



NSW GOVERNMENT
Department of Planning

MAJOR PROJECT ASSESSMENT: Turf Farm, Tumbulgum



Director-General's
Environmental Assessment Report
Section 75I of the
Environmental Planning and Assessment Act
1979

February 2007

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1. EXECUTIVE SUMMARY

Mr and Mrs Hibbard propose to convert 18 hectare of their property at Tumbulgum, in the Tweed Local Government Area (LGA), from cane farming to turf farming.

The proposal involves establishing a turf farm on the site and associated infrastructure, such as a 20ML storage dam on site; and upgrading the Crown Road from the site to the nearby Tweed Valley Way. The proposal has a capital investment value of \$100,000 and would employ 2 people.

The proposal is classified as a major project because it is an 'extractive industry' in the coastal zone. Therefore, the Minister is the approval authority.

The Department received 7 submissions on the proposal: 6 from government agencies including a submission from Council, and a one objection from an adjacent landowner.

The Department has considered the issues raised in these submissions and the potential impacts of the proposal and is satisfied that it can comply with the relevant criteria and achieve an acceptable level of environmental performance.

Consequently, the Department recommends that the proposal be approved subject to conditions.

2. PROPOSED DEVELOPMENT

Mr and Mrs Hibbard (the Hibbards) currently grow sugarcane on 18 hectares of land at their property at Tumbulgum. However, sugar cane production has been marginally viable for many years. In order to make their farming operation more viable, the Hibbards propose to construct and operate a turf farm on this property, on Lot 1 DP 783886, Tweed Valley Way, Tumbulgum (see Figure 1).



Figure 1: Regional Context

The proposed site for the turf farm is located in a predominantly rural location, with other cane farms to the east and west, the Tumbulgum Sewerage Treatment Plant adjacent to the south western corner of the property, and the Tweed Valley Way and Tweed River to the north. The proposed site is located approximately 1km to the east of the township of Tumbulgum. There are 3 residences within 300m of the site. Surrounding land uses are shown in Figure 2.



Figure 2: Surrounding Land Uses

The main components of the proposal are described in Table 1.

Table 1: Major Components of the Project

Component	Description
Project Summary	Once constructed, Mr and Mrs Hibbard would essentially cultivate turf on a small part of their existing cane farm, harvest it and distribute it to customers by truck. Turf would be harvested weekly (~5000m² of turf in strips), with turf delivered directly to customers. The entire turf crop would be replaced with more vigorous stock approximately every 5 years.
<i>Site Preparation Works</i>	Works would include filling of minor drains (main drains would be kept); clearing existing sugar cane crop; rotary hoeing the land (avoiding drains); and seeding turf species.
<i>Water Supply</i>	Construction of a 20 megalitre (1.6 hectare) water storage in the middle of the site. The existing drainage system on-site would be used to pump water to the water storage for irrigation. Treated effluent from the adjacent Tumbulgum Sewerage Treatment Plant would be pumped to the water storage of the dam for irrigation purposes, as required.
<i>Cultivation of Turf</i>	Activities involved in the cultivation of the turf would include: <ul style="list-style-type: none"> the application of fertilisers (100kg of nitrogen and 5-10kg of phosphorus per hectare per annum); weed and pest control (fortnightly spraying in summer and bimonthly in cooler months); irrigation (use of stored stormwater and treated effluent, as required). It is noted that the Hibbards formed an agreement with Tweed Shire Council in August 2003 to withdraw up to 80,000L of treated effluent per day; and regular cutting of the grass (16 hours of mowing once a week).
<i>Harvesting of Turf</i>	Approximately 5000m ² of turf would be harvested weekly. The entire turf crop would be replaced with more vigorous stock approximately every 5 years. Approximately 4000m ³ of fill would be required every 3 years to maintain existing ground levels.
<i>Site Access</i>	Upgrade of an existing Crown Road to the south of the site to allow access to the Tweed Valley Way. The Crown Road and the intersection of the Crown Road and Tweed Valley Way would be upgraded to Council standards.
<i>Traffic and Transport</i>	Harvested turf would be delivered directly to customers using an 8-10 tonne truck. The farm would generate 5-10 vehicle movements per day.
<i>Employment</i>	Employment of 2 people during construction and 2 during operation.
<i>Hours of Operation</i>	The farm would operate 7 days a week, mainly between the hours of 7am and 6pm, except for some spraying and irrigation work which could occur after 6pm.
<i>Capital Value</i>	\$100,000

