



Office of Water

7 January 2011

Major Development Assessments
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Attention: Mark Schofield

Our ref : ER21313
Your ref: MP 07_0010

Dear Mr Schofield,

Subject: MP 07_0010 Environmental Assessment – Concept Plan and Project Application – Residential, Commercial, Tourist Development and Environmental Works, Lake Cathie, Port Macquarie

I refer to your letter dated 29 November 2010 seeking the NSW Office of Water's (NOW) comments on the Concept Plan and Project Application for a residential, commercial, tourist and environmental works at Lake Cathie, Port Macquarie.

NOW understands the site is located adjacent to the recently reviewed Rainbow Beach Project Application (MP07_0001) and the Rainbow Beach Concept Plan (MP06_0085). NOW understands there is a draft Memorandum of Understanding (MOU) between the owners for both developments for road access, servicing/ infrastructure issues (water supply, sewerage, drainage, roads) and restoration of the natural flow in Duchess Gully.

NOW understands the Concept Plan seeks consent for residential, commercial, tourist development and environmental works. NOW understands the Project Application seeks consent for environmental works associated with the SEPP 26 Littoral Rainforest including revegetation and regeneration works.

NOW has reviewed the Environmental Assessment and identified a number of environmental matters that require consideration by the Department of Planning in its assessment of the project application. These issues are outlined in Attachment A.

NOW has also provided for consideration recommended conditions of approval in Attachment B, should the Minister for Planning determine the application by granting project approval.

NOW looks forward to commenting in more detail on future project applications in particular on groundwater and surface water management. If you require further information please contact Christie Jackson on (02) 6701 9652.

Yours sincerely,

Mark Mignanelli
Manager Major Projects and Assessment

**MP07 0010-- RESIDENTIAL, COMMERCIAL AND TOURIST DEVELOPMENT AND
ENVIRONMENTAL WORKS, LAKE CATHIE**

NSW OFFICE OF WATER COMMENTS ON ENVIRONMENTAL ASSESSMENT

Groundwater:

The EA outlines a proposal to manage the SEPP 26 Littoral Rainforest by constructing on-site stormwater detention basins with outlet structures that allow flows to be spread so they mimic natural surface flows into the rainforest pre-development. As part of this process it is planned to enable excess surface water to pass directly to groundwater after treatment in the bio-filtration units. At this stage the preliminary water balance modelling indicates between 1-4 recharge pits would be required however, this would be refined though more detailed modelling as part of future development application stages. The EA proposes the recharge pits to be located above the watertable however in the event that excavation into the permanent water table is required a Part 5 *Water Act 1912* licence is required by NOW.

It is NOW's preference that all primary stormwater treatment basins are lined with an impermeable layer to ensure the adequate treatment of stormwater before it is discharged to groundwater. All WSUD measures will be required to adequately treat the point source prior to directing stormwater to the proposed recharge pits (well) and potentially into the groundwater table. It is imperative that the proposed recharge pits (well) do not become contaminated by urban contaminants such as nutrients, pesticides and hydrocarbons associated with urban development which could then impact on the aquifer.

NOW considers if the recharge pit (well) is located above the watertable then a licence under the *Water Act 1912* is not required. Groundwater levels in coastal sands fluctuate by approximately up to 2 metres due to climatic conditions and therefore it is expected for a structure not to be licensed it would need to be located above the maximum groundwater level. Each recharge pit (well) should be investigated by drilling a bore to determine groundwater levels for future project applications. This will determine whether a licence is required.

Water Licencing:

The site is located within the area currently administered under the *Water Act 1912*, therefore licencing requirements will be governed under this Act, until a Water Sharing Plan under the *Water Management Act 2000* is gazetted for the area.

