AGRICULTURAL LAND ASSESSMENT

LeMottee Group
"Eskdale"
Lot 100 DP 1064980 Seaham Road
Seaham

PREPARED BY:

PEAK LAND MANAGEMENT

OCTOBER 2011
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PEAK LAND MANAGEMENT

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Cover Photo: View of subject site.

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AUTHOR DETAILS

PEAK LAND MANAGEMENT is an independent company specialising in providing quality consulting services in natural resource management, agricultural and bushfire threat assessment. The company is recognised by the Rural Fire Service as a certified Bushfire Assessment business, is a BPAD –A Certified Bushfire Consultant Business and Practitioner with the Fire Protection Association (17671), consultant member of the NSW Ecological Association and abides by their professional code of conduct and ethics, Australian Institute of Agricultural Science and Technology, and licenced with Department of Environment and Conservation for survey and collection of threatened flora (S11395).

Some examples of the type of work PEAK LAND MANAGEMENT PTY LTD undertakes includes Statement of Environmental Effects, Flora & Fauna Surveys/ Ecological Assessments, Bushland/Vegetation Management Plans, Review of Environmental Factors, 5 & 7 Part Threatened Species Assessment Tests, Erosion and Sediment Control Plans, Rural Property Plans, Agricultural Land Classification and Bushfire Threat Assessment reports.

Mr Ted Smith is the Director of PEAK LAND MANAGEMENT PTY LTD. Ted has a Bachelor of Science Degree with Honours majoring in Physical Geography from the University of New South Wales, and a Graduate Diploma in Design for Bushfire Prone Areas from the University of Western Sydney. He is a qualified experienced Ecologist, Certified Bushfire Consultant, accredited Biodiversity Assessor (BAM) with Office of Environment and Heritage, former Certified Practicing Agriculturist and has a Certificate IV in Assessment and Workplace Training. Ted has over 25 years experience in land management, including 9 years with the Soil Conservation Service/Department of Land and Water Conservation and over 15 years managing PEAK LAND MANAGEMENT.

1.0 INTRODUCTION

PEAK LAND MANAGEMENT PTY LTD has been engaged by LeMottee Group on behalf of Mr & Mrs Statham to prepare an Agricultural Report for land located at Seaham Rd, Seaham, (Lot 100 DP 1064980) hereafter referred to as subject site.

The subject site is 47.37 hectares in extent (Figure 1). The subject site is a rural property, known as "Eskdale". It is located close to Brandy Hill, a recent rural residential subdivision. The Village of Seaham is located to the north of the subject site. Appendix 1 shows photos of the subject land.

The report is needed to support a zoning request submission over the land for a proposed rural residential subdivision as shown in Figure 2. Preliminary advice from Port Stephens Council was obtained on the 18th February 2010 with issues relating to flooding, ecological, access, land ownership, heritage item and community infrastructure being discussed. No specific agricultural issues were raised, apart from strategic planning issues relating to current lack of council LGA wide strategies in place for rural residential infill developments. It was considered that "*generally, Council staff could see the merits in rezoning as Infill Development to finish off an existing catchment*" (from ADW Johnson PSC minutes, 19.9.11).

Graham Oborn notes "*The development concept is based on an eco-friendly environment in a semi rural setting. Electricity and water services and onsite wastewater management systems are to be provided*".

This report will address the likely information required from DoPI (NSW Department of Planning and Environment) and DPI (NSW Department of Primary Industries) regarding agricultural viability of the property and its effect on agriculture as a result of the proposed subdivision.

Consultation has occurred with Glenda Briggs NSW DPI. The following advice has been received by email from Glenda Briggs on previous occasions (10.5.11):

....Additionally our unit's role in regard to land use planning has changed somewhat. In line with government policies to streamline DAs and reduce red tape by reducing the referral of DAs, the Department's agricultural land use planning team now focuses on strategic land use planning matters (LEPs and rezonings) plus Intensive Agricultural DAs and major project (former pt 3A) that may impact on agricultural resources or agricultural industries.

In place of the specific agricultural advice previously offered to councils on local developments (eg rural subdivision), we have produced a series of guidelines available at http://www.dpi.nsw.gov.au/environment/landuse-planning/agriculture.

The following guideline may be of particular interest:

Farm subdivision assessment at *http://www.dpi.nsw.gov.au/environment/landuse-planning/agriculture/subdivision-guideline*.

From these comments and from analysing the farm subdivision guideline (DPI, 2009) NSW DPI advice may be sought by DoPE in their determination of the rezoning request.

This report should be used by DoPE to assist in its determination of the application.

1.1 METHODOLOGY

To determine agricultural land suitability/viability the following methodology has been used:

- Research existing DPI Agricultural Land Classification map and other relevant information, consult with NSW DPI (as above), consult with the existing land owner – Mr Statham, research soils information for site, topography, and aerial photos.
- Land was inspected and assessed on the 23rd September, 2011. The land was assessed according to soil characteristics (fertility, texture, structure, acidity, compaction, erosion, dispersability, etc), pasture, land degradation , farm water supply, fence/dam/ other infrastructure condition, current state of land and any other factors (ie current legislation) affecting the agricultural viability of the land.
- From this information a scientific assessment can be made of its agricultural land viability and suitability to support the proposed subdivision development. This report is based on the physical land characteristics of the property and includes an economic analysis from financial information stated by Mr Statham, owner/operator of current grazing enterprise. General figures have also been sourced from DPI regarding cattle gross margins in this district.

2.0 HISTORY

This history of this site as described by Mr Statham is:

"*The property was originally granted by the crown in 1830 and was then around 5000 acres in area and included land to the west (now Brandy Hill) and alluvial floodplains to the east. It was subdivided in 1965 and sold off to Mr Marheine for the development of Brandy Hill, and to adjoining landowners. It is now around 113 acres in size. It has 4 fenced paddocks, with stock rotationally grazed. I run 30-40 steers in a good season, and few/none in a poor season. The ground dries out quickly. I super every second year. I buy in cattle, fatten them and sell them around 5-6 months later. I have no other agricultural income, other than rarely agisting the neighbours cattle. I make a loss each year*" (see financial figures later).