3. STATUTORY CONTEXT

3.1 Major Project

The proposal is classified as a major project under Part 3A of the *Environmental Planning and Assessment Act 1979* (the EP&A Act) as it complies with the criteria in Clause 1 of Schedule 2 of the *State Environmental Planning Policy (Major Projects) 2005* being development for the purpose of 'extractive industry' within the coastal zone.

Under the Major Projects SEPP an extractive industry means "obtaining extractive materials by methods including excavating, dredging, tunnelling or quarrying....". The harvesting of turf would include the extraction of material (i.e. turf and soil) from the soils surface. Turf farming activities are therefore considered to be included within the definition of an extractive industry. Consequently, the Minister is the approval authority for the project.

3.2 Permissibility

Under Section 75J of the EP&A Act, the Minister cannot approve the carrying out of a project that would be wholly prohibited under an environmental planning instrument.

The site is zoned 1(b2) Agricultural Protection, pursuant to *Tweed Local Environmental Plan 2000*. Development for the purpose of extractive industry is permissible with development consent provided the requirements of clause 8(2) of *Tweed Local Environmental Plan 2000* are met. The Department has assessed the proposal against these requirements and is satisfied that the proposed turf farm is generally consistent with clause 8(2). The Department is therefore satisfied that the proposal is permissible with consent.

3.3 Exhibition

Under Section 75(3) of the EP&A Act, the Director-General is required to make the environmental assessment of a project publicly available for at least 30 days.

After accepting the environmental assessment for the project, the Department:

- made it publicly available from 11 October 2006 until 10 November 2006:
 - on the Department's website, and
 - at the Department's Information Centre, Tweed Shire Council, and the Nature Conservation Council;
- notified landowners in the vicinity of the site about the exhibition period by letter;
- notified relevant State government authorities and Tweed Shire Council by letter; and
- advertised the exhibition in the Tweed Daily News.

This satisfies the requirements in Section 75H(3) of the EP&A Act.

3.4 Environmental Planning Instruments (EPIs)

Under Section 75I of the EP&A Act, the Director-General's report is required to include a copy of or reference to the provisions of any *State Environmental Planning Policy* (SEPP) that substantially governs the carrying out of the project.

The Department has considered the project against the relevant provisions of several SEPPs (including SEPPs 11, 55 and 71). The Department is satisfied that the proposal, subject to the implementation of the recommended conditions of approval, is generally consistent with the aims and objectives of these instruments (refer to Appendix E).

3.5 Statement of Compliance

Under Section 75I of the EP&A Act, the Director-General's report is required to include a statement relating to compliance with the environmental assessment requirements with respect to the project. The Department is satisfied that the environmental assessment requirements have been complied with.

4. ISSUES RAISED DURING CONSULTATION

The Department received 7 submissions on the proposal (see Appendix C for a copy of these submissions):

- 6 submissions from public authorities (Department of Environment and Conservation, Department of Primary Industries, the Department of Lands, Department of Natural Resources, Roads and Traffic Authority and Tweed Shire Council); and
- 1 submission from a member of the general public.

The Department of Environment and Conservation (DEC), Department of Primary Industries (DPI), Department of Lands, Department of Natural Resources (DNR) and Roads and Traffic Authority (RTA) raised no objections to the proposal, and provided their recommended conditions of approval.

The Tweed Shire Council (Council) raised concerns about access to the site, wastewater irrigation, stormwater and sediment control, on-site management of stored chemicals, and the need for the detailed design of the development, including the proposed irrigation and stormwater control measures.

Issues raised in the submission from a member of general public included the lack of detail in the environmental assessment, spray drift from the irrigation of treated effluent and inaccuracies in the traffic impact assessment.

The Department has assessed the relevant issues raised in the submissions in Section 5 of this report.

