Appendix 7
Letter - Department of Water and Energy

April 2008

Warner Industrial Park Concept Plan and Project Application

Precinct 14 WEZ

Sparks Rd and Hue Hue Rd
Warnervale
June 2008

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TERRACE
TOWER
GROUP

Warner Business Park Pty Ltd
Part of the Terrace Tower Group

Peter Andrews + Associates Pty Ltd
architecture planning urban design

NSW Government

DEPARTMENT OF WATER AND ENERGY

Your Ref: MP 07_0162
Our Ref: ER6760B

16 April 2008

General Manager
PETER ANDREWS AND ASSOCIATES LTD
PO BOX 494
TERRIGAL NSW 2260

Attention: Vanessa Colclough

Dear Ms. Colclough

WARNER INDUSTRIAL PARK AND ADJOINING LANDS
PRECINCT 14 WYONG EMPLOYMENT ZONE

I refer to your letter of 31 March 2008 concerning the above proposal.

The Concept Plan report has been reviewed and the following DWE water related issues are considered relevant for consideration during the preparation of major project plans for this site and any subsequent draft LEP.

Relevant legislation
In assessing development proposals and zoning options for the site, you should take into account the objectives and regulatory requirements of the following legislation, if applicable:

- *Water Act, 1912 (WA)*
- *Water Management Act 2000 (WMA)*
- *Hunter Water (Special Areas) Regulation 2003*

Water Sharing Plans
Gazetted Water Sharing Plans (WSPs) prepared under the provisions of the *WMA* establish rules for access to, and the sharing of water between the environmental needs of the surface or groundwater source and water users. If any proposal is within a gazetted WSP area the assessment is required to demonstrate consistency with the rules of the WSP. For information refer to: http://www.dnr.nsw.gov.au/water/plans.shtml

Relevant policies
Any assessment is required to take into account the following policies that may be relevant:

- NSW Groundwater Policy Framework Document - General
- NSW Groundwater Quantity Management Policy
- NSW Groundwater Quality Protection Policy
- NSW Groundwater Dependent Ecosystem Policy
- NSW State Rivers and Estuaries Policy
- NSW Sand and Gravel Extraction Policy for Non-Tidal Rivers
- NSW Wetlands Management Policy
- NSW Farm Dams Policy
- NSW Weirs Policy

Guidelines
Any assessment is required to take into account the following DWE Guideline for Controlled Activities (February 2008), as applicable:

- Riparian corridors (and associated Vegetation Management Plans)
  Refer to: http://dnr.nsw.gov.au/water/controlled_activity.shtml

Groundwater and groundwater dependent ecosystems
DWE is responsible for the management of the groundwater resources so they can sustain environmental, social and economic uses for the people of New South Wales.

Groundwater Source
The assessment is required to identify key groundwater issues and potential degradation to the groundwater source, by providing the following if applicable:

- Describe the flow directions and rates and the physical and chemical characteristics of the groundwater source.
- Details of any proposed works likely to intercept, connect with or infiltrate the groundwater sources.
- Details of any proposed groundwater extraction, including purpose, location and construction details of all proposed bores and expected annual extraction volumes.
- Details of any predicted impacts of any final landform on the groundwater regime.
- Details of any existing groundwater users within the area (including the environment), including any potential impacts on these users.
- Assessment of the quality of the groundwater for the local groundwater catchment.
- Details of how any proposed development will not potentially diminish the current quality of groundwater, both in the short and long term.
- Details on any land contamination and its impact on groundwater pollution, including any remediation strategy.
- Details on protective measures for any groundwater dependent ecosystems (GDEs).
- Details of any proposed methods of waste water disposal and their impact on the groundwater resource.
- Assessment of the potential for saline intrusion of the groundwater and measures to prevent such intrusion into the groundwater aquifer.
- Details of the results of any models or predictive tools used.

Where potential impacts are identified, the assessment will need to identify limits to the level of impact and contingency measures that would remediate, reduce or manage potential impacts to the existing groundwater resource and any dependent groundwater environment or water users, including information on:

- Details of any proposed monitoring programs, including parameters to be measured.
- Reporting procedures for any monitoring program, including mechanism for transfer of information.
- An assessment of any groundwater source that may be impacted upon or sterilised as a consequence of any proposal.
- Identification of any nominal thresholds as to the level of impact beyond which remedial measures or contingency plans would be initiated (this may entail water level triggers or a beneficial use category).
- Description of the remedial measures or contingency plans proposed.
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- Any funding assurances covering the anticipated post development maintenance cost (eg. on-going groundwater monitoring for the nominated period).

Groundwater Licensing
Any proposed groundwater works, including bores for the purpose of investigation, extraction, dewatering, testing or monitoring must be identified and an approval obtained from DWE prior to their installation.

Groundwater Dependent Ecosystems
Any assessment is required to identify any impacts on GDEs.

GDEs are ecosystems which have their species composition and natural ecological processes wholly or partially determined by groundwater. GDEs represent a vital component of the natural environment. GDEs can vary dramatically in how they depend on groundwater, from having occasional or no apparent dependence through to being entirely dependent. GDEs occur across both the surface and subsurface landscapes ranging in area from a few metres to many kilometres. Increasingly, it is being recognised that surface and groundwaters are often interlinked and aquatic ecosystems may have a dependence on both.