Oborn Professional Consulting also notes:

- *The original Eskdale property was the subject of a Crown Grant dated 1830 having an area of approximately 2,100 ha at that time.*
- *In the period 1830 – 1965 the property was subdivided and sold to various landowners with the result that the landholding had been reduced in area to approximately 1214 ha.*
- *In 1970 approximately 620 ha was subdivided from the parent holding and sold to a developer leaving a balance of approximately 593.5 ha.*

- *Subsequently Port Stephens Council granted Consent to a subdivision of the balance into 3 lots as per the attached plan.*
- *Lots 101 and 102 were subsequently sold leaving the balance of the property (Lot 101), being the subject of the current Rezoning Request.*
- *The current family owner has concluded that the property is not economically viable and is unsustainable as an agricultural holding in its present form.*

Figure 1: Site location (from Lands Department)

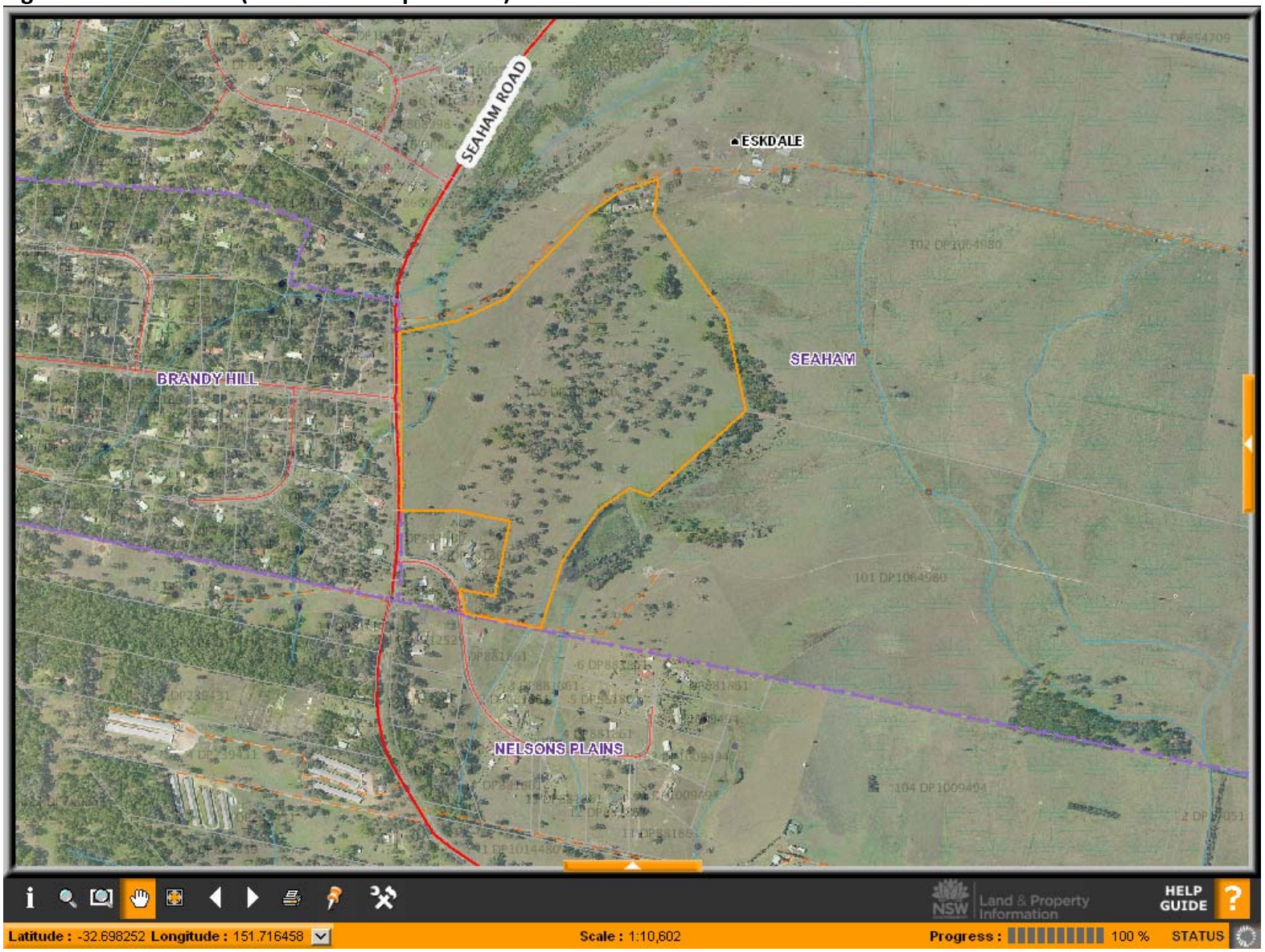


Figure 2: Aerial imagery of subject site (from nearmap June 2011 imagery)