5. ASSESSMENT OF ENVIRONMENTAL IMPACTS

5.1 Water and Soil

5.1.1 Surface Water

Construction

During construction, soils at the site would be exposed. The Hibbards propose to install erosion and sedimentation control devices (such as filter fences, hay bales and catch drains) prior to the construction of the storage dam and site works. The Department considers potential water quality impacts from erosion and sedimentation can be adequately managed through the mitigation measures proposed by the Hibbards.

Operation

Erosion and Sediment Control

During the cultivation and harvesting of the turf, soils would be exposed and there is potential for erosion and sediment impacts. To minimise erosion and sediment impacts the Department recommends that any erosion and sedimentation control devices should remain in place until the turf is fully established and should be installed during harvesting of the turf.

Stormwater Management

The stormwater management system for the site would consist of a 20 ML storage dam, as well as the existing agricultural drainage system. Runoff from the site would be captured in the existing drainage system and pumped to the dam for storage and irrigation purposes. However, the Hibbards have indicated that in some instances (for example when the dam is full) stormwater would be discharged from the site, as per the current situation. Currently, stormwater runoff from the site drains into the existing agricultural drainage system, with water draining off site towards the Tweed Valley Way and the Tweed River. The Department is satisfied that the proposed stormwater management system would reduce the amount of stormwater discharged off site. Notwithstanding, the Department agrees with recommendations from Council and DPI that the final design of the proposal and irrigation/drainage scheme be provided prior to construction of the turf farm, and this requirement has been incorporated into the recommended conditions of approval.

Water Demand

DNR have indicated that the proposed storage dam exceeds the Maximum Harvestable Right Dam Capacity (MHRDC) for the site under the relevant water management legislation. Harvestable rights allow certain landholders to collect runoff on their property (up to 10% of average rainfall runoff) and store it in one or more farm dams up to a certain size. Based on harvestable rights, the Hibbards would be permitted to harvest 3.6ML. DNR have stated that an entitlement must be obtained on the water trading market for the difference between MHRDC volume (3.6ML) and the actual volume of the storage dam (20ML) and the entitlement must be transferred to the proposed site. Once the entitlement is transferred, DNR would be able to grant a licence. The Department's recommended conditions require the Hibbards to obtain a licence or water entitlement prior to the construction of the storage dam.

It is noted that the Hibbards have an agreement with Council which allows them to pump treated effluent from the Tumbulgum Sewage Treatment Plant (STP) to their property for irrigation purposes. Therefore, the difference between harvestable rights and the volume of the storage dam could also be obtained by transferring treated effluent from the STP. The potential impacts of irrigating treated effluent is discussed below.

Contamination of Nearby Water Sources

Assessment of the water quality of run-off from the turf indicates that the sediment and nutrient (nitrogen and phosphorus) loads would be less than the current levels associated with sugar can farming, due to less soil erosion from the turf farm and a lower application rate of fertilisers. Additionally, the volume of herbicides and pesticides used would be reduced due to the smaller biomass and plant root depth of the turf.

Nutrients contained in any run-off would primarily be the result of the application of fertilisers and the irrigation of treated effluent. Application rates of nutrients are estimated to be 112kg/ha/ year of

nitrogen and 16kg/ha/yr of phosphorus, compared to 170kg/ha/yr of nitrogen and 5kg/ha/yr of phosphorus for the current cane farm operations.

The Department notes that the application rate of phosphorus would be slightly higher, however, is satisfied that in general surface water quality impacts from the construction and operation of the turf farm would be less than when compared to the current operations. DPI have recommended that a 10m buffer should be provided alongside drains to reduce the impact of chemical spray drift on waterways. The Department has incorporated this requirement into the recommended conditions of approval.

It is noted that treated effluent is currently discharged into the Tweed River. Therefore, the turf farm would be utilising a water resource which would otherwise be discharged.

5.1.2 Acid Sulfate Soils

Due to the location of the turf farm, in a low lying coastal area in close proximity to the Tweed River, the site is likely to contain ASS. Council has noted that the likelihood of ASS being present on site is high. The proposal has the potential to expose ASS during the construction and operation of the turf farm. The proposal includes excavation of low lying land to construct the water storage, as well as harvesting of turf which would involve ongoing removal of surface soil (10mm each cut).