Ecosystems that can depend on groundwater and that may support threatened or endangered species, communities and populations, include:

- Terrestrial vegetation that show seasonal or episodic reliance on groundwater.
- River base flow systems, which are aquatic and riparian ecosystems in or adjacent to streams/rivers that are dependent on the input of groundwater for base flows.
- Aquifer and cave ecosystems.
- Wetlands.
- Estuarine and near-shore marine discharge ecosystems.
- Fauna which directly depend on groundwater as a source of drinking water.

The NSW Groundwater Dependent Ecosystem Policy provides guidance on the protection and management of GDEs. It sets out management objectives and principles to:

- Ensure the most vulnerable and valuable ecosystems are protected.
- Manage groundwater extraction within defined limits, thereby providing flow sufficient to sustain ecological processes and maintain biodiversity.
- Ensure sufficient groundwater of suitable quality is available to ecosystems when needed.
- Ensure the *precautionary principle* is applied to protect GDEs, particularly the dynamics of flow and availability and the species reliant on these attributes.

A number of gazetted WSPs list and map priority GDEs, as well as setting out the management strategies and actions for sharing and protecting groundwater quality, quantity and dependent ecosystems.

Surface Waters
DWE is responsible for the sustainable management of rivers, estuaries, wetlands and adjacent riverine plains.

Watercourse/Riparian
Any assessment is required to consider the impact of the proposal on the watercourses and associated riparian vegetation within the site, by providing the following:

- Identification of the sources of surface water.
- Details of stream order (using the Strahler System).
- Details of any proposed surface water extraction, including purpose, location of existing and proposed pumps, dams, diversions, cuttings and levees.
- Detailed description of any proposed development or diversion works including all construction, clearing, draining, excavation and filling.
- Evaluation of the proposed methods of excavation, construction and material placement.
- A detailed description of all potential environmental impacts of any proposed development in terms of riparian vegetation, sediment movement, water quality and hydraulic regime.
- A description of the design features and measures to be incorporated into any proposed development to guard against long term actual and potential environmental disturbances, particularly in respect of maintaining the natural hydrological regime and sediment movement patterns and the identification of riparian buffers. (See note below)

The *Rivers and Foreshores Improvement Act 1948 (RFIA)* has been repealed and the controlled activity provisions in the *WMA* have commenced. The provisions relating to Controlled activities replaced the *RFIA* from 4 February 2008.

Riparian corridors form a transition zone between terrestrial and aquatic environments and perform a range of important environmental functions. The protection or restoration of vegetated riparian areas is important to maintain or improve the geomorphic form and ecological functions of watercourses through a range of hydrologic conditions in normal seasons and also in extreme events.

DWE's *Guidelines for Controlled Activities - Riparian Corridors* (February 2008) recommends the following minimum Core Riparian Zones (CRZ) widths (refer to website below):

- **CRZ of 10 metres** (on both sides of the watercourse) for:
  - Any first order watercourse where there is a defined channel where water flows intermittently;
- **CRZ of 20 metres** (on both sides of the watercourse) for:
  - Any permanently flowing first order watercourse, or
  - any second order watercourse where there is a defined channel where water flows intermittently or permanently;
- **CRZ of 20 - 40 metres** (on both sides of the watercourse) for:
  - Any third order or greater watercourse where there is a defined channel where water flows intermittently or permanently. Includes estuaries, wetlands and any parts of rivers influenced by tidal waters – (merit assessment based).

  [**Note:** Watercourse order as classified under the Strahler System].
  http://www.dnr.nsw.gov.au/water/controlled_activity.shtml

In addition to the above recommended CRZs, an additional **vegetated buffer (VB) of 10 metres** should be provided on both sides of the watercourse, measured from the outer edge of the CRZ, to allow for edge effects.

Any works which involve excavation on *"waterfront land"* will require a permit under the WMA. In order to reduce the number of referrals of future development applications to DWE, Council is encouraged to ensure that development is excluded from these areas via appropriate zoning. Appropriate riparian buffers should be included in any such zoned areas. DWE requires that all structural works, including works for stormwater capture and treatment, are located outside any riparian buffer.

Where the specific zoning of riparian buffers is not feasible, the protection and management of riparian corridors needs to be addressed at the DA stage via appropriate DCP provisions.

It is noted that Buttonderry Creek, which has been identified as a third order or higher stream, crosses the site. The riparian buffer widths proposed may need to be reviewed in light of these riparian legislative changes.

Sustainable water supply

Any assessment must address the issue of provision of a sustainable water supply for any proposed development, with minimal reliance on accessing valuable surface and groundwater resources. Through the implementation of BASIX, Integrated Water Cycle Management, and Water Sensitive Urban Design, proposed development must also be able to exhibit high water use efficiency.

Farm dams

There could be existing farm/water supply dams within the proposed site. Prior to any rezoning, the current legal status and intended use of these dams, under the WA and/or the WMA, needs to be determined - as the legal status of these structures will most likely be affected by any subsequent subdivision or development. For details about the Farm Dams Assessment Guide and information on Harvestable Rights and calculation of the Maximum Harvestable Right Dam Capacity, see
http://www.naturalresources.nsw.gov.au/water/farm_dams/index.shtml

Should there be any further enquiry in this matter in the interim, please contact me on (02) 4904 2634.

Yours sincerely

Jeff Hunt
Senior Project Planner
Major Projects and Planning