

PROJECT

**AGRICULTURAL BUFFER
ZONE ASSESSMENT
PROJECT APPLICATION FOR
KINGS FOREST STAGE 1
KINGS FOREST
NEW SOUTH WALES**

PREPARED FOR
PROJECT 28 PTY LTD

DATE
JULY 2012

DOCUMENT CONTROL

DOCUMENT 10927 ABZA RNZ1F.docx
TITLE Agricultural Buffer Zone Assessment, Project Application for Stage 1 of the Proposed Kings Forest Development
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CLIENT Project 28 Pty Ltd
CLIENT CONTACT Reg van Rij
CLIENT REFERENCE –

SYNOPSIS This document constitutes an assessment of the agricultural buffer zones in relation to the Kings Forest Stage 1 Project Application, Kings Forest, New South Wales.

REVISION HISTORY

| REVISION # | DATE | EDITION BY | APPROVED BY |
|------------|------|------------------------|------------------------|
| 1 | 9/09 | M. Foster & P. Matthew | L. Varcoe & N. Zurig |
| 2 | 1/10 | M. Foster & P. Matthew | L. Varcoe & P. Matthew |
| 3 | 2/11 | M. Foster & P. Matthew | N. Sutherland |
| 4 | 4/11 | N. Zurig & M. Foster | N. Sutherland |
| 5 | 6/11 | N. Zurig & M. Foster | N. Sutherland |
| 6 | 7/12 | N. Zurig & M. Foster | L. Varcoe |

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SUMMARY

Project 28 Pty Ltd commissioned Gilbert & Sutherland Pty Ltd (G&S) to conduct an Agricultural Buffer Zone Assessment (ABZA) in support of the Stage 1 Project Application for the proposed development of the Kings Forest site at Cudgen, New South Wales.

The Kings Forest Stage 1 Project Application No. MP 08_0194 was lodged in November 2011. The Application and Environmental Assessment Report was advertised from December 2011 to January 2012 following which 302 public submissions and 10 agency submissions were received.

As a result of the submissions, amendments to the project have been made. The amended project contains the following key elements (NB: these elements will be revised and updated as the amended project is finalised):

- Subdivision to create new lots for future development;
 - Bulk earthworks across the site;
 - Road works comprising:
 - construction of the entrance road into the site and associated intersection works on Tweed Coast Road;
 - alignment and construction of the proposed Kings Forest Parkway from Tweed Coast Road via Precincts 4 and 5 through to the western precincts; and
 - alignment and part construction of two proposed roads through SEPP 14 areas to access the southern precincts;
- Development of 2,036 m² of floor space for rural supplies development and access arrangements within Precinct 1;
- Construction of subdivision and infrastructure works along the Kings Forest Parkway and within Precincts 1 and 5;
- The Plan of Development for Precinct 5.

This revised report addresses the amendments to the project and the key issues raised in the submissions.

The scope of this report is to assess the potential for conflict between the Stage 1 development and agricultural enterprises on adjoining land and to recommend appropriate separation distances and buffer elements (collectively known as buffer zones), where

required. The provision of buffer zones would reduce or eliminate the potential for conflict between typically incompatible land use practices.

The application of agricultural buffer zones to Kings Forest Stage 1 has been addressed in this report with reference to the Kings Forest SEPP Schedule 3 zoning map, the Tweed Shire Council's Development Control Plan (Subdivision Manual), Tweed Shire Council's Local Environmental Plan and the North Coast Living and Working in Rural Areas handbook.

A preliminary assessment was undertaken by G&S as part of this ABZA, including site inspections and a review of available aerial imagery and previous studies undertaken in the region.

The majority of the Stage 1 Application Area incorporates bulk earthworks only. During this stage, agricultural activities such as noise, odour and spray drift would cause minimal conflict with the earthworks areas. Impacts from the bulk earthworks activities, to adjacent agricultural land would similarly create minimal conflict.

A small proportion of the Stage 1 area is to be developed for residential or commercial use. Of this area, only one boundary within Precinct 1 (located in the north-eastern section of the site) adjoins agricultural land. A land use conflict risk assessment found the proposed and/or potential future use for this land does not require an agricultural buffer.

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1 Introduction

Project 28 Pty Ltd commissioned Gilbert & Sutherland Pty Ltd (G&S) to conduct an Agricultural Buffer Zone Assessment (ABZA) for the Project Application for Stage 1 of the proposed Kings Forest development at Kings Forest, New South Wales.

The Kings Forest Stage 1 Project Application No. MP 08_0194 was lodged in November 2011. The Application and Environmental Assessment Report was advertised from December 2011 to January 2012 following which 302 public submissions and 10 agency submissions were received. As a result of the submissions, amendments to the project have been made as per Darryl Anderson Consulting's (DAC) 'Kings Forest Stage 1 Management Plan'.

The Stage 1 Project Application Concept Plan is shown on RPS Drawing No. 113691-PSP-4a (CONCEPT PLAN) (Attachment 1). The Stage 1 Scope of Works is shown on RPS Drawing No. 113691-PSP-4a (SCOPE OF WORKS) (Attachment 1) and consists primarily of bulk earthworks. A proportion of the Stage 1 area (Precincts 1 and 5) includes development for residential or commercial use.

This report was prepared to address the Concept Consent Condition C20 (dated 19 August 2010 and modified on 22 December 2010), which states:

All future development applications proposing development within either the ecological or the agricultural buffer must demonstrate that, as relevant, clauses 7 or 8 of Schedule 3 of the State Environmental Planning Policy (Major Development) 2005 have been adequately addressed.

The State Environmental Planning Policy (Major Projects) 2005 (Amendment No 10) ('the Kings Forest SEPP') was prepared, amongst other objectives, to establish buffers between the future urban development and agricultural land.

A zoning map was prepared as Schedule 3 to the Kings Forest SEPP and shows indicative agricultural buffers of 150m in width.

Clause 8 of the Kings Forest SEPP, identifies the necessary consideration to be given, should development be proposed within the mapped agricultural buffers. Clause 8 states:

Consent must not be granted to development on land within an agricultural buffer unless the consent authority:

(a) has considered the potential impact of the proposed development on agricultural activities on land adjoining the buffer and of those agricultural activities on future occupiers of land within the buffer, and

(b) has consulted the Department of Primary Industries.

To assist the consent authority in its consideration of the potential impacts from the proposed development to and from adjacent agricultural land, this report provides an assessment of the site boundaries adjacent to agricultural lands where works would occur should the project application be approved.

1.1 Aims

The aims of this report are as follows.

