

From: Ghazi al ali
To: Diane Spithill <Diane.Spithill@gosford.nsw.gov.au>
Date: 25/07/2012 4:55:49 PM
Subject: FW: Agricultural School - Covering Letter to Council

Please find enclosed final covering letter to Council fyi.

Ghazi

Subject: Agricultural School - Covering Letter to Council
Date: Wed, 25 Jul 2012 15:23:39 +1000
From: Nick@inghamplanning.com.au
To: architect7542@hotmail.com

Ghazi please find attached the final signed pdf of the above letter on our letterhead for you to lodge with Council, together with at least 3 copies of each of the supporting reports which you have..

Regards Nick J



Our Ref: 11199

25th July 2012

The General Manager
Gosford City Council
PO Box 21
GOSFORD NSW 2250

Attention: Ms Diane Spithill

Dear Sir/Madam

RE: DA 42013/2012 - PROPOSED SECONDARY SENIOR AGRICULTURAL COLLEGE AT 2964 WISEMANS FERRY ROAD MANGROVE MOUNTAIN

We write on behalf of the proponent for Development Application 42013/2012 in response to a number of planning and development issues that have been raised by Council, arising from Council's preliminary assessment of the Application. The issues raised by Council relate to the following matters:

- Maintenance of water quality in the Mangrove Weir Water Supply Catchment Area
- Appropriateness of using the site for an educational establishment "*within an active agricultural locality*"
- Design of vehicular access, parking areas and need for turning and acceleration lane in Wisemans Ferry Road.
- Survey plan of trees and identification of trees proposed for removal.

The proponent has commissioned suitably qualified consultants to review and respond to the above issues of concern that Council has raised. Copies of the responses from those consultants are attached. The issues of concern are addressed in summary in the following assessment.

1. Maintenance of Water Quality in the Mangrove Weir Water Supply Catchment Area

Mangrove Creek Weir is the major raw water supply conduit for Gosford City's water supply. Water is pumped directly from the Weir to the Somersby water treatment plant for processing prior to distribution to consumers. The subject land is located approximately 1.2 kilometres from Mangrove Creek Weir.

The catchment of Mangrove Creek Weir is rural in character comprising a mix of naturally vegetated bushland, farming and associated activities such as wholesale plant nurseries.

Urban and Regional Planning, Environmental Planning and Statutory Planning
Registered Office: Lyndhurst, Suite 19, 303 Pacific Highway, Lindfield N.S.W 2070
Telephone: (02) 9416 9111 Facsimile: (02) 9416 9799
email: admin@inghamplanning.com.au
A.C.N. 106 713 768

www.inghamplanning.com.au



Council is concerned that a more intensive use of the site for a purpose such as an agricultural boarding school, will adversely impact on water quality in the Mangrove Creek Weir. Council's concerns specifically relate to stormwater (including during the construction phase) and treated effluent discharge from the proposed development and the potential for these discharges to adversely impact a groundwater quality, subsequently reducing water quality in the Weir. Council requires that the Applicant demonstrate that the proposal will *"result in zero impact"* on the catchment.

The Department of Primary Industries notes that Crown land along the western and southern boundaries has environmental value, including a perched swamp community that it considers to be an endangered ecological community, which could be susceptible to any significant increase in nutrient load.

The proposed development includes installation and operation of a suitably designed onsite sewage management system. The proponent has commissioned Standard Industries P/L to prepare a design and Operations and Procedures Manual for the proposed wastewater treatment plant that will ensure zero impact on water quality in Mangrove Creek Weir and adjoining areas of bushland.

The proposed wastewater plant design and operational procedures will adequately cope with handling daily flows of 13,275kL/day, in excess of the wastewater flows that will be generated by the proposed agricultural college. The quality and management of treated effluent accord with relevant industry standard and will ensure zero impact on water quality in the Mangrove Creek Weir catchment.

Douglas Partners were commissioned to undertake a detailed groundwater assessment and assess potential impacts on ground water quality arising from installation and operation of the proposed wastewater treatment plant. Douglas Partners advise that the soils on the site provide only minor limitations to the use of on-site effluent disposal systems.

