## In the Land and Environment Court of New South Wales

No. 10264 of 2005

Gales Holdings Pty Limited Applicant

Tweed Shire Council Respondent

Order

The Court makes the following orders and directs that:

- The appeal is upheld.
- 2. Development consent is granted to development application DA05/0004 for filling of land in Lots 1-9 DP 781714 and Lots 11, 12, 13 and 14 DP 871753, retention and conservation of unfilled areas of land in Lots 11, 12 and 13 DP 871753 and Lots 1, 2 and 3 DP 781714, construction of a box culvert under Turnock Street, construction of a temporary haul road on Lot 3 DP 828298 and Lots 26C and 26D DP 10715, construction and use of a conveyor, sand loading and stockpiling on Lots 1, 2 and 3 DP 828298, and associated works, subject to the conditions in Annexure A.
- 3. Exhibits are to be returned.

Ordered: 28 August 200

4. Costs are reserved.

Susan Dixon Registrar

## ANNEXURE A

IN THE LAND & ENVIRONMENT COURT OF NEW SOUTH WALES

No. 10264 of 2005

CONDITIONS OF CONSENT DA05/0004

As ordered 18 August 2008

GALES HOLDINGS PTY LTD Applicant

TWEED SHIRE COUNCIL Respondent

#### **CONDITIONS DA05/0004**

#### "DEFERRED COMMENCEMENT"

This consent shall not operate until the applicant satisfies the consent authority by producing satisfactory evidence relating to the matters set out in Schedule "A". Such evidence is to be provided within two years of the date of notification.

Upon the consent authority being satisfied as to compliance with the matters set out in Schedule "A". The consent shall become operative and take effect from the date of notification under Section 67 of the Environmental Planning and Assessment Regulations subject to the conditions set out in Schedule "B".

#### SCHEDULE "A"

Conditions imposed pursuant to Section 80(3) of the Environmental Planning and Assessment Act, 1979 and Section 67 of the Regulations as amended.

 A Wallum Froglet Management Plan will be prepared to cover the preconstruction, filling and post-filling stages. The plan will follow the approved Wallum Froglet Construction Plan (Arterra 2007).

A component of the Management Plan will be a contingency process should an adverse man made event be observed. The contingency plan may also consider matters that related to hydrology within the Wallum Froglet Habitat area and would require consultation between the council and the applicant. Agreement would be required between the applicant and the council to amend management measures to address reported problems.

#### Wallum Froglet Monitoring, Pre-construction

The Wallum Froglet Management Plan will set out the monitoring that is required to inform management decisions.

During this period there should be no slashing or draining works in the Wallum Froglet habitat area and refuge area.

For the purpose of monitoring the Wallum Froglet populations to the north and south of Turnock Street the following methods are required.

A significant emphasis is placed on the need for replication of sampling (spatially and temporally) and the application of standard methods.

## 1. Fencing:

North of Turnock Street.

Construction of a temporary fence (which does not prevent frog movement) on the boundary of the proposed Wallum froglet habitat and refuge area (as indicated on Arterra Plan LP-SD-01 issue A 25 October 2007). This defines the boundary of the proposed Wallum froglet

habitat area and refuge area and enables a tighter assessment of the WF population in the area to be set-aside.

South of Turnock Street. No fencing is required.

#### 2. Monitoring:

Personnel, To be conducted by a qualified herpetologist appointed by the Applicant, Duration, Conducted over a 12 month period.

Applying the following prescribed methods and design.

a) Location of sampling sites:

North of Turnock Street. 8 quadrats. 20 x 20 m (as per map). The south west comer of each quadrat should be pegged and a string line be placed at times of survey. GPS of location recorded.

South of Turnock Street. 6 quadrats. 20 x 20 m (as per map).

b) Time of sampling: Seasonal: Two samples per season. Climatic threshold: At least one sample to be taken following a period of rain in the local area totalling at least 50 mm in the preceding 48 hour period. The other sample to be conducted at the discretion of the surveyor, but with at least 14 days between sampling periods.

### c) Sampling method:



Adult Wallum Froglet survey
Record the number of males calling in a 5 minute period in
each quadrat (i.e., the number of males that called not the
total number of calls heard).
Call playback (at natural audible level) for a period of 2
minutes. Record the number of males calling in the 2
minutes following the broadcast of the call.
Estimate the percentage of the quadrat area that is
covered with water.

This sampling to be conducted in the early evening (started shortly after sunset)

Wallum Froglet Tadpole survey
Presence/absence survey to determine when breeding
events occur.
Select 5 sites of open water.
Dip-net with four sweeps of about one metre at each site,

The same sized net should be used throughout all surveys.

If no open water is available no surveys need to be conducted

Opportunistic observations
Identity, occurrence and GPS locations of other frogs to be recorded.

Similarly the presence of fish (in particular Gambusia holbrooki) should be recorded (GPS locations).

Observations of the occurrence of cane toads to be recorded as above.

All field work must comply with the NSW NPWS Frog Hygiene protocol.

d) <u>Climatic conditions</u>; The following information must be recorded

Rainfall: total rainfall in the previous 48 hours, and weekly prior to the sampling. Temperature: daily maximum and minimum.

These can be obtained from the nearest meteorological station.



#### e) Water quality and hydrology:

A suitably qualified environmental scientist appointed by the Applicant to measure the following parameters in three areas where there is standing water. Where possible these should be conducted at sites where tadpole surveys are conducted.

Temperature, pH, TSS, TN, NO<sub>x</sub>, NH<sup>4+</sup>, and TP. Record locations with GPS.

#### 3. Reporting:

The results of the monitoring shall be provided to the consent authority at the end of each season. At the end of the 12 month period a final report is to be prepared that summarises the results and draws conclusions from the monitoring regarding Wallum Froglet numbers, population fluctuations, number of breeding events and observations of water quality and length of the time there is standing water.

The report should draw attention to factors that adversely impact Wallum Froglets in the Wallum Froglet Precinct.

B The applicant is to lodge a revised haulage route to minimise tree loss. Such plan is to be consistent with that route defined by Council's Dr. Mark Kingston, the applicants Dr Andrew Smith and the applicants Mr Greg Elks, on 31 March 2008 and such that the alignment is subject to trucks being able to turn on reasonable curves. Only the trees marked on site (with tape) are trees that are to be removed. In addition the applicant is to lodge details for the rehabilitation of the temporary haul route. This should include details pertaining to the methods for removal, storage and reinstatement of top soil, disposal of temporary road base material, and reestablishment of vegetation. This detail shall be approved by Council.

C Re-assess, monitor and design the drainage system and water treatment train so that it meets the agreed water quality and hydro cycle features needed to maintain Wallum Froglet Habitat in the Wallum Froglet Precinct area. This information needs to be to the satisfaction of the consent authority.

The stormwater network will have two separate water quality treatment criteria. These being stormwater quality treatment criteria for the Wallum Froglet Habitat area and water quality treatment criteria for all other stormwater.

During the Pre Design Hydrologic Monitoring the following monitoring shall be undertaken for a period of not less than 6 months in order to provide background hydrologic data for the detailed design of the WFP.

- (a) Two water level monitoring piezometers shall be installed within the WFH. One shall be located towards the western end and one shall be located towards the eastern end.
- (b) Each monitoring piezometer to be installed to a minimum depth of 1.5 m below ground level.
- (c) Each piezometer shall be constructed to enable installation of a water level data recorder to enable continuous depth monitoring.
- (d) Each piezometer shall be constructed to enable surface water level fluctuations up to a depth of 1m above ground level to be continuously recorded.
- (e) Monitoring frequency should not be less than 15 minutes subject to the outcomes of monitoring in the first month.



#### SCHEDULE B

NOTE: THIS PART OF THE CONSENT WILL NOT BECOME OPERABLE UNTIL THE CONSENT AUTHORITY ADVISES THAT THE MATTERS CONTAINED IN SCHEDULE A ARE SATISFIED.

#### GENERAL

- The development shall be completed in accordance with the Amended Statement of Environmental Effects (November 2007) and plans marked project 1177 and Plans marked Project 1177 as follows:
- Plan Nos PO30 Issue J prepared by Knobel Consulting Pty Ltd and dated 26/10/2007.
- Plan Nos PO31 Issue E prepared by Knobel Consulting Pty Ltd and dated 2/4/ns
- Plan Nos PO32 Issue J prepared by Knobel Consulting Pty Ltd and dated 26/10/2007.
- Plan Nos PO34 Issue F prepared by Knobel Consulting Pty Ltd and dated 19/10/2007.
- Plan Nos PO37 Issue H prepared by Knobel Consulting Pty Ltd and dated 8/11/2007,
- Plan Nos PO38 Issue G prepared by Knobel Consulting Pty Ltd and dated 29/10/2007;
- Plan Nos PO 42 Issue B prepared by Knobel Consulting Pty Ltd and dated 28/03/2008.
- Plan No LP-SD-01 Issue A prepared by Arterra Design Pty Ltd and dated 25/10/2007
- Plan No LSS-SD-03 Issue A prepared by Arterra Design Pty Ltd and dated 25/10/2007
- Plan No LSS-SD-02 Issue A prepared by Arterra Design Pty Ltd and dated 25/10/2007

Plan No LP-SD-04 Issue A prepared by Arterra Design Pty Ltd and dated 2/11/2007

n No LP-SD-05 issue A prepared by Arterra Design Pty Ltd and dated 3/03/2008 (7 sheets)

except where varied by the conditions of this consent:

[GEN0005]

1A. Before the commencement of work, a restriction on user burdening lots 1, 2 and 3 DP 781714 for the land shown on the plan marked "Littoral Rainforest vegetation" as "covenant area" shall be registered in favour of Tweed Shire Council. The restriction shall prevent the removal of littoral rainforest vegetation from that land. The instrument shall be in or to the effect of the third Restrictive Covenant annexed to these conditions and will affect the area of land referred to in that Restrictive covenant.

(GENNSCI)

1B. Before the commencement of work, a restriction on user and public positive covenant burdening part of Lot 13 DP 871753 for the land shown on the Plan marked "Level Survey of Part of Land adjacent to Turnock Street, dated 7 April 2008 shall be registered in favour of Tweed Shire Council. The instrument shall be in or to the effect of the first Restrictive Covenant annexed to these conditions and will affect the area of land referred to in that Restrictive covenant.

DEMISON

1C. Before commencement of work, a restriction on user burdening those parts of lot 11 and Lot 12 in DP871753 that are retained for the benefit of the Wallum Froglet (land to the south of Turnock Street) shall be registered in favour of Tweed Shire Council. The instrument shall be in or to the effect of the second Restrictive Covenant annexed to these conditions and will affect the area of land referred to in the annexed second Restrictive Covenant.

(CENSO)

- 1CA. Before commencement of work, a restriction on user burdening those parts of lot 11 and Lot 12 in DP871753 that are retained for the benefit of the Wallum Froglet (land to the north of Turnock Street) shall be registered in favour of Tweed Shire Council. The instrument shall be in or to the effect of the fourth Restrictive Covenant annexed to these conditions and will affect the area of land referred to in the annexed fourth Restrictive Covenant.
- 1D. The applicant shall submit to the Council a management plan for the area which is the subject of the first restrictive covenant. The management plan shall contain provisions with respect to:
  - habitat description: baseline survey of current condition and extent of habitat;
  - (b) MRS survey: baseline survey of snail population;
  - review and assessment of threatening processes (including weeds, predators, storm water and wetting up);
  - (d) initial habitat protection and restoration works (weeding and fencing);
  - (e) monitoring: habitat monitoring by photos and annual survey of fixed grid sample points (annual for five years), snail monitoring by day and night survey of fixed sample points (annual for five years), and

reporting: preparation by an appropriately qualified, independent expert of annual monitoring report and recommendations for management action which shall be submitted to Council. Should management actions be recommended in the report the Applicant will take reasonable steps to address the recommended management actions.

The management plan, with the goal of ensuring that the local population of the Mitchell Rainforest Snail is not likely to be placed at risk of extinction, shall be approved by Council prior to commencement of work. Once approved the management plan shall be complied with at all times.

After 5 years of monitoring a revised plan shall be submitted to Council for approval which incorporates any necessary and feasible measures for continuing management of the land. Once approved the revised management



plan shall be complied with at all times unless varied with the consent of Council

|GENOOS|

- 1E. The applicant shall submit to the Council a management plan for the Wallum Froglet Habitat area on Lots 11 and 12 in DP 871753 area which is the subject of the second restrictive covenants. The management plan shall contain provisions with respect to:
  - a) habitat description; baseline survey of current condition and extent of habitat;
  - b) Wallum Froglet Survey: baseline survey of Froglet population;
  - review and assessment of threatening processes (including weeds, predators, stormwater, physicochemical and hydrological conditions).
  - d) initial habitat protection and restoration works (e.g., if considered appropriate by the expert preparing the management plan, weeding, drainage or fencing).;
  - e) monitoring: habitat monitoring by photos and annual survey of fixed grid sample points (annual for five years), monitoring by day and night survey of fixed sample points (annual for five years) under suitable weather conditions and during breeding periods. Appropriate methodology, weather conditions and season for monitoring will be described in the management plan, and
  - f) reporting: preparation by an appropriately qualified, Independent expert of annual monitoring report and recommendations for management action which shall be submitted to Council. Should management actions be recommended in the report the Applicant will take reasonable steps to address the recommended management actions.

The management plan, with the goal of maintaining or improving existing Wallum Froglet habitat, shall be approved by Council prior to commencement of work. Once approved the management plan shall be complied with at all times. After approval, the management plan may be varied with the consent of Council.

GEN/005

- 1F. The applicant shall submit to the Council a management plan for the littoral rainforest area within Lots 1, 2 and 3 of DP 781714 which is the subject of the third restrictive covenant. The management plan shall contain provisions in respect of the area coloured green in B&P Surveys Plan 16814 B Rev C as follows:
- habitat description: baseline survey of current condition and extent of habitat
- review and assessment of threatening processes( including weeds, and edge effects);
- initial habitat protection and restoration works (removal of exotic trees and shrubs and weeding);
- d. monitoring: habitat monitoring by photos and annual survey of fixed grid sample points (annual for five years), and



reporting: preparation by an appropriately qualified, independent expert of annual monitoring report and recommendations for management action which shall be submitted to Council. Should management actions be recommended in the report the Applicant will take reasonable steps to address the recommended management actions.

The management plan shall have provisions to ensure that the balance of the covenant area is not managed or used in a manner which would interfere with the ecological integrity of the littoral rainforest vegetation community in the area coloured green in B&P Surveys Plan 16814 B Rev C.

The management plan, with the goal of ensuring that the ecological integrity of the littoral rainforest vegetation community is maintained or improved over time and furthermore is not likely to be placed at risk of local extinction, shall be approved by Council prior to commencement of work. Once approved the management plan shall be complied with at all times.

After 5 years of monitoring a revised plan shall be submitted to Council for approval which incorporates any necessary and feasible measures for continuing management of the land with. Once approved the revised management plan shall be complied with at all times unless varied with the consent of Council.

GEN0005

- (a) Condition 2 of the general conditions of development consent D96/518 shall prior to commencement of filling be modified in accordance with the Environmental Planning & Assessment Act, 1979 to include the subject filling sites as additional land to which the sand can be delivered.
  - (b) The approved Environmental Management Plan in relation to D96/0518 is to be modified to the extent, if any, necessary to satisfy the conditions of this consent in relation to the quality of the fill material.
- All works shall comply with the approved Environmental Management Plan (HMC Environmental P/L, November 2007 as amended February 2008 at Section 6.5 Air Quality) except where varied by the conditions of this consent.

GENOROS

 All work shall comply with the approved Acid Sulfate and Groundwater Management Plan (HMC Environmental P/L, November 2007) except where varied by the conditions of this consent.

(GENOMES

 All work shall comply with the Statement of Commitments – Dust Management & the attached Dust Management Strategy Map (HMC Environmental Consulting P/L, February 2008) except where varied by the conditions of this consent.

(OENCOCE)

The use of crushing plant machinery, mechanical screening or mechanical blending of materials is subject to separate development application.

JOENOONS

 The filling and associated works are to be carried out in accordance with Tweed Shire Council Development Control Plan Part A5 - Subdivision Manual and Councils adopted Development Design and Construction Specifications except as otherwise provided in this consent.

(GENET25)

8. The proponent shall accurately locate and identify any existing sewer main, stormwater line or other underground infrastructure within or adjacent to the site and the Council be advised of its location and depth prior to commencing works and ensure there shall be no conflict between the proposed development and existing infrastructure prior to start of any works.

GENERAL

 Prior to commencement of work, a Section 68 Certificate, Section 138 and a construction certificate and or engineering plans (as statutorily required) shall be submitted to Council for approval to enable commencement for the works proposed by this consent.

IGEN01851

## PRIOR TO ISSUE OF CONSTRUCTION CERTIFICATE AND OR ENGINEERING PLANS AS STATUTORILY REQUIRED

10. Section 94 Contributions

#### **Heavy Haulage Component**

Pursuant to Clause 146 of the Environmental Planning and Assessment Regulations, 2000, a Construction Certificate and or Engineering Plans shall NOT be issued by a Certifying Authority unless the applicable Section 94 Contributions have been paid and the Certifying Authority has sighted Council's "Contribution Sheet" signed by an authorised officer of Council.

Charges are fixed for a period of 12 months from the date of this consent and thereafter in accordance with the rates applicable in the current version/edition of the relevant Section 94 Plan current at the time of the payment.

A copy of the Section 94 contribution plans may be inspected at the Civic and Cultural Centres, Tumbulgum Road, Murwillumbah and Brett Street, Tweed Heads.

Payment of a contribution pursuant to Section 94 of the Act and the Heavy Haulage (Extractive materials) provisions of Tweed Road Contribution Plan No. 4 - Version 5 prior to the issue of a construction certificate. The contribution shall be based on the following formula:-

\$Con TRCP . Harry = Prod. x Dist x \$Unit x (1+Admin.)

where:

\$Con TROP - Heavy heavy haulage contribution

and:

Prod.

projected demand for extractive material to be hauled to the site over life of project in tonnes

Dist. average haulage distance of product on Shire roads

(trip one way)

\$Unit the unit cost attributed to maintaining a road as set out in

Section 7.2 (currently 5.4c per tonne per kilometre)

Admin. Administration component - 5% - see Section 6.6

Cont = Cont (sand )+Cont (Gravel)

= (358,200\*1.44\*5.4\*0.4\*1.05)+ (10800\*2.4\*5.4\*0.4\*1.05)

= 1169852 + 58786 cents

= \$12,286.00

#### West Kingscliff - Drainage:

16.93ha @ \$32,708

S94 Plan No. 7



"Less the value of works in kind as defined below

In accordance with the Section 94 Contributions Plan No 7 (CP7) the applicant's construction of the works referred to in condition 35(a) to (g) and the grant of the easement referred to in condition 35(h) are "works in kind" that will reduce the amount payable in accordance with CP7. The value of the works for the purpose of calculating the value of "works in kind" will be calculated in accordance with CP7 - Schedule 1 - Contribution Rates, b) Drainage. The value of the easement for the purpose of calculating the value of "works in kind" shall be 75% of the value of land "C" in CP7 - Schedule 1 - Contribution Rates, b) Drainage.

The net (\$553,746.44 less the value of works in kind) CP7 contribution, is to be paid at the earlier of 12 months from the date of the s.68 approval for drainage works required by condition 35 or at the completion of construction of the drainage works referred to in this condition.

If the value of "works in kind" exceed the contribution amount, then this amount shall be a CP7 credit towards future development by the applicant in the Kingscliff Drainage Catchment."

PCCI225

 Prior to commencement of work a cash bond or bank guarantee (unlimited in time) shall be lodged with Council for an amount based on 1% of the value of the works (minimum \$1,000).

This bond will be drawn on by Council to undertake any rectification work directed but not completed or progressing to the satisfaction of the Tweed Shire Council's General Manager or delegate, within seventy two (72) hours from the date of serving any notice. The bond is to be released upon completion of all work, to the satisfaction of Tweed Shire Council's General Manager or delegate.

12. Prior to commencement of work any long service levy payable under Section 34 of the Building and Construction Industry Long Service Payments Act, 1986 (or where such levy is payable by instalments, the first instalment of the levy) has been paid. Council is authorised to accept payment. Where payment has been made elsewhere, proof of payment is to be provided.

