

Please Quote
Council Ref: GT1/52
Your Ref No: MP06_0316
For Enquiries
Please Contact: Rowena Michel
Telephone Direct (02) 6670 2468

[dltr]

4 February 2009

Department of Planning
Major Project Assessments
GPO Box 39
SYDNEY NSW 2001

Att: Sally Munk

Dear Madam

**Environmental Assessment Exhibition - Major Project - Cobaki Lakes
Residential Community Development - Council Submission**

Reference is made to the abovementioned Major Project (MP06_0316 - residential community development at Cobaki Lakes) and the associated Environmental Assessment (EA) exhibited from 17 December 2008 to 16 February 2009. Please find below Council's submission in response to the exhibited EA and Concept Plan.

Note that comments below include the requirement for further information as well as amendments to the Statement of Commitments.

PLANNING

The following comments summarise issues raised by Council's Social, Strategic and Development Assessment Planners.

General

- The EA identifies that the proposed vision for Cobaki Lakes is to develop a self-contained community. It is noted that the Concept Plan does not include employment areas other than retail and commercial areas proposed in the town centre. It is not considered that the Concept Plan will achieve the vision unless employment land is provided within Cobaki Lakes. Given the nearby opportunities available (with the site's close proximity to the John Flynn Hospital, Coolangatta Airport, Tugun Desalination Plant), provision of employment land within the site is considered critical.
- Walkable catchments are identified in the Concept Plan. However insufficient detail is provided to determine how these walkable catchments are achieved given the limited detail available on:
 - Slope,
 - Access street network, and
 - Bus routes and provision of bus stops.
- Further justification is required on proposed location of various land uses. For example, why are the school and the community facilities proposed separate from the town centre?

- It is proposed that design guidelines and codes are incorporated into the Concept Plan at a later stage. This is considered to be a critical component of the Concept Plan underpinning the design approach. It is essential that design codes (or development codes) are provided concurrently with the Concept Plan for proper assessment, particularly if comment is to be provided on the proposed small lot housing (minimum of 120m²).
- Greater detail should be provided on how the proposal provides for affordable housing.
- Each land use domain depicted on the Concept Plan should include greater detail. For example, the residential domain should include a broad breakdown of low, medium and high density areas. The town centre domain should identify which areas will be used predominately for shopping, mixed use or office areas. Any mixed use areas identified should include details on what land uses mixes are proposed. Location of higher density areas is needed on the Concept Plan to ensure it is clustered around town centres to support transport connections, accessibility, community facilities and infrastructure.
- Greater urban design detail should be provided on the Concept Plan, for example, feature building locations should be identified to provide for legibility and land marks. Planned vistas should be depicted, in conjunction with access roads and proposed building form (height / density).
- The EA (p20, volume 1) states that “the applicant will be seeking to increase the current 3 storey height limit in appropriate and suitable locations ...as part of TLEP review”. In order to assess the overall Concept Plan, land use mix height and density is required to ensure development is efficient and coordinated with proposed access, community facilities and infrastructure.
- The EA states in the introduction that 5,300 dwellings are proposed, but on page XV it states that 5,500 dwellings are proposed over 15 years. Please clarify the total number of dwellings proposed.
- The Concept Plan should include a Public Transport Plan, which provides commitments in terms of a high level of accessible public transport routes within the estate to major employment, community services and retail facilities within the region. Evidence should be provided demonstrating sufficient consultation has occurred with Queensland Rail in relation to the proposed future train station at the Coolangatta airport within close proximity to the northern part of the site. Particularly in relation to opportunities for public transport connections and TOD locations.
- Greater detail is required on the proposed multi-use community hall in the southern part of the site. Particularly in terms of the requirements of the section 94 plan.

Reduced Allotment Sizes

The EA indicates that it is proposed to reduced dwelling lots to 125m². Generally, this principle would allow for urban consolidation and is supported, however the following comments are made (refer to section 3.6.2 of Volume 1 of the EA):

- The acceptability of small lot housing and small lot dimensions is dependent on their location in relation to access roads, community facilities, services and public transport. In this regard, areas of proposed high density and low density should be indicated in the Concept Plan for assessment.

- Reference is made to a potential employment node at the eastern entrance of the estate. This is not reflected in the Concept Plan as this area is indicated as residential. As above, an employment / business area should be nominated on the Concept Plan.
- The acceptability of small lot housing and small lot dimensions is dependent on design quality. As above, design codes including controls relating to minimum frontages, setbacks, proposed site cover, landscaping and areas of zero lots are necessary for assessment.
- The EA (vol 1, 24) identifies that SEPP 65 (Residential Flat Buildings) has been considered in the preparation of the Concept Plan with regard to context, scale, density, efficiency and sustainability in use of water resources and natural resources, landscape, social aspects, infrastructure. It is unclear how assessment against SEPP 65 has been undertaken given the limited design detail provided and given design codes are not provided.

Indicative Buildings

The Concept Plan includes indicative building designs for traditional dwellings, zero lot housing, terrace, soho, plex dwellings, mews, town houses, apartments and shoptop. The following comments relate specifically to the indicative building types.

- It is noted that average lot areas, frontage lengths and maximum dwellings are provided for indicative building types. Further detailed controls should be provided including site cover, setback (zero) and minimum landscaped area.
- Indicative building types are not consistent with the Council's Development Control Plan, Section A1 – Residential and Tourist Development Code. Where possible, dwelling type definitions and controls should be consistent with A1, otherwise the EA should clearly identify any proposed inconsistencies.
- Any development control inconsistencies with A1, such as minimum site area, maximum number of dwellings attached (in row house configuration for example), setbacks, deep soil zones, communal open space and floor space ratio controls (etc.) should be justified.

Precinct Development Matrix

The following comments are made in relation to the Precinct Development Matrix provided on p51 of vol 1 of the EA:

- The land use matrix should only include land use terms which are consistent with the LEP Template, or provide clear definitions of land uses which are not defined. For example, what is an exhibition village and an information and education facility?
- Justification and rationalisation of proposed land uses in various domains is required. For example, why are the exhibition village and an indoor recreation facility appropriate in residential areas?
- Provide justification on the proposed maximum size of supermarket at 4,000m². This is considered to be too large for a full-line supermarket, which normally have a maximum floor area of 3,500m².
- The land use matrix includes sales office and restaurant uses within the open space 'domain'. This is shown on the Landscape Concept (which indicates sales office / community centre adjacent to the upper lake on the western side

and a restaurant on the lower lake on the western side). The matrix needs to make it clear that these uses are only acceptable at the specific locations indicated on the Concept Plan, to prevent future proposals of additional restaurants and commercial uses in the open space domain.

- Provide justification for maximum size of other shop / retail proposed at 5,000m², how is this consistent with the Tweed Retail Strategy which seeks to maintain Tweed Heads and Murwillumbah as the main retail centres of the Shire.
- The urban design principles identify that each domain will have an urban form that is consistent with a development code. This can't be assessed without review of the proposed development codes.
- Reduced setbacks are identified in the urban design principles for the neighbourhood centre. More detail should be provided here on what the reduced setbacks are supposed to achieve. These should be reflected in design codes.
- An area of 1000m² is proposed for community use. It is understood that this is in addition to the community facilities area of 1,250m² required by Table 2 of the existing s94 plan for Cobaki Lakes. Further information is required on what this area is proposed to be comprised of, including any additional social or community facilities. Please clearly indicate the location of these facilities on the Concept Plan as distinct from the facilities required by the section 94 plans.
- The urban design principles for residential development should be more detailed and include objectives to ensure adequate private open space area, protection of privacy, sufficient design quality, sufficient dwelling diversity, acoustic treatment for traffic noise and so on.

LEP

The site includes an area of 2(e) Residential Tourist zone. This zone seeks to encourage the provision of family oriented tourist accommodation including hotels and motels. Further information is required to demonstrate how the Concept Plan will provide for tourist accommodation. Alternatively, any proposed re-zoning of the 2 (e) area and justification for such, should be included.

The EA does not address clause 31 – development adjoining waterbodies, clause 37 relating to electricity easements or clause 38 future road corridors. These clauses should be addressed.

Proposed Re-zoning

Many of the areas proposed to be rezoned are justified on the basis of previous consents. For example, Area 8 and 9 are where Cobaki Parkway has been constructed in accordance with development consent s94/194.

Rezoning is also proposed in areas where Clause 52 applies.

This relates to clarification of zoning adjacent to on-site 7(d) and 7(l) land. The applicant has carried out ecological studies to justify re-zoning. Council's Ecologist's comments are provided below.

With reference to proposed rezonings outlined in Table 8 and associated Figures 11 and 12 (vol 1, p 37-41), the following comments are made:

- Clause 52 of the TLEP requires that Council consider comments from National Parks and Wildlife. The Department of Planning is requested to consider these comments in this regard.
- General justification is provided for many of the areas which states that the rezoning will provide for better planning outcomes. More details are required as to how, especially for the larger areas such as 17, 20 and combined 12, 13, 14 (etc.). That is, articulate through sketches or brief description how the zoning changes will achieve a better urban design outcome.
- Area 18 is justified on the basis of it being a prominent corner. This area does not appear to be on a corner. Further explanation is requested.
- Please articulate why area 14 will contribute to a more practical town centre precinct.
- In terms of justification of rezonings proposed generally on the basis of previous consents (particularly areas 8, 9, 10 and 22), this is not considered valid justification given previous consents will be relinquished at some point in the future. Rezoning justification should be on the merits of the proposal and environmental assessment. Notwithstanding, the following comments are made:
 - it is difficult to align the layout of approved consents over the Concept Plan, given the different scales. Area 10 does not seem to relate to 1162/2001DA (or 1262/2001DA) – the location is different, except a portion which is zoned 6(c).
 - Area 21 aligns the zone boundary with the existing consent. Please indicate which consent is referred to here.
 - Justification for Area 15 states the proposed zone boundary adjustment will conform with Cobaki Parkway. Please indicate on which previous approval this justification relies.

Precincts / Release areas

- It is noted that the EA includes precincts and release areas. Please clarify how the numbering of precincts relates to release areas. For example, release area F is in precinct 9 and 10, where as release area E is precinct 11, 12, 15 and 14.
- It is important that the Project Application, particularly the construction and embellishment of the lake and open space area is available prior to finalisation of the first precinct.

Existing Consents

The EA (viii) identifies that it seeks to preserve existing subdivision consents until future subdivision consents are issued and to also preserve the existing consents for Precinct 1 and 2 in perpetuity.

Precinct 1 and 2 correlate with a recent section 96 (1a) modification to development consent K99/1124 for subdivision of 560 lots on the northern hillside.

This issue was discussed at a meeting with Council Officers and the developer's representatives. It was established that the section 96 is proposed on the premise that the Concept Plan will not get approval and it relies on the stormwater regime approved as part of the original application, not the new lake system proposed. This would therefore mean that if the Concept Plan and Project Application are approved,

they will over-ride any stormwater regime that was approved as part of the modified original consent K99/1124.

Further comments on this matter are included below, however it is considered that in the absence of any comprehensive landforming and stormwater management plan, approvals for precinct 1 and 2 should be relinquished if the Concept Plan is approved.

Future DA approvals / process

Any changes to the State's exempt and complying code should be outlined, as well as any inconsistencies between the proposed Design Codes and Council's DCP.

The EA should identify how it proposes to deal with integrated development which would be triggered by future DA's.

Existing Easements / 88B

The applicant is requested to identify if there are any existing easements or 88B restrictions over any of the lots.

The applicant is requested to clarify if comment has been sought from the energy authority with relation to the existing on-site electricity easement.

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MOSQUITOS / MIDGES

- The stormwater, fresh / saltmarsh wetland regeneration as well as consultant mosquito report addresses the issues raised by Council's Entomologist.
- With regard to flood gates, given they are not just for mosquito/midge control and details of the final water management strategy for saltmarsh restoration/maintenance are not known, they should also be designed to a size that adequately facilitates drainage from the catchment.
- To facilitate the as yet unknown tidal flushing regime for the site, the operational sluice size should be the maximum size that can be fitted into the gate without compromising structural strength or sluice aperture adjustment. The adjustable sluice should be of simple design and tamperproof for unauthorised persons.

BUSHFIRE

The EA identifies that measures for bushfire management will be incorporated into the Design Guidelines and future development applications. Comments on the Bushfire assessment are provided below.

Asset Protection Zones (APZs)

- The Bushfire Assessment for Cobaki Lakes by Land Partners provides no detail on how the requirements of *Planning for Bushfire Protection* (PBP) will be achieved. With no detailed road layout available or a clear indication of Asset Protection Zone (APZ) locations, discussion of necessity is limited. In addition none of the measures listed in the assessment and recommended by PBP are identified for adoption.

The internal road network shown will potentially form a component of the setback requirement for some APZs but compliance with PBP cannot be assessed until a complete site plan showing all proposed roads and APZs becomes available.