If exposed, any run-off from ASS has the potential to affect the aquatic environment both directly and indirectly. For example, run-off from ASS can cause acidification of nearby waterways, which has been linked to fish kills and a decline in oyster production. Indirect effects include an increase in metal availability (for example iron and aluminium precipitation) and the reduction of nutrient availability.

Testing undertaken by the Hibbards indicates that surface soils (<1,000mm) have a moderate level of acidity with low sulfide content, while deeper soils (>1,000mm) have a high sulfide content and are regarded as significant ASS. The depth of the excavation for the storage dam is 500mm and it is estimated 6750m³ of soil would be disturbed. Therefore, there would be ~500mm between the base of the dam excavation and soils with high levels of sulphide.

To minimise impacts associated with ASS the Hibbards have prepared an acid sulfate soil management plan which identifies monitoring and management requirements for the construction and operation of the turf farm. Management measures include limiting the depth of the extraction of soils, the treatment and bunding of excavated soil, the lining of the storage dam and the use of fill to replace soil removed during harvesting to maintain existing soil levels (see section 5.1.4). The Department considers that the acid sulphate soil management plan has been prepared in accordance with the *Acid Sulfate Soil Manual* (ASSMAC 1998) and concurs with DEC that impacts from ASS can be appropriately managed provided that the acid sulfate soil management plan is implemented. The Department's recommended conditions require the Hibbards to comply with the acid sulphate soil management plan.

5.1.3 Flooding

The turf farm would be constructed in the Tweed River floodplain. The only raised structure (1.5m high and 1.61 hectare in area) proposed for the site is the dam. Flood modelling of the Tweed River recently completed by Council indicates that flood velocities at the site would be low (0.07 to 0.10m per second) during the 5, 20 and 100 year floods. Additionally, Council considers that the low level storage dam would not remove any significant storage from the floodplain. The Department and DNR are satisfied that the proposal would not have an adverse impact on flooding behaviour in the surrounding area and the township of Tumbulgum.

5.1.4 Soils and Groundwater

A preliminary site investigation for contamination was conducted in accordance with *State Environmental Planning Policy No. 55 – Remediation of Land* to determine soil contamination levels on site as a result of previous agricultural practices. Soil sampling for lead, arsenic, mercury, organo-chlorine pesticides and organo-phosphorus pesticides indicated that levels of these contaminants were below relevant guideline levels.

A number of chemicals such as fertilisers, herbicides and pesticides would be used during the operation of the turf farm. To minimise potential impacts from the use and spillage of chemicals, the Department's recommended conditions of consent would require the Hibbards to store and handle all chemicals in accordance with relevant Australian Standards and DEC guidelines.

During the harvesting of turf approximately 10mm of soil will be removed with each cut, and approximately 4,000m³ of fill will be required every 3 years to maintain existing ground surface levels. The Hibbards propose to use mill mud or a mix of mill mud and top soil for fill material. Mill mud consists of organic matter (sugar cane), soil particles and calcium carbonate and would be obtained from the Condong sugar mill. It is common practice in NSW and Queensland for mill mud to be applied to cane farms. The Department considers that the use of mill mud is consistent with existing practices on site and in the region.

As discussed previously, the Hibbards propose to irrigate the turf with either stormwater collected on site or treated effluent from the Tumbulgum STP. The turf would only be irrigated as required and it is anticipated that turf would be irrigated when soil moisture levels falls to 45% (based on field observations). The irrigation of the turf has the potential to impact on groundwater levels, and the Hibbards have predicted that irrigation would result in a minor change to groundwater levels (<50mm). The Department concurs with DNR that the Hibbards should be required to monitor any impacts of irrigation on groundwater levels. The Department also supports the Hibbards proposal to line the storage dam to minimise any accessions into groundwater.

5.2 Hazards and Risks

An adjacent landowner and Council raised concerns about potential health impacts from exposure to irrigated effluent, particularly from spray drift. It is noted that Australian and New Zealand Environment and Conservation Council/Agriculture and Resource Management Council of Australia and New Zealand (ANZECC/ARMCANZ) and DEC recommend a buffer zone of 50m where spray irrigation of agricultural crops gives rise to aerosols near houses, roads and public areas. While the buffer distance to the closest residence would exceed 100m, a nearby landowner considers that adjacent farms are places of work and believes an adequate buffer is required to ameliorate the risk of exposure to drift from irrigation.