(PCC)(285)

13. All imported fill material shall be from the approved sand extraction at Lot 2 DP 216705 in accordance with DA96/0518. If the fill imported to the site has a shell grit content in excess of 1%, then an impermeable barrier shall be placed within the fill batter to the Wallum Froglet Precinct. Any additional fill for topsoil, road base, mulch, etc is to be free of contaminates with details of such fill submitted to Council for approval prior to commencement of work.

PC03465

14. The site is to be filled, graded and drained in general accordance with levels and dimensions shown on Plan No. P037 issue H prepared by Knobel Consulting Pty Ltd and dated 08/11/07 and Plan No. P038 issue G prepared by Knobel Consulting Pty Ltd and dated 29/10/07, except as amended by conditions of consent.

No haulage vehicles are to access the area identified for Wallum Froglet Habitat.

The construction of any retaining wall or cut/fill batter must at no time result in additional ponding occurring within neighbouring properties.

All earthworks shall be contained wholly within the subject land. Detailed engineering plans of cut/fill levels and perimeter drainage shall be submitted with a S68 stormwater application for approval by Council.

[PCC0485]

- Prior to the issue of a Construction Certificate and or Engineering Plans as statutorily required the following detail in accordance with Councils adopted Development Design and Construction Specifications shall be submitted to the Principal Certifying Authority for approval.
  - a. copies of compliance certificates relied upon
  - four (4) copies of detailed engineering plans and specifications. The detailed plans shall include but are not limited to the following:
    - earthworks
    - roadworks/furnishings
    - stormwater drainage
    - · landscaping and revegetation works
    - · sedimentation and erosion management plans

The Environmental Planning and Assessment Act, 1979 (as amended) makes no provision for works under the Water Management Act 2000 and Section 138 of the Roads Act to be certified by an Accredited Certifier.

ccosss

16. Waste material (soil, concrete, timber, masonry, steel and the like) generated by the development shall be disposed of in accordance with a Waste Management Plan which shall be submitted to and approved by the Principal Certifying Authority PRIOR to the issue of a construction certificate.

The Plan shall specify how the waste is to be treated and/or where the waste is to be disposed of.

PCC1086

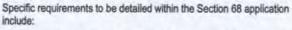
- An application (or applications) under section 68 of the Local Government Act, 1993 is required prior to commencement of any works that involve any of the following:-
  - connection of a private stormwater drain to a public stormwater drain
  - Installation of stormwater quality control devices
  - erosion and sediment control works

Applications for these works must be submitted on Council's standard s68 stormwater drainage application form accompanied by the required attachments and the prescribed fee.

Note: Where Council is requested to issue a construction certificate for civil works associated with this consent, the abovementioned works can be incorporated as part of the cc application, to enable one single approval to be issued. Separate approval under section 68 of the LG Act will then NOT be required.

PCC114SE

- The Section 68 Application relating to erosion and sediment control must include a plan prepared in accordance with Section D7.07 of Development Design Specification D7 – Stormwater.
  - a. The Construction phase erosion and sediment control shall be designed, constructed and operated in accordance with Tweed Shire Council Development Design Specification D7 Stormwater Quality and its Annexure A "Code of Practice for Soil and Water Management on Construction Works".



The exit from the haul road and the access into the filling site is to be sealed for a length of 15m prior to connection with public roads and is to include wheel washing facilities located prior to entry and exit onto public roads. These details are to be shown on the application for a construction certificate.

PCC1180

- The Section 68 application shall detail the following provisions in relation to stormwater management & quality
  - The stormwater network will have two separate water quality treatment criteria. These being stormwater quality treatment criteria for the Wallum

- Froglet Habitat Area and water quality treatment criteria for all other stormwater.
- All stormwater quality control devices to be constructed generally in accordance with Plan No.P032 prepared by Knobel Consulting Pty Ltd (issue J) except as modified by the conditions of consent.
- c) An appropriately designed weir structure (or similar) shall be provided at the inlet to the main drainage channel through the northern fill site to allow only events larger than the 3 month ARI storm to enter the channel from the external catchment (the "Bowling Club land"). This structure shall divert runoff from events up to the 3 month ARI storm into the existing piped network connecting to the Kingscliff Drain to the west.
- d) Future use of the WFP sediment basin and other waterway areas within the Wallum Froglet Precinct as a constructed wetland to provide permanent treatment of urban stormwater for a future subdivision is not approved under this consent.
- All stormwater treatment structures shall be designed to achieve the following median water quality objectives at the end of stormwater treatment train;
  - (a) Total Nitrogen < 0.75 mg/L
  - (b) Oxidised Nitrogen (NO<sub>x</sub>) < 0.04 mg/L
  - (c) Ammonium (NH<sub>4</sub> $^{+}$ ) < 0.02 mg/L
  - (d) Total Phosphorus < 0.10 mg/L
  - (e) Total Suspended Solids < 20 mg/L
- All stormwater treatment structures shall be designed to facilitate the following median water quality objectives within the Wallium Froglet Habitat Appa;
  - a) Dissolved Phosphorous 0.05mg/L or less
  - b) pH range 5 5.5;
  - c) Turbidity less than 50 NTU
  - d) Dissolved Nitrogen Levels 0.5mg/L or less;
- 22. All water quality treatment structures shall include:
  - (a) Primary sedimentation basin in the froglet precinct (as per Arterra Plans dated 25/10/2007 LP-SD-01, 02, 03).
  - (b) Water quality pre-treatment area in the froglet precinct (as per Arterra Plans dated 25/10/2007 LP-SD-01, 02, 03).
  - (c) A bio-filtration system(s) which would have the following general specifications depending on final design and construction method:
    - (i) Base bio-filter infiltration area: 0.5 1.0 ha
    - (ii) Total bio-filter area: 0.6 1.2 ha
    - (iii) Filter depth: 0.6 m
    - (iv) Filter particle size: 0.7 mm.
    - (v) Extended detention depth; 0.3 m

This structure could be broken or divided into several suitably sized but smaller structures totalling the same area given under (a)(i) and (a)(ii) above.

If the fill imported to the site has a shell grit content in excess of 1%, then an impermeable barrier shall be placed within the fill batter to the WFP.

Detailed design data, calculations and designs shall be prepared to the satisfaction of Council's engineer which shall not be unreasonably withheld.

- Where water is to be drawn from Councils reticulated system, the proponent shall: -
  - Make application for the hire of a Tweed Shire Council metered standpipe including Councils nomination of point of extraction.
  - Where a current standpipe approval has been issued application must be made for Councils nomination of a point of extraction specific to the development.
  - Payment of relevant fees in accordance with Councils adopted fees and charges.

(PCC1206)

- 24. Notwithstanding the issue of this development consent, prior to the issue of a construction certificate and or engineering plans as statutorily required, separate consent from Council under Section 138 of the Roads Act 1993, must be obtained for works proposed to take place on a public road including:
  - a. the construction of new driveway access (or modification of access);
  - b. The culvert works in Turnock Street:
  - c. Temporary access to filling sites; and
  - d. The erection of the conveyor over Tweed Coast Road
  - Any other works located within Council's road reserve

The application shall include engineering plans and specifications and include copies of compliance certificates relied upon and details relevant to but not limited to the following: -

- Road works/furnishings
- Stormwater drainage
- · Sediment and erosion control plans
- · Location of all services/conduits
- Traffic control plan(s)
- Detail for each of the proposed access points for transportation of the fill.
   The Tweed Coast Road access is to be constructed outside of peak traffic periods.
- Construction Access to the land north of Turnock Street will require a left turn lane for the left turn truck movements from Turnock Street. Right turn movements into the filling site to the north are not allowed.

The following specific details are required in relation to the for the boxed in conveyor system proposed across Tweed Coast Road for the transportation of fill from the west to the eastern side of the road:

. Minimum vertical clearance above Tweed Coast Road of 6m

- · Supports are located not closer than 5m from the nearest travel lane
- Conveyor is to be suitably enclosed to ensure no escape of material onto the road reserve.
- A leasing arrangement is to be entered into with Council for use of the road reserve
- The conveyor system to be dismantled and removed within 18 months of the commencement of filling works.

Applications for consent under Section 138 must be submitted on Council's standard application form, be accompanied by the required attachments and prescribed fee.

(PCCNS01)

25. Prior to the commencement of work details of any ground and surface water monitoring locations in addition to those required for water quality shall be submitted to Council for approval in writing. Such approval shall not be unreasonably withheld.

(POCNSO)

26. Prior to issue of Construction Certificate and or engineering plans as statutory required, the Applicant shall lodge structural design details, detailing the design of the acoustic hay fence to satisfaction of Council.

TPCCN501

27. Prior to the issue of the construction certificate and or engineering plans as statutory required a construction noise management plan shall be produced for approval by Council that is generally in accordance with the Environmental Noise Impact Assessment dated November 2007, prepared by Carter Rytenskild Group Pty Ltd and the Statement of Evidence produced by Steven Jay Carter dated 17th March 2008.

PCCN501]

- 28. Prior to the issue of the construction certificate and or engineering plans as statutory required a Construction Noise Management Plan must be prepared as part of the CEMP. This is to be lodged with Council for approval and must include:
  - a) an education program for Construction personnel about noise minimisation.
    - identification of each Construction activity, including Ancillary Facilities, and their associated noise sources;

identification of all potentially affected Sensitive Receivers (a sensitive receiver is defined as a resident or occupier of a residential property, where the boundary is subject to noise levels recorded above 58 dB(A) L10 OR a commercial premises that is exposed to noise levels above that specified in Australian Standard AS/NZ 2107:2000 "Acoustics — Recommended reverberation times and sound levels for building interiors" when assessed inside the place of business or 58 dB(A) L10 at an outdoor area associated with operation of the business requiring a level of amenity for normal operation of that business;

- d) the Construction noise objective specified in the Conditions of Approval;
- e) noise and vibration monitoring, reporting and response procedures;



b)

 a description of management methods and procedures and specific noise mitigation treatments that will be implemented to control noise and vibration during Construction;



justification for any activities outside the Construction hours specified in the Conditions of Approval. This includes identifying areas where construction noise would not be audible at any Sensitive Receiver; procedures for notifying residents of Construction activities that are likely to affect their noise amenity; and contingency plans to be implemented in the event of non-compliance and/or noise complaints consultation procedures to be undertaken with residents.

(PCOM501)

29. A dilapidation report detailing the current structural condition of the adjoining and adjacent buildings, infrastructure and roads is to be prepared and endorsed by a suitably qualified engineer. The report is to be submitted and approved by Council prior to issue of a construction certificate and or engineering plans as statutory required.

A second dilapidation report is to be prepared by a suitably qualified person at the completion of the works to ascertain if any structural damage has occurred to the adjoining and adjacent buildings, infrastructure and roads. The report is to be compared with the first report and recommend a course of action to carry out repairs if required. The report is to be submitted for approval by Council.

(POONSOZ)

30. Within three weeks of fill being placed on the site in each fill stage, the area is to be topsoiled and mulched to the satisfaction to Tweed Shire Council's engineer. This does not apply to the wallum froglet precinct in relation to which work shall be done in accordance with the Arterra Constructions Management Plan. Mulch and topsoil detail are to be shown on the Construction Certificate application and or engineering plans as statutory required. Fertiliser shall not be used on the grassed area proximal to within 20m of the Wallum Froglet Habitat.

POONSOZ

 The site is to be adequately fenced with a construction fence, for the works within each relevant stage. The construction fence details are to be shown on the Construction Certificate application.

It is the responsibility of the applicant to restrict public access to the construction works site, construction works or materials or equipment on the site when construction work is not in progress or the site is otherwise unoccupied in accordance with WorkCover NSW requirements and Occupational Health and Safety Regulation 2001.

monume

- 32. The Construction Certificate application and or engineering plans as statutory required shall detail the following provisions having regard to perimeter & trunk drainage:
  - a. Perimeter stormwater drainage shall be designed and constructed along all external boundaries to convey overland runoff from all external catchments to a lawful point of discharge for all storm events up to the ARI 100 year event without causing flooding of adjoining properties or road reserves. All fill batters, perimeter drainage services and associated formations must be

contained wholly within the development site, and must not encroach into adjoining properties or road reserves.

b. Perimeter cross sections for the entire site are to be provided along the proposed filling perimeter every 20m. The cross sections are to provide existing and proposed finished levels, extending an adequate distance into adjoining land so as to establish external drainage paths.

 A Wallum Froglet Management Plan shall be prepared as referred to in Deferred Condition A

d. A stormwater drainage channel is to be designed and constructed to convey all runoff from Council's existing 750mm pipeline discharging from Turnock Street to the north east corner of the southern fill area to the Kingscliff drain generally along the alignment shown for the SWD documented on Drawing No. P037 issue H prepared by Knobel Consulting Pty Ltd and dated 08/11/07 and Drawing No. P038 issue G prepared by Knobel Consulting Pty Ltd and dated 29/10/07. The last part of the channel may follow a different path to the SWD, being around the fill to discharge to the Kingscliff drain.

e. An overland flow path shall be designed and constructed to convey external catchment runoff for the Q100 event from Turnock Street and Lot 100 DP 1071633 through the southern fill area to the Kingscliff Drain.

A stormwater drainage channel is to be designed and constructed to convey all runoff from Council's existing 450 mm SWD currently discharging off Pearl Street through Lot 6, DP21242, to the perimeter catch drain around the fill shown on Knobel Consulting Drawing No. P032, issue J, dated 26/10/07.

All drainage works required by this condition must be constructed in accordance with detailed design plans submitted to and approved by Council as part of a Local Government Act 1993, s68 Stormwater Drainage works application/approval.

[PCD\\$02]

- The Construction Certificate application and or engineering plans as statutory required shall detail the following provisions having regard to drainage under Elrond Drive and Turnock Street:
  - a) Culvert drainage is to be provided under Turnock Street as documented on Drawing No. P034 issue F prepared by Knobel Consulting Pty Ltd and dated 19/10/07 to convey stormwater runoff from the area to be filled and the major drainage channel. This drainage shall be designed and constructed to convey Q100 runoff from all contributing catchments.
  - b) South of the new culvert, the outlet is to be connected to the existing table drain. This table drain currently connects the existing culvert under Turnock Street near this location to the Kingscliff Drain. Scour protection is to be provided between the culvert outlet and the table drain to ensure a sustainable drainage system requiring minimal maintenance.
  - c) The drainage works required by this condition must be constructed in accordance with detailed design plans submitted to and approved by Council as part of a Local Government Act 1993, s68 Stormwater Drainage works application/approval.

PCONSUZI

34. The Construction Certificate application and or engineering plans as statutory required shall detail the following provisions having regard to existing stormwater infrastructure:  a) Provision shall be made to connect any other existing public stormwater pipes discharging onto the site not referred to in 33 above, through the filled area to a lawful point of discharge, without adverse impact on flooding in the locality.

b) The drainage works required by this condition must be constructed in accordance with detailed design plans submitted to and approved by Council as part of a Local Government Act 1993, s68 Stormwater Drainage works application/approval.

IPCCM502

- The Construction Certificate and or engineering plans as statutory required shall detail the following provisions having regard to the construction of Kingscliff Drain:
  - a) The Kingscliff Drain south of Turnock Street, adjacent to areas to be filled, is to be constructed concurrently with filling of the site south of Turnock Street. The drain shall be constructed from the south eastern extent of the filling to the box culverts under Turnock Street.
  - b) Except as varied by this condition, the above drain is to be constructed in general accordance with the trapezoidal channel cross section, and "access maintenance hardstand", shown on "Main Drain 0-2000 (fig 7.3)" contained in "Appendix B: Supplementary TSC Cross Section Details" contained in "Kingscliff Catchment & Drainage Management Plan" prepared by WBM Oceanics, Revision 3 Dated 24/3/00. No "variable multipurpose" cross section construction is required beyond the northern limit of the "access maintenance hardstand" on the northern side of the drain. The fill batter will commence on the northern side of the "access maintenance hardstand" in accordance with Knobel Consulting Drawing p038, issue G, dated 29/10/07. The 3.0m wide access maintenance hard stand area along the Kingscliff Drain is to be constructed on the north side of the drain from and connected to Turnock Street. A vehicle turn around area is to be constructed at the other end to permit vehicles using the maintenance access area to turn around. The design of the maintenance access must account for all transverse connections to the Kingscliff Drain, to remain trafficable without impeding runoff or causing flooding on upstream land.
  - c) In the section of drain from the box culverts under Turnock Street, east to the start of filling works the cross section on the north side shall be modified to accommodate entry of runoff from the north. The maintenance access may include a series of floodway crossings in this section to enable flow of runoff from the north to cross over the access.
  - d) On the south side of the drain, the constructed cross section is to terminate where the revetted bank section intersects natural surface level. No bank or "variable multipurpose" cross section construction is required beyond this point.
  - e) The edge treatment and revetment of the drain may be varied to create a more "natural" aesthetically pleasing appearance, providing the hydraulic efficiency and maintainability of the drain is not adversely affected.
  - The nominal 1.0m width of the drain invert may be increased to provide a more "natural" aesthetically pleasing appearance.
  - g) The invert of the drain is to be a maximum RL -0.5 AHD from the southeastern extent of the fill to the invert of the culvert under Turnock Street. It may then taper up to the existing drain outlet invert at St Anthony's

- School (lot 2 DP 610174) boundary. Level detail is to be provided for the drain invert.
- h) Prior to the commencement of work a drainage easement is to be created benefiting Council over the main Kingscliff drain from St Anthony's school to the box culverts under Turnock Street where it traverses lots 11, 12 & 13 DP 871753. The width of the easement shall be from the southern edge of revetment on the south side of the drain to the northern side of the maintenance access on the north side of the drain. Some meandering of the drain about the centreline may be permitted to provide a more "natural" aesthetically pleasing appearance. The easement must allow the bridging of the drain for access and the works referred to in this condition may be removed or altered for the purpose of constructing access ways so long as they are reinstated to a similar standard.
- i) The drainage works (including the associated works in the drainage easement) required by this condition must be constructed in accordance with detailed design plans submitted to and approved by Council as part of a Local Government Act 1993, s68 Stormwater Drainage works application/approval.
- The Construction Certificate application and or engineering plans as statutory required shall detail the following provisions having regard to the construction of the haul road;
  - a) The plans accompanying a Section 68 stormwater application must ensure there is adequate capacity transverse drainage under/across the haul road to ensure runoff is not impeded or flooding caused on upstream land.
     b) Where the proposed haul road crosses the Kingscliff Drain, a culvert
  - system with invert level -0.5m generally in accordance with Section 2 of Knobel Consulting Plan P030 (provided it complies with the criteria in (a) above) or other configuration approved by Council shall be provided under the road.
  - All culverts constructed over the Kingscliff Drain to facilitate construction of the haul road shall be removed at the completion of filling works.
  - d) The drainage works required by this condition must be constructed in accordance with detailed design plans submitted to and approved by Council as part of a Local Government Act 1993, s68 Stormwater Drainage works application/approval.
- 37. Traffic Management Plans are required prior to the issue of a construction certificate application and or engineering plans for each differing stage of the works. The traffic management plans shall be in accordance with AS1742 and RTA publication "Traffic Control at Work Sites" Version 2. The plans are to be prepared by an RTA accredited person shall be submitted to the Principal Certifying Authority. Safe public access shall be provided at all times.
  - The Traffic Management Plans are to include all temporary signage and road layouts for each stage of the proposed works. The plans are to also provide for pedestrian and cycle movements.

PCONSUZ

38. The application for a construction certificate and or engineering plans shall detail the conveyor belt over Tweed Coast Road, including the structural design details, the intended colours, a landscaping plan to ensure the stockpile site is screened from the road and to ensure dust is screened to mitigate dust 39. Prior to commencement of work all actions or prerequisite works required at that stage, as required by other conditions or approved management plans or the like, shall be installed/operated in accordance with those conditions or plans.

POWITS

- 40. Prior to the commencement of works, the applicant shall ensure that a Site-Specific Safety Management Plan and Safe Work Methods for the subject site have been prepared and put in place in accordance with either.
  - Occupation Health and Safety and Rehabilitation Management Systems Guidelines, 3<sup>rd</sup> Edition, NSW Government, or
  - AS4804 Occupation Health and Safety Management Systems General Guidelines on Principles Systems and Supporting Techniques.
  - c. WorkCover Regulations 2000
- Prior to work commencing, a "Notice of Commencement of Work shall be submitted to Council or principal certifying authority at least 2 days prior to work commencing.

PCW1225

42. Where prescribed by the provisions of the Environmental Planning and Assessment Amendment (Quality of Construction) Act 2003, a sign must be erected in a prominent position on any site on which building work, subdivision work or demolition work is being carried out:

showing the name, address and telephone number of the principal certifying authority for the work, and

showing the name of the principal contractor (if any) for any building work and a telephone number on which that person may be contacted outside working hours, and

stating that unauthorised entry to the site is prohibited.