- Identify the historical, current and potential future land use practices of the agricultural properties adjoining areas to be developed under Stage 1 of the proposed Kings Forest development.
- Broadly determine the quality of surrounding agricultural lands with reference to the New South Wales Department of Agriculture's Land Classification System or any relevant studies.
- Identify those issues applicable to agricultural enterprises and other land use practices which could potentially cause conflict.
- Assess the risk of conflict, utilising where appropriate buffer zone options incorporating separation distances and buffer elements relevant to the individual characteristics of each sub-section of the site boundary.
- Address the relevant submissions received in response to the public exhibition of the Project Application.

1.2 Response to submissions

This revised report addresses the amendments to the project and the key issues raised in the submissions.

Submitter: Department of Planning and Infrastructure

Issue: The Department is not convinced that there is a low risk of future conflict between the proposed development in Precinct 1 and the adjoining land.

Response: Clarification of the width of the buffer between potential agricultural activity and the proposed development within Precinct 1 has been provided in section 4.2 of this report. Additional discussion in relation to the adequacy of this buffer and the risk of conflict has been included.

Submitter: Department of Primary Industries - Agriculture

Issue: The Department considers that the conclusions and recommendations of the report are not clear.

Response: The conclusions and recommendations of the report have been revised to ensure they are clear (Section 5).

Issue: Separation distances and buffer widths to accommodate site specific circumstances are not clear.

Response: The site specific circumstances of the proposed development are such that no specific buffer widths or elements are required. This is justified in sections 4.2 & 4.3 of this report.

Issue: The proposed future residential use of the site should be considered in the conflict risk assessment,

Response: It is considered premature to conduct a conflict risk assessment for proposed future residential development, without having urban design available. The proposed bulk earthworks will not limit the area available for the provision of buffers in future, which would be the subject of detailed assessment when urban design becomes available.

Issue: The purpose of the agricultural buffer and the proposed land-use are not detailed.

Response: Additional detail has been added to describe the purpose of the buffers and the proposed land use of the buffers.

2 Method

The application of buffer zones to Stage 1 of the proposed Kings Forest development has been addressed in this report with reference to:

- Kings Forest SEPP Schedule 3 zoning map.
- Tweed Shire Council's Development Control Plan (Subdivision Manual).¹
- Tweed Shire Council's Local Environmental Plan.²
- North Coast Regional Environment Plan.³
- Far North Coast Regional Strategy.⁴
- Section 117(2) Environmental Planning and Assessment Act 1979.
- North Coast Living and Working in Rural Areas handbook.⁵
- Queensland Planning Guidelines.⁶
- NSW Agricultural Land Classification.⁷

As part of the ABZA, G&S undertook a preliminary assessment including a review of available aerial imagery and previous studies undertaken in the region.

Site inspections were conducted to confirm the current use of adjacent agricultural properties and neighbouring landholders were contacted to discuss plans for adjoining land.

Land use zones for the site have been specified in the Kings Forest SEPP Schedule 3 zoning map as shown in Drawing No. 10468.9.1 (Attachment 2). Land use zones for surrounding lands have been specified in the Tweed Local Environmental Plan.

To define appropriate buffer zones, the different land zones for the site and surrounding land are also identified, on Drawing No. 10468.9.1 (Attachment 2). The land zones were considered in the context of the proposed Stage 1 works, which are primarily bulk earthworks. The property boundary was divided into sub-sections (A through to G) where development or bulk earthworks, the subject of the current project application, adjoin the site boundary.

Within Precinct 1, a section of the site boundary adjoining agricultural land (Sub-section A) is to be developed for commercial use (Rural Supplies). The location and extent of each sub-section is shown on Drawing No. 10468.9.2 & 10468.9.3 (Attachment 2).

The North Coast Living and working in Rural Areas handbook⁸ recommends minimum open space buffer distances to separate incompatible land uses. This document is to be used as a guide in the absence of any other more appropriate separation arrangements. The width of these recommended buffers may be altered by design (e.g. biological buffers) and on the basis of a risk assessment.

A risk assessment in accordance with the Land Use Conflict Risk Assessment (2008)⁹ was conducted to determine appropriate buffers for the proposed Stage 1 development, accommodating site-specific circumstances (method shown in Attachment 3).

¹ Tweed Shire Council Development Services Division 2008, *Development Control Plan (Subdivision Manual)*, Tweed Shire Council.

² Tweed Shire Council 2008, *Local Environmental Plan 2000*, Tweed Shire Council.

³ NSW Department of Planning 2008, *North Coast Regional Environment Plan (1998-51)*, NSW Dept of Planning (viewed March 31, 2009).

⁴ NSW Department of Planning 2006, *Far North Coast Regional Strategy 2006-31*, NSW Dept of Planning.

⁵ Centre for Coastal Agriculture Landscapes & Northern Rivers Catchment Management Authority 2007, *Living and Working in Rural Areas – A handbook for managing conflict issues on the NSW North Coast*. NSW Dept of Primary Industries.

⁶ QLD Department of Natural Resources 1997, *Planning Guidelines - Separating Agricultural and Residential Land Uses*, Department of Natural Resources QLD.

⁷ Hulme, T., Grosskopt, T. & Hindle J 2002, *AGFACTS – Agricultural Land Classification*. NSW Dept of Agriculture.

⁸ Centre for Coastal Agriculture Landscapes & Northern Rivers Catchment Management Authority 2007, *Living and Working in Rural Areas – A handbook for managing conflict issues on the NSW North Coast*. NSW Department of Primary Industries.

⁹ Tim Fitzroy & Associates 2008, *Land Use Conflict Risk Assessment Workshop*, Ocean Shores.

3 Boundary assessment

In this section the relevant historical, current and potential land use practices, within each zone and sub-section are briefly discussed. The quality of surrounding agricultural land has been determined with reference to the New South Wales Department of Agriculture's Land Classification System (Agricultural Land (AL) Class 1 to Class 5) and NSW Dept of Agriculture's Agricultural Land suitability classes map.

3.1 Rural Zone

Land in the vicinity of Sub-section A (AL Class 4) is zoned as rural (Drawing no. 10468.9.2, Attachment 2). This land is characterised by very gentle slopes consisting predominantly of Aeolian Podosols. Class 4 land is generally suited to grazing and unsuited to cultivation. It may be suited to tree cropping for tolerant species¹⁰.

Previously the land has been used for plantation timber, which has now been harvested and cleared. The property owner has commenced regenerating this area with Wallum Scrub. Based on discussions with the owner, this is to provide a fauna corridor between the Kings Forest site and the coast. The corridor is approximately 10m in width.