- There is an issue with regard to APZ tenure. If land set aside for an APZ remains in private hands (i.e. located on private lots in the development), restrictions will need to be attached to the titles of these lots that define building envelopes and proximities to the APZ, fuel reduction maintenance regimes and restrictions on vegetation type and density. Further, such areas will need to be maintained in a clear state, restricting the construction of fences across the APZ, etc. This would involve numerous compliance issues that neither Council nor the RFS has resources to monitor.

Alternatively, APZs could be established between bushland areas and adjoining properties, possibly requiring a redesign of the development. In such a case, the development (gating, fencing, road works or surface hardening) and maintenance of the APZ would be the responsibility of the landowner; initially this would be the developer. It would be preferable that this land be vested in Council as public land and that its maintenance is funded in perpetuity by the developer. Council is not free to use s94 funds for maintenance works so a source of funding would be required.

- APZs proposed for residential areas in the north-west and northern parts of the site according to the Concept Plan layout, will have to take into consideration the proximity of adjoining contiguous bushland and remnant bushland located within the development site. Some bushland within the site is downslope from proposed residential locations and the APZ at this point will need to be broader than for

properties where the hazard is upslope. The setbacks indicated on Figure 7 for this location is 20m; however this may need to be up to 40m.

- Figure 5 displays a slope analysis for the site which shows three categories, 0-5°, 5-10° and >10° while the categories in PBP are, Upslope and flat land (0°), Downslope > 0-5°, 5-10°, 10-15° and 15-18°. As the slope increases so do the setback requirements for assets situated upslope from the hazards, so the analysis may have underestimated the required APZ width at some locations.
- Increased setback restrictions may also be required on adjacent blocks depending upon the design of the development especially where roads are not constructed on the perimeter of these developments. For example, the last stage released at the residential estate known as Koala Beach in Pottsville have required a perimeter road and several lots still have APZ setback restrictions on their title.
- Some of the areas proposed for development in the north-western and northern sides also occur on land that becomes increasingly steep as it approaches the border. Sighting and construction of APZs at such locations may be problematic, construction may require cut and fill to reduce the slope for cross slope traversal, this increases the potential for slumping, mass soil movement and erosion. Cross fall of APZs should not exceed 10° and the maximum slope for an unsealed APZ is 10°; above these levels access by fire-fighting vehicles becomes unsafe.

General Bushfire Comments

- As suggested in the assessment (p. 14), APZs should be located adjacent to existing bushland boundaries rather than created through clearing and any adjoining bushland should not be disturbed for fuel reduction works, e.g. thinning or shrub layer removal.
- Two statements on page 17 are misleading;
Dot point 1 should read '*All vegetation is to be maintained in a fuel reduced condition*'. Not a fuel '*free*' condition which is not recommended (bare earth).
Dot point 2 re: Controlled burning - Burning will not be allowed in the development due to constraints imposed by the *Protection of the Environment (Clean Air) Regulation 2002* which restricts burning in residential, urban and arguably peri-urban areas. Recent pile burns have been undertaken at the site without permits from the RFS and these are in breach of the *Regulation*.
- A Bush Fire Risk Management Plan will be required and will need to be assessed by the RFS as part of the development assessment process.
- Generally, very little original comment is contained in the bushfire assessment document, it comprises sections that have been cut and pasted from PBP but no details of measures to be undertaken are provided.

ABORIGINAL / CULTURAL HERITAGE

The Department of Planning and the Department of Environment and Climate Change should provide detailed comments in relation to Aboriginal and cultural heritage assessment.

OPEN SPACE

Council's s94 plan for Cobaki Lakes requires a total of 20.4ha of unstructured open space (at a rate of 1.7ha / 1000 people). A total of 13.56ha of structured open space is required (at a rate of 1.13 ha /1000 people).

That is, 60% of open space should be unstructured and 40% structured.

In relation to the above, the following comments are made:

Open Space Area to be Dedicated

- It is unclear how much land is to be dedicated for Environmental Protection and how much will be dedicated for Open Space (Structured and Unstructured). For example: section 3.6.1 (page 39) states 267ha are to be zoned for environmental protection and recreation, and that of this 81ha are to be zoned as 6(b) recreation. This implies 186ha will be dedicated for environmental protection.

However, section 4.3 (page 49) states 84.3ha are to be set aside for environmental protection. This implies that open space not set aside for environmental protection is 182.7ha (267ha – 84.3ha).

- The applicant indicates a population of between 12,000 and 13,000 (Section 6.10, page 161). Based on the formulas above, the minimum open space contributions for populations proposed would be:
 - For 12,000 people, a minimum of 34ha comprising 20.4ha of structured (sportsfields) and 13.6ha of unstructured (parkland)
 - For 13,000 people, a minimum of 36.8ha comprising 22.1ha of structured (sportsfields) and 14.7ha of unstructured (parkland)

While the EA is unclear on which areas are to be contributed as structured and unstructured open space, it does claim 81ha will be dedicated to meet these requirements, with 48.6ha (60%) being for structured and 32.6ha (40%) for unstructured open space. Note the proportion required by section 94 plans is proposed to be reversed and further break-down of open space use areas and costs of maintenance are required to determine if this is acceptable.

As described above, it is difficult to determine whether a figure of 81ha, or 182.7ha should be considered as the open space contribution. Given disparity between population estimates in the EA (assumably because of the proposed increase in height through the LEP amendment process) the amount of open space provided should be calculated for the maximum expected population.

Environmental Protection Areas to be Dedicated

- Significant areas indicated as open space in the Open Space Network Plan (Figure 18, page 56) are clearly intended as Environmental Protection. For example the saltmarsh area in the southern end of the development is shown as Open Space. Section 4.5 (Open Space and Landscape Concept Plan) makes reference to 'Major Open Space Corridors, Major Environmental Protection Corridors (Bushland), Freshwater Lakes and Wetlands and Local Parks' but gives no information on actual areas of each, other than one reference to approximately 81ha.

For Council to consider the acceptability of these areas, the applicant must clearly indicate the area of land proposed for environmental protection, for structured (sportsfield) and unstructured (parkland) open space. The area

covered by the lakes should be indicated, and excluded from any calculations of land area to be contributed as open space. Where appropriate, detailed management plans (including costs to implement the plans) would be required.

Maintenance

- The Tweed Shire DCP: Section A5 Subdivision Manual (Section A5.4.11) states that where aquatic environments and environmentally sensitive areas are to be dedicated, it must be recognised that management of these areas comes at a significant cost. Further, additional large areas of open space that meet the criteria of the Subdivision Manual are desirable however additional land comes at significant ongoing management cost to Council. This applies to land managed as structured or unstructured open space, and for environmental protection. Cost of maintaining future open space is a concern to Council (as discussed further below) and strategies to allow for source/s of funding should be included in the EA.
- Tweed Shire DCP: Section B7 Cobaki Lakes (map 5 – open space) assigns large areas of open space as private, including a golf course. The EA does not specifically address public and private open space and justify this issue. There is concern that approval of the Concept Plan will pre-empt changes to the public and private open space in any new DCP or design code.

Lakes

- While the proposed lakes represent benefits to the amenity of the area, they also represent significant management responsibilities for Council in terms of water quality and weed control, and in maintaining an acceptable level of amenity expected by the community. The landscape infrastructure proposed for the lakes (as shown in the Landscape Concept Plan – appendix D including boardwalks, timber decks, paths rock walls and beach areas) represent significant ongoing maintenance costs. Should the level of embellishment be accepted by Council, acceptable level and sources of funds for maintenance will need to be identified.

Note that the landscape concept plan shows a beach area and implies people will be able to swim in these lakes. Insufficient water quality standards are estimated to determine if this will be acceptable.

As identified further below, given the insufficient detail in relation to construction method of the lakes, acid sulphate soils, water quality and on-going management, Council is not able to agree to take responsibility for future maintenance at this stage.

Other matters

- There has been interest expressed in mountain bike riding by the local mountain bike association. Provision for such active outdoor recreation pursuits should be considered in a comprehensive open space management plan which takes into account environmental constraints. Such detail may be too specific for the Concept Plan, notwithstanding it highlights the importance of considering future

objectives, purpose and intent for land assigned as open space and environmental protection .

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TRAFFIC / ROADS

Comments below do not include any impact on Boyd Street or the Boyd Street / Gold Coast Highway intersection. The Department of Planning should be satisfied that sufficient negotiation has occurred with the Gold Coast City Council and Queensland Department of Main Roads both in terms of wider traffic impact on the surrounding network and in terms of pre-existing Deeds of Agreements.

The comments below largely relate to Appendix H, Traffic Report by Cardno Eppell Olsen.

There are several sections of the traffic report that need modification and incorporation into the Statement of Commitment as follows:

New Deed of Agreement with Tweed Shire Council

Part 3.1 needs to state that the Deed with Tweed Shire Council is significantly complete and a new Deed is being negotiated with LEDA as per Council's resolution dated Tuesday 22 April 2008.

Part 3.2 Site Access

The need for a road link to Piggabeen Road via the Sandy Lane alignment is not addressed. Current practice requires 'connectivity' of road networks to provide choice for motorists and alternative access to the development if Cobaki Parkway is blocked for any reason. This should be included in the Draft Statement of Commitment to be addressed at the DA Stage that continues Sandy Lane.

Part 3.3 Road Hierarchy

This section should state cross sections are in accordance with Tweed Shire Council standards and if not explain what the differences are for consideration.

Part 3.4.1 Public Transport

Some 'local connector' roads may need to have wider pavements to comply with Council's Standards (ie. DCP Part A5) but will be determined at detailed design stage for each DA. However this should be acknowledge in the Traffic Report.

Part 3.4.2 Cycleways

Plan SK 001.07 shows 2.0m or 2.5m wide cycleways. Tweed Shire Council & Austroads require 2.5m as a desirable minimum and given this is a Greenfield site, there are no reasons why 2.5m cycleways should not be provided. Distributor and Trunk Connector Roads require an off road cycleway as per Tweed Shire Council DCP Pt A5 - Road Design Specification (D1)

It should be noted, however that Plan SK 01.06 "Road Cross Sections" states that the cross sections are in accordance with Tweed Shire Council standards so the conflict described above in Plan SK 01.07 needs rectification.

Part 3.6 Access to Schools, Community Facilities, Retail & Commercial

Vehicular access to all these development types should not be permitted to Cobaki Parkway (arterial/sub arterial road network).

The second paragraph of the submitted Report discusses the Director General's requirements not permitting such access and stating the development is in compliance.

In paragraph 3 it is stated that "this is expected to include controlled/restricted access from the modified arterial/distributor road network".

Conflicting terminology appears to be used in these paragraphs, however, assuming that the 'modified arterial/distributor road network' is the same as the 'arterial/sub arterial road network' in paragraph 2, it appears that non compliance with the Director Generals (DG) requirements is in fact being proposed.

This section of the Traffic Report needs to be amended to comply with the DG's requirements which appear to reflect Councils position of no vehicular access to the Cobaki Parkway.

Part 3.0 Traffic Impact

The submitted Traffic Report quotes heavily from TSC Traffic Modelling over many years. It is agreed that subject to the TRCP No. 4 Section 94 Contribution Plan remaining intact, the distributor road network planned to service the development is adequate for the traffic to be generated by the proposed development and surrounding areas.

Part 4.0 New Deed of Agreement for TSC

Council at its meeting on Tuesday 22 April 2008 resolved the following:

- "1. Until Cobaki Parkway is constructed continuously between Boyd Street and Piggabeen Road, development west of Cobaki Bridge at Kennedy Drive be restricted as per Council's current resolution discussed in Part 3 of this report.*
- 2. The Cobaki Lakes Development to have unrestricted access to Piggabeen Road subject to:-*
 - The Developer entering into a legally binding agreement with Council that indemnifies Council from any financial liability in regards to obligations under the Boyd Street Road Works Deed dated 16 June 1993.*
 - The Developer dedicating all the Cobaki Parkway Road Reserve (Boyd Street to Piggabeen Road) as part of Stage 1 of any new or amended Development Consents.*
- 3. The proposed Pacific Highlands project part of the Bilambil Heights land release may be permitted to progress beyond current restrictions based on traffic thresholds on Cobaki Bridge provided:-*
 - Cobaki Parkway is continuously constructed from Piggabeen Road to Boyd Street*
 - The new "spine" road proposed through the site from Marana Street to Cobaki Road is constructed.*
 - Cobaki Road from the "spine" road to Cobaki Parkway is upgraded.*
- 4. The remainder of the Bilambil Heights Land Release Area can only proceed beyond the current road volume allowances on Kennedy Drive when the Cobaki Parkway between Boyd Street and Piggabeen Road is continuously constructed, and then development must progress in a manner that progressively constructs the Scenic Drive Diversion from Piggabeen Road southward (i.e. all new development must have access to the Scenic Drive Diversion).*
- 5. The next review of Section 94 Contributions Plan No. 4, Tweed Road Contribution Plan to include in the Works Program, widening of Kennedy Drive between Cobaki Creek Bridge and Gray Street to four lanes. "*

Part 2 Point 1 of the resolution is in progress with a draft Deed being considered by both parties.