Any such sign is to be maintained while the building work, subdivision work or demolition work is being carried out, but must be removed when the work has been completed.

PCWI255

- 43. Filling work in accordance with a development consent must not be commenced until a construction certificate for the civil work has been issued in accordance with Councils adopted Development Design and Construction Specification C101 by Council.
- 44. The proponent shall provide to the PCA copies of Public Risk Liability Insurance to a minimum value of \$20 Million for the period of commencement of works until the completion of the defects liability period.

PCW0835

45. Prior to commencement of work on the site all erosion and sedimentation control measures are to be installed and operational including the wheel wash facility where required to the satisfaction of Council.

In addition to these measures the core flute sign provided with the stormwater approval under Section 68 of the Local Government Act is to be clearly displayed on the most prominent position of the sediment fence or erosion control device which promotes awareness of the importance of the erosion and sediment controls provided.

This sign is to remain in position for the duration of the project.

#### **DURING CONSTRUCTION**

- The Wallum Froglet Habitat Area and Refuge Area is to be managed in accordance with the Wallum Froglet Management Plan (referred to in Deferred Condition A).
- During construction, all works required by other conditions or approved management plans (including noise, dust, frog habitat, traffic, storm water, water quality, sediment and erosion control, and the environmental management plan) or the like shall be installed and operated in accordance with those conditions or plans.

- During the approved staged construction plan for filling, culvert construction and landscaping of the Wallum Froglet Precinct monitoring is to be conducted
  - Monitoring: Quarterly surveys and reporting to be continued as described above in Deferred Condition A2 (for a period of 36 weeks or until filling is completed).
  - Production of a final report.
  - c) Adaptive Management Report on any breach of the fill construction plan and landscape construction plan (e.g., machinery movement onto the Wallum Froglet Habitat area, or silt entering onto the site).
- The Council and/or Principal Certifying Authority is to be given a minimum of 48 hours notice prior to any critical stage inspection or any other inspection.

The proponent shall ensure a maximum 360,000m3 of extractive material is imported to the site along the approved haul route from the sources nominated in the development application.

- 51. During filling operations,
  - All fill and cut batters shall be contained wholly within the subject land.
  - All cut or fill on the property is to be battered at an angle not greater than 45° within the property boundary, stabilised and provided with a dish drain or similar at the base in accordance with Tweed Shire Councils Design and Construction Specifications, Development Control Plan, Part A5 -Subdivision Manual and Development Control Plan, Part A14 - Cut and Fill on Residential Land to the satisfaction of the Principal Certifying Authority.

and upon completion,

 all topsoil and mulch is to be respread and the site to be grassed and landscaped including battered areas.

DURI755

 Proposed earthworks shall be carried out in accordance with AS 3798, "Guidelines on Earthworks for Commercial and Residential Developments".

The earthworks shall be monitored by a Registered Geotechnical Testing Consultant to a level 1 standard in accordance with AS 3798. A certificate from a registered Geotechnical Engineer certifying that the filling operations comply with AS3798 shall be submitted to Council upon completion.

DURO796

 The use of vibratory compaction equipment (other than hand held devices) within 100m of any dwelling house is strictly prohibited.

1978000

 No soil, sand, gravel, clay or other material shall be disposed of off the site without the prior written approval of Tweed Shire Council General Manager or his delegate.

IDURO985

55. The surrounding road carriageways are to be kept clean of any material carried onto the roadway by construction vehicles. Any work carried out by Council to remove material from the roadway will be at the Developers expense and any such costs are payable prior to the release of the bond.

(DURD995)

- 56. The burning off of trees and associated vegetation felled by clearing operations or builders waste is prohibited. All such materials should be chipped on site (in accordance with the noise management plan) and used in landscaping unless it is not possible due to size, non suitability of the material or some other limitation, in which case the material will be disposed of at Council's Stotts Creek depot.
- 57. All practicable measures in accordance with the management plans must be taken to prevent and minimise harm to the neighbourhood, adjacent development and the environment as a result of the construction, operation and where relevant, the decommissioning of the development.

EUR1025

58. Where the construction work is on or adjacent to public roads, parks or drainage reserves the development shall provide and maintain all warning signs, lights, barriers and fences in accordance with AS 1742 (Manual of Uniform Traffic Control Devices). The contractor or property owner shall be adequately insured against Public Risk Liability and shall be responsible for any claims arising from these works.

DUR: 7981

 The proponent shall comply with all requirements tabled within any approval issued under Section 138 of the Roads Act.

DURIAMS]

 Tweed Shire Council shall be given a minimum 24 hours notice to carry out the following compulsory inspections in accordance with Tweed Shire Council Development Control Plan, Part A5 - Subdivision Manual, Appendix D, based on the rates contained in Council's current Fees and Charges:-

#### Roadworks



- a. Pre-construction commencement erosion and sedimentation control measures
- b. Completion of earthworks
- c. Permanent erosion and sedimentation control measures
- d. Drainage channels and associated stormwater infrastructure
- e. Final Inspection for bond release

Council's role is limited to the above mandatory inspections and does <u>NOT</u> include supervision of the works, which is the responsibility of the Developers Supervising Consulting Engineer.

The EP&A Act, 1979 (as amended) makes no provision for works under the Water Management Act 2000 to be certified by an "accredited certifier".

DUR1095

 The contractor is to maintain a copy of the development consent and Construction Certificate approval including plans and specifications on the site at all times.

DIRECTOR

 Regular inspections shall be carried out by the Supervising Engineer on site to ensure that adequate erosion control measures are in place and in good condition both during and after construction.

Additional inspections are also required by the Supervising Engineer after each storm event to assess the adequacy of the erosion control measures, make good any erosion control devices and clean up any sediment that has left the site or is deposited on public land or in waterways.

This inspection program is to be maintained until the maintenance bond is released or until Council is satisfied that the site is fully rehabilitated.

(DLB2375)

63. Appropriate measures are to be put in place during the construction and/or demolition period to prevent the transport of sediment from the site. Should any material be transported onto the road or any spills occur it is to be cleaned up prior to cessation of same days work and/or commencement of any rain event.

IDUR24051

64. All fuels or chemicals shall be stored within a bunded area and not permitted to discharge or percolate to any watercourse.

DURNSON

65. The maximum depth of excavation during site stripping, construction of bund walls/sediment basins or any other element of the proposal shall be 500mm and 800 mm for the sediment basin within the wallum froglet precinct.

DURNSON

 The site shall not be dewatered without prior approval from the relevant authority and notification to Council.

[DURNS01]

 All surface water within the fill site shall be directed to the sedimentation ponds, monitored and treated (where necessary), before discharge from the site.

THE PRISON

68. 'Run on water' to the fill site shall be diverted, where possible, clear of the site.

(DURNSON)

 A sufficient number of 'on site builder's toilets' shall be provided to manage wastewater from on site employees.

IDURNISON

 Vegetation shall not be removed or damaged except as strictly necessary to undertake the proposed works.

(DUPNSOI)

 Disturbance of 'monosulfide black ooze' shall be limited approximately to 40m of the main drain where the haul route crosses the drain.

URNSON

72. All material stripped and identified as PASS from the site or disturbed below existing ground level shall be placed within a bunded area and neutralised in accordance with the Acid Sulfate and Groundwater Management Plan (HMC Environmental P/L, November 2007) before reuse or removal from the site.

DURNS01

 All extracted fill materials shall be treated for acid sulfate potential prior to being transported across Chinderah Road.

MENSON

74. Effective sediment and erosion controls shall be placed around all soil stockpiles and the perimeter of the proposed development site, and maintained for the duration of the proposed works to the satisfaction of the General Manager of his delegate.

DURNSON

75. Construction must only be carried out between the hours of 7.00 am to 6.00 pm (Monday to Friday), 8.00 am to 1.00 pm (Saturday) and at no time on Sunday public holidays except:

for the delivery of materials required outside these hours by the Police or other authorities for safety reasons; or

where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm; or

where the work is identified in the Construction Noise and Vibration Management Plan and approved as part of the CEMP.

Local residents must be informed of the timing and duration of work approved under item (c) at least 48 hours before that work commences.

INIENSON

 All works detailed in the Construction Noise Management Plan and associated Noise Impact Assessment for Construction Works be implemented for the period of construction works.

DURNSCI

77. All reasonable steps shall be taken to muffle and acoustically baffle all plant and equipment. All plant is to be kept in good operating condition, with regular inspections of the plant to minimise potential to generate noise nuisance.

DURNSOTI

78. Water trucks are to be available on the site at all times during filling operations. Dust creating activities are to cease when high winds exist and causes nuisance to neighbouring properties.

DUNNSON

## **POST CONSTRUCTION & MANAGEMENT**

- 79. The Wallum Froglet Habitat Area and Refuge Area is to be managed in accordance with the Wallum Froglet Management Plan (referred to in Condition A). Upon any application for subdivision such application is to include provision for transfer of the management.
- Post filling operations the temporary haul road is to be rehabilitated in accordance with the approved details referred to in the Deferred Conditions Component of this consent.
- 81. Following completion of filling the following monitoring is required:
  - Monitoring: Quarterly surveys and reporting to be continued for a period of 12 months as described in Condition A2. Final reporting as above in Condition A3.
  - b) Adaptive Management.
  - c) Report on any breach of the fill construction plan and landscape construction plan (e.g., machinery movement onto the Wallum Froglet Habitat area, or silt entering onto the site). See Contingency Strategy.
- 82. The following water quality monitoring shall be undertaken in accordance with the following to ensure compliance with the approved Wallum Froglet Management Habitat Plan (except were varied by an approved alternative water quality monitoring regime):
  - (a) Parameters to be monitored:
    - (i) Total Nitrogen
    - (ii) Oxidised Nitrogen (NO<sub>x</sub>)
    - (iii) Ammonium (NH4+)
    - (iv) Total Phosphorus
    - (v) Total Suspended Solids
    - (vi) pH



#### (b) Monitoring locations shall be:

- Groundwater quality at 2 locations within the WFH.
- Surface water quality at two locations within the WFH with one location at the inlet to the WFH.
- (c) Monitoring frequency shall be:

- Groundwater samples shall be collected monthly by micro-purge sampling from each monitoring piezometer.
- pH shall also be monitored continuously within the WFH for a period of not less than 3 months at two depths including: a) at or near the surface; and b) 1 m below the surface.
- (iii) Surface water samples shall be collected monthly (where available).

# GENERAL TERMS OF APPROVAL UNDER SECTION 200 OF THE FISHERIES MANAGEMENT ACT 1994

 Filling is only to be undertaken subsequent to an appropriate authorisation from a relevant public authority (other than a local Council) consistent with s200 of the Fisheries Management Act 1994.

# GENERAL TERMS OF APPROVAL PERMIT UNDER s 89, 90, & 91 WATER MANAGEMENT ACT 2000

84. The applicant is to obtain necessary approvals, if any, in accordance with the Water Management Act 2000 prior to commencement of work. Should dewatering be required the Council is to be notified 48 hours prior to commencement of works.



#### TERMS OF FIRST RESTRICTIVE COVENANT REFERRED TO IN ORDERS

The area to which the restrictive covenant relates is that part of Lot 13 DP 871753 bounded on the east by the eastern boundary of that Lot, on the north by the southern bank of the east/west drain, on the west by the eastern bank of the drain running from Quigan Street to the east/west drain and on the south by Quigan Street all as shown on the plan annexed marked A subject to final survey plan.

Restrictive covenant for conservation purposes in respect of the Mitchell's Rainforest Snail to be created under s. 88E of the Conveyancing Act 1919 for the benefit of the Tweed Shire Council on the terms specified below.

#### RESTRICTIVE COVENANT FOR CONSERVATION PURPOSES

 In this instrument, unless the contrary intention appears – "animals" includes sheep, goats, horses, deer and cattle.

"clearing" and "cleared" in relation to the land, means the ringbarking, cutting, stripping, cutting down, felling, poisoning, lopping, topping, burning, injuring, removal or destruction in any manner whatsoever of vegetation or any part of vegetation growing on the land.

development" in relation to land, means -

- (a) the erection of a building or structure (other than a fence) on the land; or
- (b) the carrying out of a work in, on over or under the land;

"land" means the land described in the Schedule.

"Management Plan" means a plan for the management of the land (by whatever title it is called) approved under the Environmental Planning and Assessment Act 1979 or any Act consolidating or replacing that Act, or agreed between the registered proprietor and the Tweed Shire Council, and any amendment or replacement of the plan. "registered proprietor" means the registered proprietor for the time being of the land recorded in the Register under the Real Property Act 1900.

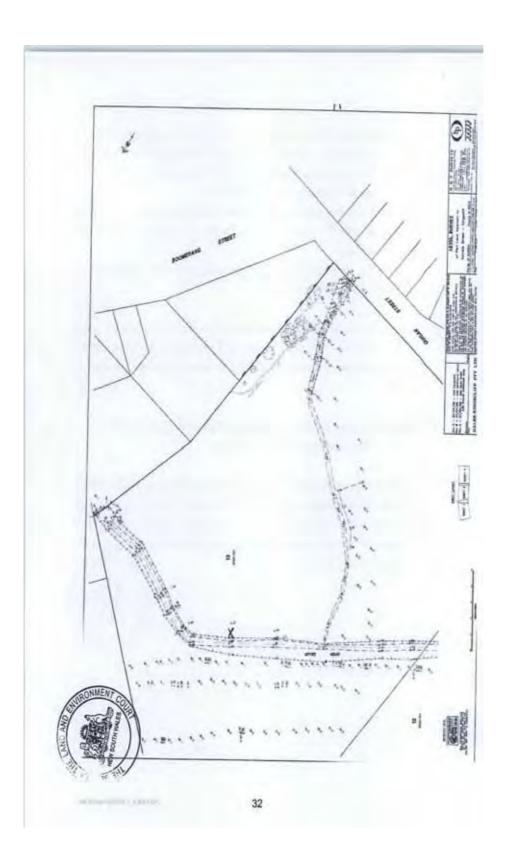
"substance" in relation to the land includes timber, turf, stone, clay, shells, earth, sand and gravel.

"vegetation" in relation to the land means plants indigenous to the State of New South Wales including trees, saplings and seedlings of trees, plants, shrubs, ferns, vines, herbs, grasses and other vegetable cover which are endemic to the land.

- 2. Without the prior written consent of the Tweed Shire Council -
  - (a) no person shall reside on the land;
  - (b) no animal shall be depastured or driven on the land;
  - (c) no development shall be carried out on the land;
  - (d) the land shall not be cleared, slashed or cultivated;
  - (e) no substance, whether or not in or forming part of the land, shall be interfered with;
  - (f) no fire shall be lit on the land;
  - (g) no use shall be made of the land or activities on the land which would result in the clearing of vegetation on the land; and
  - (h) no use shall be made of the land or activities undertaken on the land which would interfere with or prevent the natural growth or regeneration of vegetation on the land.
- 3. This covenant does not prevent or restrict in accordance with law:
  - (a) the destruction or removal of vegetation declared to be a noxious weed under the Noxious Weeds Act 1993 or an Act consolidating or replacing that Act; or
  - (b) the destruction or removal of vegetation which is a prohibited plant within the meaning of the *Drug Misuse and Trafficking Act 1985* or an Act consolidating or replacing that Act; or
  - (c) the incidental destruction or removal of vegetation lying adjacent to any noxious weeds or prohibited plants where such incidental destruction or

- removal occurs unavoidably during the process of destroying or removing those noxious weeds or prohibited plants; or
- (d) the destruction or removal of vegetation within 1 metre of the external boundaries of the land for the purpose of erecting or maintaining a fence along those boundaries; or
- (e) the destruction or removal of vegetation within 0.5 metres of the land for the purpose of enabling a survey to be carried out along those boundaries by a surveyor registered under the Surveyors Act 2001 or any Act consolidating or replacing that Act;
- (f) the destruction or removal of vegetation or substance in compliance with the Rural Fires Act 1997 or any Act consolidating or replacing that Act; or
- (g) the destruction or removal of vegetation or substance within 3 metres of the top bank of any drain on or adjoining the land for the purpose of maintaining the drain (but excluding the southern bank of the east/west drain for its length from the eastern boundary of Lot 13 to the point marked "x" shown on the annexed Plan marked "A" being B & P Survey Plan 16814B Revision C);
- (h) the removal of refuse, garbage, rubbish or any other noisome, noxious, poisonous or unwholesome matter;
- (i) the taking of reasonable precautions to keep the land free of noxious weeds, rodents or vermin;
- (j) carrying out environmental protection works, being works associated with the rehabilitation of land towards its natural state or any work to protect land from environmental degradation, and includes bush regeneration works and the like;
- (k) erecting, carrying out or using the land for environmental facilities, being a building or place that provides for the recreational use or scientific study of natural systems, and includes walking tracks, seating, shelters, boardwalks, observation decks, bird hides, or the like, and associated display structures;
- (I) carrying out any other work permitted by the Management Plan.

- (a) The restriction on the use of the land shall be released and revoked to the extent to which it applies to any part of the land in relation to which a conservation agreement is entered into under Part 4 of Division 7 of the National Parks and Wildlife Act 1974.
- (b) The date of release and revocation of restriction on use (whether wholly or in part) shall be the date from which such conservation agreement has effect.
- (c) The restriction on use may otherwise be released with the consent of the Tweed Shire Council.
- Any work on the land the subject of this covenant shall be carried out under the guidance of a Mitchell rainforest Snall ecologist in accordance with the recommendations of such ecologist and be consistent with any management plan.
- 5A Nothing in this covenant shall be construed as avoiding the need to obtain any consent under any applicable legislation.
- 6. The prior written consent of Council is taken to have been given under clause 2 if an approval consent or authorisation of any kind is given for the activity by a public authority having power to do so (or a court or other person or body on appeal or review) under the Environmental Planning and Assessment Act 1979 or any Act replacing it.



#### TERMS OF SECOND RESTRICTIVE COVENANT REFERRED TO IN ORDERS

The area to which the restrictive covenant relates is those parts of Lots 11 and 12 DP 871753 as shall be defined and detailed in final survey plan approximately as follows:

In relation to Lot 11 the area to the south of Turnock St bounded on the north by Turnock St, on the west by the western boundary of the Lot and on the east by the eastern boundary of the Lot; and

In relation to Lot 12 the area to the south of Turnock St bounded on the north by Turnock St, on the west by the western boundary of the Lot, on the south by the northern edge of the drainage easement created under Condition 35(b) in respect of the Kingscliff drain and on the east by the line of the western extent of the fill shown on Knobel Consulting Drawing PO38, Issue G dated 29/10/07; and

Restrictive covenant for conservation purposes in respect of the Wallum Froglet to be created under s. 88E of the Conveyancing Act 1919 for the benefit of the Tweed Shire Council on the terms specified below.

## RESTRICTIVE COVENANT FOR CONSERVATION PURPOSES

 In this instrument, unless the contrary intention appears – "animals" includes sheep, goats, horses, deer and cattle.

"clearing" and "cleared" in relation to the land, means the ringbarking, cutting, stripping, cutting down, felling, poisoning, topping, topping, burning, injuring, removal or destruction in any manner whatsoever of vegetation or any part of vegetation growing on the land.

"development" in relation to land, means -

- the erection of a building or structure (other than a fence) on the land; or
- (b) the carrying out of a work in, on over or under the land;

"land" means the land described in the Schedule.

"Management Plan" means a plan for the management of the land (by whatever title it is called) approved under the *Environmental Planning* and Assessment Act 1979 or any Act consolidating or replacing that Act, or agreed between the registered proprietor and the Tweed Shire Council, and any amendment or replacement of the plan.

"registered proprietor" means the registered proprietor for the time being of the land recorded in the Register under the Real Property Act 1900.

"substance" in relation to the land includes timber, turf, stone, clay, shells, earth, sand and gravel.

"vegetation" in relation to the land means plants indigenous to the State of New South Wales including trees, saplings and seedlings of trees, plants, shrubs, ferns, vines, herbs, grasses and other vegetable cover which are endemic to the land.