Douglas Partners confirm that the effluent disposal system if implemented as proposed *"is highly unlikely to contaminate groundwater in the Kulnura Mangrove Mountain Aquifer, impact bores on adjoining properties or impact the nearby groundwater dependent ecosystems."*

The proposed development includes a stormwater management system that collects all stormwater from roofs and hard stand areas and directs this to a stormwater storage pond.

The internal stormwater drainage system servicing the proposed development has been designed to have zero impact on the water quality leaving the site such that the runoff from the post-developed site is at least equal to the pre-developed site runoff.



A zero water quality impact outcome is achieved by using water sensitive urban design (WSUD) approach and moving away from conventional drainage systems. This strategy has been fully detailed in Cardno ITC Stormwater Management report (issue A0 dated 31/01/2012). Key features of the proposed stormwater management system are outlined as follows:

- It is proposed to adopt a treatment train approach that uses natural systems as opposed to conventional pipe and pit systems.
- The objectives of the natural systems is to mimic the natural state of the site in terms of runoff quantity and quality, allow infiltration, evaporation and other phenomenon that occur in the natural state of an agricultural site.
- The following measures have been applied to the proposed agricultural education centre:-

(a) The roof runoff is collected in series of downpipes that discharge into rock stabilised open drains. The flow is then collected in grassed swales and conveyed to the pond.

(b) The surface of the internal road and the proposed car parking area is graded to open swales located adjacent to these areas. The swales have two functions. One is to convey the runoff to the pond and second to allow the water to be treated through the planting and the vegetation at the base of the swales.

(c) The tennis court will be graded along its width to the downstream side. The runoff from the tennis court will pass through a buffer strip, which extends for the whole length of the court. The width of the buffer zone is approximately half the width of the court. The runoff is then discharged into the pond.

(d) The runoff from the unmodified area of the site between the proposed development and Wisemans Ferry Road is conveyed as well to the pond via open drains. This allows more runoff into the pond for collection and reuse on site and maximises its use, while at the same time reducing the peak discharge from the site and improving the quality of the runoff.

(e) The unchanged area downstream of the development and the pond will remain in their current conditions. The runoff from this area is not disturbed by the development and hence does not form part of the water quality strategy. The water quality of the stormwater runoff from this area remains unchanged between pre and post development states.

- The water quality and quantity pond is the main feature of the WSUD approach. The pond collects the runoff from the upstream areas of the site. The pond has a permanent water body and an extended depth that allows the water to be stored on site for reuse. The pond has the following objectives:-



- *Reduce the volume and the peak discharge from the site in its proposed conditions to pre-development state;*
 - *Treat the runoff from the upstream areas, specifically the development and reduce the pollutants loading to pre-development state;*
 - *Maximise the reuse of stormwater on site as required by the end users; and*
 - *Integrate with other schemes such as greywater reuse.*
- The pond has an area of 2000m². The permanent body of water has a depth of 0.5m on average. The extended depth of the pond is 1.0m. The pond will have an overflow spillway stabilised with rock up to a maximum width of 5.0m.

To assess the validity of these treatment measures and the WSUD treatment train approach adopted for the proposed development, a MUSIC (Model for Urban Stormwater Improvement Conceptualisation) model is prepared. The objectives of the model are to assess if the quality of the runoff downstream of the pond has similar or better characteristics than the quality of the runoff from the existing site.

The results of the MUSIC model indicate that the post-developed site runoff has better water quality than the runoff from the site in its current state. The following table summarises these results.

Description	Pre-Development	Post-Development
Flow (ML/yr)	117	114
Peak Flow (m ³ /s)	6.84	6.11
Total Suspended Solids (kg/yr)	16800	13400
Total Phosphorus (kg/yr)	47.1	46.9
Total Nitrogen (kg/yr)	331	324
Gross Pollutants (kg/yr)	0	0

During the construction phase there is potential for impacts on water quality arising from stormwater flows from excavation and construction areas on the site. An Erosion and Sedimentation Management Plan will be prepared prior to issue of Construction Certificate. This Plan will ensure that all runoff from excavation and construction areas on the site is controlled and directed to a sedimentation treatment pond.

During construction, erosion and sediment controls will be applied to ensure that the runoff from the construction site is controlled and will not have an impact on the water quality downstream of the site.



The management of water quality during the construction phase has been fully detailed in Cardno ITC Stormwater Management report (issue A0 dated 31/01/2012) and is summarised below for reference.