Part 2 Point 2 is addressed in the Draft Statements of Commitment and should be a condition of any consent.

Interms of proposed roads, Council's Development Design Specifications (as referenced by DCP A5 - Subdivision Manual) must be adopted as the basis for road infrastructure design. This includes design of road cross sections, vertical and horizontal alignments, intersections treatments, and road drainage. Note that the stormwater concept plan proposes roadside swale drainage, and this must be identified in the relevant road cross-sections.

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ENVIRONMENTAL HEALTH ISSUES

Contamination

Contamination issues can be broadly divided into two areas, that associated with the remediation of Turners Cattle Tick Dip Site and that associated with other potentially contaminated activities resulting from the previous uses of the site in general. These are discussed below.

Turners Cattle Tick Dip Site

The remediation of Turners Dip Site is subject to a Remediation Action Plan that has been reviewed by an EPA Accredited Site Auditor commissioned by Aargus Australia, (Ref. Correspondence dated 19 August 2003 from DR Ian Swane S&N Environmental Engineers & Contractors).

Council in its correspondence dated 11 July 2003 and 23 September 2003 has indicated that the remediation of Turners Cattle Dip Site is to be the subject of a NSW EPA Accredited Auditors Site Audit Statement issued under the provisions of the NSW Contaminated Land Management Act to the effect that the Auditor has "signed off" that Turners Cattle Tick Dip Site that it has been remediated in accordance with the Remediation Action Plan and that the site is now suitable for the proposed use. This use will need to be consistent with that as proposed in the Concept Plan for Cobaki Lakes. The Statement of Commitments should include the requirement that the Audit Statement is required to be submitted to Council at the completion of the Remediation of Turners Cattle Tick Dip Site.

General Contamination

The EA advises (Pg 148) that a Stage 2 detailed contamination investigation of other identified areas of potentially contaminated land will be submitted as part of the future Project Application and development applications for precincts. These areas have been identified for future investigation in the Stage 1 Preliminary Contamination Assessment by Gilbert and Sutherland dated May 2008 submitted with the EA.

The Statement of Commitments should include the requirement for a Stage 2 Detailed Contamination Investigation Assessment prepared by a suitably qualified contaminated land consultant is to be submitted in relation to areas identified as potentially contaminated by the Stage 1 Preliminary Contamination Assessment by Gilbert and Sutherland dated May 2008 as part of all future Project Applications and Development Applications for precincts.

Acid Sulfate Soils:

There have been two previous ASS investigations for the Cobaki Site, a 1991 assessment by Golder and Associates and a 1998 investigation by Gilbert and Sutherland. These investigations provide on overall indication of ASS areas within the Cobaki Lakes site.

It is considered that further Acid Sulfate Soil investigations need to be carried out in accordance with the NSW ASSMAC Guidelines once detailed design of the proposed lakes and other identified potential ASS areas that will be subjected to disturbance have been completed. These will serve to augment the existing ASS investigations and revise any existing ASSMP.

Groundwater

The Groundwater Management Plan submitted with the “Concept Groundwater Assessment” report by Gilbert and Sutherland broadly covers the management of groundwater.

The Management Plan can be viewed as a “living document” and can be changed accordingly to accommodate detailed management options which may be required to address specific issues that may occur at various construction phases.

Council is currently preparing Dewatering Guidelines that will be applicable to future specific construction developments if dewatering is required.

Adjoining Agricultural Activities

The Cobaki lakes Site is situated in an area where there are existing Agricultural activities being carried out. There is a potential for these activities to impact upon the residential precincts proposed under the Concept Plan.

From an Environmental Health perspective, these impacts can generally be associated with the application of chemical by land or air (smoke) and noise impacts caused by machinery.

“The Agricultural Buffer and Off Site Impacts Assessment” report by Gilbert and Sutherland dated October 2008 has considered these impacts and concludes that these are not considered to be a likely source of contention.

The application of agricultural chemicals is regulated under the Pesticides Act 1999 and is administered by the DECC and noise impacts from agricultural pursuits would be considered in light of any existing use rights and the provisions of the POEO Act.

Smoke nuisance caused by burning off has potential to impact upon future residential areas. There is a direct conflict between Councils existing and proposed policies in respect to this issue so therefore there is a definite potential for this to become a source of contention and complaints for council in the future.

It is considered that adequate buffers need to be provided between adjacent agricultural areas and residential areas proposed under the concept plan. These buffer zones should be densely planted out with trees where possible so that the vegetation can provide a screen. The buffer distance should be a minimum of **250m** so as **to be consistent with Council’s proposed inclusion under Schedule 8 of the Protection of the Environment (Clean Air) Regulation 2002.**

Acoustic Impacts

A Noise Impact Assessment report(s) prepared by a suitably qualified acoustic consultant will be required to accompany each future development application for subdivisions adjacent to the major roads within the Cobaki Lakes site. These reports will need to address the impacts of road traffic noise on the proposed development particularly in respect to residential developments by reference to NSW DECC road traffic noise criteria.

Notwithstanding, the master planning process (including the Concept Plan process) allows for preventative measures to treat noise such as location of land use, use of buffers and setbacks rather than treating noise at detailed design which is often limited to acoustic fences. Noise reports / impacts should be estimated up front to allow for mitigation through preventative measures, such as appropriate buffers and land use allocation.

TELECOMMUNICATIONS

The provision for an appropriate range of communications infrastructure is an emerging priority for Tweed Shire Council, particularly in the context of rapidly changing technology, large scale redevelopment, and the demands of a transforming economy and community. One of the key issues identified in recent years by both Tweed Council and the Tweed Economic Development Corporation is the importance of ensuring that all new large land releases and subdivisions are accompanied by the provision for fibre cabling, or at least the appropriate conduit for future installation, as an alternative to the recent reliance on out-dated calling forms, such as the copper used for ASDL systems, for the servicing of communications transmissions, thereby providing the capacity for more superior and efficient information exchange, such as high speed, broadband internet.

It is clearly evident that our society is seeking more efficient and sophisticated forms of information technology for a wide range of business, health, education and entertainment. Despite incurring a relatively greater, start-up, capital cost, there are greater medium to long term efficiencies of establishing fibre cabling for communications purposes in the initial subdivisions and redevelopment of major land parcels, as opposed to the more costly and disruptive practice of retro-fitting once the construction of the development is completed.

The importance of providing for more advanced forms of communications infrastructure was also evident in the recent statements of the Federal Minister for Broadband Communications and the Digital Economy, Senator the Hon Stephen Conroy:

"High-speed broadband is a vital service and the Rudd Government is acting now to ensure it is available for all Australians, no matter where they live."

"That is why the Government is investing up to \$4.7 billion in a National Broadband Network, providing a minimum 12Mbps to 98% of the country, and implementing measures for the other most remote 2%."

"Broadband is a vital digital economy enabler and we need to be acting now to develop our capabilities to utilise our investments."

The Federal Government has also recently announced the release of a "Framework for the collaborative development and use of broadband in Australia".

The framework identifies key principles for developing broadband and sets strategies for three priority objectives:

- All Australians have access to high-speed broadband at equitable service levels and prices.
- Australians are fully aware of the benefits of high-speed broadband, and are able to choose a broadband service that meets their needs.
- Australians use high-speed broadband to improve economic, environmental and social wellbeing.

"This framework is a first for Australia as it outlines a national commitment to broadband collaboration and cooperation between all tiers of government," Senator Conroy said.

"The framework enables us to collectively focus on practical and achievable strategies to further develop and facilitate the use of broadband and ensure our success in the digital economy."

In the context of the emerging plans for a national roll-out of broadband internet coverage, Senator Conroy has also made comments in the media to the effect that there should be no excuse for major development proponents not to install fibre cabling as the primary information transmission conduit.

Whilst it is currently not a statutory control or policy of Council, it is considered an imperative for Council to seek the provision of fibre communications cabling for all new major subdivisions and redevelopments. In this regard the timing of this request is critical for Cobaki Lakes.

DRAFT

WATER / SEWER

Integrated Water Cycle Management (IWCM):

The Environmental Assessment Report (EA) considers IWCM in a superficial way identifying a number of options for reduction of potable water demand and reuse of treated water but leaving detail to a further stage. (Sect 4.7 Water Management Concept, Appendix E Stormwater Concept and Preliminary Flood Impact Assessment.)

Council has done a review of IWCM options for Greenfield sites in its Demand Management Strategy which has been on public display.

The preferred strategy that will be mandated for Greenfield sites within Tweed Shire as a minimum is for:

Single Dwellings	Minimum 5000L rainwater tank with a minimum 160 m ² roof area connected to it.
Multi Dwellings & other buildings	Rainwater tanks to be provided on a similar basis connecting 80% – 90% of the roof area

These tanks shall be plumbed to provide water for external uses, toilet flushing and laundry cold water for washing machines. This is expected to produce a water saving of approximately 36%.

It is also noted in Sect. 5 Consultation, Table 11 (P.75) that the above position put to Leda representatives has been incorrectly reported as 3000kL tanks if the roof area exceeds 160 m².

If the connected roof area is less than 160 m² the proponent of the building should be required to demonstrate the tank size needed to give the same level of yield as the mandated sizes.

Appendix E, Section 3 of the EA includes a variety of further options for IWCM including “dual reticulation, such as use of purple pipe (secondary supply)”. Use of dual reticulation was considered in Council’s Demand Management Strategy but has been found to be uneconomical and an impost on property owners and rate payers that is un-necessary where there is a readily available source of water. The capital cost of additional infrastructure would impact on the cost of land and the ongoing operation, maintenance and renewal of the advanced treatment plant, and recycled water infrastructure would have to be borne by the consumers.

Council however is not adverse to the concept of sewer mining to provide water for irrigation of public open space and encourages the proponent to investigate this option further.

Hence, Council requires that the proponent include in the Statement of Commitments that the minimum requirement for properties in Cobaki Lakes will be as outlined above.

Please note that this Strategy has not yet been adopted by Council and is subject to Council approval.

Water Supply

Within Section 4.8 Utility Services Strategy, the EA identifies that Tweed Shire Council has provided for the development of Cobaki Lakes within its Development Servicing Plan which is the basis of s64 Developer Charges for Water Supply. Tweed

Shire Council has been carrying out works over a considerable period of time to ensure an adequate water supply and water conveyancing system is available to support projected development within the Shire, including Cobaki Lakes.

Council presently does not have capacity within its current bulk water supply system to cater for the proposed overall development, however the adopted 30 year capital works plan allows for its augmentation. Approvals to permit such augmentations can not be guaranteed and if not gained or are delayed, will impact on the granting of future approvals for this development.

The EA also correctly identifies the intersection of Gollan Drive and Piggabeen Road as the connection point for water supply and the need for the development to construct a trunk water main from that point to the development site.

The EA provides "Final Water Network" (Figure 24) showing some basic details of the trunk and distribution mains within the development site as well as a "Proposed Cobaki High Level Reservoir RL 82.000" and a "Possible Reservoir Site". The pipe diameter legend is illegible but from prior discussions with the proponents representatives, it is understood that the green line represents a 375mm diameter main whilst the red line represents a 300mm diameter main. Figure 23 shows the "Initial Water Network" featuring a red line understood to be 375mm diameter main, a green line understood to represent 300mm diameter water main and a black line representing a 200mm diameter water main. Both figures show a "Proposed Cobaki Broadwater Booster Pump Station".

The EA contains no specialist water supply infrastructure report confirming the infrastructure sizing. The reservoir sizes are unspecified and the duty points and staging of the pump station has not been detailed. In reality, the booster pump station shown will have to change in function from the time that the reservoir is commissioned as the initial pump station would have to be one designed to boost the pressure in the reticulation network whilst the final case will require a pump station to fill the reservoir and be separated from the reticulation network.

A Sewerage and Water Infrastructure Report for Cobaki Lakes was submitted to Council in 2003 and subsequently was approved. It provided analysis for the water supply trunk infrastructure on the basis of design demands that did not take account of demand reduction due to IWCM initiatives, a reservoir top water level of 80m AHD and initial development being in the southern area of the development and being below 20m AHD. It should be noted that this report is therefore not directly applicable to the current proposal for initial development in the northern most section of the area. It anticipated that up to 12ML storage would be provided, 2 x 5ML reservoirs to service the bulk of the area and 2 x 1ML to service higher areas within the development.

The report did not consider the internal distribution network in any detail whatsoever. It also found on the basis of the above assumptions that 825 Equivalent Tenements (ET) could be serviced before the first reservoir would be required. The EA suggests that 1000 dwellings could be occupied before the reservoir is necessary. Given the changing demography, and a mix of dwelling sizes and types, this may be a similar demand.

Accordingly, a detailed water distribution infrastructure report is necessary to determine demands to be adopted, justification of those demands, infrastructure sizes, staging, pump duties and the like for a more detailed distribution network than that shown in the EA.