- 2. Without the prior written consent of the Tweed Shire Council -
  - (a) no person shall reside on the land;
  - (b) no animal shall be depastured or driven on the land;
  - (c) no development shall be carried out on the land;
  - (d) the land shall not be cleared, slashed or cultivated;
  - (e) no substance, whether or not in or forming part of the land, shall be interfered with;
  - (f) no fire shall be lit on the land;
  - (g) no use shall be made of the land or activities on the land which would result in the clearing of vegetation on the land; and
  - (h) no use shall be made of the land or activities undertaken on the land which would interfere with or prevent the natural growth or regeneration of vegetation on the land.
- 3. This covenant does not prevent or restrict in accordance with law:



- (a) the destruction or removal of vegetation declared to be a noxious weed under the Noxious Weeds Act 1993 or an Act consolidating or replacing that Act or
- (b) the destruction or removal of vegetation which is a prohibited plant within the meaning of the *Drug Misuse and Trafficking Act 1985* or an Act consolidating or replacing that Act; or
- (c) the incidental destruction or removal of vegetation lying adjacent to any noxious weeds or prohibited plants where such incidental destruction or removal occurs unavoidably during the process of destroying or removing those noxious weeds or prohibited plants; or
- (d) the destruction or removal of vegetation within 1 metre of the external boundaries of the land for the purpose of erecting or maintaining a fence along those boundaries; or
- (e) the destruction or removal of vegetation within 0.5 metres of the land for the purpose of enabling a survey to be carried out along those boundaries by a surveyor registered under the Surveyors Act 2001 or any Act consolidating or replacing that Act;
- (f) the destruction or removal of vegetation or substance in compliance with the Rural Fires Act 1997 or any Act consolidating or replacing that Act; or
- (g) the destruction or removal of vegetation or substance within 3 metres of the top bank of any drain on or adjoining the land for the purpose of maintaining the drain:
- the removal of refuse, garbage, rubbish or any other noisome, noxious, poisonous or unwholesome matter;
- (i) the taking of reasonable precautions to keep the land free of noxious weeds, rodents or vermin;
- carrying out environmental protection works, being works associated with the rehabilitation of land towards its natural state or any work to protect land from environmental degradation, and includes bush regeneration works and the like;
- (k) erecting, carrying out or using the land for environmental facilities, being a building or place that provides for the recreational use or scientific study of natural systems, and includes walking tracks, seating,

- shelters, boardwalks, observation decks, bird hides, or the like, and associated display structures;
- (I) carrying out any other work permitted by the Management Plan.

4.

- (a) The restriction on the use of the land shall be released and revoked to the extent to which it applies to any part of the land in relation to which a conservation agreement is entered into under Part 4 of Division 7 of the National Parks and Wildlife Act 1974.
- (b) The date of release and revocation of restriction on use (whether wholly or in part) shall be the date from which such conservation agreement has effect.
- (c) The restriction on use may otherwise be released with the consent of the Tweed Shire Council.
- Any work on the land the subject of this covenant shall be carried out under the guidance of an ecologist with experience and expertise in the habitat of the wallium froglet.
- 7A Nothing in this covenant shall be construed as avoiding the need to obtain any consent under any applicable legislation
- 8. The prior written consent of Council is taken to have been given under clause 2 if an approval consent or authorisation of any kind is given for the activity by a public authority having power to do so (or a court or other person or body on appeal or review) under the Environmental Planning and Assessment Act 1979 or any Act replacing it.



#### TERMS OF THIRD RESTRICTIVE COVENANT REFERRED TO IN ORDERS

The area to which the restrictive covenant relates is that part of Lots 1, 2 and 3 DP 781714 shown as covenant area (approx. 4440 m2) on B & P Surveys drawing 16814 B Revision C Sheet 1 annexed hereto which specifies within the covenant area the littoral rainforest area (coloured green).

Restrictive covenant for conservation purposes in respect of Littoral Rainforest to be created under s. 88E of the Conveyancing Act 1919 for the benefit of the Tweed Shire Council on the terms specified below.

## RESTRICTIVE COVENANT FOR CONSERVATION PURPOSES

 In this instrument, unless the contrary intention appears— "animals" includes sheep, goats, horses, deer and cattle.



"clearing" and "cleared" in relation to the land, means the ringbarking, cutting, stripping, cutting down, felling, poisoning, lopping, topping, burning, injuring, removal or destruction in any manner whatsoever of vegetation or any part of vegetation growing on the land.

"development" in relation to land, means -

- (c) the erection of a building or structure (other than a fence) on the land; or
- (d) the carrying out of a work in, on over or under the land;

"land" means the land described in the Schedule.

"Management Plan" means a plan for the management of the land (by whatever title it is called) approved under the *Environmental Planning and Assessment Act 1979* or any Act consolidating or replacing that Act, or agreed between the registered proprietor and the Tweed Shire Council, and any amendment or replacement of the plan.

"registered proprietor" means the registered proprietor for the time being of the land recorded in the Register under the Real Property Act 1900.

"substance" in relation to the land includes timber, turf, stone, clay, shells, earth, sand and gravel.

"vegetation" in relation to the land means plants indigenous to the State of New South Wales including trees, saplings and seedlings of trees, plants, shrubs, ferns, vines, herbs, grasses and other vegetable cover which are endemic to the land.

#### 2. Without the prior written consent of the Tweed Shire Council -

(a) in respect of the area coloured green on B & P Surveys Drawing 16814B Rev C the land shall not be cleared, slashed, grazed or cultivated;

o) in respect of the area coloured green on B & P Surveys Drawing 16814B Rev C no use shall be made of the land or activities on the land which would result in the clearing of vegetation on the land; and

(c) no use shall be made of nor activities undertaken on the land the subject of this covenant which would interfere with the ecological integrity of the littoral rainforest vegetation community in the area coloured green on B&P Surveys Drawing 16814B Rev C.

#### 3. This covenant does not prevent or restrict in accordance with Law:

- (a) the destruction or removal of vegetation declared to be a noxious weed under the Noxious Weeds Act 1993 or an Act consolidating or replacing that Act; or
- (b) the destruction or removal of vegetation which is a prohibited plant within the meaning of the *Drug Misuse and Trafficking Act 1985* or an Act consolidating or replacing that Act; or
- (c) the incidental destruction or removal of vegetation lying adjacent to any noxious weeds or prohibited plants where such incidental destruction or removal occurs unavoidably during the process of destroying or removing those noxious weeds or prohibited plants; or

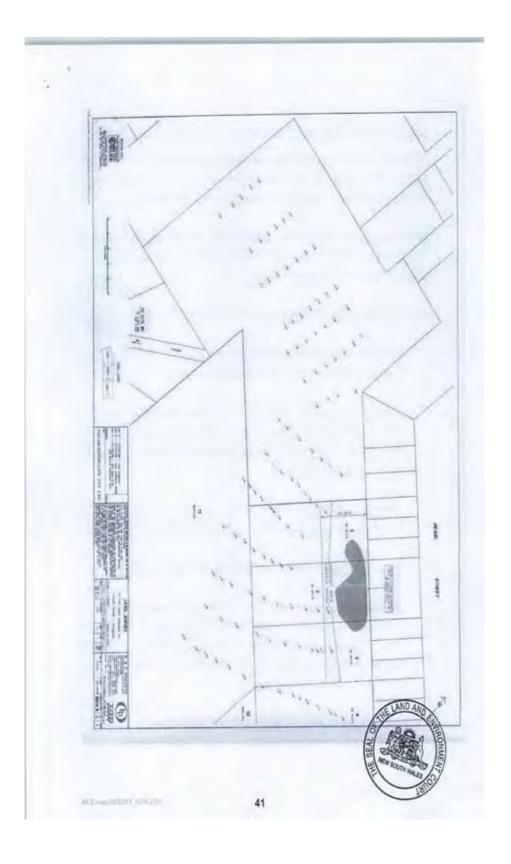
- (d) the destruction or removal of vegetation within 1 metre of the external boundaries of the land for the purpose of erecting or maintaining a fence along those boundaries; or
- (e) the destruction or removal of vegetation within 0.5 metres of the land for the purpose of enabling a survey to be carried out along those boundaries by a surveyor registered under the Surveyors Act 2001 or any Act consolidating or replacing that Act;
- (f) the destruction or removal of vegetation or substance in compliance with the Rural Fires Act 1997 or any Act consolidating or replacing that Act; or
- (g) the destruction or removal of vegetation or substance within 3 metres of the top bank of any drain on or adjoining the land for the purpose of maintaining the drain;
- (h) the removal of refuse, garbage, rubbish or any other noisome, noxious, poisonous or unwholesome matter;
- (i) the taking of reasonable precautions to keep the land free of noxious weeds, rodents or vermin;
- (j) carrying out environmental protection works, being works associated with the rehabilitation of land towards its natural state or any work to protect land from environmental degradation, and includes bush regeneration works and the like;
- (k) erecting, carrying out or using the land for environmental facilities, being a building or place that provides for the recreational use or scientific study of natural systems, and includes walking tracks, seating, shelters, boardwalks, observation decks, bird hides, or the like, and associated display structures;
- (I) carrying out any other work permitted by the Management Plan.
- (m)landscaping and management (including mowing and weeding) outside the littoral rainforest area coloured green on B & P Survey drawing 16814B Revision C ("The littoral rainforest area") and which does not interfere with the ecological integrity of the littoral rainforest area.
- (n) the construction outside the littoral rainforest area of services for development the subject of consent or approval on any of the said lots and which does not interfere with the integrity of the littoral rainforest area.

- (o) Carrying out any work which would not interfere with the ecological integrity of the littoral rainforest vegetation community in the area coloured green on B&P Survey Drawing 16814B Rev C.
- 4.
- (a) The restriction on the use of the land shall be released and revoked to the extent to which it applies to any part of the land in relation to which a conservation agreement is entered into under Part 4 of Division 7 of the National Parks and Wildlife Act 1974.
- (b) The date of release and revocation of restriction on use (whether wholly or in part) shall be the date from which such conservation agreement has effect.
- (c) The restriction on use may otherwise be released with the consent of the Tweed Shire Council.
- Any work on the land the subject of this covenant shall be carried out under the guidance of an ecologist with experience and expertise in littoral rainforest.

5A Nothing in this covenant shall be construed as avoiding the need to obtain any consent under any applicable legislation.

6. The prior written consent of Council is taken to have been given under clause 2 if an approval consent or authorisation of any kind is given for the activity by a public authority having power to do so (or a court or other person or body on appeal or review) under the Environmental Planning and Assessment Act 1979 or any Act replacing it.





## TERMS OF FOURTH RESTRICTIVE COVENANT REFERRED TO IN ORDERS

The area to which the restrictive covenant relates is those parts of Lots 11 and 12 DP 871753 shown as Wallum Froglet Precinct Area being north of Turnock Street in Arterra Plan LP-SD-04 Issue A 2/11/07 and detailed in final survey plan.

Restrictive covenant for conservation purposes in respect of the Wallum Froglet to be created under s. 88E of the Conveyancing Act 1919 for the benefit of the Tweed Shire Council on the terms specified below.

#### RESTRICTIVE COVENANT FOR CONSERVATION PURPOSES

 In this instrument, unless the contrary intention appears – "animals" includes sheep, goats, horses, deer and cattle.

"clearing" and "cleared" in relation to the land, means the ringbarking, cutting, stripping, cutting down, felling, poisoning, lopping, topping, burning, injuring, removal or destruction in any manner whatsoever of vegetation or any part of vegetation growing on the land.

"development" in relation to land, means -

- (a) the erection of a building or structure (other than a fence) on the land; or
- (b) the carrying out of a work in, on over or under the land;

"Management Plan" means a plan for the management of the land (by whatever title it is called) approved under the Environmental Planning and Assessment Act 1979 or any Act consolidating or replacing that Act, or agreed between the registered proprietor and the Tweed Shire Council, and any amendment or replacement of the plan.

"registered proprietor" means the registered proprietor for the time being of the land recorded in the Register under the Real Property Act 1900. "substance" in relation to the land includes timber, turf, stone, clay, shells, earth, sand and gravel.

"vegetation" in relation to the land means plants indigenous to the State of New South Wales including trees, saplings and seedlings of trees, plants, shrubs, ferns, vines, herbs, grasses and other vegetable cover which are endemic to the land.

- In respect of the Wallum Froglet Habitat Area and Refuge Areas shown on Arterra Plan LP-SD-04 2/11/07;
  - (i) Without the prior written consent of the Tweed Shire Council -
    - (a) no person shall reside on the land;
    - (b) no animal shall be depastured or driven on the land;
    - (c) no development shall be carried out on the land;
    - (d) the land shall not be cleared, slashed or cultivated;
    - (e) no substance, whether or not in or forming part of the land, shall be interfered with;
    - (f) no fire shall be lit on the land;
    - (g) no use shall be made of the land or activities on the land which would result in the clearing of vegetation on the land; and
    - (h) no use shall be made of the land or activities undertaken on the land which would interfere with or prevent the natural growth or regeneration of vegetation on the land.
  - (ii) Any work shall be carried out under the guidance of an ecologist with experience and expertise in the habitat of the Wallum Froglet.
- 3. In respect of all areas in the Froglet Precinct Area shown on the Arterra Plan LP-SD-04 2/11/07 other than those referred to in clause 2 above, such land shall be managed to facilitate the conservation of the wallum froglet in the Wallum Froglet Habitat Area and Refuge Areas and for water quality purposes.
- 4. This covenant does not prevent or restrict in accordance with Law:



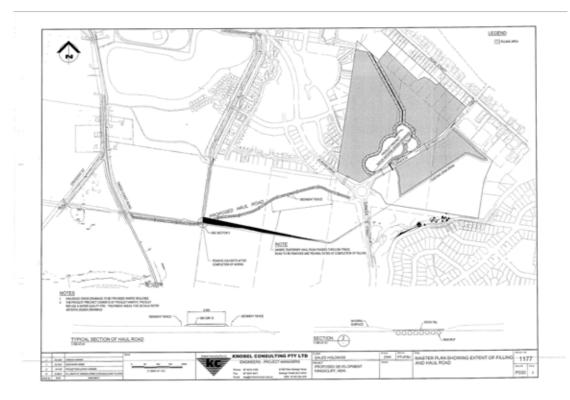
- (a) the destruction or removal of vegetation declared to be a noxious weed under the Noxious Weeds Act 1993 or an Act consolidating or replacing that Act; or
- (b) the destruction or removal of vegetation which is a prohibited plant within the meaning of the *Drug Misuse and Trafficking Act 1985* or an Act consolidating or replacing that Act; or
- (c) the incidental destruction or removal of vegetation lying adjacent to any noxious weeds or prohibited plants where such incidental destruction or removal occurs unavoidably during the process of destroying or removing those noxious weeds or prohibited plants; or
- (d) the destruction or removal of vegetation within 1 metre of the external boundaries of the land for the purpose of erecting or maintaining a fence along those boundaries; or

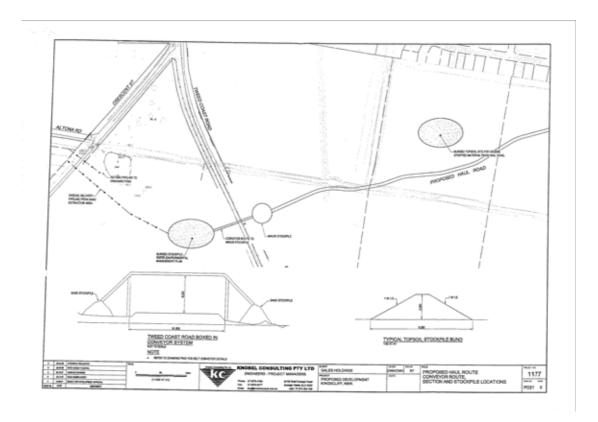
the destruction or removal of vegetation within 0.5 metres of the land for the purpose of enabling a survey to be carried out along those boundaries by a surveyor registered under the Surveyors Act 2001 or any Act consolidating or replacing that Act;

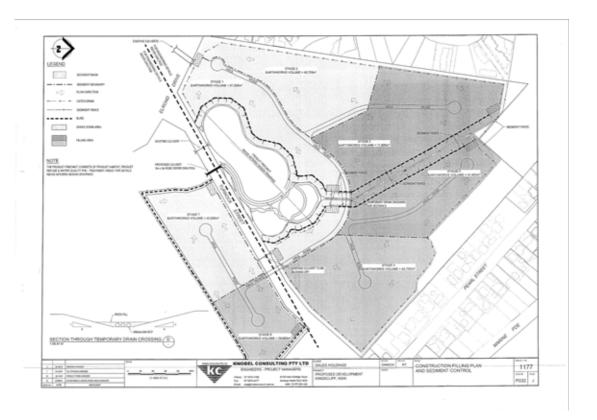
- (f) the destruction or removal of vegetation or substance in compliance with the Rural Fires Act 1997 or any Act consolidating or replacing that Act; or
- (g) the removal of refuse, garbage, rubbish or any other noisome, noxious, poisonous or unwholesome matter;
- (h) the taking of reasonable precautions to keep the land free of noxious weeds, rodents or vermin;
- carrying out environmental protection works, being works associated with the rehabilitation of land towards its natural state or any work to protect land from environmental degradation, and includes bush regeneration works and the like;
- erecting, carrying out or using the land for environmental facilities, being a building or place that provides for the recreational use or scientific study of natural systems, and includes walking tracks, seating, shelters, boardwalks, observation decks, bird hides, or the like, and associated display structures;
- (k) carrying out any other work permitted by the Management Plan.
- carrying out any other work pursuant to development consent DA 05/0004 and maintenance thereof.

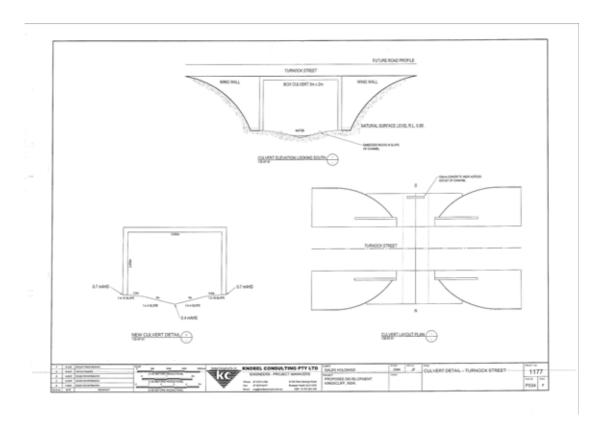
- (a) The restriction on the use of the land shall be released and revoked to the extent to which it applies to any part of the land in relation to which a conservation agreement is entered into under Part 4 of Division 7 of the National Parks and Wildlife Act 1974.
- (b) The date of release and revocation of restriction on use (whether wholly or in part) shall be the date from which such conservation agreement has effect.
- (c) The restriction on use may otherwise be released with the consent of the Tweed Shire Council.
- 5A Nothing in this covenant shall be construed as avoiding the need to obtain any consent under any applicable legislation.
- 6. The prior written consent of Council is taken to have been given under clause 2 if an approval consent or authorisation of any kind is given for the activity by a public authority having power to do so (or a court or other person or body on appeal or review) under the Environmental Planning and Assessment Act 1979 or any Act replacing it.