The purpose of the controls imposed during the construction phase of the development is to control the erosion from the disturbed areas, which leads to high levels of sediments in the stormwater.

The soil underlying the site is considered either dispersive or fine, Type D or F respectively. The suspended solids concentration should not exceed 50mg/L for all 5-day rainfall totals up to 80th percentile rainfall event.

The series of controls that will be imposed during construction include:-

- Temporary stabilised construction entry/exit with a grid shaker and a wash down facility;
- Sediment fences to the lower sides of the disturbed areas and at 30metres intervals;
- Topsoil stockpile located within the disturbed areas and protected with a diversion bank on the uphill side and surrounded with a sediment fence at the downstream side;
- Temporary drains and diversion banks to the lower side of the area to direct flows into the sediment basin. These can be in the location of the proposed grass swales and open drains which form part of the stormwater strategy;
- A sediment basin collecting polluted flows from exposed areas. The proposed pond can be utilized as sediment basin. For this purpose, the construction of the pond should be considered at the early stages of the development; and
- Chemical treatment of water in the basin if required.

An erosion and sediment control plan has been prepared for the overall site development. Refer to the appendices for detailed erosion and sediment control plan.

2. Appropriateness of the Site for A Senior Secondary Agricultural College

The NSW Department of Primary Industries (DPI) is concerned about the placement of an educational establishment, mainly for boarders, within an active agricultural locality. The DPI note that the planning controls identify agriculture as the primary focus for Mangrove Mountain and that development of an educational establishment may be contrary to that objective. The DPI is of the opinion that an agricultural educational establishment, with residing students within an agricultural locality that supports horticulture, should not be supported.

The DPI question the ability of the proponent to provide agricultural training and are argue that the proposed college's priority for agricultural production is tenuous and that there is no certainty that the curriculum would remain agriculturally focussed.



The DPI is concerned that high school students boarding on the site would increase the risk of land use conflict and constrain commercial agriculture on nearby land and may also complicate biosecurity management if a poultry disease occurs that requires the area to be quarantined. DPI also note that the Rural 1(a) Zone applying to the land is not an equivalent prescribed zone for educational establishments, as noted in the Infrastructure SEPP.

The proponent has commissioned Agribiz Consulting to review the proposed development, its suitability for the site and the issues raised by Council via the DPI. Agribiz note that the proposal is a permitted use under the current Rural 1(a) zoning and that the bulk of the land would be used for practical agricultural activities associated with the teaching of agriculture at the school.

Agribiz advises that agricultural activities proposed for the school would be similar in nature to agricultural activities carried out on surrounding farms and the school is unlikely to interfere with the agricultural activities of the immediate neighbours, or other farms in the surrounding area, in any significant way.

Agribiz consider there is a need for secondary agricultural schools that can offer practical “hands on” agricultural training and experiences, as is proposed for the subject land. A location on land of suitable agricultural quality is therefore both desirable and appropriate and the proposal will contribute to the local community and broader agriculture sector.

Agribiz recommends the incorporation into the Master Plan of 30 metre buffer zones and setbacks to boundaries of more than 80 metres for all school buildings and residences, to ensure that spray drift from neighbouring properties does not impact the school. The School Master Plan has been revised accordingly and a copy of the revised Master Plan enclosed with this submission.

Agribiz concludes that from an agricultural perspective, there are no legitimate reasons why the school should not be able to operate successfully as proposed on the subject land. Agribiz is of the opinion that the land area is large enough for the school to carry out all activities it needs in terms of teaching and practical agricultural activities and the land is fertile enough and the climate conducive to the range of agricultural activities that are needed to provide students with a diversity of agricultural experiences.

3. Design of Vehicular Access and Parking Areas

Council has requested that the proponent submit revised plans detailing the proposed turning area, parallel parking and access driveway demonstrating compliance with AS/NZS 2890.1 (2004) – Off-street car Parking. Council has also requested provision of additional manoeuvring templates for the required Heavy Rigid Vehicle for the turning areas.



Council has received the requirements of the Roads and Maritime Services (RMS) in relation to the proposed development and has requested that revised plans be submitted demonstrating compliance with those requirements, including provision of a “Basic Right Turn Treatment” in Wisemans Ferry Road. Council has additionally requested that the design of access include a “Basic Left Turn Treatment” (BAL) and acceleration lane (northbound vehicles) along the western side of Wisemans ferry Road.