It is recommended that the Statement of Commitments include a commitment to provide before the next stage of applications, such a detailed water supply infrastructure report including consultation with Council to determine demands and the interaction with Council's existing and proposed water conveyancing system.

Sewerage Infrastructure

Within Section 4.8 Utility Services Strategy, the EA identifies that Tweed Shire Council has provided for the development of Cobaki Lakes within its Development Servicing Plan which is the basis of s64 Developer Charges for Sewerage. Tweed Shire Council has been carrying out works over a considerable period of time to ensure adequate sewage conveyancing and treatment systems are available to support projected development within the Shire, including Cobaki Lakes.

Council presently does not have capacity within its treatment plants and trunk conveyancing systems to cater for the overall proposed development, however the adopted 30 year capital works plan allows for these augmentations. Approvals to permit such augmentations can not be guaranteed and if not gained or are delayed, will impact on the granting of future approvals for this development.

The EA also identifies the SPS 2018 Gollan Drive Sewerage Pump Station as the connection point for sewerage and the need for the development to construct a trunk sewer main system from the development site to that pump station.

It is confirmed that SPS 2018 is likely to be the initial point of connection but Council is exploring other options that may result in the ultimate point of connection being in the vicinity of Boyd Family Park at a new pump station, rather than a further upgrade of SPS 2018.

Further augmentation of the Banora Point Waste Water Treatment Plant and duplication of the existing sewage rising mains in Kennedy Drive and from Dry Dock Road to the treatment plant will be required to service the total Cobaki Lakes development. Whilst capacity is currently available for the initial stages of the development, further staging will be subject to approvals for augmentations being obtained.

Figure 26 "Final Sewer Network and Main Electricity Substation" shows the basic sewage conveyancing system currently proposed consisting of a number of sewerage pump stations injecting into a common rising main. In this drawing, the legend is also indecipherable. No details of the trunk connection to SPS 2018 have been given. Figure 25 shows the proposed initial stage sewage conveyancing system showing several sections of rising main, a northern area pump station and a "Cobaki Broadwater Regional Sewerage Pump Station".

Previously, Council had approved a Sewerage and Water Infrastructure Report prepared in 2003 for this development. It was based on a series of lift stations and trunk gravity mains to reduce the problem of odour and septicity that arises in the anaerobic conditions in long rising mains. This report had also addressed septicity issues in the sewer rising main external from the site with a proposal for staged main sizes, make up water and oxygen injection. This report however is not valid for the proposal shown in Figure 25 and 26 of the EA.

In addition, the EA makes the assumption that peak wet weather flow (PWWF) can be restricted to 5 times average dry weather flow (ADWF) through the use of reduced infiltration sewer design and construction. Council will require that the developer implement a regime of flow monitoring to demonstrate that the flow reduction has been achieved so as to permit the ultimate system to be designed upon this basis.

Allowing smaller infrastructure is a considerable risk for Council as it is Council who would be ultimately responsible for upgrading the sewerage system if inadequate assumptions were made in the design. It should be understood that under licences of sewerage treatment systems under the POEO Act, now cover the sewerage system as well as the treatment plant and Council is liable in the event of any overflows from the system.

An additional consideration is that a common rising main with a number of sewerage pump stations injecting into the main is not as simple as it at first appears. Selections of pumps need to be made carefully so as to find a pump that will operate at satisfactory points on the pump curves for a variety of pump head conditions without either cavitating or drawing excessive power. It is likely that progressive retro-fitting of pumps will be necessary as more pump stations are commissioned. Variable speed drives may be necessary to be able to match the various conditions encountered. Policy now dictates that a control building is required for pumps larger than 22.5kW each or where a variable speed drive is installed.

Accordingly, a detailed sewerage infrastructure report is necessary to determine loadings to be adopted, justification of those loadings, infrastructure sizes, staging, pump duties, risk assessment, staging and treatment for septicity (e.g. oxygen injection, dosing, make up water, etc) for a more sewage transport system than that shown in the EA.

It is recommended that the Statement of Commitments include a commitment to provide before the next stage of applications, such a detailed sewerage infrastructure report including consultation with Council to determine loadings and the interaction with Council's existing and proposed sewage transport system.

ENVIRONMENT

Proposed Rezoning

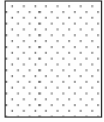
The Concept Plan anticipates certain amendments to land zonings. These include boundary refinements in accordance with Clause 52 of Tweed LEP 2000 and more general changes. Both types have the potential to affect ecological values.

Generally, rezoning which results in (further) clearing of Endangered Ecological Communities (EECs) and threatened species or their habitat cannot be supported, particularly when not all EEC's are proposed to be adequately compensated, or compensation involves creation of habitat via planting.

Proposed Clause 52 Adjustments

Clause 52 of Tweed LEP 2000 applies special provisions to the areas identified by way of a map overlay. The proposed Clause 52 changes (see Fig 11 of Concept Plan) all relate to the following provision which requires any boundary adjustments to be made in favour of the most environmentally sensitive of restrictive zone.

Tweed Local Environmental Plan 2000

Column 1 Shown on the zone map by:	Column 2 Applicable provisions
	<p>Where the exact on-site location of a zone boundary is unclear (due to the scale of the zone map or mapping errors) and a determination of its exact location is necessary for the purposes of a development application, consent must not be granted to development unless:</p> <ul style="list-style-type: none"> (a) the zone boundary is determined by a survey carried out by a suitably qualified person at the cost of the applicant and approved by the Council, and (b) the survey line, based on on-site investigations, achieves the primary objective of the most environmentally sensitive or restrictive of the zones involved.

In July 2007, Council's Ecologist visited the site at the request of LEDA to assist in the rationalisation of a number of zone boundaries affected by Clause 52. While it was clear that a number of areas represented mapping anomalies favouring the adjoining urban land zone (i.e. cleared land; Areas 1,5,7 on Figure 11 of the Concept Plan), it was noted that there were ecological values associated with Areas 2, 3, 4 and 6 (see Figure 11 of the Concept Plan).

Recommendations made by the Council's Ecologist in relation to these latter areas do not appear to have been implemented in the draft Concept Plan. Furthermore, the explanations provided in Table 8 (see below) of the Concept Plan dismiss any ecological values and are not consistent with Clause 52 which requires any adjustments to be made in favour of the most environmentally restrictive zone.

Table 8 – Proposed Refinements to Zoning Boundaries

Map Ref	Area (m ²)	Current Zone	Proposed Zone	Explanation for each Area
1	1,717	7(l)	2(c)	Resolves zone boundary under clause 52 of Tweed LEP. Area 1 is grassland with scattered trees and earthworks having low value for environmental protection. It is more suited to residential zoning.
2	189	7(l)	2(c)	Resolves zone boundary under clause 52 of Tweed LEP. Area 2 is unvegetated land having low value for environmental protection. It is more suited to residential zoning.
3	8,796	7(d)	2(c)	Resolves zone boundary under clause 52 of Tweed LEP. Adjustment to zone boundary gives more practical residential precinct with better planning and future urban design outcomes. Area 3 has unvegetated parts with low value for environmental protection. It is more suited to residential zoning.
4	6,813	6(b)	2(c)	Resolves zone boundary under clause 52 of Tweed LEP. Adjustment to zone boundary gives more practical residential precinct with better planning and future urban design outcomes. Area 4 has unvegetated parts with low conservation value. It is more suited to residential zoning.
5	10,708	6(b)	2(c)	Resolves zone boundary under clause 52 of Tweed LEP. Area 5 is grassland and isolated trees of low conservation value. It is more suited to residential zoning.
6	3,616	7(d)	2(c)	Resolves zone boundary under clause 52 of Tweed LEP. Area 6 is more suited to residential zoning. Adjustment to zone boundary gives more practical precincts with better planning outcomes and more efficient use of land.

Specific comments in relation to Areas 2,3, 4 and 6 are presented below:

Area 2 – This area is located at the foot of contiguous area of bushland (zoned 7(l) Environmental Protection – Habitat) and was occupied by a number of large eucalypt trees with a grassy understorey. A small part of the surveyed area was below the foot of the slope and was entirely cleared.

In relation to this area it was recommended that:

1. The area (app. 0.15ha) above the toe of the slope be retained as environmental protection zone while the remaining area (app. 0.02ha) be changed to reflect the adjoining 2(c) Urban Expansion zone; and
2. Considering the low density of trees in the area to be retained it would be acceptable for this component to be maintained as part of an Asset Protection Zone for the purposes of bushfire protection.

Area 3 and 4 - The vegetation in these two patches consists of a mature Blackbutt Open Forest to 20m. Area 3 has been heavily thinned and consists of approximately 15 mature trees and a disturbed understorey. Area 4 is in relatively good condition.

On a bioregional basis Blackbutt Open Forest is relatively abundant and well reserved on the NSW North Coast (see Tweed Vegetation Management Strategy 2004; TVMS). Notwithstanding this, the TVMS classified both patches as “High” Ecological Status on the basis of its connectivity to larger areas of forest and previous regional-scale mapping by NPWS that had identified the areas as “Disturbed Old Forest” and part of a “Key Fauna Habitat” area.

On the basis of the site visit and re-examination of the objective criteria set out in the TVMS (see Table 3.5) the classification of Area 4 was confirmed as “High” Ecological Status. In relation to Area 3, the criteria set out in the TVMS acknowledge that, in most cases, areas in poor condition should be considered less ecologically significant. Accordingly, on the basis of the site visit Area 3 would be more accurately regarded as “Moderate” Ecological Status.

To be consistent with Clause 52 the existing zonings of Areas 3 and 4 should be retained.

It should also be noted that to address concerns of the developer that these patches were strategically important (to achieve design grades), possibilities for relaxing the zonings were canvassed with the developer, providing a better long-term environmental outcome. These measures included compensatory like for like offsets elsewhere on the site, changes to zoning of the patch adjacent to Area 4 from Recreation to Environmental Protection zone and the provision of ongoing management. As these measures have not been addressed the purpose of Clause 52 for both areas should be retained.

Area 6 - This area supported scattered eucalypts within grazed pasture. Some of the trees were very large (> 80cm diameter) and are likely to provide important fauna habitat.

On a strict interpretation of Clause 52 this area should remain under Environmental Protection zoning however the developer was advised that the zoning of this area could be changed to reflect the adjoining 2(c) Urban Expansion zone providing measures were taken ensure that any trees over 50cm diameter at 1.3m be retained. As these measures are not reflected in the EA, this change is not consistent with Clause 52 and not supported.

Other Proposed Zoning Adjustments

The draft Concept Plan proposes a further 20 zoning changes most of which favour additional areas to be used for urban purposes.

Area 16 appears problematic. The Concept Plan proposes to change this 7.5ha area from open space to urban zoning on the basis that the area has insignificant conservation value (Table 8). This description is inconsistent with Figure 42, which shows three separate Endangered Ecological Communities covering almost all of this area.

The draft Concept Plan identifies numerous areas to be managed primarily for nature conservation. Many of these areas are zoned for recreation and some such as the Scribbly gum reserve are zoned for urban expansion. To ensure the long-term environmental outcomes such areas should be retained under an Environmental Protection zoning. Candidate areas (many of which overlap) include the following:

- The proposed Scribbly Gum Reserve Area (Fig 2 of SGMP)
- Endangered Ecological Communities (Fig 42)
- Remnant Bushland (Fig 32) supporting Threatened Flora (Fig 35)
- Habitat Rehabilitation and Management Precincts (Fig 34)
- Areas east of the proposed Cobaki Parkway
- Riparian areas along Cobaki Ck and other drainage lines
- Identified koala habitat (Fig 48)
- EEC offset Areas (Fig 43)
- Remnant Bushland (Fig 32) zoned for open space (Fig 10)

Scribbly Gum Management Plan (SGMP)

The SGMP arose out of a condition of consent associated with DA S94/194, which clearly stated that the specified area was to be managed primarily for conservation purposes:

The Scribbly gum habitat area marked on the amended plans for Parcel 5 is to be embellished, enhanced and developed primarily as a Scribbly gum habitat enhancement area with appropriate fencing and regimes for mowing and weed reduction, with plantings of saplings of scribbly gums, Wallum banksia and Swamp Mahogany to the satisfaction of the Manager, Recreation Services, with a bond of \$10000 to be returned after 12 months following successful establishment of the habitat enhancement planting area. Area of such habitat regeneration area to be in accordance with Drawing No. CG231-502P5.

Clause 268 DA S94/194

The stated objectives of the Scribbly Gum Management Plan (SGMP; see below) deviate significantly from the clear intent of the DA condition.

The objectives of this management plan are to:

- Assess the health and the potential danger of each individual Scribbly gum within the community located on the Subject site;
- Identify those particular trees that may play a part in future development and conservation objectives of the area;
- Provide management guidelines for the removal of the trees which have been recommended for removal; and
- Provide management guidelines for the on-going conservation of Scribbly gums on the site including provision of adequate development setbacks and sensitive positioning of roads through the Scribbly Gum Management Area (SGMA).