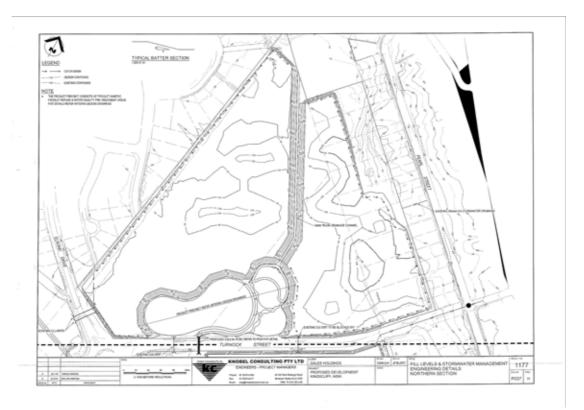


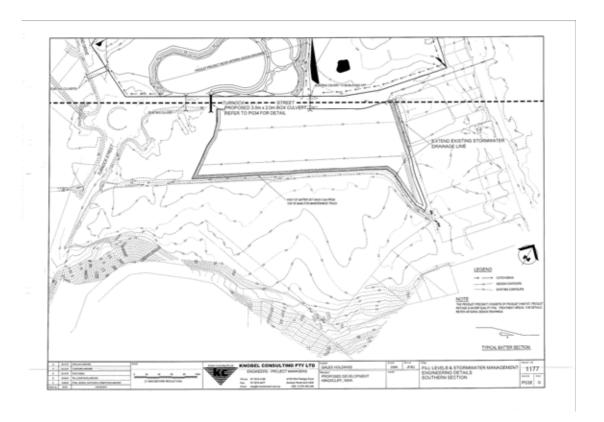


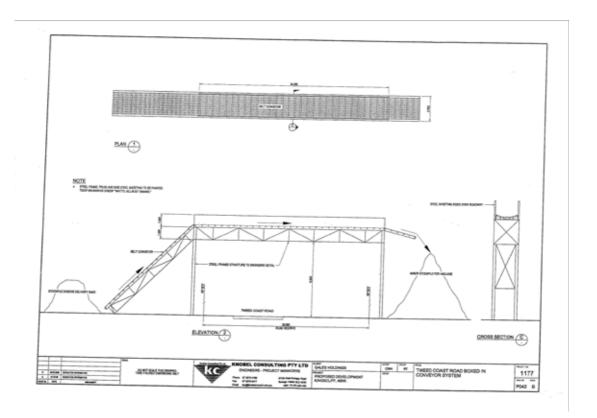


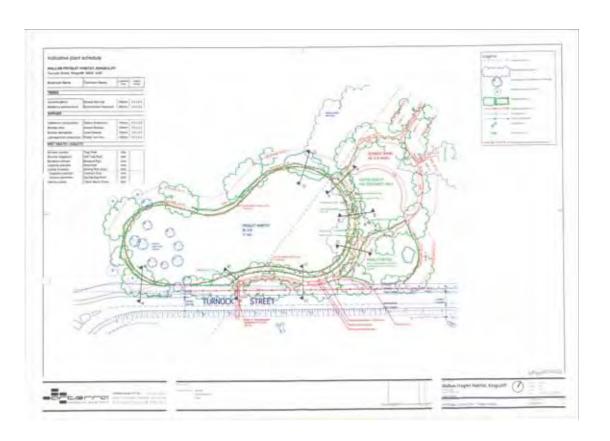


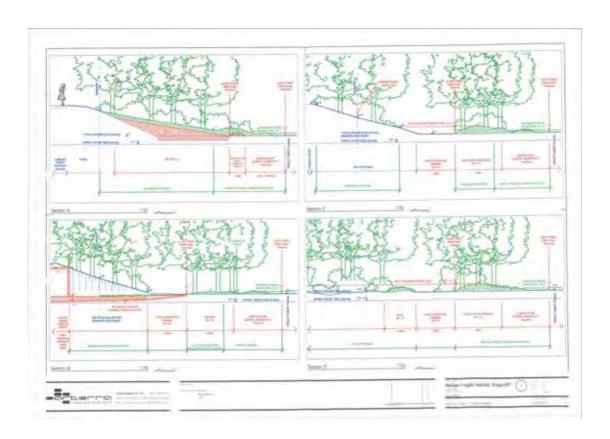




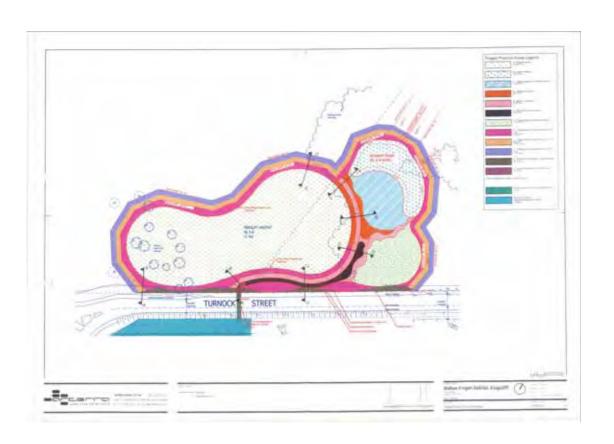


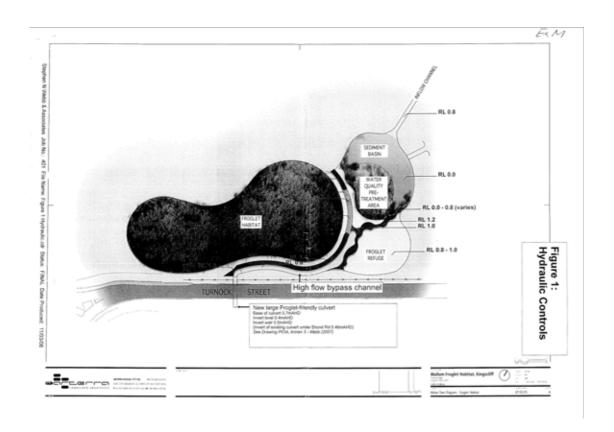


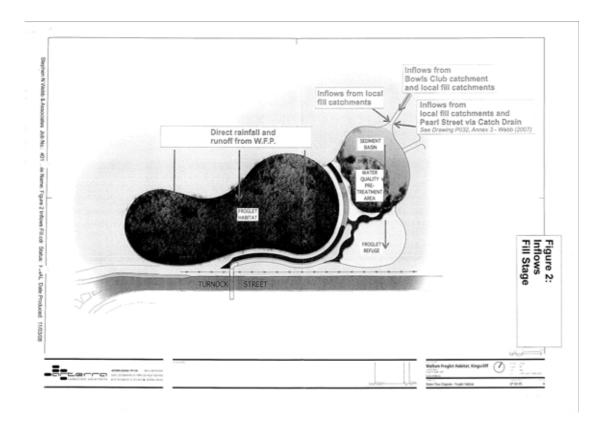


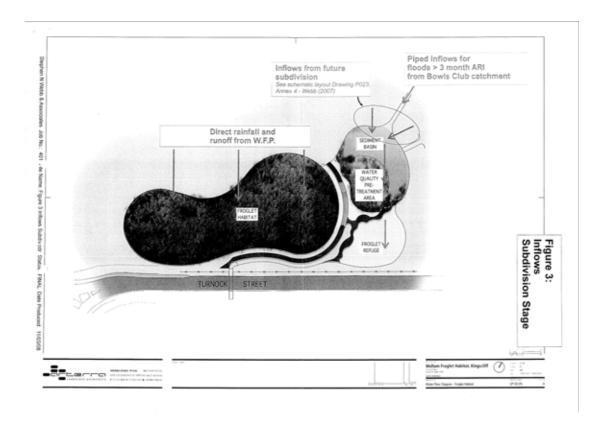


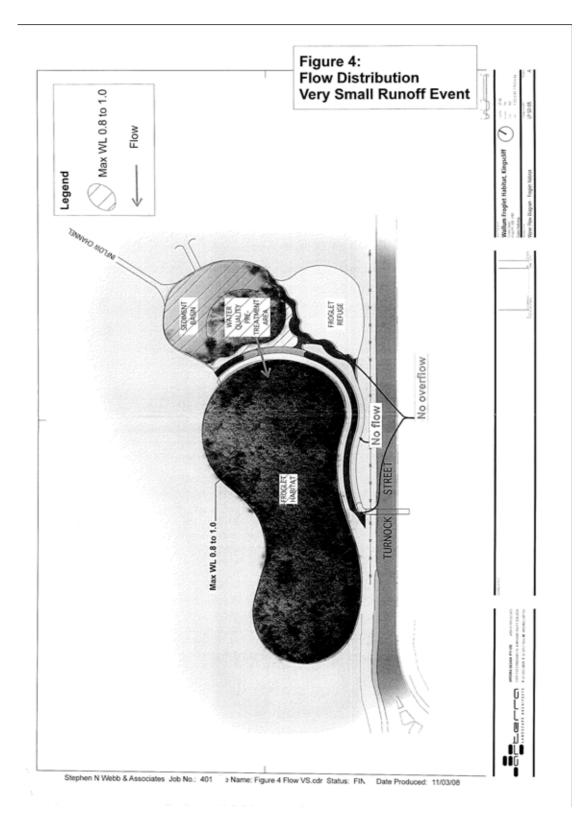


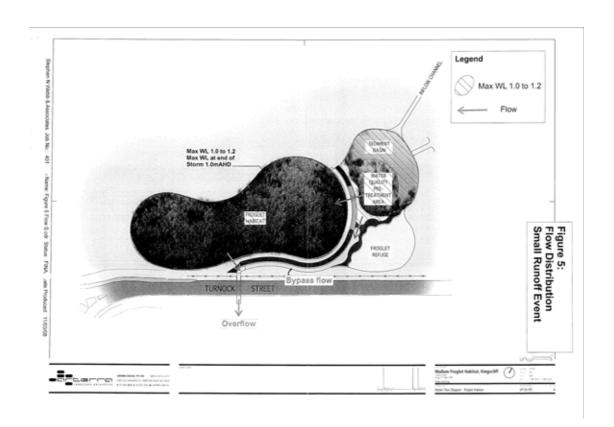


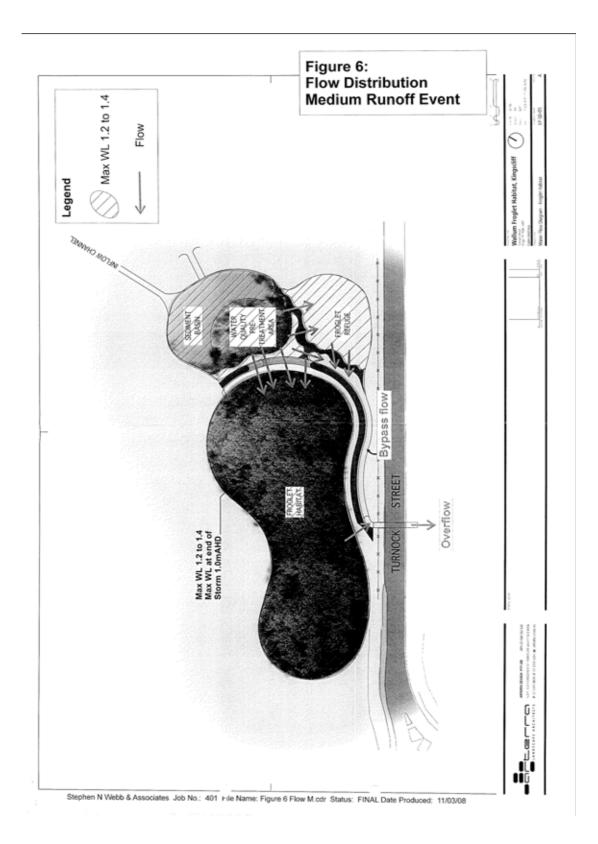


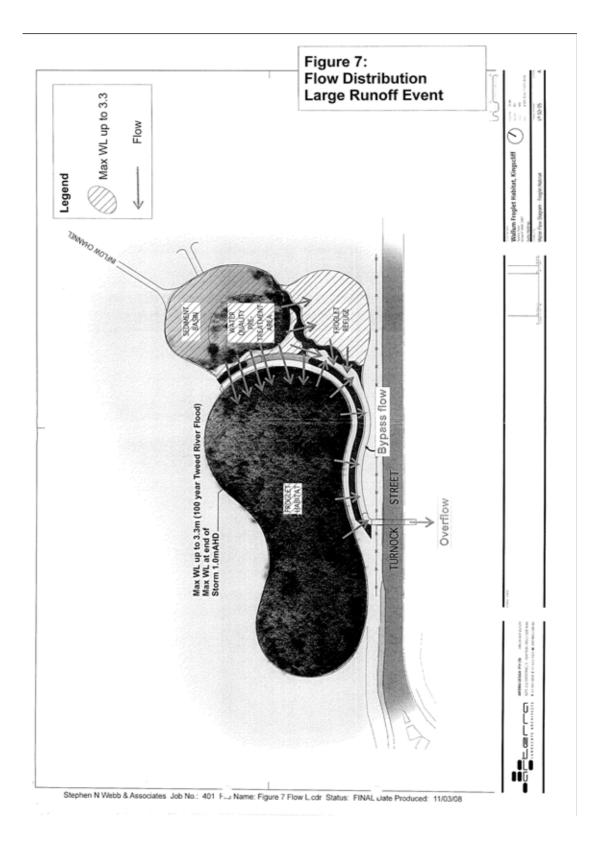














# Land and Environment Court of New South Wales

CITATION:

Gales Holdings Pty Limited v Tweed Shire Council [2008]

NSWLEC 209

PARTIES:

**APPLICANT** 

Gales Holdings Pty Limited

RESPONDENT Tweed Shire Council

FILE NUMBER(S):

10264 of 2005

CORAM:

Preston CJ

KEY ISSUES:

Appeal: filling of land in preparation for residential subdivision - loss of vegetation - whether vegetation part of endangered ecological

communities - whether adequate offsets

LEGISLATION CITED:

Environmental Planning and Assessment Act 1979 s 97 Threatened Species Conservation Act 1995 s 4, Sch 1 Pt 3

CASES CITED:

Gales Holdings Pty Limtied v Tweed Shire Council [2006] NSWLEC

85

Gales Holdings Pty Limited v Tweed Shire Council [2006] NSWLEC

212

DATES OF HEARING:

31 March 2008, 1, 2, 3, 4, 7, 8, 11, 16 and 21 April 2008 (conditions

filed)

DATE OF JUDGMENT:

14 July 2008

LEGAL REPRESENTATIVES:

APPLICANT

Mr T Robertson SC with Mr P Larkin

SOLICITORS Woolf Associates

RESPONDENT

Ms S Duggan (barrister)

SOLICITORS

Stacks/Northern Rivers

THE LAND AND ENVIRONMENT COURT OF NEW SOUTH WALES

**PRESTON CJ** 

14 JULY 2008

10264 OF 2005

GALES HOLDINGS PTY LIMITED V TWEED SHIRE COUNCIL

JUDGMENT

#### Introduction

- HIS HONOUR: Gales Holdings Pty Limited (Gales) has lodged a development application to fill certain low lying land north and south of Turnock Street, Kingscliff on the far north coast of New South Wales for the purpose of preparing the land primarily for future urban residential subdivision development. A temporary haul road is also proposed to transport fill to the site.
- The land to be filled is currently vegetated with a variety of native vegetation and some exotics. The proposed filling necessarily would result in the loss of that vegetation. Part of the land is also habitat for an endangered species of animal, the Wallum Froglet. A substantial part of this habitat is now proposed to be retained in an unfilled and enhanced state.

- Gales has appealed to this Court under s 97 of the *Environmental Planning and Assessment Act 1979* against the Council's refusal of the development application. The appeal has been the subject of a preliminary determination on 28 April 2006 where the Court held that the development application needed to be accompanied by a Species Impact Statement on the basis that the proposed fill and haul road development was likely to significantly impact the Wallum Froglet: see *Gales Holdings Pty Limited v Tweed Shire Council* [2006] NSWLEC 212.
- Subsequently, Gales amended its development application, principally so as to reduce the extent of filling and its impacts on the habitat of the Wallum Froglet. I granted leave to Gales to amend its development application as described in the Amended Statement of Environmental Effects (which became Exhibit A) and the amended set of plans (Exhibit B).
- The development application was further amended through the course of the hearing including in relation to the location and design of the proposed conveyor and haul road, the water quality treatment system, construction noise management plan, and Wallum Froglet management plan (Exhibit T). The design of the Wallum Froglet Habitat Area was also revised (Exhibit M).
- The issues in the appeal, by the end of the hearing, essentially related to the impacts the amended development might have on the native vegetation on the land that would be filled. Other issues, including the impact on the Wallum Froglet, were resolved by further amendments to the retained habitat area and the proposed conditions of consent.
- 7 The issues remaining to be resolved can be summarised as follows:
  - (a) Is the native vegetation on the land, which will be impacted by the proposed development, part of any endangered ecological

community listed under the *Threatened Species Conservation Act* 1995?

- (b) If the answer to (a) is yes, is the proposed development likely to significantly affect any such endangered ecological community so that the development application would need to be accompanied by a Species Impact Statement?
- (c) If the answer to either (a) or (b) is no, whether sufficient offsets are provided to compensate for the loss of the native vegetation?
- 8 For reasons I will provide below, I find that:
  - (a) The native vegetation on the site that will be impacted by the proposed development is not part of any endangered ecological community;
  - (b) As a result of the finding in (a), the issue of whether a Species Impact Statement is required does not arise;
  - (c) The native vegetation and habitat on the land that will be retained as part of the amended development proposal, including the Wallum Froglet habitat area, an area of littoral rainforest and habitat areas to the south of Turnock Street, which will be the subject of conservation covenants, are adequate offsets in the circumstances; and
  - (d) The proposed amended development is acceptable and consent should be granted subject to appropriate conditions.

## Proposed development

- The key elements of the proposal, as described in the amended Statement of Environmental Effects, are:
  - (a) The filling of land north and south of Turnock Street. The area to be filled covers approximately 17 hectares and will be filled to a minimum level approximating the design flood level of the locality (RL 3.3m AHD).
  - (b) The retention of unfilled areas of land, both north and south of Turnock Street, including:
    - (i) a largely undisturbed Wallum Froglet habitat area immediately north of and fronting Turnock Street, Wallum Froglet refuge areas, sediment basin and water quality pretreatment area;
    - (ii) an area in the north eastern corner of the subject land, north of Turnock Street, which includes a small assemblage of littoral rainforest vegetation, other vegetated areas, as well as land that is already at a level at or above the design flood level of RL 3.3m AHD;
    - (iii) an area immediately south of Turnock Street and east of the Turnock Street/Elrond Drive roundabout, which includes some swamp forest vegetation.
  - (c) The construction of a new 3 m x 2 m box culvert under Turnock Street. The box culvert would perform the drainage and fauna underpass function originally required by development consent 97/107 and the associated Part 5 approval issued for the

construction of Turnock Street, which required the construction of box culverts, but which were not constructed by the Council.

- (d) The creation of an unfilled, north-south orientated, open channel, north of Turnock Street, to convey upstream storm water flow across the site to the sediment basis and water quality pretreatment area and thereafter to the main drainage system south of Turnock Street, via the proposed box culvert under Turnock Street.
- (e) The construction of a temporary haul road from Tweed Coast Road to Turnock Street roundabout to transport sand fill material from an already approved excavation and deposition site west of Tweed Coast Road.

## The development site

The proposed development will be carried out on three sites: the fill site, the haul road and the conveyor and sand loading and stockpiling activities.

The land involved is as follows:

#### Fill site

- Lots 1-9 DP 781714 each have an area of approximately 3693m<sup>2</sup> and are located to the southwest of the existing residential lots fronting Pearl Street. These lots do not have a road frontage.
- Lot 11 DP 871753 has an area of 10.13 hectares, straddles
   Turnock Street and Elrond Drive and its southern boundary has
   frontage to the Quigan Street road reserve.
- Lot 12 DP 871753 has an area of 6.767 hectares, straddles
   Turnock Street and is bounded by the Quigan Street road reserve
   to the south.

- Lot 13 DP 781753 has an area of 6.633 hectares, straddles
   Turnock Street and is bounded by Quigan Street and the Quigan
   Street road reserve to the south.
- Lot 14 DP 781753 has an area of 1857m<sup>2</sup> and frontage to Turnock Street.

The fill envelope encompasses all of Lots 7-9 DP 781714 and Lot 14 DP 871753 and part of Lots 1-6 DP 781714 and part of Lots 11, 12 and 13 DP 871753.

## Haul road

- Lots 3 DP 828298 is located adjacent to Tweed Coast Road and has an area of 13.07 hectares. The land is vacant and is bounded to the east and north by other vacant land owned by Gales.
- Lots 26C and 26D DP 10715 have a combined total area of 24.10 hectares. The land is adjoined to the north by residential housing. Land to the west and east is vacant land. Land to the south is used for rural and agricultural purposes. An east-west drainage channel bisects the land approximately through the centre.
- Quigan Street road reserve.

# Conveyor, sand loading and stockpiling activities

Lots 1-3 DP 828298. Lot 3 is described above. Lot 1 occurs on the
western side of Tweed Coast Road and is low-lying vacant land. It
has an area of approximately 4.233. It adjoins vacant land to the
north and south. It has frontage to Crescent Street to the west.

## **Planning Controls**

- By the end of the hearing, there was no issue that the proposed development, as amended, is permissible with consent. The Council no longer pressed any issue relating to the planning controls under the relevant environmental planning instruments or development control plans that apply to the land as a reason for refusal of the development application. Nevertheless, the Court, exercising the functions of the consent authority on the appeal, is obliged to consider these controls.
- The applicable local environmental plan is Tweed Local Environmental Plan 2000. The land proposed to be filled is zoned 2(c) Urban Expansion. The haul road is zoned part 2(c) Urban Expansion, part 5(a) Special Uses (Drainage Reserve) and the part is uncoloured land. The land to be used for sand conveyance for stockpilling is also zoned part 2(c) Urban Expansion and part 5(a) Special Uses.
- The proposed filling is defined as "earthworks" and the temporary haul road is a "road", although could also be considered to be ancillary to the earthworks. The uses are permissible with development consent in the 2(c) zone. Roads are permissible without consent in the 5(a) zone, however, in this case, a development consent is required by virtue of cl 35 relating to the presence of acid sulphate soil. Roads are also permissible with consent on uncoloured land.
- The proposed stockpiling and conveyance activities associated with the filling are temporary and are ancillary to the earthworks and are permitted in the 2(c) zone. In the 5(a) zone, these works are permitted on the basis that they are compatible with adjacent uses and the uses permitted (with or without consent) in adjacent zones. Turnock Street is uncoloured land and the proposed box culvert under Turnock Street is permissible with consent.