An assessment of the drift of aerosol particles during spraying under varying wind conditions indicates that the maximum distance a droplet will travel is 22m when the wind speed is 10 km/h, decreasing to 11m and less when the wind speed is 5km/h. To minimise spray drift, the Hibbards propose to irrigate and spray pesticides during conditions when spray would not drift beyond the boundary of the property, that is, when wind speeds are less than 10 km/h. Additionally, the Hibbards propose to erect signs that warn that irrigation may be sourced from non-potable treated wastewater. The Department and DEC considers that drift from the irrigation and the spraying of pesticides can be appropriately managed through the proposed mitigation measures.

Council questioned whether a health risk assessment is required to determine the risk associated with the use of turf which has been irrigated with treated effluent. It is noted that ANZECC/ARMCANZ and DEC consider that secondary treated effluent is suitable for the irrigation of non-food crops, such as turf. The Department is satisfied that the health risk associated with the harvesting of turf which has been irrigated with treated effluent is low, primarily as effluent is treated to a standard higher than ANZECC/ARMCANZ and DEC criteria (tertiary treatment) and that irrigation rates would be low (~0.4mm/day when 80kl/day of effluent is applied to the whole turf farm area).

Council also raised concerns that the storage dam may become a habitat for mosquitoes. As water stored on site would be used for irrigation, water within the storage is unlikely to remain stagnant within the dam for long periods of time. In addition, cane farms in the surrounding area would have a similar drainage systems to the one proposed. Therefore, the Department does not consider that the proposed storage dam or drainage system would become a significant habitat for mosquitoes.

5.3 Traffic

The site fronts the Tweed Valley Way, however, it is not possible to access the site from this road due to constraints associated with the location of an existing overtaking lane. Therefore, it is proposed that access to the site would be via an existing Crown road located to south of the site. This road meets the Tweed Valley Way at Tumbulgum. This road has a single lane and is currently used to access cane fields (see Figure 3).

The Hibbards propose that access would remain as a single lane, gravel road. Minor works would be required to improve turning safety for trucks at the intersection and to provide passing bays on the proposed one lane gravel road. Following the upgrade, the road would become a public road under

the control of Council. The Department of Lands supports the transfer of the road to Council's control and Council have indicated that it would accept the dedication of the access road subject to upgrading to a gravel standard.