A search of NOW's water licencing database reveals no water licences on the area in question. The EA mentions 6 new monitoring bores are proposed with 4 being placed in the revegetated area and 2 in the SEPP 26 *Littoral Rainforest area*. These new monitoring bores will require licences under the *Water Act 1912* and must be obtained prior to drilling. The EA also outlines groundwater monitoring wells were installed at 6 boreholes. It is assumed these are in addition to the 6 proposed bores. If there are unlicensed monitoring bores currently on the site then appropriate licences will need to be obtained from NOW.

All works that intersect an aquifer require a water licence which should be obtained prior to any work being carried out. This includes for example, groundwater excavations, dewatering for sediment basin construction, wells, spear points, bores and monitoring bores.

Dewatering of groundwater appears to be required as part of the development. Any proposed dewatering for the construction of the on-site detention basins and recharge pits requires a licence under Part 5 of the *Water Act 1912*, accompanied by a groundwater management plan.

Stormwater Management:

The EA outlines stormwater management measures following the principles of Water Sensitive Urban Design (WSUD). It is important the point source is appropriately treated with WSUD measures prior to stormwater entering groundwater or surface water.

A ridgeline runs through the site dividing it into two catchments draining to the east and the west. The eastern side naturally falls towards the SEPP 26 Littoral Rainforest with the western side falling towards the Duchess Gully. The main stormwater issues identified in the EA are the potential export of pollutants from the development area to the SEPP 26 Littoral Rainforest area and the watercourses to the north and south west of the site.

The stormwater treatment train proposed consists of vegetated buffer plantings, silt and litter capture devices, bio-infiltration beds, off-stream wetlands, water tanks, roadside drainage measures, on site detention basins and a groundwater recharge facility.

The stormwater would need to be appropriately treated using the WSUD measures outlined above so these sensitive areas do not become contaminated by urban contaminants such as nutrients, pesticides and hydrocarbons (from roads).

Acid Sulfate Soils:

The EA has identified Class 4 and Class 5 acid sulfate soils (ASS) along the southern boundary of Lot 1. The EA outlines an acid sulfate soil management plan (ASSMP) will be prepared if ASS will be disturbed as a result of the proposal. NOW has concern about the potential contamination of surface water and groundwater as a result of ASS disturbance. Therefore any measures outlined in the ASSMP will need to be adequate enough to protect surface water and groundwater in the area.

Cumulative Impacts

NOW recently reviewed the Rainbow Beach Project Application and Concept Plan. NOW is concerned about the intensity of urban development in this area and the cumulative impact on groundwater and surface water resources. The cumulative impact of this proposal and other developments being assessed or recently approved by your Department should be addressed.

END ATTACHMENT A

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**MP07 0010-- RESIDENTIAL, COMMERCIAL AND TOURIST DEVELOPMENT AND
ENVIRONMENTAL WORKS, LAKE CATHIE**

NSW OFFICE OF WATER RECOMMENDED CONDITIONS OF APPROVAL

1. In regard to taking or interfering with groundwater, a number of conditions apply:
 - a. All groundwater licences must be obtained and associated works appropriately authorised prior to works commencing.
 - b. All works that intersect the aquifer should be licenced by NOW prior to any work being carried out. This includes groundwater excavations within the groundwater aquifer, which includes, but is not necessary limited to excavations for on-site detention basins, recharge pits, all monitoring and production bores (if any), wells and spear points. Therefore, all Form A's associated with the construction of bores must be submitted to NOW at the time drilling is undertaken.
 - c. For all areas on the site that require dewatering, a water licence under Part 5 of the *Water Act 1912* should be obtained prior to commencement of work. This water licence application must be accompanied by a groundwater and excavation monitoring program and acid sulphate soils contingency plan, developed to the satisfaction of NOW.
2. To aid in the protection of receiving water source quality, all stormwater runoff must be adequately treated at its source and/ or diverted through the stormwater treatment process designed for the site, prior to the stormwater being discharged to surface water and groundwater sources.
3. A groundwater management plan and monitoring plan for the proposed development must be prepared to NOW's satisfaction.

END ATTACHMENT B

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