- 15 Clause 8(1) provides that the consent authority may grant consent to development only if:
  - "(a) it is satisfied that the development is consistent with the primary objective of the zone within which it is located, and
  - (b) it has considered those other aims and objectives of this plan that are relevant to the development, and
  - (c) it is satisfied that the development would not have an unacceptable cumulative impact on the community, locality or catchment that will be affected by its being carried out or on the area of Tweed as a whole".
- 16 The objectives of the 2(c) Urban Expansion zone are:

#### "Primary objectives

 to identify land for urban expansion (which will comprise mainly residential development focused on multi-use neighbourhood centres) and to ensure its optimum utilisation consistent with environmental constraints and the need to minimise residential landtake.

#### Secondary objectives

- to allow associated non-residential development which meets the recreation, shopping, commercial, employment and social needs of future residents.
- to ensure that sensitive environmental areas within and outside the zone are protected from any adverse impacts of development.
- to enable planning flexibility to achieve the other objectives of the zone by means of detailed guidelines in a development control plan."
- 17 Filling of the land enables future urban development, which is consistent with the primary objective of the zone. The proposals in relation to

retention of vegetation and habitat areas are consistent with the secondary objectives.

The objectives of the 5(a) Special Uses zone are:

#### "Primary objective

 to identify land which is developed or is proposed to be developed, generally by public bodies, for community facilities and services, roads, railways, utilities and similar things.

## Secondary objective

- to provide flexibility in the development of the land, particularly if it is not yet or is no longer required for the relevant special use."
- There is no current proposal for upgrading and/or constructing new drainage works within the area covered by the 5(a) zone. The proposed haul road, sand stockpiling and conveyance activities are only temporary works (for a period of approximately 53 weeks) which would be removed at the completion of the filling activities. In this context, this part of the development would satisfy the primary objective of the zone.
- Other aims and objectives of Tweed Local Environmental Plan 2000 that are relevant to the proposed development include the aims in cl 4 and the objective in cl 5 of promoting development that is consistent with the principles of ecologically sustainable development. I have considered these aims and objectives in reaching the decision that the proposed development, with appropriate conditions as discussed below, is consistent with these aims and objectives.
- I am also satisfied that the proposed development would not have an unacceptable cumulative impact on the community, locality or catchment that will be affected by its being carried out or on the area of Tweed as a whole.

- The following clauses of the Tweed Local Environmental Plan 2000 are also relevant to the proposed development.
- Clause 13 relates to the development of uncoloured land on the zone map and, in respect of this proposal, requires the consent authority to consider whether the proposed development is compatible with development permissible in the adjoining zone and the character and use of existing development in the vicinity (cl 13(3)(a)).
- One area of uncoloured land affected by the proposed development occurs adjacent to the Turnock Street/Elron Drive roundabout and would be developed for part of the temporary haul road. The adjacent land is zoned 2(c) Urban Expansion and the existing development in the vicinity includes public roads and vacant low lying land. Some housing development occurs on land zoned 2(c) about 50 to 60 metres to the north. The temporary haul road is generally compatible with the development permissible in the 2(c) zone and, in particular, the existing use in the immediately surrounding land. After discussion between the parties' respective experts, special traffic and construction noise mitigation measures are proposed and would be imposed by conditions of consent to address impacts on the closest housing to the north.
- A further area of uncoloured land (Turnock Street road reserve) is affected by the proposed box culvert. The adjoining land is zoned 2(c) Urban Expansion and is vacant.
- Clause 15 relates to the availability of essential services. Water and sewerage services are not required for the filling of land. It is possible that water, telecommunications and power services would be required to service a small temporary site office facility off Turnock Street during the filling. Separate development consent would be obtained for the temporary site office at which time these issues could be addressed,

Clause 17 requires the consent authority to consider whether the proposed development is likely to have a significant social or economic impact in the locality or the Tweed local government area and, if so, obtain and consider a social impact assessment. The Council had expressed concern that traffic and construction noise might impact adversely on the social amenity of residents in the housing to the north of the haul road and west of the fill site. However, as a result of the agreed traffic and construction noise mitigation measures, which will be imposed by conditions of consent, I do not consider the proposed development will have a significant social or economic impact and, hence, no social impact assessment is required.

Clause 22 applies to land which has frontage to a designated road and requires that consent may only be granted if the Council is satisfied of certain matters relating to traffic safety and efficiency. Turnock Street and Tweed Coast Road are designated roads. Various works and measures are proposed to be implemented in relation to traffic management, safety and efficiency. The proposed conditions of consent also address these matters. The Council no longer raises any issue in relation to the development adversely impacting on the efficiency on traffic safety or the efficiency of Tweed Coast Road or Turnock Street.

29 Clause 28 applies to the development in zone 7(I) Environmental Protection (Habitat) and on adjacent land. It requires the consent authority to consider the likely effects, both direct and indirect, the development might have on flora and fauna and a plan of management showing how any adverse effects arising from the development are to be mitigated (cl 28(4)(a)-(c)). Land adjacent to the proposed haul road is zoned 7(I) Environmental Protection (Habitat). Flora and fauna issues are discussed in the Amendment Statement of Environmental Effects including a particular assessment of the impacts on flora of the proposed filling of land and associated temporary haul road in Appendix F. The Council no longer presses any issue in relation to these matters. The proposed conditions of consent will address these matters.

- Clause 34 provides that the impact of flooding must be considered where land is subject to flooding inundation. Apart from the sloping batters around the perimeter of the filling envelope, the land is proposed to be filled to a level approximating the Council's design flood level for the locality of RL 3.3m AHD, with some minor variation above and below this level to facilitate drainage of the fill.
- Provision will be made to convey large stormwater drainage flows from upstream, across the subject site, to the main drainage system south of Turnock Street and filling can be undertaken without adversely affecting floodwater levels in the locality. The proposed conditions of consent address the issue of flooding and drainage. The Council no longer raises any issue in relation to these matters.
- The placement of road base material for the temporary haul road would accommodate local drainage by way of small pipe crossings where required. The haul road drainage would be temporary only and would be removed at the completion of the filling project with the decommissioning of the haul road.
- Clause 35 relates to the management of acid sulphate soils. The land is classified partly as Class 2 and partly as Class 3 land on the Council's acid sulphate soil planning map. An acid sulphate soil and groundwater management plan has been prepared and included in Appendix G of the amended Statement of Environmental Effects. The proposed conditions of consent address this matter. The Council raises no issue in relation to acid sulphate soils.
- There is a draft local environmental plan which has been exhibited, namely draft Tweed Local Environmental Plan Amendment No 21. This draft plan proposed to amend Tweed Local Environmental Plan 2000. It has not been proceeded with by the Council, rather elements are being

incorporated into a new draft Local Environmental Plan 2008. In the circumstances, I do not give weight to this draft amendment plan.

- North Coast Regional Environmental Plan 1988 applies to the land. Clause 15 requires consideration of the impact of development on waterways, wetlands and fishery habitats. In particular, cl 15(c) requires consideration of any loss of habitat which will or is likely to be caused by the carrying out of the development.
- The land is not adjoining or adjacent to any substantial natural waterway. However, it is part of the Kingscliff drainage catchment. Stormwater generated from the land would ultimately discharge into the trunk drainage network upstream of the Tweed River.
- Drainage and water quality management issues will be implemented to maintain a satisfactory water quality and stormwater flows within the local drainage catchment. These matters are addressed in the proposed conditions of consent. The Council no longer raises any issue in relation to these matters.
- The proposal would result in the loss of vegetation on the land to be filled north and south of Turnock Street, which vegetation has some species characteristic of wetlands. The issues in relation to the impact on this vegetation are considered below in relation to the substantive issues concerning the loss of native vegetation.
- The proposed development would not affect any foreshore reserve areas, aquatic reserve or recognised fishery habitat.
- 40 Clause 32B applies to all lands covered by the New South Wales Government's Coastal Policy. Tables 2 and 3 of the Policy contains strategic actions and principles proposed to implement the Policy. The proposed development will not compromise the attainment of these strategic actions and principles. The proposed development is well

removed from water front open space and beaches and would not raise any issue in relation to access to or shadowing of these areas.

- 41 State Environmental Planning Policy 71 Coastal Protection applies to all land within the coastal zone, including the subject land. The proposed development is not within a sensitive coastal location and is not designated significant coastal development within the meaning of the Policy. Nevertheless, the consent authority is required to consider the matters of relevance in cl 8. In relation to the relevant considerations in cl 8, I find:
  - (a) The development would not compromise the aims of the Policy set out in cl 2;
  - (b) The development will not result in the loss of vegetation comprising any endangered ecological community (for reasons given below);
  - (c) Specific measures are proposed to retain certain native vegetation (including littoral rainforest) and habitat of the Wallum Froglet and Mitchell's Rainforest Snail and, hence, to conserve such plants and animals; and
  - (d) The development would be unlikely to have unacceptable cumulative effects on the environment.
- In respect of the development control provisions under Part 4 of the Policy, only cl 16 dealing with stormwater is of relevance. In this regard, stormwater discharges would be managed in accordance with the requirements of the Tweed Urban Stormwater Management Policy and will be subject to conditions of consent.
- One development control plan, namely Tweed Development Control Plan 2007, applies to the subject site. This development control plan

consolidated prior development control plans. The following parts of the development control plan are relevant.

- Tweed DCP Section A3 Flood Liable Land identifies the subject site as being within the predicted 100 year flood level. The development proposes that the majority of land be filled to a level approximating the Council's adopted design flood level for the locality (RL 3.3m AHD). The filling proposed would not lead to adverse flooding impacts in the locality. The Council no longer presses any issue in this regard.
- Tweed DCP Section A13 Socio-Economic Impact Assessment is no longer relevant. As a result of the agreement of the parties' respective experts in relation to mitigating traffic and construction noise, there is no longer an issue of social amenity impacts on residents of nearby housing.
- Tweed DCP Section A14 Cut and Fill applies to residential development. Although the proposed development is for filling of land, the purpose of the filling is to facilitate future residential development. Accordingly, this part of the DCP should be considered.
- The proposed development would involve filling to depths in excess of the one metre prescribed by Section A14. These filling depths are necessary, however, to raise the land to levels approximating the Council's design flood level for the locality, in preparation for future residential subdivision of the land, as required by Section A3 and B4 of the Tweed DCP 2007. In the circumstances, the Council's Infrastructure Engineer has indicated that the requirement to fill land to the design flood level (DCP Section A3) should take precedence over the controls contained in Section A14 of the DCP. The Council does not press this issue.
- Controls and management measures relating to general filling earthworks levels, fill embankments, erosion and sediment control and drainage management are included within the amended engineering report which is Appendix K to the amended Statement of Environmental Effects and the

Water Management Strategies Report which is Appendix J to the amended Statement of Environmental Effects. The measures are incorporated in the proposed conditions of consent.

- An environmental management plan which is Appendix L to the amended Statement of Environmental Effects includes proposals for environmental monitoring, including in relation to various water quality parameters. Again, these matters are addressed in the proposed conditions of consent.
- Controls and management measures relating to the establishment of the Wallum Froglet habitat area have been addressed in amended plans and are included in the proposed conditions of consent.
- The Council no longer presses any issue in relation to these matters.
- Tweed DCP Section B4 West Kingscliff applies to the subject site. The map accompanying the DCP identifies the proposed fill site for medium and low density housing. The temporary haul road is identified as low density housing and drainage. Filling of the land is consistent with the land use designation in the DCP. Areas of native vegetation and habitat will be retained, thereby responding to the environmental constraints of the site.
- Tweed DCP Section B9 Tweed Coast Strategy applies to the subject site. This part of the DCP contains broad strategic planning objectives and controls to cater for the future growth of the Kingscliff and South Kingscliff area. The proposed development is broadly consistent with the Strategy insofar as the land to be filled is part of the future urban development area identified to accommodate urban population growth on the Tweed Coast. The Tweed Coast Strategy includes a proposal for a permanent road from Tweed Coast Road to Turnock Street. The proposed development includes a temporary haul road between Tweed Coast Road and Turnock Street. To this extent, the proposed development is consistent with the Strategy, albeit that the haul road is only temporary.

- Tweed DCP Section B9 also makes particular reference to habitat protection for the Mitchell's Rainforest Snail (B9.7.2). As a result of the amendments made to the proposed development, there is no longer any impact on the Mitchell's Rainforest Snail habitat. This was an issue in previous proceedings dealing with a related development application: Gales Holdings Pty Limited v Tweed Shire Council [2006] NSWLEC 85. Indeed, Gales now proposes a conservation covenant in relation to land that is part of Mitchell's Rainforest Snail habitat. The Council raises no issue in relation to the proposed development's impact on the Mitchell's Rainforest Snail or its habitat.
- Tweed DCP Section B9 also addresses vegetation management at West Kingscliff, being land owned by Gales (B9.7.7). The pockets of littoral rainforest referred to will not be filled and will be conserved by a restriction as to user. The vegetation on the site that will be lost by filling is not part of any endangered ecological community (for reasons given below). Native vegetation forming part of the habitat for the Wallum Froglet will be retained in the Wallum Froglet habitat and refuge areas to the north and south of Turnock Street. The proposed development will not impact on vegetation communities in adjoining environmental protection zones.

## Vegetation

- The vegetation on the land has been extensively examined by many persons over the years. Gales' ecological consultants have mapped the vegetation communities occurring on the site. A copy of the vegetation map is annexed to these reasons for judgment.
- 57 The vegetation communities that will be impacted by the filling comprise:
  - (a) To the north of Turnock Street: vegetation community 4 Swamp
    Oak Coast Banksia Swamp Box (three small, isolated patches);

vegetation community 6 Doughwood – Cheese tree (two large, separated areas); vegetation community 8 Paperbark – Exotic Grassland (two isolated, small patches); and Pasture – Wasteland (separating the two areas of vegetation community 6 Doughwood - Cheese tree);

- (b) To the south of Turnock Street: vegetation community 12 Swamp Grassland Sedgeland; and
- (c) On the haul road land: vegetation community 8 Paperbark Exotic Grassland and vegetation community 10 Pasture Wasteland.

#### 58 The Council contends that:

- (a) Vegetation community 12 is a part of the endangered ecological community of Freshwater Wetland on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions (Freshwater Wetlands);
- (b) Vegetation community 6 is a transitional community between the endangered ecological communities of Freshwater Wetlands and Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions (Swamp Sclerophyll Forest); and
- (c) Vegetation community 4 is part of the endangered ecological community of Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner Bioregions (Swamp Oak Floodplain Forest).
- Gales contests that vegetation communities 4, 6 or 12 are endangered ecological communities, including being part of Freshwater Wetlands, Swamp Sclerophyll Forest or Swamp Oak Floodplain Forest.

## Whether EECs are present on the land?

- An endangered ecological community is defined in s 4 of the *Threatened Species Conservation Act 1995* to be an ecological community specified in Part 3 of Schedule 1 of the *Threatened Species Conservation Act.*Freshwater Wetlands, Swamp Sclerophyll Forest and Swamp Oak Floodplain Forest are each specified in Part 3 of Schedule 1. In each case, the ecological community is stated to be "as described in the final determination of the Scientific Committee to list the ecological community".
- Hence, in order for vegetation communities 4, 6 and 12 to be one or more of Freshwater Wetlands, Swamp Sclerophyll Forest and Swamp Oak Floodplain Forest, they must be an ecological community as described in the final determinations of the Scientific Committee to list each of Freshwater Wetlands, Swamp Sclerophyll Forest and Swamp Oak Floodplain Forest as endangered ecological communities. For the reasons I give below, I do not find that vegetation communities 4, 6 and 12 meet the descriptions in the final determinations of the Scientific Committee to list Freshwater Wetlands, Swamp Sclerophyll Forest or Swamp Oak Floodplain Forest as endangered ecological communities. I will deal with each of these endangered ecological communities.

#### Freshwater Wetlands

I am not satisfied that vegetation communities 12 or 6 are the endangered ecological community that is described in the final determination of the Scientific Committee to list Freshwater Wetlands. The vegetation communities do not satisfy the edaphic, locational, floristic or structural criteria specified by the Scientific Committee in its final determination.

## Edaphic and locational criteria

- The Scientific Committee describes Freshwater Wetlands to "typically occur on silts, muds and humic loams in depressions, flats, drainage lines, backswamps, lagoons and lakes associated with coastal floodplains". "Coastal floodplains" are described by the Scientific Committee in its final determination to be "level landform patterns on which there may be active erosion and aggradation by channelled and overbank stream flow with an average recurrence interval of 100 years or less" (paragraph 1).
- This description has three components that are linked: an edaphic (soil) component ("silts, muds or humic loams"), a topographical component ("depressions, flats, drainage lines, backswamps, lagoons and lakes") and a locational component ("associated with coastal floodplains"). The soils are "in" the topographical features identified, which are in turn "associated" with the coastal floodplain, as defined by the Scientific Committee. This suggests that these topographical features are formed by the fluvial processes referred to in the definition of floodplains, namely, "active erosion and aggradation by channelled and overbank stream flow with an average recurrence interval of 100 years or less". So too the soils which are in such topographical features will be formed by such fluvial processes.
- First, the evidence of Dr Hazelton, a soil scientist called by Gales, is that the soils on the site are podzols developed in situ over thousands of years by a soil forming process, podzolisation, involving the weathering and leaching of sands of aeolian and marine origin. Dr Hazelton states that the soils are not alluvial, are not part of a coastal floodplain and have not been formed from drainage line activity such as overbank flow.
- 66 Dr Hazelton stated (in evidence in reply):

"The sand plains on higher levels of Gales Holdings simply comprise weathered down wind blown sand dunes. These

dunes have been stable for an extensive period of time so that the sands have undergone podzolisation. Podzolisation is a very slow process and sand podzols have been developed on the site. In Australia, podzol development has occurred in dunes over the last ~ 6000 years – (ie, since shortly after sea level reached approximately its present height: for example, see Thompson and Bowman (1984)).

Consequently, the soils on the site show no evidence of alluvial layering characteristic of association with coastal floodplains. Rather, they show a soil profile developed from soil forming processes consistent with a long period of leaching by ground water infiltration and fluctuation and an absence of periodic alluvial sediment deposition from overbank stream flow (Hazelton 2007). The presence of well developed sand podzols negates the possibility of alluvial deposition on the site over the last several thousand years from fluvial processes such as overbank flow." (p 4).

- Dr Hazelton stated that the soil materials excavated from the soil pits over the site correspond with the Kingscliff and Pottsville soil landscapes described in D J Morand, Soil Landscapes of the Murwillumbah-Tweed Heads 1:100,000 map sheet published by the Department of Land and Water Conservation in 1996.
- The Kingscliff soil landscape is summarised in Morand 1996 as having:
  - Geology: "Aeolian and marine quartz sand sheets and dunes of the Pleistocene inner barrier system".
  - Topography: "Extremely low, level to gently undulating beach ridge plains and sand sheets...Elevation is generally 1-5m. Slopes range from 0-2% and relief if 1-2m. The majority of this soil landscape comprises sand sheets of reworked Pleistocene materials...Natural drainage is generally by sub-surface flow, but a network of drains has modified the drainage pattern".