The proponent has appointed traffic consultant Traffix to address issues raised by Council and RMS in relation to design of vehicular access and parking arrangements. A revised plan is enclosed for turning areas and parallel parking demonstrating compliance with the relevant standards and adequate turning areas for a Heavy Rigid Vehicle.

In relation to requested road works in Wisemans Ferry Road to provide for left and right turns and an acceleration lane, Traffix advise that provision of a Basic Right and Left Turn Treatments in Wisemans Ferry Road are appropriate and include a concept design for this facility. Traffix is of the opinion that the request for installation of an acceleration lane is onerous and unnecessary for the following reasons:

- The proposal does not meet the nominated thresholds that would require an acceleration lane.
- An acceleration lane is only required where turning volumes are high (e.g. 300 to 500 vph), insufficient gaps exist for vehicles to enter a traffic stream, minimum gap sight distance is inadequate and heavy vehicles pulling into the traffic stream would cause excessive slowing of major road vehicles. These conditions are not evident in Wisemans Ferry Road at the entry/exit to the subject land.
- Provision of an acceleration lane is onerous and unnecessary having regard to the limited traffic generation of the development and the modest traffic flows in Wisemans Ferry Road.

4. Survey plan of trees and identification of trees proposed for removal

Council’s Landscape Officer has requested that the proponent provide a survey plan of the site identifying the location of existing trees and trees proposed for removal. In addition it has been requested that the proponent tag those trees proposed for removal.

Tree Talk Arboriculture Consulting provided an assessment of existing trees identified for removal in Arborist Report submitted with the Development Application. The Arborist has provided a supplementary report outlining proposed tree protection measures. This report includes an aerial photograph of the site accurately indicating the locations of groups of trees that are located in the vicinity of proposed school buildings and the access driveway.



Section 4.0 of the Arborist's supplementary report describes the various tree groups A to I, trees proposed for removal and trees that will require tree protection measures during construction. Section 5 and 6 of the report outline proposed management of each of the tree groups and the level of protection required and the means of achieving adequate protection of the nominated retained trees, for example tree protection fencing.

It is proposed that a detailed tree protection plan would be prepared prior to issue of the Construction Certificate. This can be addressed by way of a suitably worded consent condition.

Conclusion

The senior secondary agricultural college is intended to provide a suitably designed curriculum for students with an interest in studying agriculture, with a focus on practical "hands-on" agricultural training and skills. This is achieved by providing agricultural activities on-site within a "working farm" setting. A location within an agricultural area of suitable soil quality is essential for such a school.

The subject land is ideally suited to establishing a senior secondary agricultural college, with students comprising predominantly boarders. The revised site Master Plan (copy attached) provides agricultural activities appropriate to the study of agriculture at senior secondary level and includes suitable buffers and setbacks to neighbouring agricultural activities, to ensure that there are no unacceptable land use conflicts between the proposed use of the site as an agricultural school and those neighbouring farming activities.

Suitably designed on-site waste water and stormwater management systems are proposed that ensure "zero impact" on groundwater and water quality in the Mangrove Creek Weir catchment, both during the construction and operational phases of the development.

A plan has been provided in relation to vehicular access and parking design, including turning paths that complies with the relevant Australian Standards. A concept design has also been provided for upgrading Wisemans ferry Road to provide for safe right and left turns to and from the site. An acceleration lane is unnecessary, as the circumstances necessitating installation of such a facility, as detailed in Part 4 of the Austroads Guide to Road Design, are not evident.

Additional information has been provided by the Arborist in a supplementary report, which includes an aerial photo showing the location of tree groups that may be potentially impacted by the proposed development, or where tree removal is proposed, because such trees are in poor condition. This aerial photo readily enables Council's landscape officer to identify "on the ground" which trees are proposed to be removed. A consent condition can be applied to ensure adequate tree protection measures are in place during construction.



We trust that the additional supporting information provided to Council satisfactorily addresses the issues that Council has raised and we look forward to Council's favourable determination of the Development Application. Should you require any further information, please contact Mr. Nick Juradowitch of this office.

Yours faithfully

Nick Juradowitch
Director