Projects  
Department of Planning and Infrastructure  
GPO Box 39  
SYDNEY NSW 2001

Attention: Mr Tom FitzGerald

**Re: MP09\_0166 Environment Assessment "Altitude Aspire", Fraser Drive,  
Terranora TWEED LGA**

Thank you for your letter of 21 February 2011 requesting comment from the Department of Primary Industries (DPI) on the Environmental Assessment (EA) for the above mentioned major project. DPI also appreciates the granting of an extension of time for this response.

DPI is responsible for ensuring that fish and fish habitat are protected and conserved for future generations and that there is "no net loss" of key fish habitats. DPI has reviewed the EA and has identified the following matters for consideration prior to further development of the proposal and final determination.

**Buffer to SEPP-14 Coastal Wetland**

SEPP 14 Coastal Wetlands are considered by DPI to be key fish habitats. Incorporating an adequate and effective buffer between key fish habitats and proposed developments is Departmental policy as it is a sound and proven strategy for minimising impacts on key fish habitats.

Well managed wetland buffers contribute to the resilience of the wetland and riparian plant communities, and provides scope for landward migration under climate change scenarios. It is noted that Tweed Shire Council's zoning of the area reflects the provision of a 100 metre buffer to the SEPP 14 Coastal Wetland by zoning the SEPP 14 Coastal Wetland itself, and a 100 metre buffer, with an environmental protection (7a) zoning.

DPI requests that bushfire asset protection and/or mosquito management zones and infrastructure such as road and stormwater infrastructure should, at a minimum, be located beyond the outer edge of a 50 metre habitat buffer of replanted native endemic riparian / wetland vegetation to protect these key fish habitats, including the mapped SEPP 14 Coastal Wetland.

It is noted that an existing transmission line easement is located around the perimeter of the SEPP 14 Coastal Wetland. Transmission line easements are generally under-scrubbed to facilitate access and ensure safe operation. These actions impact directly on the adjacent SEPP 14 Coastal Wetland. The Environmental Assessment (EA) also proposes a subdivision layout that locates water sensitive urban design features, and part of the proposed Broadwater Parkway road, within the core 50 metre wetland buffer. Construction and subsequent effective management of these features generally necessitates provision of access points that further reduce the habitat value and functionality of the recommended

wetland buffer. The cumulative effect of locating these infrastructure items within the buffer zone is that, for some lengths of the whole 7a zoned buffer to the SEPP 14 Wetland, the proposal affords as little as 15 metres in width area for replanting of native endemic vegetation. Furthermore, it is possible that some of this 15 metre width could be impacted by the construction footprint of the proposed infrastructure, particularly the future Broadwater Parkway.

To achieve protection of the subject SEPP 14 Coastal Wetland and associated key fish habitats, the DPI' *"Policy and Guidelines for Aquatic Habitat Management and Fish Conservation, 1999"* requires buffers to ecologically sensitive areas be 50 metres wide, be rehabilitated with native endemic vegetation and be appropriately managed in the long term to maintain their functionality and habitat values. In this instance, DPI requests that the Department of Planning and Infrastructure and the proponent consider improving the protection of the 50 metre habitat buffer zone and relocate infrastructure outside this area to ensure that the SEPP 14 Coastal Wetland is adequately protected in the long-term from off-site impacts and edge effects of the development.

## **Stormwater Management**

In addition to the proximity of proposed stormwater management features to the SEPP 14 Coastal Wetland being inconsistent with DPI buffers policy, their positioning in an area of elevated groundwater may compromise the operation of these features.

DPI is also concerned about the limited amount of detail within Appendix 14 of the stormwater management plan within the EA. Where detail is provided, certain performance criteria do not achieve basic water quality standards.

For instances the stormwater management plan proposed minimum release criteria at the site for pH of >5.0. Firstly this level is inconsistent with the EA's own Acid Sulfate Soil Management Plan which requires pH 6.5. Secondly, the NSW Oyster Industry Sustainable Aquaculture Strategy (SEPP 62) sets the lower threshold for pH in oyster aquaculture areas as pH 6.75. The upper threshold is 8.75. It should be noted that SEPP 62 captures and has relevance to this proposal as the development site is within 10km of Priority Oyster Aquaculture Areas. Furthermore, the Office of Environment and Heritage's water quality objectives for the protection of aquatic ecosystem health within Terranora Broadwater sets a trigger value within the estuary of pH 7.0 with an upper threshold of pH 8.5.

DPI strongly recommend the stormwater management plan require that a pH range between 6.75 and 8.5 be achieved prior to discharge considering the SEPP 14 Coastal Wetland and the proximity of SEPP62 Priority Oyster Aquaculture Areas to the north at Birds Bay. The stormwater management plan should also, at a minimum, include contingencies for scenarios where it appears that treatment measures are ineffective in meeting pollution discharge targets.

## **Wetland Hydrology**

DPI notes that a consequence of the proposed development will be a change in the hydrology within the adjacent wetland. The SEPP 14 Coastal Wetland presently relies on a regular and sustained input of freshwater from numerous soaks and other discharge points on the hillside and particularly at the base of the hills to the south. A likely effect of the development will be an increase in volumes and velocities of stormwater, over shorter periods of time and at point locations into the wetland. Effectively the trailing limb of the hydrograph will be lowered and shortened. The presently diffuse flows from these soaks into the subject wetland will be directed into a drainage channel resulting in a series of point source freshwater inputs into the wetland.

The effect is both an apparent increase in the period between freshwater input events and isolation of some wetland areas from freshwater inputs. Potential effects can include changes in the wetland vegetation community with estuarine vegetation advancing into areas presently dominated by freshwater wetland plant communities.

An additional consequence from the increased 'drying out' of the freshwater component of the wetland can be increased isolation of pools, a consequence of which is exacerbation of mosquito hazard due to decreased likelihood of predation by insectivorous fish, and the potential for lowering of pH and dissolved oxygen levels within pools in the SEPP 14 Coastal Wetland that are isolated for increasingly long periods.

Neither the stormwater management plan, nor the EA more broadly, propose specific actions to maintain or mitigate changes to this important component of the natural hydrology. DPI requests that impacts on wetland hydrology and vegetation communities be adequately considered in the finalisation of the proposal and the final determination to ensure that impacts are avoided or minimised.

### **Acid Sulfate Soil Management**

The Acid Sulfate Soil Management Plan makes reference in sections 2.4 and 2.6 to Cobaki Creek which is not a tributary of Terranora Broadwater.

### **Conclusion**

DPI is concerned that the present proposal outlined in the EA will reduce the ecological resilience of the SEPP 14 Coastal Wetland, a key fish habitat.

The proposed Statements of Commitment do not adequately address the matters raised above.

DPI recommends the Department of Planning and Infrastructure require the proponent to substantially amend the proposal to better recognise and accommodate the significant environmental values of the subject SEPP 14 Coastal Wetland and adjacent Terranora Broadwater.

An amended proposal that protects and improves the values of the SEPP 14 Coastal Wetland through the provision of a minimum 50 metre vegetated buffer, outlines specific offsets for other impacts on the SEPP 14 Coastal Wetland and achieves better water quality and hydrological outcomes would have a greater likelihood of satisfying the Department's "no net loss" policy.

Should you require further information please contact Fisheries Conservation Manager, Patrick Dwyer, on (02) 6626 1397.

Yours sincerely



**Craig Copeland**  
**A / Director, Fisheries Conservation & Aquaculture**

20/4/2011