A rural supplies development is proposed on the site, on land adjoining Sub-section A.

Neighbouring land in the vicinity of Sub-section F (Turner's Quarry site) is also zoned rural, however the lake formed by the former quarry will prevent any future agricultural activity within 400m of the boundary. During Stage 1, this section of the site would be subject to bulk earthworks for the construction of a lake within the development site.

3.2 Agricultural Protection Zone

Neighbouring land in the vicinity of sub-sections B, C, D and E is zoned agricultural protection. Agricultural Land Classes in these areas have been estimated based on the results of previous

¹⁰ Hulme, T et al., 2002. *Agricultural Land Classification*. Agfact AC.25, NSW Agriculture.

investigations¹¹ and these classes are illustrated on Drawing 10468.9.3.

Land use in the vicinity of these boundaries currently includes horticultural enterprises, grazing land and land vegetated with unmanaged volunteer pines and other species. These areas are illustrated in Drawing 10468.9.3.

During Stage 1, the only works proposed on land adjoining external land zoned agricultural protection will be bulk earthworks.

Land classified as AL Class 2 occurs to the north of section B and horticultural activity (pecans and other tree crops) are present. This activity is naturally separated from the site by very low lying paddocks with shallow water table which are suited only to grazing. This forms an open space buffer of approximately 100m.

Elsewhere, those areas of the site that would be subject to bulk earthworks occur adjacent to land which has been identified as AL Class 4. Most of this land is low lying and suited to grazing only. In sections D & C, mangoes and other tropical fruits are grown, however due to the low-lying land near the boundary, horticulture does not occur immediately adjacent to the boundary.

3.3 Urban Expansion Zone

Land in the vicinity of Sub-section G is zoned urban expansion however, the current land use is rural.

During Stage 1, the only works on land adjoining external areas zoned urban expansion will be bulk earthworks within the urban expansion zone.

¹¹ Philip Bell & Partners 2001, *Agricultural Land Assessment for Proposed Kings Forest Development*, Southport. Gilbert and Sutherland 2003, *Agricultural Land Assessment Duranbah NSW*, Robina.

4 Buffer zone assessment

Works proposed in the Stage 1 project application area are bound in a number of areas by land zoned agricultural protection or rural, or land used for rural production. Taking into consideration the current and likely future land use of these areas, buffer zones can be determined for each section of the site boundary.

4.1 Buffer zone definition

In accordance with the North Coast Living and Working in Rural Areas handbook;¹²

‘land use buffers are an accepted land use planning tool and have an important role in reducing risk of land use conflict and impacts between incompatible land uses through separation of land uses’.

The Tweed Shire Development Control Plan (Subdivision manual)¹³ defines a buffer area as;

‘an area of prescribed width and treatment created between two or more landuses (including environmentally sensitive areas) for the purpose of mitigating the impacts of one or more of those landuses’.

Agricultural buffer zones should ensure an acceptable level of amenity is maintained for future occupants of residential areas, while limiting the disturbance to and/or from agricultural production activities.

Factors that may cause conflict between agricultural production activities and urban development include:

- agricultural chemical spray drift
- noise
- dust, smoke & ash

- odour
- vandalism, complaints and danger.

Other buffer zones may also be applicable to those lands which do not support agricultural production activities. These buffers are generally necessary to ensure the adequate protection of current land uses.

Agricultural and Ecological buffer zones were proposed in a zoning map prepared as Schedule 3 of the Kings Forest SEPP. The Agricultural buffers are defined nominally as 150m wide, in areas of the site adjacent to agricultural land. The SEPP amendment acknowledges that development may occur within the buffers provided the intent of the buffers is achieved and appropriate consultation occurs. This document aims to provide justification for allowing the development of a rural supplies centre within the agricultural buffer in Precinct 1 and bulk earthworks in some of the agricultural buffers in the balance of the site.

For this assessment, the Tweed Shire Council Development Control Plan (Subdivision Manual), the North Coast Living and Working in Rural Areas handbook, and the Queensland Planning Guidelines were used to determine appropriate agricultural buffers. The proposed agricultural buffers would aim to prevent or minimise potential conflict between Stage 1 of the proposed Kings Forest development and neighbouring agricultural activity.

A risk assessment was conducted in accordance with the Land Use Conflict Risk Assessment (2008)¹⁴ to determine appropriate buffer widths to accommodate site-specific circumstances (tables 4.2.1 and 4.3.1 at the end of this section, method shown in Attachment 3).

4.2 Agricultural buffers to urban development

The former pine plantation in Sub-section A along the northern boundary of Precinct 1 has recently been cleared and the property owner has

¹² Centre for Coastal Agriculture Landscapes & Northern Rivers Catchment Management Authority 2007, *Living and Working in Rural Areas – A handbook for managing conflict issues on the NSW North Coast*, NSW Department of Primary Industries, pp. 87.

¹³ Tweed Shire Council Development Services Division 2008, *Development Control Plan (Subdivision Manual)*, Tweed Shire Council, pp. A5-116.

¹⁴ Tim Fitzroy & Associates 2008, *Land Use Conflict Risk Assessment Workshop*, Ocean Shores.

commenced regeneration with Wallum Scrub. The Wallum Scrub has been planted in a 10m wide corridor along the boundary with Precinct 1. In addition, a driveway (approximately 3m wide) follows the boundary on the neighbouring property.

A rural supplies development is proposed on the land adjoining Sub-section A. The Buchan Group drawing SK001 (Attachment 1) shows that the proposed building would be separated from the boundary by a 8m wide service access. The rear walls of the proposed buildings, which face the site boundary, would be fully enclosed (free from doors and windows). The front of the buildings, where customers would park and access the store(s), is a further 25m away from the boundary, giving a total of 33m from the boundary. This separation, particularly given the effective barrier of the building itself, would considerably reduce the potential for conflict between site users and occupants and the neighbouring rural land.

In addition to the separation on the Precinct 1 site, the Wallum corridor and the driveway on the rural allotment provide a further 13m separation to possible agricultural activity.

The limited soil fertility on the rural allotment would limit agricultural production to grazing or possible re-establishment of plantation timber, each being low-risk in terms of the need for chemical sprays and machinery use. Whilst forestry does require maintenance and harvesting, these events are very infrequent and therefore do not constitute a significant source of conflict.

The risk assessment (see Table 4.2.1) uses the separation afforded by the building and service driveway (on the Kings Forest site) as a buffer and predicts that the risk of conflict between the rural land and the commercial land would be acceptable (risk rating of 18).