Indeed, while the Plan acknowledges that the Scribbly Gum community is regionally significant and that the stand of trees on the site is significant within the Shire, it is primarily concerned with the removal of trees due to their perceived danger. Provision for their conservation, embellishment and enhancement is clearly a secondary consideration. The implementation of the draft Plan will diminish the ecological values of the area.

The SGMP therefore needs to be reviewed to ensure the area is managed primarily for nature conservation. This should also include appropriate bushfire buffers to proposed adjacent urban development.

It must also be noted that the area (Fig 2 of SGMP) is zoned 2c Urban Expansion (Fig 3 of SGMP), and included as Residential in the Concept Plan (Fig 2 of SGMP). It is difficult to see how the intent of Clause 268 can be achieved in such circumstances. As stated previously, it would be more appropriate for this area of important habitat to be retained and managed under an Environmental Protection zoning.

It is also noted in the SGMP that the area is to be dedicated to Council after 2 years of maintenance. Issues related to the long-term management of environmental (and open space) areas are discussed more generally in the section below.

The Plan should clarify how “non-habitat trees” are defined.

Conservation status discussions do not consider the conservation value of tree hollows, loss of which is a Key Threatening Process under the TSC Act. Scribbly Gum hollows in this area are known to provide substantial fauna habitat.

The extent of Scribbly Gums on recent aerial photographs appears to show a substantially diminished area of Scribbly Gums. Please clarify how clearing of Scribbly Gums has occurred lawfully.

The Scribbly Gum Management Area boundary is shown on all Figures appended to the plan, apart from Figure 8 Concept Plan. The extent should be shown on Figure 8 so as to determine whether the reserve required by the previous consent can be maintained.

Long-term Management of Natural Areas Generally

Except for the proposed dedication of the SGMP area to Council, the Concept Plan is not explicit about the long-term tenure of common areas such as open space and environmental protection areas, although it does state that environmental protection areas will be managed by Council or the State Government (see Fig 15). Unfortunately, the Concept Plan provides no guidance on how this should occur.

This is an important issue as:

- It is no longer acceptable for natural areas associated with new urban developments to be left unmanaged;
- There are considerable costs associated with the management of natural areas, which are not recovered by current developer contributions; and
- It is highly likely that common areas will need be dedicated to Council sometime before the development is completed as the implied land tenure model (individual Torrens title) makes no provision for ongoing private management of common lands.

Provision therefore needs to be made within the Concept Plan for the ongoing management of areas set aside for environmental purposes.

The Scribbly Gum area would come with a significant maintenance burden if the SGMP were adopted as it requires annual arborist assessment of tree health and pruning and removal requirements as detailed.

The saltmarsh restoration report notes that the land owner will have carriage of a 5 year project to implement the saltmarsh restoration plan. In the case of saltmarsh it would be beneficial to be in Council ownership for mosquito management and conservation reasons), a funding source for the long-term management of such lands must be identified.

Generally, the performance criteria for rehabilitation and maintenance of environmental areas should be agreed. Further, the proposed term of management needs to be agreed with Council, estimated costs of maintenance should be established along with strategies for sourcing funding to allow Council management of environmental areas in perpetuity.

Saltmarsh

In an overall sense, the proposal to rehabilitate saltmarsh in this area will make a positive contribution to the ecology of the Cobaki Broadwater, and Leda should be supported and encouraged to pursue this objective. Removal of cattle from the area

and the presence of rehabilitated saltmarsh will probably lead to increased fish stocks and nutrient cycling.

The following comments are made in relation to the Saltmarsh:

- The area designated for Saltmarsh restoration is currently zoned 6b and it is shown in proposed amended zoning supplied with the concept plan to remain 6b. It would be beneficial to rezone this land to 7a Wetland in association with other zoning changes proposed in the Concept Plan. Under the new Tweed LEP it would be Environmental Conservation.

There is no justification provided for leaving this natural area in a 6b recreation zone, and further, there are many possible uses of the 6b recreation zoning that are incompatible with the stated objectives of restoring the saltmarsh.

- There is a potential that release of large volumes of stormwater via a diffuse swale system will create a large freshwater dominated zone in the landward margins of the saltmarsh, closest to Cobaki Parkway. This needs to be assessed for system establishment and long term management. Salinity needs to be predicted to understand effects on the proposed saltmarsh rehabilitation area ie. will inputs of freshwater compromise the establishment of this plant community?

Weed control in a fresh or slightly brackish marsh system will be much more onerous than if the zone is regularly and comprehensively inundated with saltwater.

- Certain sections of the bank of Cobaki Creek adjacent to the proposed saltmarsh restoration area are steep, fragile and actively eroding. It will be important to document existing erosion and work on plans to arrest bank erosion in this area. Preliminary findings of the Cobaki and Terranora Catchment Management Plan (draft available late February 2009) identifies ongoing erosion of creek bank in this area as an important issue affecting water quality in Cobaki Broadwater. Bank erosion may be treated through a combination of revegetation, rock revetment or bio-engineered log structures that also enhance fish habitat. Securing a commitment to manage creek bank erosion and enhance riparian corridor habitat should be a priority which is incorporated into the saltmarsh restoration plan, or an additional riparian zone restoration plan.

Saltmarsh Rehabilitation Plan

The boundary between fresh and salt water controlled wetlands at the Cobaki site intergrades and likely fluctuates with weather and tidal inundation patterns so the mapping as distinct areas would appear somewhat arbitrary – justification should be provided.

Species proposed for replanting include rainforest species and species not known from the proposed restoration location – justification is required and reasoning for trees other than swamp or local floodplain species as no levels are provided.

Climate Change issues raised by Fisheries in DGR consultation (Fisheries letter was not included in with other government department representation letters) would appear inadequately addressed as it affects saltmarsh in providing a buffer for landward movement. The road location may preclude such expansion but this issue should be further discussed.

Overall, the plan includes the major components discussed and agreed with Council, including;

- Removal of cattle, fencing to preclude stock;
- Maintenance/ ability to adjust tidal regime;
- Allowing natural regeneration/assisted revegetation of areas;
- Monitoring/adjustment/remonitoring;
- Adaptive management.

However, the plan is very broad without specifics or scientific analysis provided to justify or detail the mechanics of the proposal. Statements such as “repair or construct new tidal gates should include details of location, timing, sizing and the tidal range aimed for to provide the best restoration capacity. (It should be noted that detailed justification is required for proposals that centre on or incorporated installation of floodgates as floodgates are identified as in-stream barriers and so captured by the Key Threatening Processes listing under Part 7A of the Fisheries Management Act 1994.)

No detail regarding impacts of particular aspects of the development are provided, e.g. “roadway construction, including realignment of Sandy Lane”, “additional culverts”. It was previously understood that the saltmarsh plan would include discussion on all aspects of impacts within the one plan, including impacts of realigning Dunn’s Drain to cater for the proposed roadway alteration in terms of acid sulfate soils, stormwater and groundwater implications to determine overall saltmarsh impact. Separate plans all state that impacts can be managed without sufficient detail to justify such a statement.

Acid Sulphate Soils and the Proposed Lake

Whilst discussed previously, environmental impacts associated with acid sulphate soils and construction of the lakes is discussed in greater detail below.

The Acid Sulphate Soil Management Plan makes reference to the proposed lakes in its ‘summary’ section noting that *“The material which would be excavated during the construction of the proposed lakes would be suitable for use as fill, following appropriate neutralisation of ASS.”*

However, in section 3.3 of the ASS in discussion of management approach it states that:

“Minimal disturbance of these materials (Acid Sulphate Soils) would occur under the Cobaki Lakes Concept Plan as the proposed lakes will essentially be constructed in a ‘turkey nest’ manner to minimise the excavation and exposure of ASS.”

Reference to the concept and site constraints plan indicates that in the case of the downstream lake there is a significant intersection of PASS material if the lake is excavated.

It is considered that prior to approving the concept of the excavation of a lake and associated drainage infrastructure in an area of known PASS, a much more detailed plan describing the amount of excavation and strategies to be employed to manage all facets of the ASS should be prepared and reviewed. It is assumed that excavation of a lake would require dewatering on a large scale, and it has been shown on the site of the Tugun Bypass that this has had significant implications for the pH of groundwater and resulted in mobilisation of metals to surface water. Disposal of dewatering effluent would also need to be addressed in a detailed ASS plan. These are very serious issues with consequences for long term site amenity and catchment

health, and it is evident that on other sites (for example, the Tugun bypass), ASS impacts associated with large scale excavation have not been able to be mitigated successfully.

If the lake is a shallow excavation and unlined what will the affect of extremely acid soils be on plant establishment and pH of lake waters?

If the system is positioned above the groundwater table, how will potential hydraulic interruption of the groundwater table be managed?

Water Quality and Management of the Lake

As identified above, long term operation of a constructed lake will be a significant maintenance issue for TSC. Freshwater lakes receiving storm water runoff are prone to problems associated with nutrient accumulation, both in the water column, and in lake sediments. This can lead to blue green algae blooms and blooms of nuisance plants, for example *Salvinia*, which TSC currently spends ten's of thousands of dollars each year removing from a number of waterways. Lake depth can have implications, for example stratification and formation of deoxygenated zones at depth, or shallow lakes can become hot and deoxygenated.

The construction of a lake at Cobaki will be potentially be significantly affected by its intersection with groundwater (and issues of oxidation of ASS and groundwater acidification) as noted above. An excavated lake would intercept the groundwater table and potentially cause draw down of groundwater in adjacent areas and therefore oxidation of ASS. A lake constructed in a turkey nest fashion may hydraulically load groundwater, or if the lake is lined, cause a barrier to groundwater movement, causing groundwater to express in unintended/unpredicted locations across the site. Acidified groundwater may created acid scalds or surface as a red sludge due to precipitated iron and cause significant concern for residents and the receiving environment.

Management of nutrient in lake waters will be difficult. Despite the expected removal of nutrients and sediments via the treatment train approach prior to the lake, if the lake has a significantly high hydraulic retention time, algae blooms will become an issue. It has been indicated that recirculation of lake waters throughout the lake system would be possible, and this could be effective in controlling algae but this would be a significant cost and operational issue for Council.

The best nutrient removal efficiency for stormwater will be via the proposed sediment capture zones and shallow macrophyte zones in the stormwater plan. A lake (particularly nutrient enriched sediments) may end up being a source of nutrient export from the site in the long term.

The potential to introduce saltwater into the lake to control water weeds is useful, but may ultimately increase the discharge of nutrients from the site. If there is a bloom of for example, *Salvinia* in the lake, and it is controlled by increasing lake salinity, the large scale die off of water weed and other healthy (freshwater) aquatic vegetation could contribute a substantial load of organic matter to the lake sediments, which would then be released back into the system via anoxic decomposition.

Unless each of the issues noted above can be addressed to a level of detail sufficient to convince Council that the lake will not become an onerous maintenance burden, or a significant risk to the environment through ASS disturbance, the Council is not prepared to take on long term maintenance of the lake.

These are complex design issues which if left to be resolved at a later stage may be intractable, in which case Council could perhaps reserve the right to reject the lake at a later stage, or make Leda responsible for the lake in perpetuity under a body corporate arrangement.

Water Quality Criteria

Recent system specific work undertaken in the Cobaki and Terranora Broadwaters through the Cobaki and Terranora Broadwater Ecosystem Health Monitoring Program and the review of the Catchment Management Plan for Cobaki and Terranora Broadwater has included detailed assessment of the assimilative capacity of the Broadwaters and modelling of nutrient processing within the systems.

Any further detailed design of stormwater systems, particularly consideration of water quality design objectives should make reference to this work, which will be available in late February 2009.

Loss of Habitat and Compensation/Offsets

Offset areas for threatened species and Endangered Ecological Communities should be considered based on the ecological values of the site with the areas of highest conservation value retained and restored. The Concept Plan proposes offsets and compensation only in areas with development constraints and only outside of existing consents. This is not a holistic way of considering the site and its significant ecological values and indicates little or no compromise in terms of the development footprint, particularly since it appears that clearing of areas of ecological value has already occurred (in accordance with previous consents issued prior to EEC determinations).

The loss of habitat from both existing approved areas and non-approved areas for each species or community should be totalled to give a clear indication of impacts.

The Director-General's Requirements include the requirement to - "Assess proposed native vegetation clearing with consideration of potential impacts and if applicable provide details of any offset strategy or other suitable mitigation measures to ensure that there is no net loss of native vegetation values". Although this requirement has largely been addressed, net loss of native vegetation values appears to be proposed in contravention to this requirement.

A number of offsets rely on re-creation of habitat rather than restoration of existing habitat on site. In-situ conservation is always preferred to re-creation as it has existing faunal value which must then be lost and a lag experienced before re-creation. In addition, re-creation involves risk of failure. This is particularly the case with Wallum Froglet habitat linked in with the stormwater management system and thus at risk of nitrification and sedimentation. A recent such proposal at Kingscliff determined that such habitat needed to be provided "off-line" and in accordance with stringent water quality parameters and monitoring to avoid risk of failure. Where compensation of Wallum Froglet habitat is sought it should be away from the stormwater system and recreational areas.