- Vegetation: "Extensively cleared and disturbed open-heathland and forest...Wetter locations support open-woodlands of broad-leaved paperbark (Melaleuca quinquenervia).
- Soils: The soils are described as podzols. The dominant soil materials are dark loamy sand (topsoil A<sub>1</sub> horizon); bleached sand (deep topsoil A<sub>2</sub> horizon) and yellowish grey sand (deep topsoil and subsoil A<sub>3</sub>, AB horizon).
- Areas of Pottsville soil landscape are noted to occur as inclusions within the Kingscliff soil landscape. No included Pottsville soil landscape has been mapped as occurring on the site proposed to be developed, however, Dr Hazelton considered that soil materials excavated from certain soil pits on the site corresponded with the Pottsville soil landscape.
- The Pottsville soil landscape is described in Morand 1996 as being a wetter version of the Kingscliff soil landscape and as occurring in poorly drained depressions within sand sheets and dunes of the Tweed-Byron Coast. Its features are:
  - Geology: "Pleistocene marine and aeolian quartz sands of the inner barrier system".
  - Topography: "Poorly drained closed depressions (coastal swamps)
    within Pleistocene sand sheets. Elevation is < 3m. Drainage is by
    means of sub-surface water movement, and during wet periods
    ponded surface water is common. Watertables are generally within
    100 cm of the surface".</li>
  - Vegetation: "Uncleared wet heathland in the lowest areas and tall closed paperbark forest in more elevated areas. Broad-leaved paperbark (Melaleuca quinquenervia) is the dominant species of the paperbark forest... Swamp Mahogany (Eucalyptus robusta), Swamp banksia (Banksia robur), Iillypilly (Acmena smithii) and

coast tea-tree (*Leptospermum laevigatum*) are other common trees...Wet heathland consists of well separated and isolated stands of broad-leaved paperbark (*Melaleuca quinquenervia*) and Swamp Mahogany (*Eucalyptus robusta*) shrubs and very low trees".

- Soils: The soils are podzols or humus podzols on the sand sheet and humic gleys and peats in very low depressions. The dominant soil materials of the podzols are dark sandy loam (topsoil A<sub>1</sub> horizon), bleached sand (deep topsoil A<sub>2</sub> horizon), and black cemented pan or "coffee rock" (deep subsoil Bh, Bhs horizon).
- Dr Hazelton identifies the soils excavated at soil pits 1, 9 and 10 as being podzols developed in situ. They are of the same soil type as described in the Kingscliff soil landscape. Dr Hazelton identifies the soils excavated at soil pits 2, 3, 4, 6 and 7 as being humus podzols with some surface lenses of peaty loams. These soils have formed in situ in depressions and dune swales as described in the Pottsville soil landscape.
- The soils of the site, and of the Kingscliff and included Pottsville soil landscapes, do not correspond with the soils with which the Scientific Committee specifies Freshwater Wetlands are associated, namely "silts, muds or humic loams". Dr Hazelton notes that silt is substantially absent from the soils of the site. The soils of the site are not mud. The soils of the site are not loams. The soils of the Kingscliff and Pottsville soil landscapes are podzols, and have not been deposited by fluvial processes referred to in the Scientific Committee's description of the floodplains.
- Dr Stock, a geomorphologist called by the Council, did not dispute the general proposition that the soils on the site correspond with the Kingscliff and Pottsville soil landscapes or that the soils on the site are podzols. However, Dr Stock identified in the soil profiles for the soil test pits, certain "sub-samples" which might answer other descriptions such as being loam, clay loam or sandy loams. I do not consider this to be a proper way either of interpreting the results of the soil test pits or of the Scientific

Committee's description of the edaphic criteria for the endangered ecological communities in question in this case. The endangered ecological communities in question in this case cannot exist if there be only isolated and disparate lenses, at various depths, of soil that might meet the edaphic criteria in the Scientific Committee's description of the endangered ecological community. The soils over the land in question, said to support the endangered ecological community, must be looked at fairly and as a whole. Overwhelmingly on this site, the soils do not meet the edaphic criteria of the Scientific Committee in its final determination to Freshwater Wetlands as an endangered ecological community.

- The Council also submitted that certain components of the soils on the site could be described as silts or could form muds, as those terms are ordinarily understood having regard to dictionary definitions. The Council referred to the Macquarie Dictionary definitions of silt and mud. The Macquarie Dictionary defines "silt" as "earthy matter, fine sand, or the like, carried by moving or running water and deposited as a sediment" and "mud" as "wet, soft earth or earthy matter, as on the ground after rain, at the bottom of a pond, or among the discharges from a volcano; mire". The Council submits that certain components of the soils on the site could answer these dictionary definitions.
- I reject the submission of the Council. The fact that these soils are podzols is evidence that they have not been carried by moving or running water and deposited on the site. They therefore would not be silts according to the Macquarie Dictionary definition of silt. Unlike the dictionary definition of silt, the dictionary definition of mud does not require the carrying by moving or running water and deposition on the land. It is much wider. Such a definition does not accord with the way in which the term "muds" is used by the Scientific Committee in its description of the Freshwater Wetlands endangered ecological community. As noted above, the specified soils, of which one is muds, are specified to be in certain topographical features which are associated with coastal floodplains. The specified soils are formed by the fluvial processes described in the

definition of flood plains and which also form the topographical features in which the soils occur.

- The Council's submission also relies upon isolated lenses of soil material, which may form silts or muds, rather than considering the soils on the site as a whole. The soils on the site as a whole cannot properly be described as silts or muds.
- Secondly, the Scientific Committee in the description in its final determination to list Freshwater Wetlands as an endangered ecological community, expressly excludes Freshwater Wetlands in coastal sandplains: see paragraph 9 of the final determination for Freshwater Wetlands. As the soil landscape mapping shows, the site is part of the coastal sandplain. The underlying geology of the site, being part of the Kingscliff and Pottsville soil landscapes, is aeolian and marine quartz sand sheets and dunes of the Pleistocene inner barrier system.
- Thirdly, the Scientific Committee in the description in its final determination to list Freshwater Wetlands as an endangered ecological community refers to the work of "Keith and Scott 2005", namely D A Keith and J Scott, "Native Vegetation of Coastal Floodplains a diagnosis of the major plant communities in New South Wales", *Pacific Conservation Biology*, 2005, Vol 11:81-104. Figure 3 of Keith and Scott maps the historical records of occurrence of major coastal floodplain plant communities on the Tweed River Floodplain. The subject site is not within the mapped area. The mapped occurrences of major floodplain coastal plant communities correlate with alluvial and estuarine soil landscapes. The close correlation is shown graphically in Dr Smith's Statement of Evidence in Reply, p 12 where he juxtapositions Morand's soil landscape map with Keith and Scott's map of occurrence of major floodplain plant communities.
- Fourthly, the subject site is not one which is subject to the fluvial processes referred to in the Scientific Committee's definition of floodplains, namely active erosion and aggradation by channelled and overbank

stream flow with an average recurrence interval of 100 years or less. It is true that the land is low lying and is subject to flooding with an average recurrence interval of 100 years or less.

However, the evidence of Dr Webb, a hydrologist called by Gales, establishes that there is no channelled and overbank stream flow which could cause active erosion or aggradation. Dr Webb prepared a detailed flood model, derived from the Council's flood model. That model shows that, for flood events less than about the 20 year average recurrence interval, flood waters sourced from the Tweed River are incapable of entering the area to the west and south of the Pacific Highway, and therefore reaching the subject site. For such flood events, there may be localised ponding on the subject site, but with very low velocity.

For flood events of a greater than 20 year average recurrence interval, floods are likely to be similar in dynamics and sequence to, although involving smaller heights and velocity than, the 100 year flood event. There is localised ponding on the subject site with very low velocities (less than 0.1m per second). This ponding continues and expands and covers a substantial area with water flowing and rising very slowly west and north.

In the 100 year average recurrence interval flood event, the pond water reaches a depth of about 1 m on the subject site and is virtually still (velocity is less than 0.1m per second). Eventually when the Tweed River flood waters exceed the height of the land several kilometres to the west (around 35 hours in the 100 year event), the Tweed River waters prevent the escape of the water which has ponded over the subject site and the larger area to the west and south push the ponded water back towards the subject site also at very low velocity. When the flood eventually subsides the water escapes to the west and north. At all times on the subject site, localised ponding is dominant and the velocities are so low as to be incapable of generating any significant erosion processes.

During a 100 year flood event, there will not be deposition of any significant amounts of sediment. First, the water is predominantly derived from the local environment which is likely to be naturally sediment poor. Secondly, the velocities are so low that the water is incapable of entraining anything other than clay fines which will be present in very small quantities. Even then, because of the fineness of the particles, the majority are likely to stay in suspension for so long that they will be carried away with the waters when they drain away at the end of the flood. Dr Webb states that "to the extent that any particles settle, this effect is likely to be miniscule".

Accordingly, although the subject site is subject to inundation in flood events with an average recurrence interval of 100 years or less, there is no "active erosion" or "aggradation" by flow during these events.

Dr Webb's explanation of the hydrologic regime of the site is consistent with and confirmed by the observations of the soils made by Dr Hazelton and the description of the soils in the soil landscape mapping. The soils have not been formed by the fluvial processes of erosion and aggradation by channelled and overbank stream flow.

Finally, the particular soils on the subject site are not "associated with" coastal floodplains. As noted above, there is no association between the fluvial processes referred to in the Scientific Committee's definition of floodplains and the soils or topographical features on the subject site. The soils and topographical features for the subject site have not been formed by such fluvial processes. The vegetation on the site is a product of the soils and topographical features of the site. The vegetation also is not a product of such fluvial processes. There is no evidence of any influence of the vegetation of the subject site from vegetation communities on alluvial soil landscapes to the west of Tweed Coast Road.

#### Floristic and structural criteria

Dr Clements, a botanist and ecologist, engaged by Gales, undertook a comparison of vegetation data collected on the subject site with the characteristic species listed in the final determinations of the Scientific Committee to list Freshwater Wetlands, Swamp Sclerophyll Forest and Swamp Oak Floodplain Forest as endangered ecological communities.

For Freshwater Wetlands, Dr Clements recorded from all of the 32 plots 88 over the whole site, 18% (12 species) of the 66 characteristic species listed in paragraph 1 of the Scientific Committee's final determination for Freshwater Wetlands. However, for the four plots in the vegetation community 12, the community which the Council contends is a Freshwater Wetlands endangered ecological community, namely plots 24, 28, 31 and 34, only five characteristic species were recorded, namely, Persicaria strigosa (a type of low growing herb), Baumea rubiginosa (a type of reed), Hemarthria uncinata and Leersia hexandra (both types of grasses), and Phragmites australis (another type of reed). This represents 7.5% of the characteristic species for Freshwater Wetlands. (In fact in any of the four plots there were no more than 4 of the characteristic species.) Clements concluded "from the number of characteristic species recorded and the described plant communities, the data from Plot 22 and probably data from plots with a "sedgelands and reedlands and herbfields, and woody species are generally scarce" structure (Plots 24, 28, 31 and 34) should be compared with the other listed criteria in the Final Determination for this community".

I understand this conclusion of Dr Clements to be that a comparison between the species recorded in the plots in vegetation community 12 and the characteristic species for Freshwater Wetlands is not, by itself, sufficient to preclude the vegetation community being Freshwater Wetlands.

90 Mr Elks, a botanist called by Gales, similarly was not prepared on the basis only of the small number of characteristic species recorded in vegetation community 12 "to rule it [vegetation community 12] out totally" as being Freshwater Wetlands. He considered, however, other factors indicated that vegetation community 12 is not Freshwater Wetlands, including the absence of floating water plants.

Dr Kingston, the biodiversity program leader with the Council, considered that the low number of characteristic species recorded in vegetation community 12 might indicate it is a "possible transitional community". Dr Kingston also was of the view that Freshwater Wetlands are often dominated by one or two species, such as *Phragmites*, and therefore he "wouldn't rule it out on that basis alone".

Dr Smith, an ecologist called by Gales, however, considered that vegetation community 12 is "clearly depauperate in a biodiversity floristics sense". Dr Smith considered that the changes to the hydrologic regime of the site had favoured "plant species that favour wetter ground to disperse rapidly in that area". Dr Smith concluded that vegetation community 12 is "nothing like a Freshwater Wetland EEC, it doesn't have the structure, the floristics, the function, the diversity. It falls short in almost all regards".

On this evidence, I am not able to find that the low number of characteristic species recorded in vegetation community 12 is, by itself, sufficient reason to exclude the vegetation community from being the Freshwater Wetlands endangered ecological community.

94 However, there are other aspects of the Scientific Committee's criteria relating to floristic species and structure of the community which do indicate that vegetation community 12 is not the Freshwater Wetlands endangered ecological community.

The Scientific Committee's final determination for Freshwater Wetlands refers to the absence of woody species of plants; the presence of

amphibious, emergent, floating or submerged aquatic forbs, grasses or sedges; and the consequential structure of the community not involving woody species of plants and instead being sedgelands, reedlands or herbfields.

Paragraph 1 of the final determination states that "[t]he structure of the community may vary from sedgelands to reedlands to herbfields, and woody species of plants are generally scarce". Paragraph 4 states that Freshwater Wetlands are "dominated by herbaceous plants and have very few woody species". Paragraph 6 states: "The combination of features that distinguish Freshwater Wetlands on Coastal Floodplains from other endangered ecological communities on the coastal floodplains include its scarcity or complete absence of woody plant species and the presence of amphibious, emergent, floating or submerged aquatic forbs, grasses or sedges".

The five characteristic species recorded in the plots in vegetation community 12 are not woody species of plants and the current structure of vegetation community 12 is of a grassland/sedgeland. However, the present species composition and the structure of the vegetation community are products of the site's past disturbance regime. The aerial photographs taken over time reveal considerable clearance of the site over many decades. Furthermore, the evidence is that the subject site, including where vegetation community 12 occurs, is regularly slashed and grazed. Hence, the present species composition and the vegetation structure are artificial constructs and are not true indicators of the natural vegetation community.

The soil landscapes that occur on the site, namely Kingscliff and Pottsville, are characterised by having vegetation that is inconsistent with the floristic species and structure described by the Scientific Committee in its final determination to list Freshwater Wetlands. The Kingscliff soil landscape is characterised by having vegetation of "open-heathland forest" with wetter locations supporting "open-woodlands of broad-leaved paperbark". The

Pottsville soil landscape is also characterised by having "wet heathland in the lowest areas and tall closed paperbark forest in more elevated areas". The vegetation of both soil landscapes, therefore, is dominated by woody species of plants and the vegetation community has a corresponding structure of heathland, woodland or forest. The vegetation and the vegetation structure of the applicable soil landscapes are not consistent with those described by the Scientific Committee for Freshwater Wetlands.

Dr Smith's evidence is that the current structure of vegetation community 12 as grassland/sedgeland only exists because of the intervention of humans. Dr Smith states:

> "...community 12 was originally (pre-European) a dry forest and heath grading into a wet heath at lower elevations to the south west. This community has since been cleared and inundated by stormwater runoff and impeded drainage giving rise to a derived grassland/sedgeland. In the absence of ongoing grazing and slashing, this community would most likely revert to a mixture of communities 7 & 8 of Elks and Smith 2007 (Paperbark/sedgeland and Paperbark Exotic Grassland) under current management. I say this based on my examination of series of aerial photographs of the site (see Smith 2007b) which show that Paperbark trees have steadily regenerated and expanded on level sand plains subject to periodic inundation in similar situations elsewhere Gales Holdings. The cleared grassland/sedgeland north of Turnock St. currently support scattered large Paperbark trees. In my opinion, these trees would expand to cover the whole of the area north and south of Turnock St. if allowed to regenerate in the absence of ongoing slashing and grazing" (p 7 of Dr Smith's Statement of Evidence in Reply).

100 Furthermore, the evidence establishes that the vegetation in vegetation community 12 does not contain any "amphibious, emergent, floating or submerged forbs, grasses or sedges" which is stated by the Scientific Committee to be a distinguishing feature of wetlands (paragraph 6 of the final determination).

- On this evidence, I find that the vegetation in vegetation community 12 does not meet the floristic and structural criteria in the Scientific Committee's final determination concerning the scarcity or complete absence of woody plant species; or the presence of amphibious, emergent, floating or submerged aquatic forbs, grasses or sedges; or the corresponding structure of the vegetation community as being a sedgeland or reedland or herbfield.
- Gales also sought to exclude vegetation community 12 as being Freshwater Wetlands by reason of the specific exclusion, in paragraph 4 of the Scientific Committee's final determination, of artificial wetlands created on previously dry land. I do not find that this exception is applicable to the subject site. Although undoubtedly the construction of Turnock Street and various other drainage measures have altered the hydrologic regime so as to make the land wetter in parts than it would otherwise have been, I am not satisfied that the subject site can be described as artificial wetlands created on previously dry land. The Council tendered extracts from early deposited plans and parish maps on the subject site which show swampy ground to occur on the subject site from early times. Furthermore, the soil landscapes of the subject site, both Kingscliff and any included Pottsville soil landscapes, are consistent with the site being periodically inundated and containing wetter areas.

#### Conclusion on Freshwater Wetlands

103 For the reasons I have given above, I do not find that vegetation community 12 can be classified as the Freshwater Wetlands endangered ecological community.

## Swamp Sclerophyll Forest

104 I am not satisfied that vegetation contained in community 6 is the ecological community described in the Scientific Committee's final

determination to list Swamp Sclerophyll Forest as an endangered ecological community. My reasons relate to the failure of vegetation community 6 to satisfy certain edaphic, topographical and locational criteria as well as certain floristic and structural criteria in the Scientific Committee's final determination for Swamp Sclerophyll Forest.

#### Edaphic, topographical and locational criteria

- The Scientific Committee describes Swamp Sclerophyll Forest to be the ecological community "associated with humic clay loams and sandy loams, on waterlogged or periodically inundated alluvial flats and drainage lines associated with coastal floodplains". Again, the Scientific Committee defines floodplains as "level landform patterns on which there may be active erosion and aggradation by channelled and overbank stream flow with an average recurrence interval of 100 years or less" (paragraph 1).
- As with the Scientific Committee's description of Freshwater Wetlands, the description of Swamp Sclerophyll Forest has three components: an edaphic component ("humic clay loams and sandy loams"), a topographical component ("waterlogged or periodically inundated alluvial flats and drainage lines") and a locational component ("associated with coastal floodplains").
- The soils on the subject site do not satisfy the edaphic criteria. My discussion and reasons concerning the soils of the site given above in relation to Freshwater Wetlands are equally applicable to Swamp Sclerophyll Forest. Dr Hazelton's analysis of the soils of the site, and the soils described in the applicable soil landscapes of Kingscliff and Pottsville, establish that the soils are not humic clay loams or sandy loams, nor are they associated with such soils. It is not appropriate, for reasons I have stated earlier, to find disparate lenses of soil, at various depths, in soil pits that might answer the description of a loam or clay loam or sandy loam. Viewed as a whole, the soils on the subject site are not humic clay loams or sandy loams.

- The subject site also does not satisfy the topographical criteria of being on alluvial flats and drainage lines. The subject site might by low lying and periodically inundated and might also be able to be described as a flat, but it is not an "alluvial" flat. The soils are not of alluvial origin. The flat land on the site has not formed by alluvial deposition by fluvial processes referred to in the Scientific Committee's definition of floodplains. Rather, the soils comprise sand sheets of reworked Pleistocene material. Again, my discussion and reasons on this issue given above in relation to Freshwater Wetlands are applicable to Swamp Sclerophyll Forest.
- There is also no drainage line on the subject site. Although Dr Stock in his written evidence in chief, filed before the hearing, suggested that an aerial photograph in August 1962 may have revealed a drainage line on the subject site north of Turnock Street, later investigation and consideration disproved this suggestion. Mr Elks, Dr Smith, Dr Hazelton and Mr Webb were all of the opinion that no drainage line is on the site.
- 110 Mr Elks, who is trained in aerial photographic analysis, undertook closer and better examination of the aerial photograph in question, another aerial photograph taken 2 ½ hours later on the same day in August 1962 and other aerial photographs at other dates, but found no such drainage line.
- Dr Hazelton carried out a transect of soil test pits across the location of the putative drainage line and found no evidence in the soil of its existence. If a drainage channel existed and had deposited soil across the site, distinct layering in the soil/sand profile would have been observed and podzols would not have been present and well developed. However, such layers are entirely absent from the site and podzols are well developed, indicating the absence of fluvial processes for several thousand years.
- 112 Dr Webb undertook a survey of the site. The survey demonstrated that there is no low point at, or evidence of slopes surrounding, the location of

the putative drainage line, either of which would have suggested the existence of the drainage line.

- Dr Stock himself conceded in oral evidence he had been mistaken in seeing a drainage line. He now accepted that today there is no evidence of a drainage line on the subject site. At best, any stream might have commenced in the Pleistocene landscape (the Pleistocene ended about 10,000 years ago). However, Dr Stock thought any such Pleistocene stream may have been buried by sand in the Holocene era, some 7,000 years ago. He accepted that podzolisation takes in the order of 5,000 years to get the separation of layers that is characteristic of podzolisation.
- Even if there were to have been such a Pleistocene stream, it would not be relevant. The Scientific Committee's description of Swamp Sclerophyll Forest is of an ecological community that exists today "on...drainage lines" that must still be in existence today, with the concomitant alluvial soils, and influencing that ecological community.
- 115 Vegetation community 6 is not "associated with coastal floodplains" for the same reasons I have given above in relation to Freshwater Wetlands.