4.3 Agricultural buffers to earthworks areas

Works proposed on land adjoining sub-sections B to G includes bulk earthworks only. Agricultural activities such as noise, odour and spray drift would be of little concern during this stage of the development.

Potential impacts on adjoining agricultural land may include a short period of dust drift during bulk earthworks. Short-term impacts on water quality may also be experienced during bulk earthworks. These potential short term impacts would be minimized providing erosion and sediment controls are implemented in accordance with Gilbert & Sutherland's report *Erosion & Sediment Control Plan, Kings Forest Stage 1 Project Application, Kings Forest, New South Wales* – Prepared for Project 28 Pty Ltd. February, 2011.

The proposed bulk earthworks do not predispose the land to urban development. Mortons Urban Solutions Drawing Number 12301-ALL-040 (Attachment 1) illustrates the proposed cut and fill earthworks. It is noted that cutting is proposed adjacent to Subsections B, C, D and F, minor filling is proposed adjacent to subsection G and no work is proposed adjacent to subsection E. The intention of these works is to provide adequate conveyance to prevent flooding of the site and to ensure no off-site impacts during flood events. Ultimately, these areas will become drainage reserves, open space or parks and may incorporate additional buffer elements such as vegetated buffer strips, which could function as fauna corridors.

At this stage, the proposed layout of urban development across the site has not been designed and it would be premature to undertake a conflict risk assessment for urban development without this information. It is considered appropriate that a detailed buffer assessment, including a conflict risk assessment, be undertaken for future project applications where development is proposed adjacent to land zoned as rural or agricultural protection. It would be appropriate for such an assessment to be undertaken for any reconfiguration of lot application.

In the absence of detailed urban design, a risk assessment (see Table 4.3.1) has been prepared to assess the risk of conflict between the proposed bulk earthworks and the adjacent rural land. The assessment identifies that the risk of conflict is likely to be acceptable, with a risk rating ranging from 13 to 18.

4.4 Consultation

As discussed above, Clause 8 of the Kings Forest SEPP, states:

Consent must not be granted to development on land within an agricultural buffer unless the consent authority:

(a) has considered the potential impact of the proposed development on agricultural activities on land adjoining the buffer and of those agricultural activities on future occupiers of land within the buffer, and

(b) has consulted the Department of Primary Industries.

To assist the consent authority with the consultation process, DPI has been contacted and briefed on the development proposed by the Stage 1 project application and on the outcomes of this agricultural buffer assessment. A copy of the previous report was provided to DPI. Advice subsequently received from the Department identified that its support or otherwise for the application could only be provided to the assessment manager. However, the advice also included a request for further information which is reflected in DPI's formal submission to the project application. Appropriate amendments have been included to address the DPI's submission and previous advice.

Table 4.2.1 Risk Assessment – Urban Development adjacent to Rural zone, Sub-section A (Drawing 10468.9.2), future Wallum Scrub buffer

| Hazard | Mitigating factors | Consequence | Probability | Score |
|--------------------|---|-------------|-------------|-------|
| Spray drift | Spraying unlikely as the maximum agricultural potential is grazing. Possibly low level spraying if forestry recommenced. Noise associated with forestry infrequent. | Moderate | Unlikely | 18 |
| Odour | | Negligible | Unlikely | 13 |
| Noise | | Negligible | Likely | 18 |
| Erosion & sediment | Sediment & erosion controls Vegetated buffer | Moderate | Unlikely | 18 |

Table 4.3.1 Risk Assessment – Fill areas adjacent to Rural zone/ Agricultural Protection zone, Subsections B to G (Drawing 10468.9.2)

| Hazard | Mitigating factors | Consequence | Probability | Score |
|--------------------|---|-------------|-------------|-------|
| Spray drift | Bulk earthworks only. Agricultural activities of little concern | Moderate | Unlikely | 18 |
| Odour | | Negligible | Unlikely | 13 |
| Noise | | Negligible | Unlikely | 13 |
| Erosion & sediment | Sediment & erosion controls Vegetated buffer | Moderate | Unlikely | 18 |

5 Recommendations

Agricultural buffer zones are often necessary where development is proposed on land adjacent to rural land, particularly where primary production is being undertaken. Buffers may be used to minimize the risk of conflict between residents of urban development and primary producers and are used to protect the intrinsic values of the conflicting land uses.

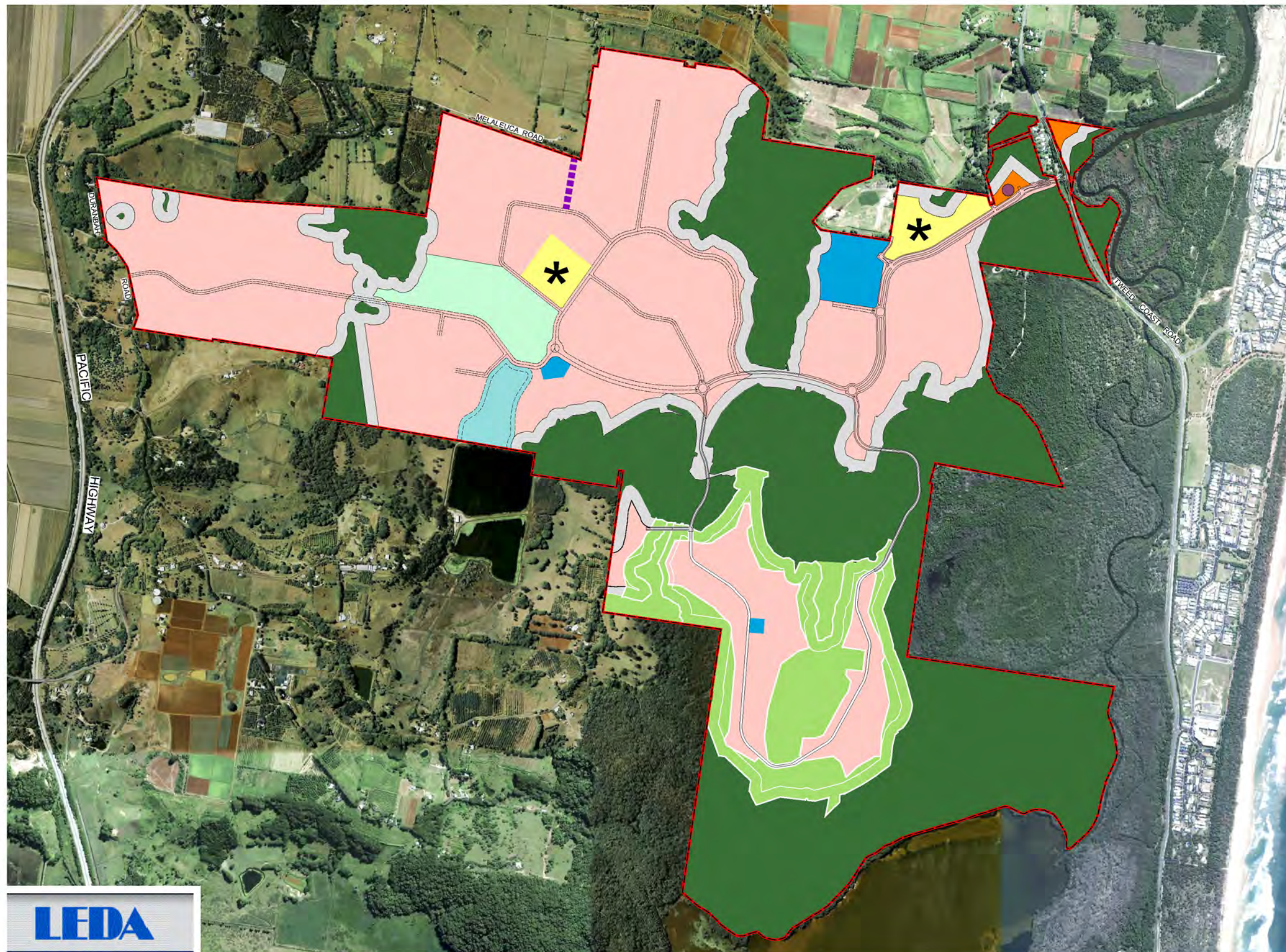
The development proposed under the Kings Forest Stage 1 Project Application, involves urban (commercial) development along only one section of the site boundary which adjoins agricultural