Buffers

The Director-General's Requirements include - "a description of the proposed treatment of any ecological buffers, including interaction with the proposed land uses, asset protection zones, stormwater structures, extent of proposed environmental restoration and enhancement works."

No buffers are proposed apart from Asset Protection Zones to areas of ecological conservation value. Table 12 indicates that this criteria is satisfied in Appendix I (Management Plans) yet none of these plans discuss buffers. A buffer to saltmarsh areas is important in relation to mosquito abatement and climate change and buffers generally serve to reduce edge effects and protect areas of ecological sensitivity. Given that residential development is proposed adjacent habitat areas, further consideration of buffers is required.

Separation of Environmental Protection and Open Space Components

As identified above, land proposed to be conserved is generally considered together with land to be used as open space. This makes it difficult to determine both where local parks and sportsfields are proposed (and potential impacts arising to natural areas) and which areas are to be set aside for conservation. The land area proposed for each component of open space and environmental protection needs to be clearly stated and a separate Figure or Plan is required in order to assess both of these aspects of the development.

The James Warren Ecological Assessment report states that 84.3 ha of environmental protection areas are proposed but their combination with open space means that areas proposed to be conserved in perpetuity cannot be discriminated from areas to be developed for recreation. Similarly the Environmental Assessment Executive Summary states that “the proposed zoning refinements result in a total of 81ha of land...to be developed, landscaped and rehabilitated for open space/parks and a range of recreational opportunities under the Concept Plan” and “a total of 267ha (45% of the Cobaki lakes site) zoned for environmental protection and recreation (is) to be rehabilitated and landscaped under the Concept Plan”. Presumably the remainder consists of lakes and saltmarsh but this is not clear.

Vegetation Management Plan

The Vegetation Management Plan is largely a plan to manage vegetation clearing and should be appropriately named to avoid confusion. Weekly reports proposed to be provided by the contractor to the applicant would lead to the question of the proposed extent of further clearing and how many weeks of clearing are expected?

Fauna Management Plan

The initial part of this plan details how habitat clearance will be managed where existing fauna using vegetation to be cleared, in large part proposing that fauna be disturbed and moved on. All existing native faunal habitat should be retained wherever possible.

The plan states that “Koala habitat will be retained and protected...throughout the site” yet in other parts the application states that all Swamp Mahoganies (known preferred Koala food tree species) are to be removed, thus this would appear to conflict. Similarly issue arises with Wallum Froglet habitat, yet rezoning and filling in the vicinity of the drain along Cobaki Parkway would directly impact known habitat areas. These issues require clarification and conservation.

Wetland Rehabilitation Plan

This plan applies to freshwater wetlands and aims to compensate for loss of this EEC elsewhere, as well as loss of Wallum Froglet habitat. Further detailed study with regard to water quality parameters is required before restoration of degraded wetlands and re-creation and planting of additional wetland can be considered adequate compensation for loss of known habitat.

ENERGY EFFICIENCY

Council and Country Energy are working together to improve the energy efficiency of the Shire's existing streetlight network.

It is considered that public lighting should be designed to minimise maintenance requirements while maximising energy efficiency.

DRAFT

MAJOR SUBDIVISIONS (DEVELOPMENT ASSESSMENT ENGINEER)

In terms of future subdivision, the following comments are made.

- Staging of the development should be in strict accordance with the release areas plan to ensure infrastructure is designed and constructed in a manner to support the broader development.
- Infrastructure roll-out is to meet the minimum requirements for each stage of development. Where only minimum requirements are met in initial stages, requiring upgrade of future stages, the developer shall meet the full cost.
- Agreement is required with Tweed Shire Council prior to approval of the Concept Plan in regard to amendments to TSC LEP, DCP and Development Design and Construction Specifications. Where agreement is not reached, , existing legislation and standards shall apply.

Recommendations made specifically in relation to the Statement of Commitments are detailed further below.

STORMWATER / LANDFORMING (INFRASTRUCTURE ENGINEER)

Council's Infrastructure Engineer has raised a number of issues with regard to the adequacy of the EA documentation prior to its exhibition, particularly relating to landforming and stormwater. Many of these issues remain unresolved in the exhibited EA, and the Department is requested to obtain amended plans and additional information from the applicant, in order for the Concept Plan to be properly assessed.

For those issues that have been addressed by the Concept Plan, amendments to the Statement of Commitments are recommended below.

Landforming

The concept plan references nine (9) previous construction approvals from Council for earthworks and associated civil works across the subdivision site. Some of these works have been completed, others are in progress, while one approval is currently the subject of an application for amendments (specifically the s96 application to amend K99/1124 for a 560 lot subdivision, involving cut areas C1 and C2 in the northern hillside precinct).

The Concept Plan intends to preserve these earthworks approvals and continue with the work until such time as new DAs and CCs are obtained (except for C1 and C2 which are intended to be amended under the s96 – Precinct 1 and 2 of the Concept Plan).

This approach is considered to be inadequate as the EA does not include a single, coherent landforming plan for the whole site. Without such a plan, proper assessment of the Concept Plan is not possible, as the finished landform is fundamental to other factors, including:

- Compatibility of the works with the surrounding topography, boundary constraints, slope stability and future urban amenity of the development site;
- Boundary treatments, including retaining walls / batters;
- Provision of drainage infrastructure to cater for the extensive and steep external stormwater catchments affecting the site;

- Provision of minor and major drainage systems, and their compatibility with future road alignments, open space, urban allotments, runoff treatment areas and lawful discharge points;
- Provision of road infrastructure at acceptable gradients, including individual property accesses and fire trails;
- Provision of useable open space at acceptable grades;
- Erosion and sediment control during the construction phase, and permanent stormwater quality control for the operational phase of the subdivision;
- Available flood storage, for impact assessment;
- Design of the proposed lakes, and their related impacts on ground water and potential acid sulphate soils;
- Compatibility of the Concept Plan with the other applications.

These factors influence the potential environmental impacts of the development, and the future sustainability, safety and amenity of the urban residential area. Without proper consideration of landforming, future allotments may be exposed to stormwater flooding, impacts of high retaining structures, limited accessibility and mobility, and limited housing choice.

Stormwater Management

The EA includes a Stormwater Concept Plan, prepared by Gilbert & Sutherland (Appendix E). The report proposes a treatment train approach to stormwater quality control, incorporating water sensitive urban design (WSUD) and integrated water cycle management (IWCM) principles. While such concepts are supported, the concept plan does not include sufficient detail to ensure that adequate drainage infrastructure is able to be provided to cater for external and internal runoff catchments, and convey these flows in a continuous and sustainable manner to the lawful point of discharge, being Cobaki Creek. Further, the catchment plan provided in the concept plan lacks sufficient detail to properly account for the steep terrain and existing watercourses and gullies around the site.

The measures recommended by the stormwater concept plan are not reflected elsewhere in the EA. For example, the report recommends the use of roadside swale drainage, instead of hard kerb and gutter/piped infrastructure, which is not reflected in the discussion on road infrastructure. While the use of swales may permit a reduction in wetland sizing for urban catchments under Council's Development Design Specification D7 - Stormwater Quality (which appears to be the emphasis of much of the stormwater report), they require a wider road reserve width, which will impact on the subdivision design and potential lot yield. The impost of WSUD measures on Council road and drainage maintenance has also not been explored in the report.

While it is accepted that additional detail will be provided in future applications, the applicant needs to demonstrate as part of the Concept Plan that a stormwater management system, compatible with the earthworks plan discussed above, can be achieved for both the construction and operational phases of the subdivision.

Proposed Lakes

The Stormwater Concept Plan fails to clearly identify the role of the proposed lakes in the stormwater treatment train. It does, however identify Tweed Shire Council as the authority responsible for the ongoing maintenance and operation of the lakes. The

potential cost and resource imposition of the lakes on Council is unable to be properly assessed based on the information provided in the Concept Plan. Experience with other large lake-based drainage systems in Tweed Shire (e.g. Vintage Lakes, Banora Point) has shown that this potential liability can be extremely significant in the long term. As identified above, issues such as management of water quality, acid sulphates, weeds and threatened species can significantly hamper Council's ability to maintain the lakes, and provide the level of amenity expected by adjoining residents and open space users. As such, the lake concept is not supported at this time.

As an alternative concept, the developer could consider management of the lakes under a private body corporate, provided the lake was offline to the stormwater management system for the subdivision, which would continue to be managed by Council.

The EA is unclear as to the method of construction for the lakes. In some areas of the report, the lakes will be excavated, with the fill to be utilised elsewhere in the subdivision (following treatment for acid sulphates), while the acid sulphate soil management plan (Appendix K) recommends a "turkey nest" construction due to the high ASS risks in the floodplain. The method of construction needs to be clarified, as it will influence a number of other key areas such as surrounding ground levels, stormwater drainage design, the location and design of treatment wetlands and devices, and flood storage.

With regard to planning issues for the lakes concept, SEPP No.50 - Canal Estate Development should also be considered, which prohibits development that:

- "(a) incorporates wholly or in part a constructed canal, or other waterway or waterbody, that is inundated by or drains to a natural waterway or natural waterbody by surface water or groundwater movement (not being works of drainage, or for the supply or treatment of water, that are constructed by or with the authority of a person or body responsible for those functions and that are limited to the minimal reasonable size and capacity to meet a demonstrated need for the works), and*
 - (b) includes the construction of dwellings (which may include tourist accommodation) of a kind other than, or in addition to:*
 - (i) dwellings that are permitted on rural land, and*
 - (ii) dwellings that are used for caretaker or staff purposes, and*
 - (c) requires or includes:*
 - (i) the use of a sufficient depth of fill material to raise the level of all or part of that land on which the dwellings are (or are proposed to be) located in order to comply with requirements relating to residential development on flood prone land, or*
 - (ii) excavation to create waterways primarily for the purposes of providing water access to dwellings,*
- or both."*

Refer also to comments above with regard to the lakes and water management issues.

Subdivision and Urban Design

Section 4.11 of the EA proposes that the applicant's consultants will create their own development guidelines and codes for the subdivision and housing development, as

part of a future amendment to the Concept Plan. This is despite acknowledging Council's DCP in Section 3.7 of the EA as being part of the prevailing Local Planning Framework.

At least as far as the provision of engineering infrastructure and open space is concerned, the controls in place in DCP A5 - Subdivision Manual should be adopted by the Concept Plan. DCP A5 is also supported by a suite of Development Design Specifications (13 in total) and Development Construction Specifications (32 in total), many of which are based on Aus-Spec standards. As Council ultimately inherits the subdivision assets, it is imperative that these assets meet the standards set out in these documents to ensure their effective and efficient operation and maintenance for their full life cycle, to avoid unduly burdening ratepayers. Council's existing subdivision manual and associated design and construction specifications have been compiled and updated in consultation with the development industry over many years, and are considered to provide developers with appropriate minimum standards and performance criteria for public assets.

Flood related controls are specified in DCP A3 - Development of Flood Liable Land, and it is expected that DCP A1 - Residential and Tourist Development Code would cover the majority of issues relating to future urban residential development. Again, these documents have undergone public consultation and exhibition and have been subsequently adopted by Tweed Shire Council in order to best meet the objectives of the Council.

Amendments to the Concept Plan and Draft Statement of Commitments are required to adopt the subdivision, floodplain development and housing codes within Council's DCP, to ensure the required standard of infrastructure and character of the subdivision is achieved. Council is not opposed to future enhancements to these codes subject to the the developer identifying and providing adequate justification demonstrating areas where improvements could benefit the community and/or environment.

Planning Agreements and Developer Contributions

Section 6.10.3 of the EAR states the following:

"The developer acknowledges the Section 94 plans and DSP and accepts the application thereof to any future Development Consents given in respect of Cobaki Lakes, subject to negotiation of the specific terms as to rates, works-in-kind credits, the timing of the provision of certain facilities and the like."

This "negotiated" approach is reflected in the Draft Statement of Commitments (Section 7.0 of the EAR):

Project Component	Environmental Outcome (Commitment)	Measure (Commitment)	Timing for Completion
12. Contributions to local infrastructure costs	12.1 Contributions are made by the developer to Council infrastructure and servicing costs at a reasonable and apportioned rate.	12.1.1 The developer will negotiate with Tweed Shire Council the application to the Cobaki Lakes development of Council's s94 Contribution Plans and s64 Sewer & Water Developer Charges in accordance with Section	Prior to the approval of the Concept Plan.

Project Component	Environmental Outcome (Commitment)	Measure (Commitment)	Timing for Completion
		6.10 of this report.	

Prior to Concept Plan approval, Council requires the developer to accept (without negotiation) all applicable Developer Contributions Plans, including rates and works schedules. These plans provide scope for planning agreements for works-in-kind, which can be addressed with future Project Applications and/or Development Applications.