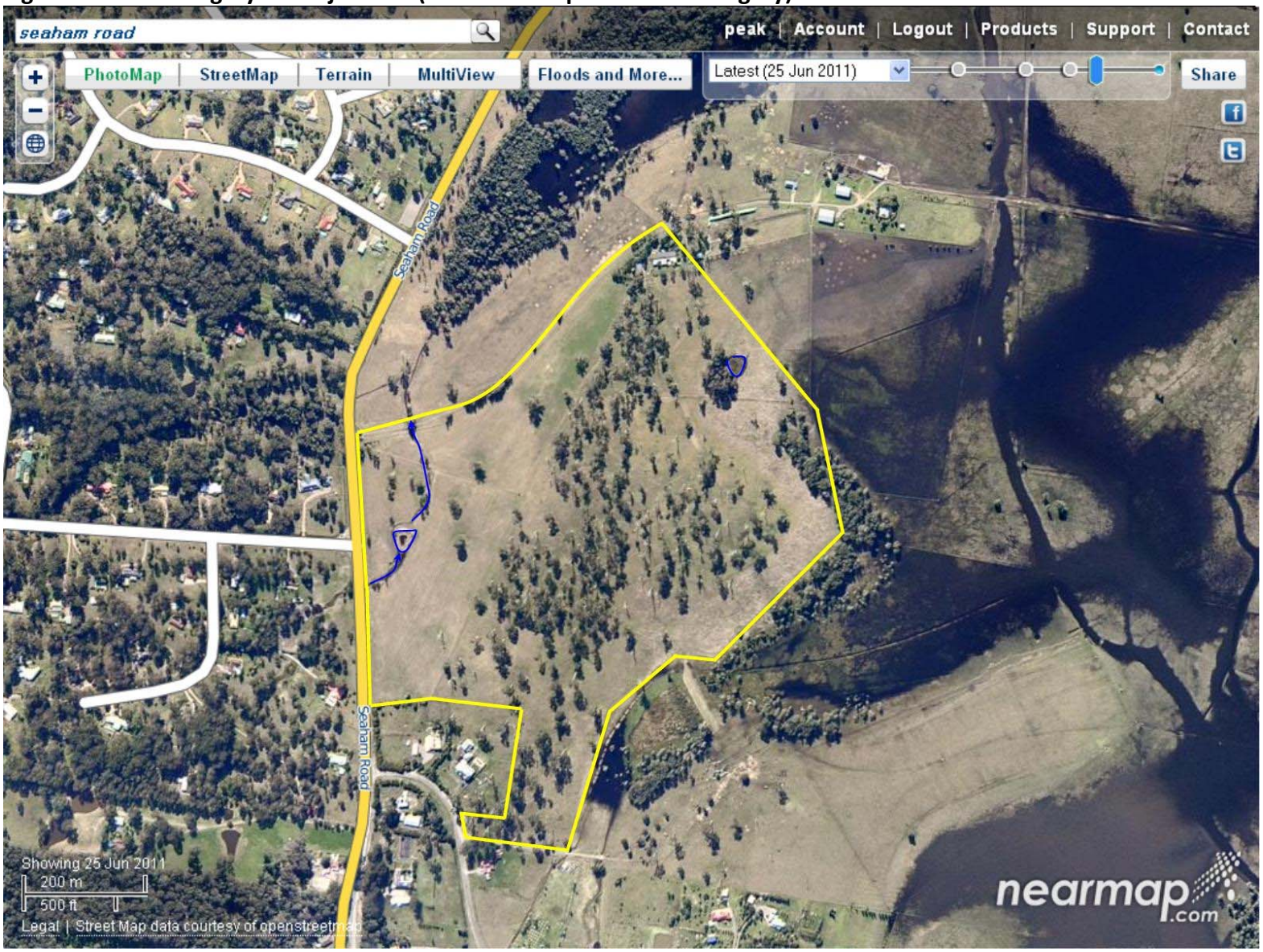


Figure 3: Subject property (from LeMottee Group)

Figure 4: Rezoning request proposed development (from LeMottee Group)