#### Floristic and structural criteria

116 Dr Clements' comparison of vegetation data from all plots on the subject site with the characteristic species of Swamp Sclerophyll Forest listed in paragraph 1 of the Scientific Committee's final determination showed that there was a total of 58% (34 species) of the 59 characteristic species. However, of the two plots in vegetation community 6, namely plots 3 and 4, only seven characteristic species were recorded, namely *Blechnum* sp and *Hypolepis muelleri* (both ferns), *Parsonsia straminea* (a type of vine), *Elaeocarpus reticulatus* (a small tree), *Omalanthus populifolius* (a small shrub or tree), *Gahnia* sp (a sedge) and *Phragmites australis* (a type of reed). This represents 12% of the characteristic species for Swamp Sclerophyll Forest. Plots 3 and 4 had seven and three characteristic

species respectively. Dr Clements did not identify plots 3 and 4 as being plots which have a sufficient number of characteristic species to warrant comparison with the other listed criteria in the final determination of Swamp Sclerophyll Forest (although other plots were so identified).

- Both Mr Elks and Dr Smith did not consider that there were sufficient species in vegetation community 6 to correspond with Swamp Sclerophyll Forest. Dr Kingston, however, did not consider that the low number of characteristic species was sufficient to exclude vegetation community 6 from being Swamp Sclerophyll Forest. He considered "the key thing for me was the Blechnums and the Gahnia at very high density and very high cover abundances and the ferns".
- 118 Again, I do not consider the limited number of characteristic species, by itself, to be sufficient to exclude vegetation community 6 from being Swamp Sclerophyll Forest. However, apart from the limited number of characteristic species, there are other floristic and structural criteria which vegetation community 6 does not satisfy.
- First, there is an absence of the key canopy trees in vegetation community 6. Paragraph 4 of the Scientific Committee's final determination for Swamp Sclerophyll Forest states that it "has an open to dense tree layer of eucalypts and paperbarks...The most widespread and abundant dominant trees include *Eucalyptus robusta* (swamp mahogany), *Melaleuca quinquenervia* (paperbark)...Other trees may be scattered throughout at low abundance or may be locally common at few sites, including *Callistemon salignus* (sweet willow bottlebrush), *Casuarina glauca* (swamp oak) and *Eucalyptus resinifera* subsp *hemilampra* (red mahogany), *Livistona australis* (cabbage palm) and *Lophostemon suaveolens* (swamp turpentine).
- Paragraph 6 states: "The combination of features that distinguish Swamp Sclerophyll Forest on Coastal Floodplains from other endangered ecological communities on the coastal floodplains include: its relatively

dense tree canopy dominated by *Eucalyptus robusta*, *Melaleuca quinquenervia* or *E. botryoides*, the relatively infrequent occurrence of other eucalypts, *Casuarina glauca* or *Lophostemon suaveolens*; the occasional presence of rainforest elements as scattered trees or understorey plants; and the prominence of large sedges and ferns in the groundcover."

- None of the tree species recorded in the plots in vegetation community 6 corresponds with the eucalypts, paperbarks or other trees noted as being characteristic trees of Swamp Sclerophyll Forest. Mr Elks considered this to be of importance and "the major problem with having community 6 listed as Swamp Sclerophyll Forest". Dr Smith agreed. Dr Smith also pointed out that the trees that were in fact growing in community 6 are Doughwood (Melicope elleryana), Umbrella Cheese tree (Glochidion sumatranum), Umbrella tree (Schefflera actinophylla) and the weed lantana. The Blackwood Wattles (Acacia melanoxylon) that previously had grown on this part of the site, have died by reason of the increased inundation of the site caused by the construction of Turnock Street and other drainage works. The trees that do occur on the site are responsive to changes in hydrological conditions and result in what Dr Smith describes as a "man made community".
- Dr Kingston's response was to refer to the Scientific Committee's caveat in paragraph 2 of the final determination for Swamp Sclerophyll Forest that many species in the list of characteristic species in paragraph 1 may be present in only one or two sites or in low abundance. Hence, Dr Kingston considered it was not critical that the key tree species were absent from vegetation community 6. Dr Kingston also said that "Swamp Sclerophyll Forest can include patches and areas where the Paperbarks and so on don't exist at all".
- 123 In my opinion, the evidence of Mr Elks and Dr Smith is to be preferred to that of Dr Kingston. In the circumstances of this particular vegetation community 6, the absence of any of the key trees identified by the

Scientific Committee as distinguishing Swamp Sclerophyll Forest from other communities on coastal floodplains and, conversely, the presence of a number of different tree species not associated with Swamp Sclerophyll Forest, are strong indicators that vegetation community 6 is not the Swamp Sclerophyll Forest endangered ecological community.

#### Conclusion on Swamp Sclerophyll Forest

For these reasons, I am not satisfied that vegetation community 6 can be properly characterised as comprising Swamp Sclerophyll Forest endangered ecological community.

## Swamp Oak Floodplain Forest

- 125 I am not satisfied that vegetation community 4 is the ecological community described by the Scientific Committee in its final determination listing Swamp Oak Floodplain Forest as an endangered ecological community. Vegetation community 4 does not satisfy the edaphic, hydrologic or locational criteria specified by the Scientific Committee in its Final Determination for Swamp Oak Floodplain Forest.
- The Scientific Committee in its final determination states that Swamp Oak Floodplain Forest is the ecological community "associated with grey-black clay-loams and sandy loams, where the groundwater is saline or subsaline, on waterlogged or periodically inundated flats, drainage lines, lake margins and estuarine fringes associated with coastal floodplains". Floodplains are again defined by the Scientific Committee to be "level landform patterns on which there may be active erosion and aggradation by channelled and overbank stream flow with an average recurrence interval of 100 years or less" (paragraph 1).
- 127 This description of the endangered ecological community has four components: an edaphic component ("gray-black clay-loams and sandy

loams"), a hydrologic component ("the groundwater is saline or subsaline"), a topographical component ("waterlogged or periodically inundated flats, drainage lines, lake margins and estuarine fringes") and a locational component ("associated with coastal floodplains").

- The soils on the subject site do not satisfy the edaphic criteria. They cannot be characterised as grey-black clay-loams and sandy loams. My reasons are the same as given above in relation to the soils of Freshwater Wetlands.
- The evidence also does not establish that the groundwater of the subject site is "saline or sub-saline". Dr Smith, in his statement of evidence in reply, summarises the evidence on salinity as follows:

"Soil and soil water salinity on the site has been measured by Morand 1996 (Appendix 7.2.7) and is described as very low above 100 cm depth and low at 100-150 cm depth. These results are consistent with more recent measurements of groundwater conductivity on the site (129-448 mS/cm, see Attachment 2) which are within the range for freshwater rivers (0-800 mS/cm, SA.waterwatch.org.au/sw\_salinity.htm)" (p 8).

- 130 The hydrologic criteria is, therefore, not satisfied.
- 131 The subject site could be said to be on waterlogged or periodically inundated flats and, in this respect, might be thought to satisfy the topographical criteria. However, neither the soils of the site nor the topographic feature of being a water logged or periodically inundated flat are "associated with coastal floodplains" for the reasons given above in relation to Freshwater Wetlands.
- For these reasons, I am not satisfied that vegetation community 4 is part of the Swamp Oak Floodplain Forest endangered ecological community.

## Conclusion on endangered ecological communities

The result is that none of the vegetation communities that will be affected by filling of the site and that are claimed by the Council to be endangered ecological communities, can properly be so characterised.

## Whether a species impact statement required?

The above conclusion that none of the vegetation communities on the site that will be affected by the proposed development are endangered ecological communities means that there is no warrant to evaluate whether the proposed development is likely to significantly affect any endangered ecological community and, hence, whether a species impact statement is required.

#### Offsets

- 135 Gales proposes to conserve four areas of the subject site:
  - (a) An area of littoral rainforest (said by the Council to be the endangered ecological community of Littoral Rainforest in the NSW North Coast Sydney Basin and South East Corner Bioregions) located in the northeast of the site behind the houses along Pearl Street (on Lots 1, 2 and 3 in DP 781714). This area is to be the subject of a restriction on user burdening the land preventing the removal of littoral rainforest vegetation from that land. The need to impose a restriction on user will be required by a condition of consent.
  - (b) An area in the southeast of the subject site, south of Turnock Street (being part of lot 13 in DP 871753), comprising habitat for the endangered species of the Mitchell's Rainforest Snail. This area is

to be the subject of a restriction on user and public positive covenant burdening the land. A restriction on user will, in effect, prevent any activity on the land that would adversely affect the vegetation, and hence the habitat of the Mitchell's Rainforest Snail, on the land. The need to impose the restriction on user and public positive covenant will be required by a condition of consent.

- (c) A Wallum Froglet habitat area and refuge area for the endangered species of the Wallum Froglet, to be located to the north of Turnock Street. These areas are to be the subject of extensive conditions of consent, including requiring the preparation of a Wallum Froglet Management Plan.
- (d) An area to the south of Turnock Street (comprising parts of Lots 11 and 12 of DP 871753), being an area connected by the new box culvert under Turnock Street to the Wallum Froglet habitat area and refuge area to the north of Turnock Street. This area is to be the subject of a restrictive covenant for conservation purposes in respect of the Wallum Froglet. The restrictive covenant will, in effect, prevent any activity that would adversely affect the vegetation, and hence the habitat of the Wallum Froglet, on that land. The need to impose the restrictive convent will be required by a condition of consent.
- 136 I am satisfied that these four areas to be conserved are adequate offsets to compensate for the areas of vegetation which will be lost by reason of the filling of the subject site. The conditions of consent should be amended in the manner discussed below to better ensure the conservation of these areas.
- A substantial basis for the Council's argument that inadequate offsets have been offered by Gales was that the vegetation to be lost by filling of the land comprised endangered ecological communities. As I have found

that the vegetation is not part of an endangered ecological community, this basis for objection is removed.

- The vegetation to be lost is predominantly native vegetation and does have habitat value. However, loss of the vegetation is a necessary consequence of carrying out the Council's planning strategy for the subject site of urban development. The land is low lying and needs to be raised by filling in order to facilitate urban development. Such filling and subsequent urban development of the land necessarily must result in the loss of vegetation on the site. This loss is, therefore, a known and intended consequence of the Council's planning strategy for the site.
- It is true that the objectives of the 2(c) Urban Expansion zone contemplate urban expansion consistent with environmental constraints and ensuring that sensitive environmental areas are protected from the adverse impacts of development. However, these objectives can be achieved by the conservation measures proposed by Gales. The area of littoral rainforest (a potential endangered ecological community), an area of habitat for the endangered species of the Mitchell's Rainforest Snail and the areas of habitat both north and south or Turnock Street for the endangered species of the Wallum Froglet, each will be protected from development. The areas of vegetation to be filled, I have found, are not endangered ecological communities.
- 140 Accordingly, I consider that the proposed development is consistent with environmental constraints and ensuring sensitive environmental areas are protected from the impacts of development. I consider that the proposed offsets are adequate in the circumstances.

#### Conditions

The parties have provided a set of draft conditions that were filed on 21 April 2008 (and which has been marked as Exhibit 33). Although most

conditions were agreed, some conditions remain in dispute between the parties. The parties have provided oral submissions as well as written documents addressing the areas of contention. I will deal with each disputed condition. As will be seen, it will be necessary for the parties to revise the conditions of consent to address the reasons for judgment. I propose directions at the end of the judgment for this process to occur.

- The Council proposes a number of conditions as deferred commencement conditions in Schedule A. The applicant objects to these on a variety of grounds.
- First, the Council proposes a period of two years within which the applicant should produce evidence as to the matters the subject of the deferred commencement condition. The applicant instead proposes a period of four years. The applicant may have misinterpreted this period of time to be the time for lapsing of the consent if commencement is not achieved. I say this because of the applicant's reference in its submissions to s 96(5) of the *Environmental Planning and Assessment Act 1979* which is only concerned with the lapsing of a development consent. The time period for lapsing does not commence until the deferred commencement conditions have been satisfied. Accordingly, the period in s 96(5) is not relevant. The question is what period of time is reasonable in order to provide the evidence to the Council that the deferred commencement conditions have been satisfied.
- The major work required by the deferred commencement conditions concerns the Wallum Froglet monitoring. The Wallum Froglet monitoring entails the preparation and agreement with the Council of the Wallum Froglet monitoring plan prior to commencement of monitoring; the carrying out, over a 12 month period, of monitoring in accordance with the approved monitoring plan; and the preparation and submission to the Council of a final report on the monitoring. A period of 2 years (6 months for preparation of the monitoring plan, 12 months for monitoring and 6

months for preparation and submission of the final report) ought to be adequate to carry out these activities.

- There are also other matters to be attended to as part of the deferred commencement conditions, notably reassessing, monitoring and designing the drainage system and water treatment train (Condition G). This requires monitoring for a period of no less than 6 months. Such work can be done simultaneously with the activities in relation to the Wallum Froglet monitoring.
- 146 I therefore consider two years to be an adequate time for the applicant to satisfy the deferred commencement conditions.
- The Council proposes in Condition B that the Wallum Froglet precinct be reflected in a s 88B instrument. Such a requirement is supplementary to the operational conditions of consent which require the establishment and maintenance of the Wallum Froglet precinct. The applicant objects to the condition on the basis that property rights should not be created, varied or destroyed until the consent is activated. I agree with the applicant that such a condition should not be a deferred commencement condition. However, I consider it would be appropriate as an operational condition. I note that the applicant proposes a restrictive covenant under s 88E of the *Conveyancing Act* on another part of the Wallum Froglet habitat, namely, lots 11 and 12 of DP 871753 (see operational Conditions 1C and the second restrictive covenant). I consider that, for consistency, a s 88B instrument should apply to the Wallum Froglet precinct.
- The applicant expresses concern about the land being subject to a s 88B instrument if the Wallum Froglet were to cease to exist in the area. However, the same issue arises with respect to lots 11 and 12, which are also part of the Wallum Froglet habitat, and which will be subject to a restrictive covenant under s 88E. If the purposes of the restrictions in each case can no longer be achieved, there are mechanisms under the *Conveyancing Act* for the restrictions to be discharged. I therefore

consider that a condition along the lines of Condition E should be retained but as an operational condition.

- The Council proposes in Condition C that the applicant provide compensation for the loss of 14 hectares of endangered ecological community. The applicant objects to this condition. As I have found earlier that the proposed development will not affect any endangered ecological community and further that the conservation areas proposed by the applicant are adequate, this condition should be deleted.
- The Council proposes in Condition D that the applicant lodge a management plan for the areas proposed to be conserved on the site. The applicant objects on the basis that the restrictions on user proposed for the areas, which will be required by the operational conditions of consent, will be adequate. I agree with the Council that there ought to be a positive obligation to manage the areas that the applicant proposes to conserve and that there not merely be a negative restriction on user. In fact, however, such a positive obligation is imposed in relation to the Wallum Froglet precinct by the operational conditions of consent. There is also a positive obligation in the applicant's proposed Condition 1D to prepare and implement a management plan in respect of the habitat of the Mitchell's Rainforest Snail on Lot 13 of DP 871753.
- The two areas in respect of which there is not a positive obligation to manage the areas to be conserved are the littoral rainforest on Lots 1, 2 and 3 of DP 781714 and the Wallum Froglet habitat on Lots 11 and 12 in DP 871753. I consider that a similar obligation to that required by Condition 1D for Lot 13 in DP 871753 should be imposed in respect of Lots 1, 2 and 3 in DP 781714 for the littoral rainforest and Lots 11 and 12 in DP 871753 for the Wallum Froglet habitat. This can be by way of an operational condition equivalent to Condition 1D.
- The Council proposes in Condition E that the applicant surrender any existing use rights in relation to the land. The applicant objects to this on

the basis that no rights should be surrendered before commencement of works inconsistent with the assertion of those rights. I agree with the applicant and this condition should be deleted.

- The Council proposes in Condition F that the applicant lodge a revised haulage route to minimise tree loss as well as lodging details for the rehabilitation of the temporary haul route. The applicant does not object to this condition in principle, however, says that it ought to be amended to acknowledge that the amended route must still allow for heavy haulage vehicles to turn on a conventional swept path. The applicant's submission is reasonable and can be accommodated by redrafting the condition by adding at the end of the second sentence the words "and such that the alignment is subject to trucks being able to turn on reasonable curves".
- The Council proposes in Condition H that the applicant lodge a revised management plan showing how any adverse impacts on the development as a whole are to be mitigated. The applicant objects on the basis that there are already management plans for the project and these do not need to be duplicated. I agree with the applicant. The operational conditions require a variety of management plans and these are adequate. Condition H should be deleted.
- Turning to the operational conditions in Schedule B, Gales proposes Conditions 1A-1D dealing with the restrictions on user burdening Lots 1, 2 and 3 in DP 781784 (concerning the littoral rainforest), Lot 13 in DP 871753 (concerning the Mitchell's Rainforest Snail) and Lots 11 and 12 in DP 871753 (concerning the Wallum Froglet). I note that there seems to be a typographical error in Condition 1C in that reference to Lot 12 has been omitted, although that lot is referred to in the annexed second restrictive covenant. This should be corrected. I consider that the applicant's conditions 1A to 1D are reasonable and ought to be imposed. They should be supplemented in the way that I have earlier referred to when dealing with the deferred commencement conditions.

- 156 Condition 2(a) needs to be amended to reflect the agreement between the parties at the hearing, by deleting the words "with s 96(1)(4) of".
- The Council proposes in Conditions 32(c), (d) and (i), 33(c), 34(b) and 157 35(h) that various drainage easements benefiting the Council be created over various drainage works prior to the commencement of work. Gales objects to providing these drainage easements, except for that referred to in Condition 35(h), on the ground that they are not necessary, there is no nexus with the proposed development, and the Council is effectively trying to obtain what can only be obtained through a proper s 94 contributions plan. I agree with the applicant and consider that the drainage easements referred to in conditions 32(c), (d) and (i), 33(c) and 34(b) should not be imposed at this stage of the development and these parts of the conditions should be deleted. The drainage easement in condition 35(h) can remain. The value of that easement can be taken into account in determining the monetary contributions under Condition 10. The issue of creation of drainage easements can be revisited at the subdivision stage when the need for drainage easements might better arise.
- 158 Finally, I note that through the course of the hearing various modifications of the development were proposed and agreed upon. For example, the design for the Wallum Froglet Habitat was revised in the plans in Exhibit M and the location and design of the proposed conveyor was revised as shown in the Addendum to Amended Statement of Environmental Effects in Exhibit T. These revised designs are not incorporated in the plans referred to in condition 1 in Schedule B of the conditions of consent. An audit should be undertaken of the conditions of consent to ensure that such modifications are incorporated directly (by reference to the revised plans or documents) or indirectly (such as by a requirement in a condition that a revised plan or document be prepared).

## Conclusion

For the foregoing reasons, I am of the opinion that development consent ought to be granted to the proposed development subject to the conditions of consent that have been filed being amended to deal with the reasons for judgment. I propose making the directions below to allow for the revision of the conditions of consent.

#### 160 The following directions are made:

- The Council is to file and serve amended conditions by close of business on 21 July 2008.
- 2. Gales is to file and serve a response to the amended conditions by close of business on 28 July 2008.
- 3. Leave is granted for either party to restore the matter on 24 hours notice if there is disagreement on compliance with these directions or any party wishes to have an oral hearing to make submissions on the amended conditions.
- 5. If leave is not sought to restore the matter, final orders will be made in Chambers after 28 July 2008.

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I CERTIFY THAT THIS AND THE 47 PRECEDING PAGES ARE A TRUE COPY OF THE REASONS FOR THE JUDGMENT OF THE HONOURABLE JUSTICE B.J. PRESTON

Associate

Date 14 July 2008

# gure 5. Vegetation Map of Gales Holdings West Kingscliff

# VEGETATION OF GALES HOLDINGS, WEST KINGSCLIFF

1 Depairperate Bainforest
2 Coast Banksia-Brush Box
3 Swamp Box-Coast Banksia
4 Swamp Oak-Coast Banksia-Swamp Box
5 Paperbark-Doughwood
6 Doughwood-Cheese Tree
7 Paperbark-Sedgeland
8 Pagerbark-Exotic Grassland

9 Paperback-Swamp Oak 10 Pasture/Wasteland 11 Swamp Grassland 12 Swamp Grass/Sedgeland 13 Dry Grassland 14 Litteral Rainforest