The Draft Statement of Commitments must be amended accordingly (refer below).

Flooding & Climate Change

A Flood Impact Assessment has been provided (Appendix E), which adopts 3.1m AHD as the minimum habitable floor level throughout the development. This correctly provides 0.5m freeboard above Council's minimum design flood level of 2.6m AHD, as prescribed by DCP A3 - Development of Flood Liable Land. The report is correct in that these adopted levels are somewhat conservative, on the basis that the design flood level is higher than the actual modelled peak flood level from the 2005 Tweed Valley Flood Study, and that this study assumed high ocean boundary conditions compared to similar flood studies conducted in nearby Shires. As such, there is some in-built allowance in these figures for future increases in flood levels due to climate change.

Council's consultants are currently updating the Tweed Valley Flood Study to incorporate more accurate ground level data and improved hydrologic and hydraulic modelling. This update will include modelled scenarios that take into account increased sea levels and rainfall intensities due to climate change, in accordance with the DECC Guideline "Practical Consideration of Climate Change" (October 2007). The results of this modelling will inform the Tweed Valley Floodplain Risk Management Study. This study will review required fill and floor levels, subdivision design and other structural solutions to address the potential impacts of climate change.

As such, while the Concept Plan adequately deals with flooding behaviour based on current information, updated information is imminent which may necessitate changes to the subdivision in future applications. The Statement of Commitments should be amended to reflect this potential for changes in flooding requirements.

The flood impact assessment in the Concept Plan is also adequate at this stage. It demonstrates that the proposal will have negligible impact on the larger Tweed River / Broadwater flood. Impacts on the local Cobaki Creek flood scenario are more significant, however peak flood levels are well below the governing Tweed design flood. The modelled scenarios make various assumptions about filling of the floodplain and levels of Cobaki Parkway and Sandy Lane. These need to be reflected in the overall landforming plan for the subdivision, as requested in item 1 above.

Appendix E commits the developer to conducting more detailed flood impact analyses in future applications. This needs to be reflected in the Statement of Commitments.

Request for Information

In order to adequately address the DGRs and Council requirements, the applicant is required to provide the following detail in support of the Part 3A Concept Plan Application:

Landforming

- (i) Contour plans (at 1m interval) showing existing and proposed levels for all precincts of the Concept Plan, overlaying a site plan including trunk road network and precincts. Plans shall address treatment and levels at precinct / stage interfaces as each precinct / stage is progressively developed.
- (ii) Cross sections of landformed areas, showing pre-development and finished ground levels, and any supporting structures, at intervals of approximately 500m around the site and at all critical points. Sections shall extend at least 50m beyond stage or site boundaries to demonstrate continuity.

Stormwater Management

- (iii) Stormwater drainage catchment plans for all precincts / stages
- (iv) Indicative drainage systems for all precincts / stages, including:
 - trunk drainage (drains conveying runoff through the development site from upstream catchments, drains conveying runoff from the development site boundary to legal points of discharge off the site, and any internal drainage servicing a catchment greater than 1ha)
 - controlling minor drainage (systems that drain areas of critical surface level, particularly in low, flat or filled areas, that will control the level of downstream trunk drainage)
 - the location and sizing of retention and treatment devices, bypass and surcharge flow paths, and water courses
 - the identification of downstream and cross boundary legal stormwater discharge paths for each precinct / stage and for the total development, including proposed easements where necessary.
- (v) Proposed implementation strategies for erosion and sediment control and stormwater management for each precinct / stage, cumulative stages and for the total development.
- (vi) Amend Statement of Commitments as per Section 10

Proposed Lakes

- (vii) Concept design for the proposed lakes, including method of construction, typical levels (for earthworks and water). The lakes must be located offline from the trunk stormwater drainage system for the subdivision, which will be under Council control.
- (viii) Concept Management Plan for the proposed lakes, confirming private ownership of the lakes, and outlining maintenance regimes and measures to address the management of water quality, acid sulphate soils, weeds, and threatened species

Urban Design

(ix) Adopt Council's DCP as the basis for all subdivision engineering design.

Once this information request is adequately addressed, further assessment of the EA shall be undertaken.

STATEMENT OF COMMITMENTS

In accordance with the above discussion, the following amendments and additions to the draft Statement of Commitments are required by Council's Infrastructure Engineer.

Project Component	Environmental Outcome (Commitment)	Measure (Commitment)	Timing for Completion
1. Concept Plan	1.1 Development is carried out generally in accordance with the Concept Plan and Environmental Assessment Report.	<p>1.1.1. Design Guidelines and Development Codes for the detailed design and construction of development at Cobaki Lakes will be generally consistent with the Concept Plan and Environmental Assessment Report.</p> <p>Design and construction of development at Cobaki Lakes will be in accordance with the standards set down by Tweed Shire Council's Development Control Plan and associated Development Design and Construction Specifications. Where the Developer wishes to vary or improve on Council's standards, a request for variation, with supporting information, shall be submitted with future Part 3A Project Applications and Development Applications. Where no agreement is reached, TSC standards shall prevail.</p> <p>1.1.2. Future Part 3A Project Application and Development Applications will be generally consistent with the Concept Plan and Environmental Assessment Report.</p> <p>1.1.3. Each stage of development will be generally consistent with the Concept Plan and Environmental Assessment Report.</p>	At each stage of development.
2. Visual impact of development	2.1 Key attributes of the natural visual landscape on the Cobaki Lakes site (being the topographical amphitheatre, remnant band of bushland, Cobaki Broadwater forest and wetland, and proposed new central open space and lakes precincts) are retained and rehabilitated.	2.1.1. Future Project Applications and Development Applications will retain and rehabilitate the key attributes of the natural visual landscape generally in line with the provisions of the Concept Plan and Environmental Assessment Report.	At each stage of development.
	2.2. The visual impact of subdivision and building development is managed.	<p>2.2.1. In addition to Council's DCP standards and Design and Construction Specifications, supplementary Design Guidelines for the detailed design and construction of development at Cobaki Lakes will include provisions to manage visual impact relating to:</p> <ul style="list-style-type: none"> - subdivision design, - building design, - visual landscape, - landscaping, and - roof material. 	Prior to granting of any new approvals or consents for subdivision, buildings or landscaping on the site.

Project Component	Environmental Outcome (Commitment)	Measure (Commitment)	Timing for Completion
		2.2.2. Future Project Application and Development Applications will respond to the DCP, Specifications and supplementary Design Guidelines for the detailed design of subdivisions and buildings for each precinct.	
3. Road access	3.1. Road access to the north through Boyd Street and Gold Coast Highway has capacity to accommodate traffic generated by development under the Concept Plan.	3.1.1 The Developer will meet its legal obligations in the Boyd Street Road Works Deed between Gold Coast City Council and Calsonic Management Services Pty Ltd dated 8 July 1993.	As specified in the Deed.
	3.2 Road access to the south through Cobaki Lakes and over Cobaki Creek to connect with Piggabeen Road is provided to accommodate traffic generated by development under the Concept Plan.	3.2.1 The Developer will meet such of its legal obligations as have not yet been fulfilled and remain applicable in the Boyd Street Road Works Deed between Tweed Shire Council and Calsonic Management Services Pty Ltd dated 8 July 1993, and will, if so requested by Council and subject to negotiation, enter into an amended Deed that reflects the current position. The Developer will specifically meet commitments in relation thereto set out in 3.2.2 to 3.2.5 hereunder.	As specified in the Deed or any amended Deed.
		3.2.2 The Developer will dedicate to Council all the Cobaki Parkway Road Reserve from the north eastern boundary of the property to Cobaki Creek, in such a location as directed by Council, as part of Stage 1 of any new or amended Project Approval / Development Consent. The road reserve width shall be generally 40 metres. From time to time, it may be necessary to increase this width to contain road batters within the road reserve. The width shall allow room for Council to gain adequate and realistic access to all road facilities. Council may allow an easement over cut batters provided the area is stable and access to drainage is serviceable. The Developer will accept that as compensation for dedicating Cobaki Parkway for its full length Council's "purchase" the dedicated land by way of a credit against the developer's obligations to pay contributions under the current version of the Tweed Road Contribution Plan (TRCP) No.4 , and that Council will not be required to pay any cash amount to the developer for the land dedicated. The "purchase" price to be paid by Council to the Developer shall be based upon the land purchase rates in Council's TRCP.	As part of the first Part 3A Project Application or Development Application (whichever comes first).
		3.2.3 The Developer will construct two lanes of Cobaki Parkway, in accordance with Council's requirements, from the toe of the ramp on the western side of the overpass at the intersection of Boyd Street and the Tugun Bypass to the southernmost roundabout on Cobaki Parkway at its intersection with Sandy Lane. These works will be progressively constructed to access each phase of the development as it is released, provided Cobaki Parkway is dedicated for its full length in conjunction with Stage 1 of any new or amended Project Application Approval / Development Consent. A value of such works, in accordance with current TRCP rates, to be agreed between the	As part of the first Part 3A Project Application or Development Application (whichever comes first).

Project Component	Environmental Outcome (Commitment)	Measure (Commitment)	Timing for Completion
		developer and Council , will be credited against the developer's obligations to pay contributions under Section 94 Plan No. 4 TRCP.	
		3.2.4 The Developer will construct two lanes of Cobaki Parkway, in accordance with Council's requirements, from the southern-most roundabout on Cobaki Parkway at its intersection with Sandy Lane to the Cobaki Creek, a two lane bridge over Cobaki Creek and a connection to Piggabeen Road, to the satisfaction of Council, provided that Council is responsible for the planning approval for Cobaki Creek Bridge and for the connection to Piggabeen Road. A value of such works, to be agreed between the Developer and Council, will be credited against the Developer's obligations to pay contributions under Section 94 Plan No.4 TRCP.	The Developer will negotiate with Council the timing of the construction of these works, provided that the developer shall, if so required by Council, construct such works within 12 months of the completion by the developer of the construction of such part of Cobaki Parkway as is within 500m northeast of its southernmost roundabout at the intersection of Sandy Lane.
		3.2.5 The Developer shall include the southern section of Sandy Lane connecting to Piggabeen Road in the subdivision design, to provide an alternate connection to Cobaki Parkway for the development.	
	3.3 Internal roads and access arrangements are designed and constructed to contemporary standards of safety and efficiency.	3.3.1 Internal roads are designed to comply with meet AUSTRROADS Guide to Traffic Engineering Practice. Tweed Council's DCP and referenced design and construction specifications and standards. 3.3.2 Car parking and loading/ servicing facilities are to be included in Design Guidelines and Development Codes for future Development Applications generally consistent with Tweed Council DCP. 3.3.3 Direct vehicle access off Cobaki Parkway is to be restricted. Access to commercial developments shall be off lower order roads.	As part of each stage of development.
4. Flora and Fauna Management	4.1 Areas of saltmarsh on the site are rehabilitated and protected.	4.1.1 The provisions of the Saltmarsh Rehabilitation Plan (James Warren & Associates, August 2008) will be implemented.	Commencement of rehabilitation work prior to registration of any plan of residential subdivision. The work shall then proceed in a regular manner with the objective of achieving the timeline and milestones set out in the Rehabilitation Plan.
	4.2 Areas of Scribbly Gum trees are conserved and managed.	4.2.1 The provisions of the Scribbly Gum Management Plan (James Warren & Associates, August 2008) will be implemented. 4.2.2 Local parks that include areas of Scribbly Gum in future Development Applications will be dedicated to Tweed Shire Council.	Commencement of management works prior to registration of any plan of residential subdivision on which the Scribbly Gum is located. Management works for the relevant area shall continue in accordance with the requirements of the Management Plan.
	4.3 Native vegetation is regenerated.	4.3.1 The provisions of the Site Regeneration and Revegetation Plan (James warren & Associates, August 2008) will be implemented.	Commencement of regeneration and revegetation work prior to registration of any plan of residential subdivision on or adjacent to the native vegetation. Work shall regularly continue and be completed prior to certification of completion of adjacent residential subdivision works.
	4.4 Removal of native vegetation is appropriately	4.4.1 The provisions of the Vegetation Management Plan (James Warren &	As vegetation removal occurs.