land (Sub-section A). Sub-section A is zoned rural, however, has limited productive capacity and is suited to light grazing or forestry. This

portion is currently being regenerated to Wallum Scrub. A land use conflict risk assessment found that the current, proposed and/ or potential future use of the adjacent agricultural land has a low level risk of conflict with the proposed commercial development and as such, no agricultural buffer is warranted in this location.

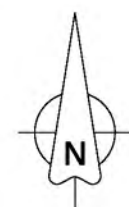
For the broader site, land use conflict risk assessments found that the risk of conflict between the proposed Stage 1 bulk earthworks and the adjoining agricultural protection zones was minimal. As such, bulk earthworks should be permitted within the agricultural buffers defined under the Kings Forest SEPP amendment, providing that a detailed buffer assessment including a conflict risk assessment be undertaken for future applications where development is proposed adjacent to land zoned as rural or agricultural protection.

6 Attachment 1 – Reference drawings



- TOWN CENTRE / NEIGHBOURHOOD CENTRE
- RESIDENTIAL
- COMMUNITY FACILITIES / EDUCATION
- EMPLOYMENT LAND
- STRUCTURED OPEN SPACE (ACTIVE)
(Passive open space to council standards, location subject to urban design).
- ENVIRONMENTAL PROTECTION AREA
TO BE DEDICATED TO COUNCIL OR NPWS
- 50m ECOLOGICAL BUFFER
(Includes APZs & Roads where approved)
- STATE SCHOOL SITE
- PROPOSED ZONE SUBSTATION
(Subject to County Energy final approval)
- POTENTIAL ROAD CONNECTION TO MELALEUCA ROAD
- PRIVATE OPEN SPACE
- GOLF COURSE AREA
(Encompassing ecological buffers where indicated)
- PRIVATE OPEN SPACE INCLUDING LAKE

IMPORTANT NOTE
This plan was prepared as a preliminary concept plan for planning purposes only. As such all particulars, including lot design, areas and densities, are subject to detailed survey, site investigations and to the requirements of council and any other authority which may have requirements under any relevant legislation.
This note is an integral part of this plan.



CLIENT
PROJECT 28 Pty Ltd

Date 21 AUGUST 2012

Surveyed -

Drafted BJB

Parish CUDGEN

County ROUS

PLAN

KINGS FOREST
STAGE 1 PROJECT APPLICATION

REVISED CONCEPT PLAN

SCALE: 1:20000 (A3)

| REVISIONS | | | |
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| No. | DETAILS | DATE | Init. |
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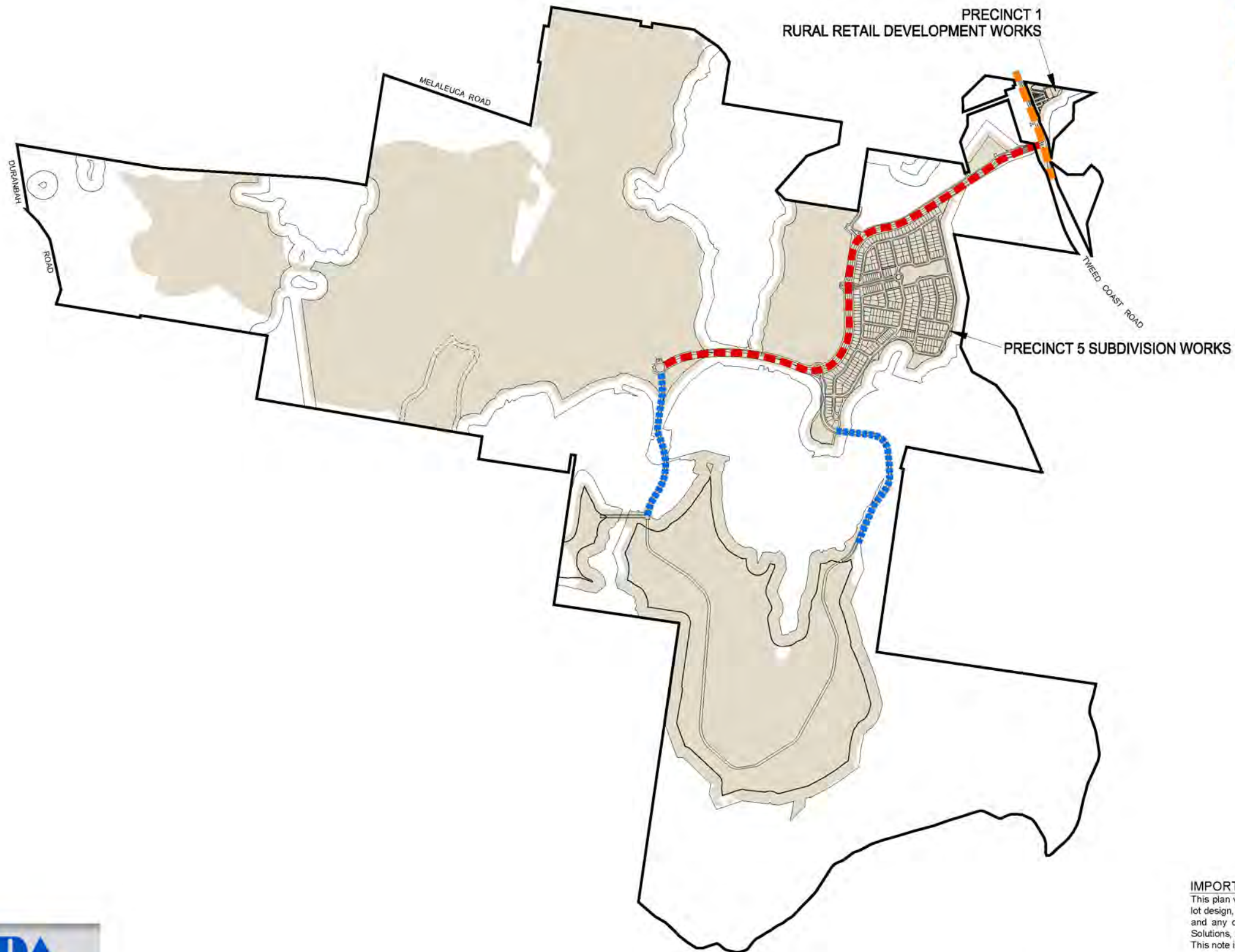
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DWG Ref
113691-PSP-4a(CONCEPT PLAN)