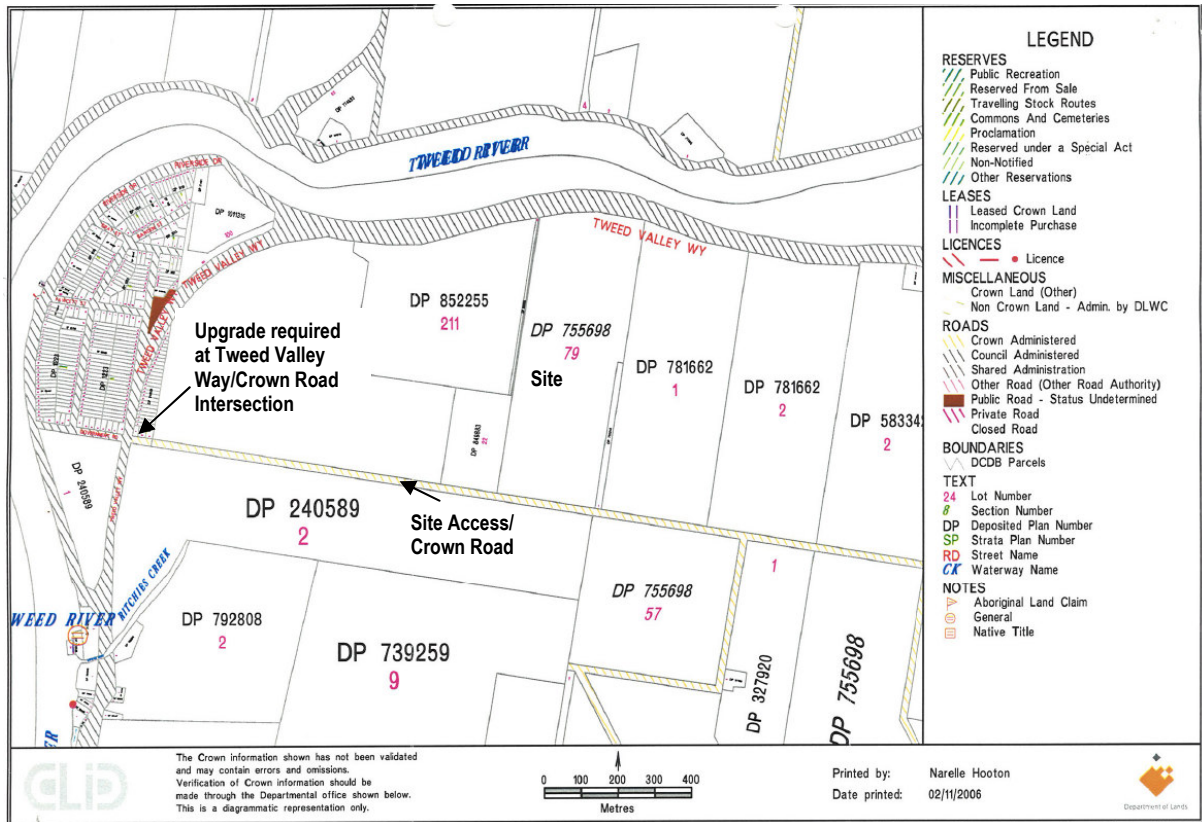


Figure 3: Site Access

A submission received from a member of the general public raised concerns about inaccuracies in the traffic assessment and the design of the intersection of the access road Tweed Valley Way. It is estimated that the proposal would generate 5-10 vehicle movements per day, which is similar to traffic generated from the current cane farming operation. The vehicles involved would include an 8-10 tonne delivery truck and a one tonne truck.

The Department considers that the traffic generated by the turf farm would have minimal impact on the local and regional road network. However, the Department believes that the Hibbards should ensure heavy vehicles do not queue or wait on adjacent roads and vehicles associated with the development do not park on local roads in the vicinity of the site. To ensure that the level of safety of Tweed Valley Way is not compromised, the Department concurs with the RTA, Department of Lands and Council that the access road and intersection should be designed and constructed to appropriate standards (i.e., Austroad and Council standards), and this requirement has been incorporated into the Department's recommended conditions.

5.4 Other Issues

Other issues raised during the assessment process and the Department's consideration of the issues are summarised in Table 2 below.

Table 2: Summary of Additional Environmental Issues

Issue	Comment	Recommendation
Operation Noise	<ul style="list-style-type: none"> The farm would operate seven days a week during daylight hours (7am-6pm), except for some spraying and irrigation which could occur after 6pm. Operational hours are similar to the hours of operation for the current cane farm. Less night time activity than existing and surrounding cane farm operations. Plant and equipment would be similar to what is currently used on site and no new noise sources would be introduced 	<ul style="list-style-type: none"> Proponent to implement reasonable and feasible measures to minimise noise.
Air Quality	<ul style="list-style-type: none"> Harvesting would occur under moist soil conditions and cultivation practices would involve less ploughing operations, decreasing dust emissions. Sugar cane burning would no longer occur on site, reducing air emissions. 	<ul style="list-style-type: none"> Project to operate in a manner that reduces dust emissions emission of offensive odour beyond the boundary of the site would not be permitted.

6. RECOMMENDED CONDITIONS

The Department has prepared recommended conditions of approval for the project. These conditions are required to:

- prevent, minimise, and/or offset adverse impacts of the project;
- set standards and performance measures for acceptable environmental performance;
- ensure regular monitoring; and
- provide for the ongoing environmental management of the project.

The Hibbards have reviewed and accept the recommended conditions.

7. CONCLUSION

The Department has assessed the proposal and considers that converting 18ha of land to turf farming would provide the Proponent with the ability to diversify their agricultural activities, and as such provide greater viability to their farming operations.

The site is surrounded by other agricultural developments. The nature, scale and intensity of impacts associated with surrounding cane farming are generally greater than those of the proposed turf farm. The site is located away from residential facilities and safe and adequate access is proposed to the site. The Department is, therefore, satisfied that the site is suitable for the proposal.