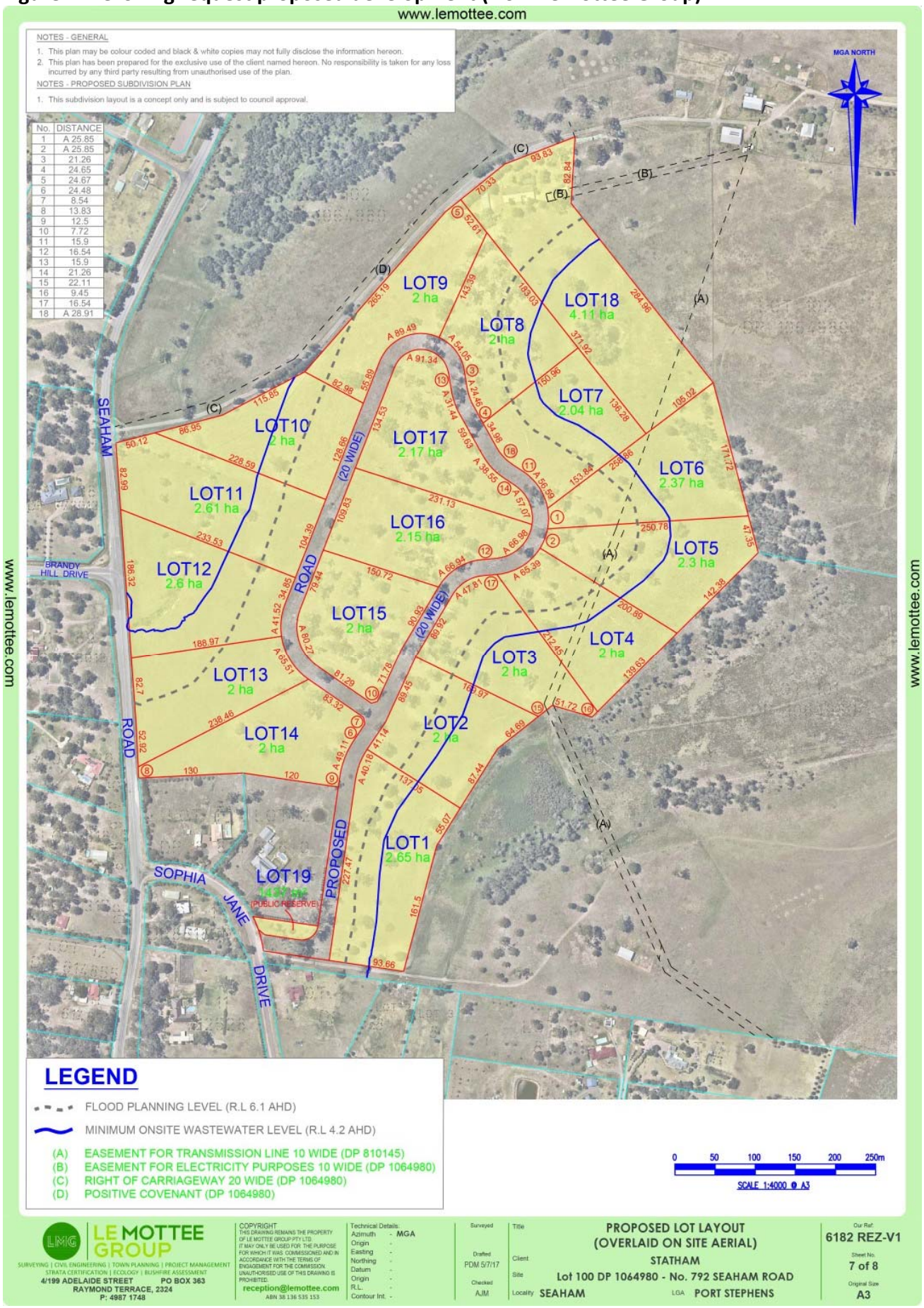
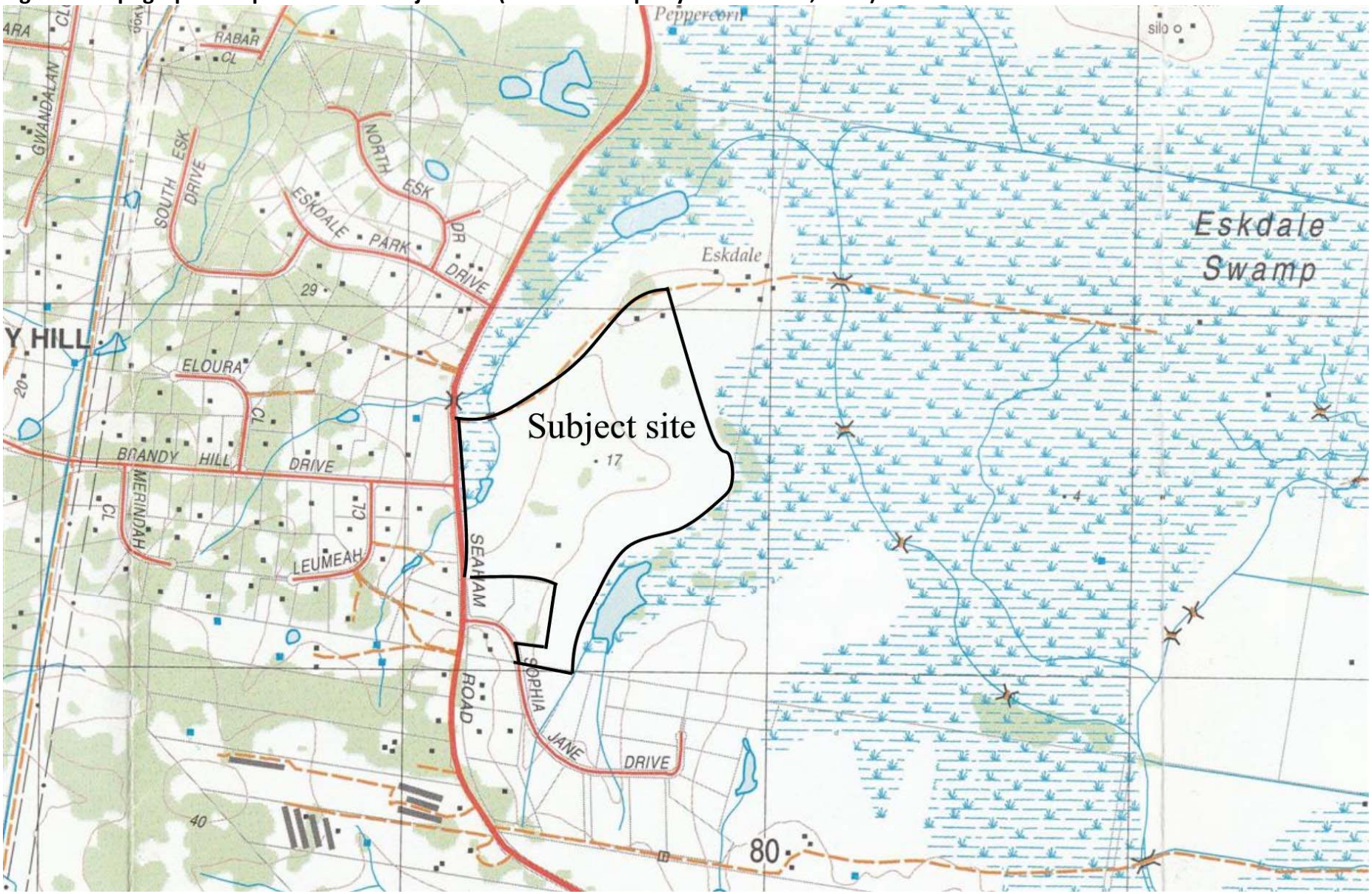


Figure 5: Topographic map location of subject site (Land and Property Information, 2002)



PEAK LAND MANAGEMENT

3.0 AGRICULTURAL LAND MANAGEMENT PLANNING INSTRUMENTS

3.1.1 Port Stephens Local Environmental Plan (LEP) 2013

The relevant local government area is Port Stephens Shire Council (PSSC). The Local Planning Instrument is the Port Stephens Local Environmental Plan (LEP) 2013.