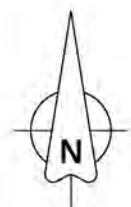
PLAN No. 01

- — — — — TWEED COAST ROAD INTERSECTION WORKS
- - - - - KINGS FOREST PARKWAY THROUGH TO WESTERN PRECINCTS
- ■ ■ ■ ■ ROADS THROUGH TO SOUTHERN PRECINCTS
- INDICATIVE BULK EARTHWORKS LOCATION (REFER TO DETAILED ENGINEERING DESIGN BY MORTON URBAN SOLUTIONS)



IMPORTANT NOTES

This plan was prepared as a preliminary concept plan for planning purposes only. As such all particulars, including lot design, areas and densities, are subject to detailed survey, site investigations and to the requirements of council and any other authority which may have requirements under any relevant legislation. Refer to Mortons Urban Solutions, bulk earthworks drawings for further details. This note is an integral part of this plan.



CLIENT
PROJECT 28 Pty Ltd

Date 21 AUGUST 2012

Surveyed -

Drafted BJB

Parish CUDGEN

County ROUS

PLAN

KINGS FOREST STAGE 1 PROJECT APPLICATION SCOPE OF WORKS

SCALE: 1:20000 (A3)

REVISIONS

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| A | REVISION | 21.8.12 | BJB |
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Local Authority DWG Ref
Tweed S.C. 113691-PSP-4a(SCOPE OF WORKS) PLAN No. 02

Notes Architectural drawings only. Refer to and co-ordinate with all other contract documents.
Use figured dimensions only.
Contractor to verify all dimensions prior to commencement of work.
Any doubt, ambiguity or omission of any part of the drawing or the specifications shall be referred to the architect for clarification prior to commencement of work.
Submit shop drawings of all assemblies for review prior to manufacture

| Approved for Construction | | Signed | Dated |
|---------------------------|------------|-----------------|-------|
| Issues | | | |
| Nos | Date | Description | Appd |
| A | 22.10.2009 | FOR INFORMATION | |
| B | 04.11.2009 | FOR INFORMATION | |
| C | 16.11.2009 | FOR INFORMATION | |
| D | 04.12.2009 | FOR INFORMATION | |
| E | 04.12.2009 | FOR INFORMATION | |
| F | 26.11.2010 | FOR INFORMATION | |
| G | 10.12.2010 | FOR INFORMATION | |
| H | 22.12.2010 | FOR INFORMATION | |
| J | 10.01.2011 | FOR INFORMATION | |
| K | 11.03.2011 | FOR INFORMATION | |
| L | 22.06.2011 | FOR INFORMATION | |
| M | 23.06.2011 | FOR INFORMATION | |
| N | 22.06.2012 | FOR INFORMATION | |
| P | 26.06.2012 | FOR INFORMATION | |
| Q | 03.07.2012 | FOR INFORMATION | |
| R | 27.07.2012 | FOR INFORMATION | |
| S | 17.08.2012 | FOR INFORMATION | |
| T | 21.08.2012 | FOR INFORMATION | |

2 SITE PLAN
001 SCALE 1:1000 @ A1 & 1:2000 @ A3

LEGAL DESCRIPTION:
LOTS 7
DP 875447

AREA SCHEDULE:

| KINGS FOREST 2009 | | | |
|-----------------------|------------------------------|-------------------------|--------------|
| NAME OF THE BUILDING | FLOOR AREA (M ²) | CARS /100m ² | CAR REQUIRED |
| BUILDING | 2036 | 5.4 | 109.9 |
| SUB TOTAL | | CARS REQUIRED | 110 |
| | | CARS ACHIEVED | 135 |
| INCL STAFF CAR PARK | | | 7 |
| INCL BACK UP CAR PARK | | | 15 |

3 LOCATION PLAN
001 SCALE 1:250 @ A1 & 1:500 @ A3


THE BUCHAN GROUP

Makeine Buchan Laird & Bowden (NZ) Pty Ltd
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The Buchan Group - an association of independent practices with several ability

Project
KINGS FOREST
RURAL SUPPLIES DEVELOPMENT

Dwg Title
SITE PLAN &
LOCATION PLAN

Purpose
PRELIMINARY

| | | | |
|-------------------|--------------|---------|---|
| Date OCT 09 | Drawn CAD | Checked |  |
| Scale AS SHOWN | Cad Ref. | | |
| Job No. 708198 | | | |
| Dwg No. SK001 | | | Issue S |

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7 Attachment 2 – Drawings

200 400 600 800 1000
metres

SCALE
1:20 000

ORIENTATION
NORTH

LEGEND

Stage 1 Project Application

1(b1) Agricultural Protection

1(a) Rural

7(a) Environmental protection
(wetlands and littoral rainforests)

7(d) Environmental Protection
(Scenic/Escarpment)

7(l) Environmental protection
(habitat)

5(a) Special Uses

2(e) Residential tourist

2(c) Urban expansion

8(a) National Parks & Nature Reserves

Agricultural Buffer (150m)*

Ecological Buffer (50m)*

* As mapped in SEPP 2005
Amendment No. 10

SOURCES

TWEED SHIRE COUNCIL

CAIRNS

CAWANA

ROBINA

5 / 232 Robina Town Centre Dr.