Additionally, the Department is satisfied that the water and soil, noise, traffic and other impacts of the project can be adequately managed through conditions of approval and the Proponent's Statement of Commitments. The Department is, therefore, satisfied that the proposal is in the public interest and should be approved subject to conditions.

8. RECOMMENDATION

It is recommended that the Minister:

- consider the findings and recommendations of this report;
- approve the project application, subject to conditions, under section 75J of the *Environmental Planning and Assessment Act 1979*; and
- sign the attached project approval (see Appendix A).

David Kitto
Director
Major Development Assessment

Chris Wilson
Executive Director
Major Project Assessment

Frank Sartor MP
Minister for Planning

APPENDIX A – RECOMMENDED CONDITIONS OF APPROVAL

APPENDIX B – STATEMENT OF COMMITMENTS

APPENDIX C – SUBMISSIONS

APPENDIX D – ENVIRONMENTAL ASSESSMENT

APPENDIX E – ENVIRONMENTAL PLANNING INSTRUMENTS CONSIDERATION

Section 75(2) of the *Environmental Planning and Assessment Act 1979* requires that reference be made to the provisions of any environmental planning instrument that would (but for Part 3A of the Act) substantially govern the carrying out of the project. The following environmental planning instruments include provisions that would have substantially governed the proposed development:

- *State Environmental Planning Policy No. 11 - Traffic Generating Developments*;
- *State Environmental Planning Policy No. 55 – Remediation of Land*; and
- *State Environmental Planning Policy No.71 – Coastal Protection*.

Consideration of the proposed development in the context of the objectives and provisions of these environmental planning instruments is provided below.

State Environmental Planning Policy No. 11

State Environmental Planning Policy No. 11 – Traffic Generating Developments applies to the site. SEPP 11 aims to ensure that the RTA is made aware of and allowed to comment on proposals for developments listed in Schedule 1 of SEPP 11. SEPP 11 requires the Department to forward a copy of the development application to the RTA within 7 days of receipt. A copy of the development application was provided to the RTA on 9 October 2006. The RTA did not provide a response on the proposed development within the exhibition period, however, a response was received on 20 December 2006. Therefore, pursuant to clause 7(5) of SEPP 11, the Minister is able to determine the application.

State Environmental Planning Policy No. 55

State Environmental Planning Policy No. 55 – Remediation of Land aims to ensure that potential contamination issues are considered in the determination of a development application. Clause 7 of SEPP 55 states that:

- 7(1) *A consent authority must not consent to the carrying out of any development on land unless:*
- (a) *it has considered whether the land is contaminated, and*
 - (b) *if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and*
 - (c) *if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.*

A preliminary site investigation for contamination indicated that levels of heavy metals and pesticides were below relevant guideline levels and that the site was suitable for the proposed turf farm. The Department is satisfied with the consideration of SEPP 55 contained in the Environmental Assessment.

State Environmental Planning Policy No.71 – Coastal Protection

State Environmental Planning Policy No. 71 – Coastal Protection applies to the site as it is within the coastal zone. In broad terms SEPP 71 aims to ensure that the natural, cultural, recreational and economic assets of the NSW coast are protected and appropriately managed.

The relevant matters for consideration in clause 8 of the SEPP include:

- the aims of the SEPP;
- the suitability of development given its type, location and design and its relationship with the surrounding area;
- the scenic qualities of the New South Wales coast, and means to protect and improve these qualities;

- measures to conserve animals and plants, and their habitats;
- measures to protect the cultural places, values, customs, beliefs and traditional knowledge of Aboriginals;
- likely impacts of development on the water quality of coastal waterbodies; and
- the conservation and preservation of items of heritage, archaeological or historic significance.

The Department is satisfied that the proposed development is broadly consistent with the aims and other matters for consideration in the SEPP. The Department considers that the site is suitable for the proposed turf farm and the project would be compatible with surrounding sugar cane production. It would have a negligible impact on scenic qualities and water quality protection measures would ensure that adequate protection is provided for animals, plants and their habitats, including the Tweed River. The site is unlikely to contain any aboriginal sites and does not contain other items of heritage/historic significance.