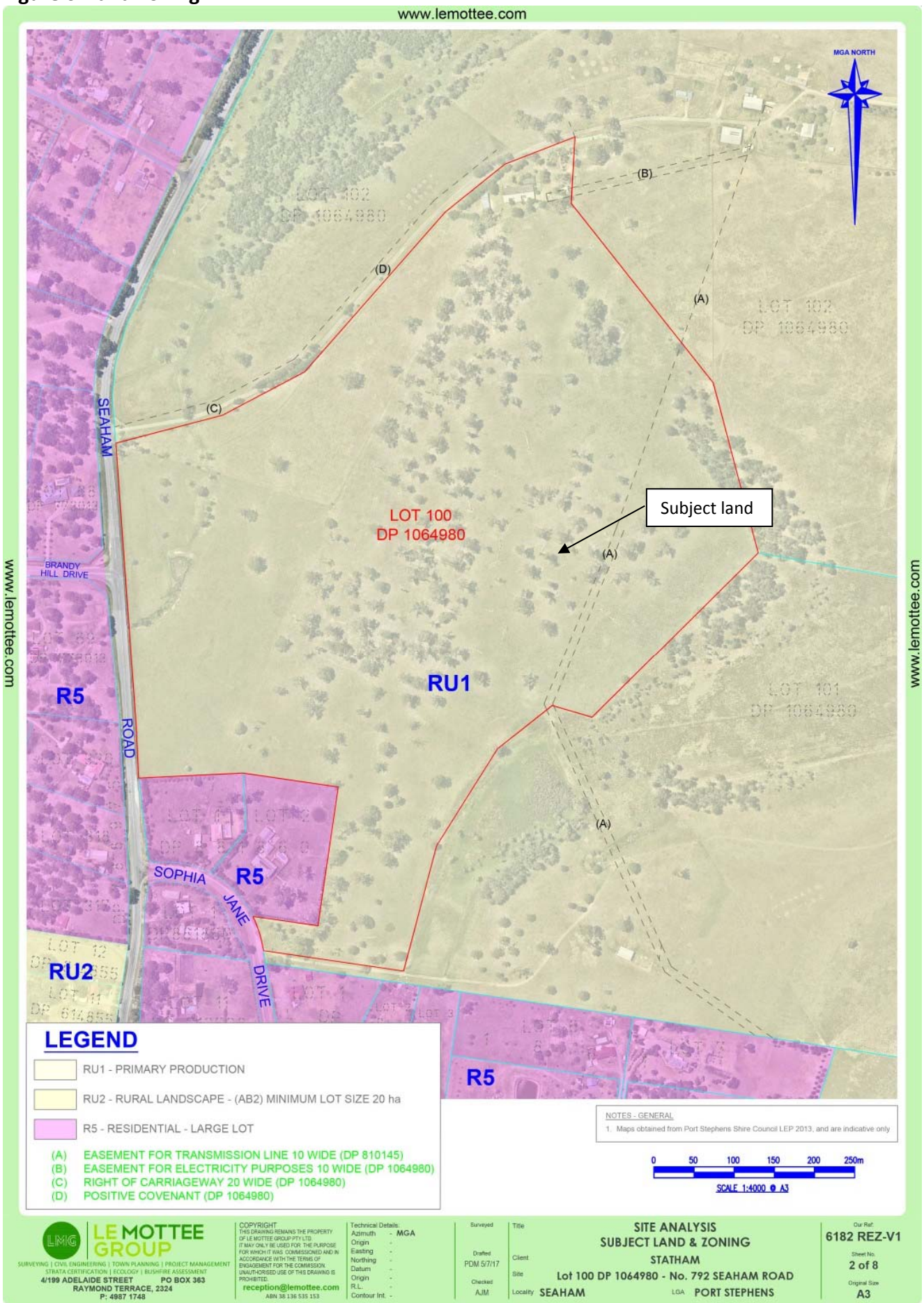
The subject land is zoned RU1 rural agriculture.

3.1.2 Port Stephens Shire Council Planning Strategy 2011-2036

This strategy refers to strategic planning for residential development within the Port Stephens Shire. It notes there are severe constraints within the Port Stephens Shire for residential development due to environmental factors, flooding and aircraft noise. Infill areas are described as redevelopment within established urban areas. This proposal has been viewed as infill development by council staff.

Following several years of negotiation and the exhibition of the Port Stephens Shire Council Settlement Strategy document, Council has agreed to accept a Rezoning Request for the Eskdale Property in isolation as part of the ongoing assessment of the Settlement/Planning Strategy.

Figure 6: Land Zoning



3.2 POLICY FOR THE PROTECTION OF AGRICULTURAL LAND (2004) – DEPARTMENT OF PRIMARY INDUSTRIES

This policy has the aim of protecting agricultural land from urbanisation, erosion, salinisation and other forms of land degradation, and maintaining the availability of land for agriculture, avoiding any unnecessary limitations on the use of that land, and promoting agricultural enterprises that are consistent with the principles of ESD (NSW Agriculture Policy 2004). Department of Primary Industries recognises that land with the best combination of soil, climate and topography for agricultural production (termed prime agricultural land) is a limited resource in New South Wales and its preservation should be encouraged. DPI policy is to support the retention of prime agricultural land. They recognise that some alienation of prime crop and pasture land is inevitable as a consequence of population growth and economic development.

Prime agricultural land was generally considered to be Class 1,2 & 3 land, but it is not readily defined under either AgFact AC.25, or this current policy. Instead DPI advocate environmental planning which takes account of :

- The agricultural productivity and suitability of the land
- The nature and requirements of agricultural industries in the area being considered.

It recommends under Ag Fact AC.25 Protecting Class 1 and 2 land, and 3 lands if "*agricultural production is adequate and suitable areas of Class 4 & 5 are available for competing uses*".

3.3 FARM SUBDIVISION ASSESSMENT GUIDELINE (2009). NSW INDUSTRY & INVESTMENT

"This Primefact sets out the relevant agricultural issues and planning principles to consider when assessing proposals to subdivide rural lands within Primary Production or Rural zones. The emphasis of this guide is on subdivision proposals where the lots to be created are equal to or greater than the minimum subdivision standard established in council Local Environmental Plans.

This guide is part of a series aimed at streamlining the Development Application (DA) process, by setting out the key agricultural issues, impacts and recommendations for consent authorities to consider.

This guideline focuses on agricultural issues and does not purport to cover the full range of issues that DAs and consent authorities must address.

Only those proposals that may trigger ***integrated development*** *under the Environmental Planning and Assessment Act 1979, the provisions of the Fisheries Management Act 1994, the Mining Act 1992, or the Plantations and Reafforestation (Code) Regulation 2001 should still be routinely referred to Industries and Investment NSW.*

As councils are the local planning and development authority in NSW, all subdivision enquiries should be directed to the relevant local council.

Applications to subdivide land that is zoned for rural use may require the applicant or Council to seek specialist technical advice from an independent consultant with relevant expertise".