PO Box 4115

Robina Q4230

Phone 07 5578 9944

Fax 07 5578 9945

robina@access.gs

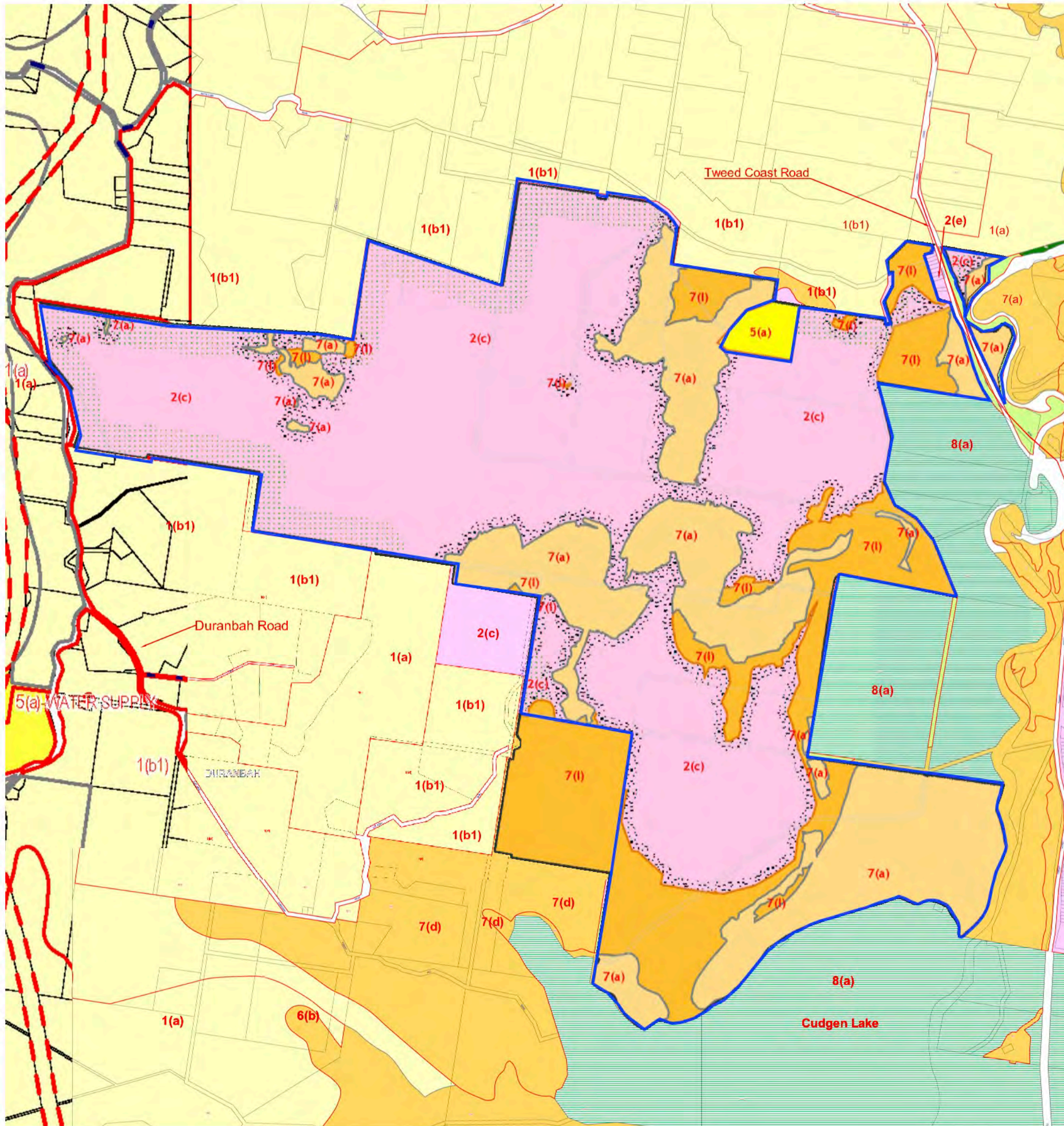
BRISBANE

Gilbert and Sutherland Pty Ltd

ABN 56 077 310 840

www.access.gs

AGRICULTURE WATER ENVIRONMENT



**GILBERT
SUTHERLAND**

PROJECT
KINGS FOREST - STAGE 1

CLIENT
PROJECT 28 PTY LTD

DRAWING
LAND ZONES
KINGS FOREST & SURROUNDS

DATE
06/04/2011

DRAWN
AJS

PROJECT NO
10468

SCALE
1:20 000

CHECKED
MF

DRAWING NO
10468.9.1

A2.1

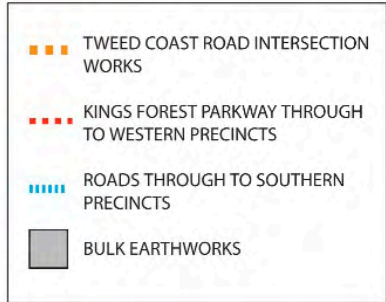


SCALE
1:20 000



ORIENTATION
NORTH

LEGEND



SOURCES

MPS ARCHITECTS

CAIRNS

KAWANA

ROBINA

5 / 232 Robina Town Centre Dr.
PO Box 4115
Robina Q4230
Phone 07 5578 9944
Fax 07 5578 9945
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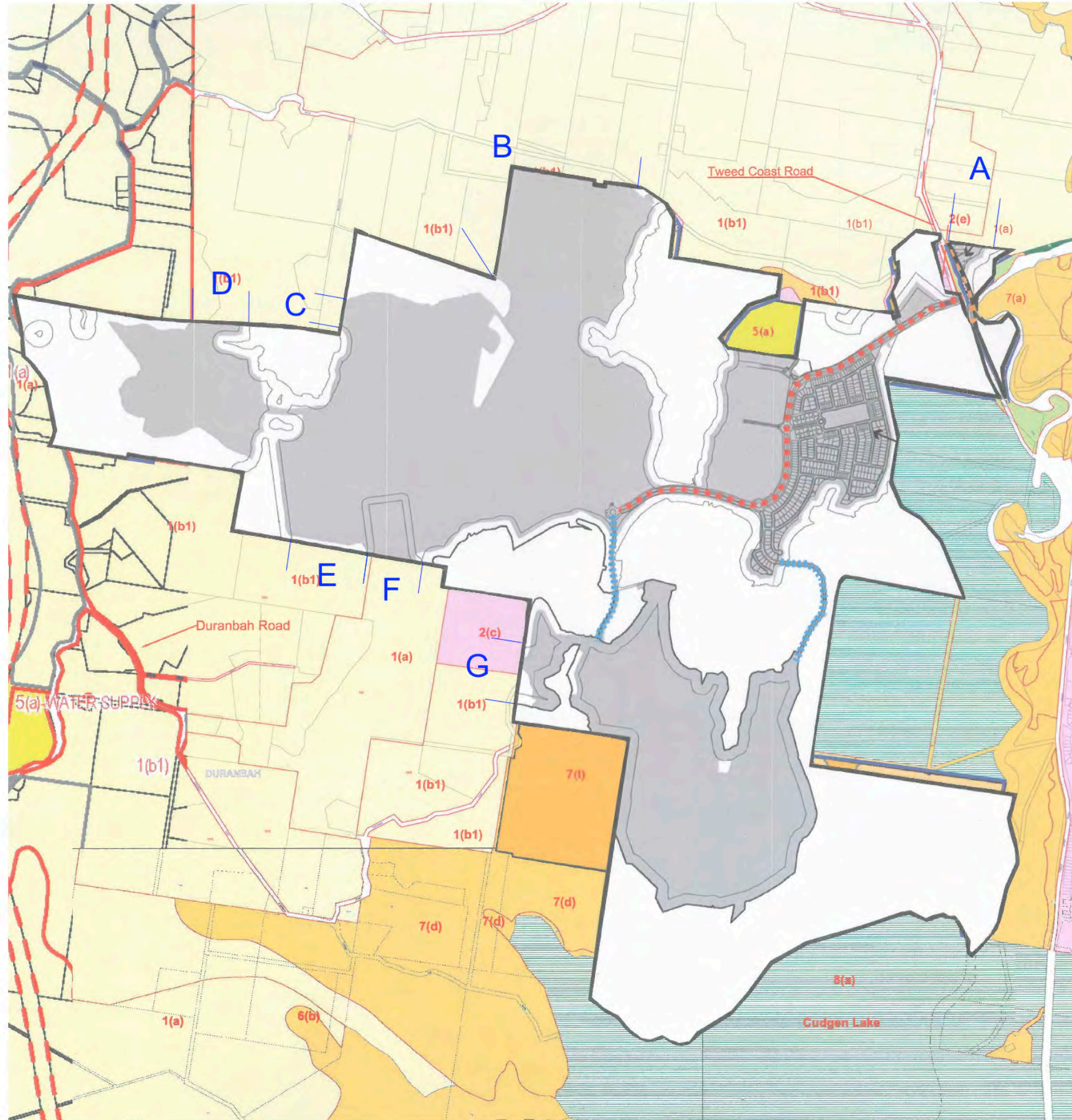
BRISBANE

Gilbert and Sultherland Pty Ltd
ABN 56 077 310 840

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AGRICULTURE WATER ENVIRONMENT

**+GILBERT
SUTHERLAND**



PROJECT
KINGS FOREST - STAGE 1

CLIENT
PROJECT 28 PTY LTD

DRAWING
SUB-SECTIONS

| | | |
|--------------------|---------------|-------------------------|
| DATE 18/02/2011 | DRAWN AJS | PROJECT NO 10468 |
| SCALE 1:20 000 | CHECKED MF | DRAWING NO 10468.9.2 |
| A2.2 | | |



ORIENTATION
NORTH

- LEGEND
- Site Boundary
 - Extent of Bulk Earthworks

SOURCES

Image base: Google Earth Pro 2012
Data: RPS Australia East



Brisbane Sydney Melbourne and regions

**+GILBERT
SUTHERLAND**
Agriculture. Water. Environment.

PROJECT
KINGS FOREST - STAGE 1

CLIENT
PROJECT 28 PTY LTD

DRAWING
ADJACENT AGRICULTURAL
ACTIVITY

| | | |
|----------------------|---------------------|-------------------------|
| SCALE 1:20 000@A3 | DRAWN KAB | CHECKED NTZ |
| DATE 07/09/2012 | PROJECT NO 10468 | DRAWING NO 10468.9.3 |

8 Attachment 3 – Risk assessment

Measures of Consequence¹⁵ (Severity of Environmental Impact)

| Level | Descriptor | Description | Examples/Implications |