Project Component	Environmental Outcome (Commitment)	Measure (Commitment)	Timing for Completion
	managed.	Associates, August 2008) will be implemented.	
	4.5 Threatened fauna species are appropriately managed.	4.5.1 The provisions of the Fauna Management Plan (James Warren & Associates, August 2008) will be implemented.	Commencement of management work prior to registration of any plan of residential subdivision on or adjacent to the fauna habitat. Work shall regularly continue in accordance with the Management Plan.
	4.6 Freshwater wetlands are rehabilitated.	4.6.1 The provisions of the Freshwater Wetland Rehabilitation Plan (James Warren & Associates, August 2008) will be implemented.	Commencement of rehabilitation work prior to registration of any plan of residential subdivision. The work shall then proceed in a regular manner with the objective of achieving the timeline and milestones set out in the Rehabilitation Plan.
5. Biting Midge & Mosquito Control	5.1 Biting midge and mosquitoes are appropriately managed.	5.1.1 The provisions of the Biting Midge & Mosquito Control Plan (Mosquito Consulting Services, May 2008) will be implemented.	Commencement of rehabilitation work prior to registration of any plan of residential subdivision. The work shall then proceed in a regular manner with the objective of achieving the timeline and milestones set out in the Rehabilitation Plan.
6. Stormwater and flood management	6.1 Stormwater on the site is appropriately managed.	<p>6.1.1 The provisions of the Stormwater Management Plan (Gilbert & Sutherland, May 2008) will be implemented.</p> <p>6.1.2</p> <p>6.1.1 Stormwater management plans will be prepared as part of future Project Application and Development Applications for each stage of development, and implemented. Stormwater management plans shall be in accordance with Council's DCP, and referenced Development Design Specification D7 - Stormwater Quality.</p> <p>6.1.2 Water sensitive urban design measures may be implemented in general accordance with the Stormwater Management Plan (Gilbert & Sutherland, May 2008) in areas where geotechnical and slope parameters are compatible. Additional road reserve widths shall be provided, in accordance with Council's standard road cross-sections, to accommodate road-side drainage swales and similar WSUD measures, where they are to be provided.</p> <p>6.1.3 The Developer accepts a five (5) year maintenance period over all water sensitive urban design facilities. A defects liability period of six (6) months shall apply to the works in accordance with the EP&A Act.</p>	<p>As part of the completion of infrastructure works for each stage of development.</p> <p>As part of each stage of development</p>
	6.2 Flood protection is provided in the design of development.	<p>6.2.1 A Flood Protection Level of RL3.10m AHD will be implemented in development.</p> <p>Development shall be in accordance with Council's DCP Section A3 Development of Flood Liable Land, and any subsequent amendments that are imposed due to the update of the Tweed Valley Flood Study and associated consideration of potential climate change impacts of flood levels, as part of the Tweed Valley Floodplain Risk Management Study.</p> <p>6.2.2 Detailed flood impact assessments shall be provided by the Developer in future Project</p>	As part of each stage of development.

Project Component	Environmental Outcome (Commitment)	Measure (Commitment)	Timing for Completion
		Applications and Development Applications	
	6.3 Lake Management	6.3.1 The Developer shall ensure that the proposed lakes are vested in private ownership, and that the maintenance of the lakes will be undertaken by the owners, and not Tweed Shire Council, in perpetuity.	As part of the Concept Plan
7. Groundwater Management	7.1 Groundwater is appropriately managed.	7.1.1 The provisions of the Groundwater Management Plan (Gilbert & Sutherland, April 2008) will be implemented. 7.1.2 Groundwater will be integrated into Stormwater Management Plans will be provided in future Project Application and Development Applications.	As part of the completion of infrastructure works for each stage of development.
8. Soils Management	8.1 Geotechnical conditions are appropriately managed.	8.1.1 Detailed geotechnical studies, as required, will be prepared to support future Project Applications and Development Applications for earthworks, civil construction and building work, and implemented.	As part of earthworks and building works for each relevant stage of development.
	8.2 Acid sulphate soils (ASS) are appropriately managed.	8.2.1 A detailed ASS investigation and, if required an ASS Management Plan, will accompany future Project Applications and Development Applications for detailed design and construction of development on areas of potential acid sulphate soils, and implemented.	As part of earthworks and building works for each relevant stage of development.
	8.3 Contaminated sites are appropriately managed.	8.3.1 A detailed contamination assessment of potentially contaminated land will be included as part of any Project Application or Development Application applying to that land, and if required implemented with a Remediation Action Plan.	As part of earthworks and building works for each relevant stage of development.
9. Bushfire Protection	9.1 Bushfire protection measures are included in development.	9.1.1 Development will comply with the guidelines Planning for Bushfire Protection 2006. 9.1.2 The Asset Protection Zone concept plan is to be implemented. Bushfire asset protection zones (APZs) shall only be provided on public land where the land is readily accessible, funding is made available and maintenance is by conventional means. Where this cannot be demonstrated to Council's satisfaction, APZs must encumber private land, with relevant title restrictions applied.	As part of each stage of development.
10. Interface with surrounding land	10.1 Agricultural buffers, ecological buffers, and appropriate measures for management of generic impacts on and from adjacent land are included in development.	10.1.1 The recommendations of the Agricultural Buffer and Off-Site Impacts Assessment (Gilbert & Sutherland, May 2008) for the management of generic impacts, agricultural buffers, and ecological buffers will be implemented.	As part of each stage of development.
11. Aboriginal Cultural Heritage Conservation	11.1 Aboriginal cultural heritage on the site is appropriately conserved.	11.1.1 The recommendations of the Aboriginal Cultural Heritage Assessment (Everick November 2008) will be implemented. 11.1.2 The Aboriginal Cultural Heritage Management Plan (Everick) will be implemented and refined in consultation and cooperation with representatives of the local Aboriginal community.	Commencement of conservation measures prior to commencement of works for each stage of development, with completion prior to occupation of the stage.
12. Contributions to local infrastructure	12.1 Contributions are made by the developer to Council infrastructure and servicing	12.1.1 The developer will agree to negotiate with Tweed Shire Council the application to the Cobaki Lakes development of pay	Prior to the approval of the Concept Plan.

Project Component	Environmental Outcome (Commitment)	Measure (Commitment)	Timing for Completion
costs	costs at a reasonable and apportioned rate towards provision and improvement of infrastructure, amenities and services attributable to the development.	contributions to Council in accordance with Council's s94 Contribution Plans and s64 Sewer & Water Developer Charges in accordance with Section 6.10 of this report at the rate applicable at the time of payment.	
13. Community consultation	13.1 The local community is consulted further in the detailed planning and development of Cobaki Lakes Estate.	<p>13.1.1 The developer will implement a program of further public engagement, consisting of the elements described in Section 5.3 of this report, upon the commencement of the public exhibition of the Concept Plan.</p> <p>13.1.2 Any supplementary Design Guidelines and Development Codes will be advertised and placed on exhibition for public submissions.</p> <p>13.1.3 Future Project Application and Development Applications will be advertised and placed on exhibition for public submissions.</p>	As part of each stage of further planning of development.

Additional amendments to the Statement of Commitments are as follows:

- The Audit Statement be submitted to Council at the completion of the Remediation of Turners Cattle Tick Dip Site.
- Stage 2 Detailed Contamination Investigation Assessment prepared by a suitably qualified contaminated land consultant be submitted in relation to areas identified as potentially contaminated by the Stage 1 Preliminary Contamination Assessment by Gilbert and Sutherland dated May 2008 as part of all future Project Applications and Development Applications for precincts.
- Adequate buffers be provided between adjacent agricultural areas and residential areas proposed under the Concept Plan. These buffer zones should be densely planted out with trees where possible so that the vegetation can provide a screen. The buffer distance should be a minimum of 250m so as to be consistent with Council's proposed inclusion under Schedule 8 of the Protection of the Environment (Clean Air) Regulation 2002.
- A Noise Impact Assessment report(s) prepared by a suitably qualified acoustic consultant to accompany each future development application for subdivisions adjacent to the major roads or within close proximity to the town centre and mixed use precincts within the Cobaki Lakes site. These reports will need to address the impacts of road traffic noise on the proposed development particularly in respect to residential developments by reference to NSW DECC road traffic noise criteria. Where possible, the use of buffers will be preferred to mitigate noise instead of acoustic fencing.
- Provision for fibre cabling, or at least the appropriate conduit for future installation, as an alternative to the recent reliance on out-dated cabling forms, such as the copper used for ASDL systems, for the servicing of communications transmissions, thereby providing the capacity for more superior and efficient information exchange, such as high speed, broadband internet.
- Subject to Council endorsement, provide for approval by Council (prior to any Project Application or Development Application approval which may have an impact on water supply or sewerage demands or loadings) an Integrated Water

Cycle Management Report and plan which includes Councils preferred options of

- Single Dwellings – required to have a Minimum 5000L rainwater tank with a minimum 160 m² roof area connected to it.
- Multi Dwellings & other buildings – required to have a Rainwater tanks to be provided on a similar basis connecting 80% – 90% of the roof area .
- The use of Reduced Inflow Gravity Sewers (RIGS) to Councils Standards.
- Before any development can proceed, a detailed water supply strategy document needs to be submitted to Council for approval. This strategy should detail anticipated demands including the influence of IWCM measures adopted, distribution network pipe locations and sizes, staging of infrastructure, and other matters that may be relevant. It is noted that the proponent has approached Council seeking a fee proposal for hydraulic modelling of aspects of the conveyancing and distribution mains using Council's Water Conveyancing Network Model as the basis as a precursor to developing this strategy document.
- Provide before the next stage of applications, such a detailed water supply infrastructure report including consultation with Council to determine demands and the interaction with Council's existing and proposed water conveyancing system.
- Accordingly, a detailed sewerage infrastructure report is necessary to determine loadings to be adopted, justification of those loadings, infrastructure sizes, staging, pump duties, staging and treatment for septicity and odour control (e.g. oxygen injection, dosing, make up water, etc) for more of the sewage transport system than that shown in the EA.
- Provide before the next stage of applications, such a detailed sewerage infrastructure report including consultation with Council to determine loadings and the interaction with Council's existing and proposed sewage transport system.
- In general, time frames proposed for restoration or rehabilitation of conservation areas is stated as three years, with the saltmarsh area proposing five years. These periods are likely to be insufficient to achieve land requiring minimal maintenance particularly for lands described in several sections as “degraded by slashing and cattle grazing”. The developer shall maintain all environmental protection areas to be dedicated (including saltmarsh areas and scribbly gum areas) for a minimum period of ten years or within a time frame agreed with the end custodian. Prior to dedication an agreement with Council shall be established for funding of long term maintenance in perpetuity.
- Detailed performance criteria for restoration and maintenance of environmental areas shall be agreed and achieved prior to any dedication as public land.
- All roads and civil infrastructure shall be designed and constructed in accordance with TSC LEP, Development Control Plan and Development Design and Construction Specifications **current at the time** of each development application being lodged with Council. Variations to these current codes shall be by direct negotiation with TSC and specific to items in the current codes / standards

- Car parking and loading / servicing facilities are to be in accordance with TSC Development Control Plan and Development Design and Construction Specifications **current at the time** of each development application being lodged with Council. Variations to these current codes shall be by direct negotiation with TSC and specific to items in the current codes / standards.
- Direct access to Cobaki Parkway is to be prohibited. The restriction is to be highlighted within a Section 88B instrument created at the time of each Subdivision Certificate application.
- Geotechnical reports be prepared as required to support future development applications for earthworks, civil construction and building work.
- New allotments have a minimum street frontage of 6m where services by rear laneways and a minimum lot frontage of 9m where vehicular access from the street frontage is proposed. Lots located within cul-de-sacs shall have a minimum lot frontage of 12.5m to ensure a kerb distance of 9.0m is achieved. The standard will ensure sufficient resident and visitor parking is provided.
- The road hierarchy be established to ensure 90% of all allotments are within 400m **walking distance** to a bus route.
- Proposed shared bicycle paths on arterial /collector roads are not be supported where road pavements are not widened to provide a dedicated cycleway.
- The construction of any fire trail or access for emergency service vehicles be constructed to a standard specified by TSC having low ongoing maintenance costs.
- The location of any future regional Sewer Pump Station, Water Booster Pump Station or other public infrastructure be located on land to be dedicated to Council.
- Propose erosion management and work to arrest existing erosion on Cobaki Creek adjacent to the saltmarsh area. Erosion control and enhancement of riparian corridor habitat should be a priority incorporated into the saltmarsh restoration plan, or an additional riparian zone restoration plan.
- Where updated Deeds of Agreements in relation to traffic between Tweed Shire Council and Leda are developed, Statement of Commitments reflect these instead of previous older agreements.
- Public lighting to be designed in accordance with:
 - Australian Standard AS/NZS 1158 "Lighting for Roads and Public Spaces";
 - The NSW Public Lighting Code; and
 - Any relevant street lighting service agreements between council and the service provider.
- The efficiency of public lighting lamps must be no less than 60 lumens/watt
- Public lighting lamps should be shielded such that no light is emitted above the horizontal thus minimising wasted light.
- Note that with regards to ecological considerations, the Statement of Commitments generally commits only to implementation of plans that are broad in scope and generally unsatisfactory for reasons outlined above. Changes to

the Management Plans are required before the Statement of Commitments achieves expected outcomes according to the DGR's.

Note that Council would appreciate the opportunity to provide further comments on the Statement of Commitments upon receipt of the developer's response to submissions and any further information requested.

Should you wish to discuss any of the comments and recommendations herein, please do not hesitate to contact Rowena Michel on (02) 6670 2468.

Yours sincerely

Vince Connell
Director Planning and Regulation

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