In this case council have been consulted and have indicated that the rezoning request will be classed as an integrated development and require approval from Department of Planning and Infrastructure , who in turn will generally consult with DPI.

This report is prepared by an independent consultant with relevant expertise, and should be used by council/Department of Planning and Infrastructure/DPI to assist in their determination of the Rezoning request submission.

This report will address guidelines raised in this guideline which are:

"Key principles to encourage sustainable and profitable agricultural development and investment are:

- *The land resource base on which agriculture depends is protected from fragmentation and alienation.*
- *The sustainable profitable agricultural use of rural land is promoted over lifestyle uses in agricultural areas.*
- *Critical farm and rural infrastructure is recognised and addressed in land use planning decisions.*
- *Farm amalgamation and farm adjustment capacity is maintained by sound land use planning decisions.*
- *The potential for conflict between adjoining land uses is prevented or minimised.*
- *Environmental and amenity impacts are avoided through good farm design that allows management of adverse on-site and off-site effects.*
- *The current viability or profitability of a property is not a valid basis for farm subdivision.*

To achieve these key principles the following factors should be considered.

- *local context of the subdivision proposal,*
- *minimum lot size and agricultural development,*
- *sufficient resources for sustainable agricultural development,*
- *minimising land use conflict,*
- *alternatives to the subdivision have been considered and are justifiably discounted".*

3.4 SEPP (Rural Lands) 2008

This SEPP includes Port Stephens Shire and is therefore applicable. The purpose of this SEPP is to explain to local councils the key planning provisions of this SEPP, and the supporting section 117 Direction issued by the minister under the EP& A 1979.

The aims of State Environmental Planning Policy (Rural Lands) 2008 are to:

- *facilitate the orderly and economic use and development of rural lands for rural and related purposes*
- *identify Rural Planning Principles and the Rural Subdivision Principles so as to assist in the*

proper management, development and protection of rural lands for the purpose of promoting the social, economic and environmental welfare of the State (refer Attachment B)

- *implement measures designed to reduce land use conflicts*
- *identify State significant agricultural land for the purpose of ensuring the ongoing viability of agriculture on that land, having regard to social, economic and environmental considerations*
- *amend provisions of other environmental planning instruments relating to concessional lots in rural subdivisions.*

In general the SEPP achieves this by:

- *introducing rural planning principles to provide guidance for local councils when preparing new comprehensive LEPs or amending LEPs in respect to rural and environment protection zones*
- *introducing rural subdivision principles to provide guidance for local councils which seek to vary existing minimum lot sizes in rural and environment protection zones*
- *enabling subdivision of rural land for the purpose of primary production below the minimum lot size without allowance for a dwelling*
- *introducing heads of consideration for the assessment of land use conflict when councils consider development applications in rural areas*
- *removing concessional lot provisions from LEPs to minimise land use conflicts and fragmentation of rural lands*
- *enabling the Minister to identify State significant agricultural land and limit certain types of development on such land*
- *enabling the Minister to establish rural lands planning panels to provide advice to the Director-General on developments that propose to vary development standards.*

This land is not listed on Schedule 2 and is not considered state significant agricultural land.

The Rural Planning Principles are:

- *The promotion and protection of opportunities for current and potential productive and sustainable economic activities in rural areas.*
- *Recognition of the importance of rural lands and agriculture and the changing nature of agriculture and of trends, demands and issues in agriculture in the area, region or State.*
- *Recognition of the significance of rural land uses to the State and rural communities, including the social and economic benefits of rural land use and development.*
- *In planning for rural lands, to balance the social, economic and environmental interests of the community.*
- *The identification and protection of natural resources, having regard to maintaining biodiversity, the protection of native vegetation, the importance of water resources and avoiding constrained land.*
- *The provision of opportunities for rural lifestyle, settlement and housing that contribute to the social and economic welfare of rural communities.*
- *The consideration of impacts on services and infrastructure and appropriate location when providing for rural housing.*
- *Ensuring consistency with any applicable regional strategy of the Department of*

Planning or any applicable local strategy endorsed by the Director-General.

The Rural Subdivision Principles are:

- *Minimization of rural land fragmentation.*
- *Minimization of rural land use conflicts, particularly between residential land uses and other rural land uses.*
- *The consideration of the nature of existing agricultural holdings and the existing and planned future supply of rural residential land when considering lot sizes for rural lands.*
- *The consideration of the natural and physical constraints and opportunities of land.*
- *Ensuring that planning for dwelling opportunities takes account of those constraints.*

These principles will be addressed in this report.

4.0 PHYSICAL SETTING

4.1 GEOLOGY, SOILS AND LAND DEGRADATION

Soils occur on the property as a result of parent material, time to breakdown, geology, slope, landscape position, landuse, aspect, and to a lesser degree vegetation and climate.

The geology of the area consists of Permian Sediments (shales/sandstone/claystones) over the higher non flood prone parts of the site, and alluvial deposits of recent origin over the lower Eskdale swamp plains (Matthei, 1995).

The soils were tested for physical parameters to allow proper agricultural and land capability assessment to occur. Soils were tested by auger and physical on site examination. Additionally, where road cuttings and erosion scars allowed, soil profiles were examined. The site was traversed by foot and vehicle. Physical parameters tested for included:

- pH
- Depth
- Structure
- Texture
- Colour

The soil landscapes have been mapped by Matthei, Department of Land and Water Conservation 1995 (Figure 7). Soil landscapes are mapped using a combination of slope, soil type, and terrain to give a broad picture of major soil groups occurring over the landscape. Each soil landscape group was ground truthed at least one auger test hole (5 auger test holes dug over property). Estimated soil boundaries were determined through this testing program, in combination with landscape assessment (elevations, geomorphology, soil colour, vegetation species present and vigour and surrounding landuse). This found that the DLWC Soil Landscape Maps and soil types, were reasonably accurate. This is important as the soils determine to a large degree potential carrying capacity of the land, and agricultural classification rating.