|-------|------------|--|--|
| 1 | Major | <ul style="list-style-type: none"> Serious and/or long-term impact to the environment/public health and/or amenity Long term management implications | <ul style="list-style-type: none"> Water, soil or air impacted seriously, possibly in the long term Limited damage to animals fish or birds or plants Many public complaints including odour and noise Contravenes the conditions of Councils licences, permits and the POEO Act Likely prosecution |
| 2 | Moderate | <ul style="list-style-type: none"> Moderate and/or medium-term impact to the environment/public health and/or amenity Some ongoing management implications | <ul style="list-style-type: none"> Water, soil or air known to be affected, probably in the short term No damage to plants or animals Public unaware and no complaints to Council May contravene the conditions of Council's Licences and the POEO Act Unlikely to result in prosecution |
| 3 | Negligible | <ul style="list-style-type: none"> Very minor impact to the environment/public health and/or amenity Can be effectively managed as part of normal operations | <ul style="list-style-type: none"> No measurable or identifiable impact on the environment/public health and/or amenity |

Probability (Measure of Likelihood of Risk)

| Level | Descriptor | Description |
|-------|-------------|--|
| A | Very Likely | Common or repeating occurrence |
| B | Likely | Known to occur, or it has happened |
| C | Unlikely | Could occur in some circumstances, but not likely to occur |

Risk Ranking Table

| PROBABILITY | A | B | C |
|-------------|----|----|----|
| Consequence | | | |
| 1 | 25 | 24 | 22 |
| 2 | 23 | 21 | 18 |
| 3 | 20 | 17 | 13 |

A risk ranking of 25-20 would normally be deemed as an unacceptable risk.

A risk ranking of less than 20 would normally be deemed as an acceptable risk.

¹⁵ Tim Fitzroy & Associates 2008, *Land Use Conflict Risk Assessment Workshop*, Ocean Shores.