The following soil landscapes as mapped by Matthei 1995 for this property are:

- bh (Bolwarra Heights);
- mf(Millers Forest);

Bolwarra Heights soil landscape occurred over nearly the whole property. It is described by Matthei 1995 as "*rolling low hills on Permian Sediments. Cleared tall open Forest. Soils moderately deep well drained yellow, brown and red podzolics with some imperfectly drained yellow soloths on lower slopes. Soils have the following limitations:*

- *high run on, water erosion hazard, seasonal waterlogging, moderate foundation hazard."*

Millers Forest soil landscape occurred over the floodplain on the eastern boundary of the property.

These soils are described by Matthei 1995 as "*extensive alluvial plain on recent sediments in the lower Hunter Region plain region. Soils deep imperfectly drained prairie soils . Limitations include:*

- *flood hazard, permanently high watertables, and seasonal waterlogging and foundation hazard".*

<u>On site soils assessment over this property found:</u>

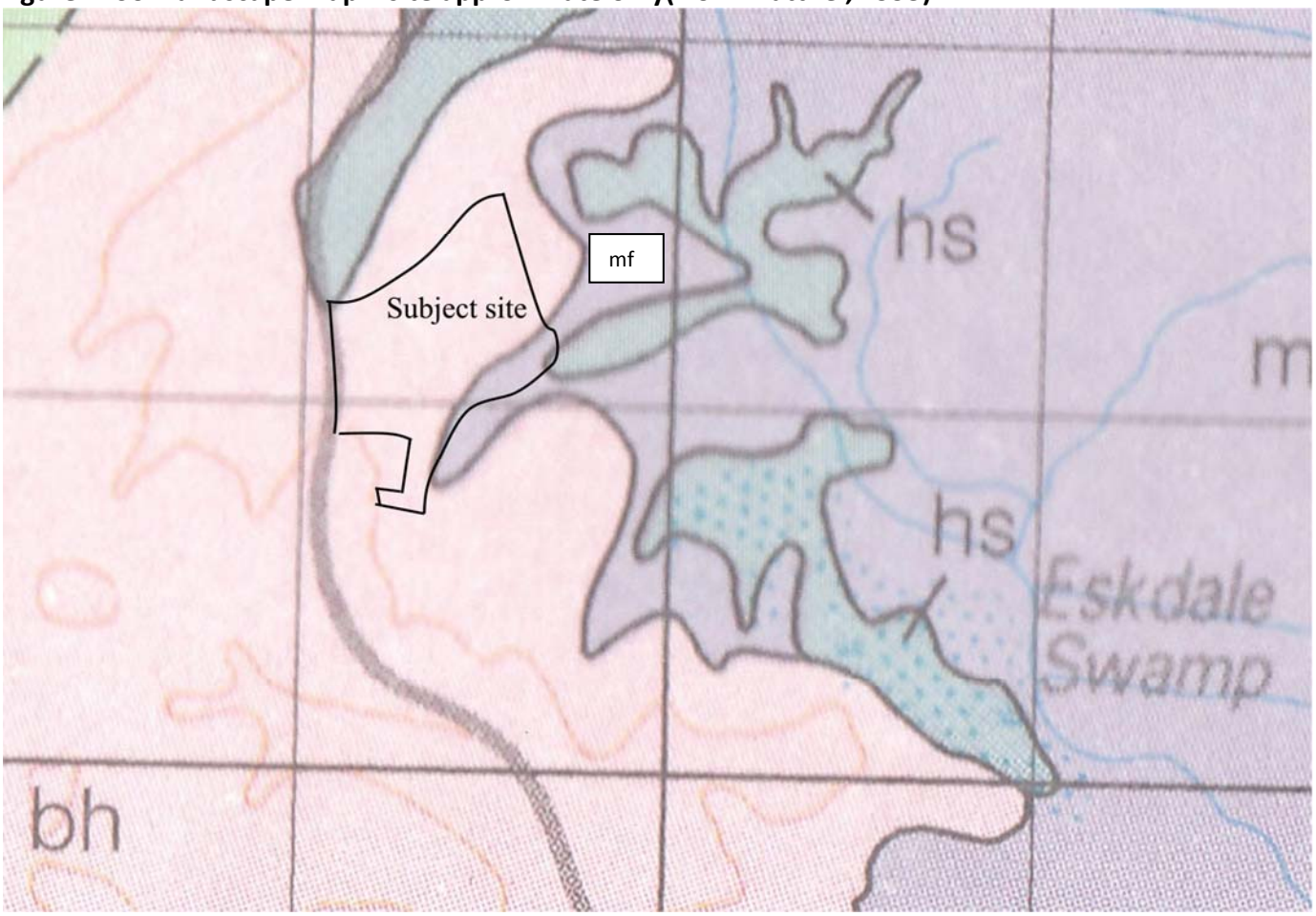
- Yellow Podzolics & Yellow Soloths occurred over the lower slopes and adjoining floodplain. These soils were poorly drained, mottled over their B Horizon over the adjacent floodplain indicating seasonal waterlogging/imperfect drainage, deep (over 1m deep) poorly structured sandy loam topsoils (Soloths) to well structured topsoils (Yellow Podzolics) to poorly structured clay at depth. pH was acid , being 5 over the topsoil, and 4.5 at depth. Soils as evidenced by these parameters, are considered to be suited to pasture, and perhaps occasional cropping over the better structured yellow podzolics soil areas.

- Red Podzolics soils occurred over the majority of the land over the crests and mid slopes. They were characterised by poorly to moderately well structured reasonably fertile dark brown loam topsoils with reasonable drainage and an acid pH of 5.5. Red moderately structured clay, with moderately good drainage, occurred at depth (B Horizon) with a pH of 5. Rock /gravel were present throughout the topsoil. Topsoil was around 10-30cm deep, with total soil profile (A & B Horizons only) being over 60cm deep. These soils are considered suitable for pasture but unsuited to cropping.

There was no land degradation present, apart from probable minor sheet erosion.

The soil landscape map produced by Matthei is therefore accurate, except it would appear that the whole property is Bolwarra Heights Soil Landscape with no Millers Forest prairie soils present.

Figure 7: Soil landscape map – site approximate only(from Matthei, 1995).



4.2 WATER

The subject land has two small dams, fed from broad overland drainage lines/slopes/creek. The property has one ephemeral creek (unnamed), and no groundwater bores or water licences to the author's knowledge.

The dam sizes are outlined in Table 1.

Table 1: Water supply

Dam number	Water capacity – megalitres (approx)
1	0.1
2	0.1
TOTAL	**0.2**

The pasture is not irrigated. Water troughs are located in each paddock, topped up from town water.

This catchment is also embargoed under Office of Water policy (Department of Land and Water Conservation, 2000), meaning no more dams are able to be built in excess of the existing properties harvestable water rights, without Office of Water approval and probable

need to purchase a water licence from elsewhere and transfer it. In this case the legal harvestable water rights are approximately 10% of the properties area (46 hectares), or around 4.6mgl. The total water storage at present is only around 0.2 mgl, well under this amount, but will never be enough to entertain pasture irrigation which requires around 6mgl/Ha/year.

4.3 NATIVE VEGETATION & PASTURES

The property has been mainly cleared with all undergrowth removed, and pasture improved. Tall mature trees are scattered throughout the property dominated by Spotted Gum, Grey Ironbark, Forest Red Gum, White Mahogany and Smooth Barked Apple, and paperbarks & casuarinas over the wetter low lying areas.

The pasture is dominated by a mix of rye grass, paspalum, couch, and clover with significant weed coverage including species such as fireweed, lotus spps, chickweed and cudweed. Very few native understorey species were present with only minor occurrences of species such as *Entolasia* spps (Wiry panic grass), *Dichondra repens* (Kidney weed) and *Dichelachne* spps (Plume grass) noted.

Generally the pastures are in a reasonably poor to moderate condition, being dominated by weeds (mainly fireweed & *Lotus* (Trefoil spps) and have probably been overgrazed in the past and appear to be nutrient deficient. At the time of inspection after a wet season they had reasonably growth (up to 60cm high) in lightly grazed paddocks, but were <20cm high in the front horse paddock adjacent to Seaham Road.

4.4 TOPOGRAPHY

Figure 5 shows the topographic map for the subject property. The property is generally gently undulating with a crest running north-south and a low slope to the west draining waters into a small drainage line and dam near Seaham Road. Land slopes moderately to the east (around 5-10 degrees slope) onto the eastern Eskdale swamp floodplain.

Around 22ha of the 46Ha property is flood prone, being below the 1:100 year flood level. These areas will not be built upon. (Shown in blue on Figure 4)

5.0 AGRICULTURAL LAND CLASSIFICATION

Agricultural Land Suitability is a system developed by NSW DPI which aims to allow rapid assessment for planning and helps to identify land worth retaining for agriculture. The following classes are used (from NSW Agriculture AGFACT AC.25, 2002):

- Class 1: Arable land suitable for intensive cultivation where constraints to sustained high levels of agricultural production are minor to absent.

- Class 2: Arable land suitable for regular cultivation for crops but not suited to continuous cultivation. It has moderate to high suitability for agriculture, but edaphic (soil factors) or environmental constraints reduce the overall level of production and may limit the cropping phase to a rotation with sown pastures.

- Class 3 : Grazing land or land well suited to pasture improvement. It may be cultivated or cropped in rotation with sown pasture. The overall production level is moderate because of edaphic or environmental constraints. Erosion hazard, soil structural breakdown and other factors including climate may limit the capacity for cultivation and soil conservation or drainage work may be required. 3(p) refers to pastures present.

- Class 4 : Land suitable for grazing but not for cultivation. Agriculture is based on native pastures or improved pastures established using minimum tillage techniques. Production may be seasonally high but the overall production level is low as a result of major environmental constraints. 4(T) refers to timber present.

- Class 5: Land unsuitable for agriculture or at best suited only to light grazing. Agricultural production is very low to zero as a result of severe constraints, including economic and legal factors (*Native Vegetation Act*), which preclude land improvement. An additional class may be used occasionally where land has some special features which allow a specialist crop to be grown.

5.1: AGRICULTURAL LAND CLASSIFICATION OF SUBJECT PROPERTY

NSW DPI has mapped this region and their map is shown in Figure 8. It maps the subject land as mainly Class 4, with some areas as Class 3. NSW DPI officer Mr Richard Roger has noted for this property:

This area is covered by the original Hunter Region study done by Rick Read et al thirty years ago (it's on Map 26), and which has not been updated since. The reliability scale of the mapping is 1:100,000 so, as usual with our Agricultural Land Classification maps, it is not suitable for individual property planning and we advise and recommend against its use for this purpose.

I attach a scanned photocopy of part of Map 26 on which I have indicated the rough location of this Lot/DP, as best I can; this is difficult and I have had to judge its location and extent by the bends in the road. This indicates that the property is split across Land Classes "3" and "4".

The consultant has also mapped the Agricultural Land Classification under current NSW DPI Agricultural Land Classification guidelines as shown in Figure 9.

The results of on site assessment have found:

This property **has been mapped as predominantly Class 4** (Pasture- Non Prime Agricultural Land). It is not considered to be suited to cropping (ie Class 1,2,3 Prime Agricultural Land) due to presence of rock in topsoil horizon, <30cm topsoil over most over property, clay subsoils, and imperfect drainage, and side slopes inhibiting cropping/ too much erosion potential.

The consultant generally concurs with NSW DPI mapping, except over the front paddock adjoining Seaham Road which is partly mapped as Class 3 land by NSW DPI. In the consultants opinion this land is unsuited to cropping due to the reasons stated above. As shown on the topographic map part of this area is also shown as a wetland.

Class 3 lands have been mapped over the property where land has been cleared, is of low slope, and has better structured deeper reasonably fertile topsoils and deeper non gravelly soils. This land is however constrained by clay at depth with impeded drainage, and occasional flooding. They can be improved for agricultural grazing lands, or perhaps cropped occasionally in dry seasons, but due to flooding are not suited to a permanent crop such as an orchard.

Class 5 land

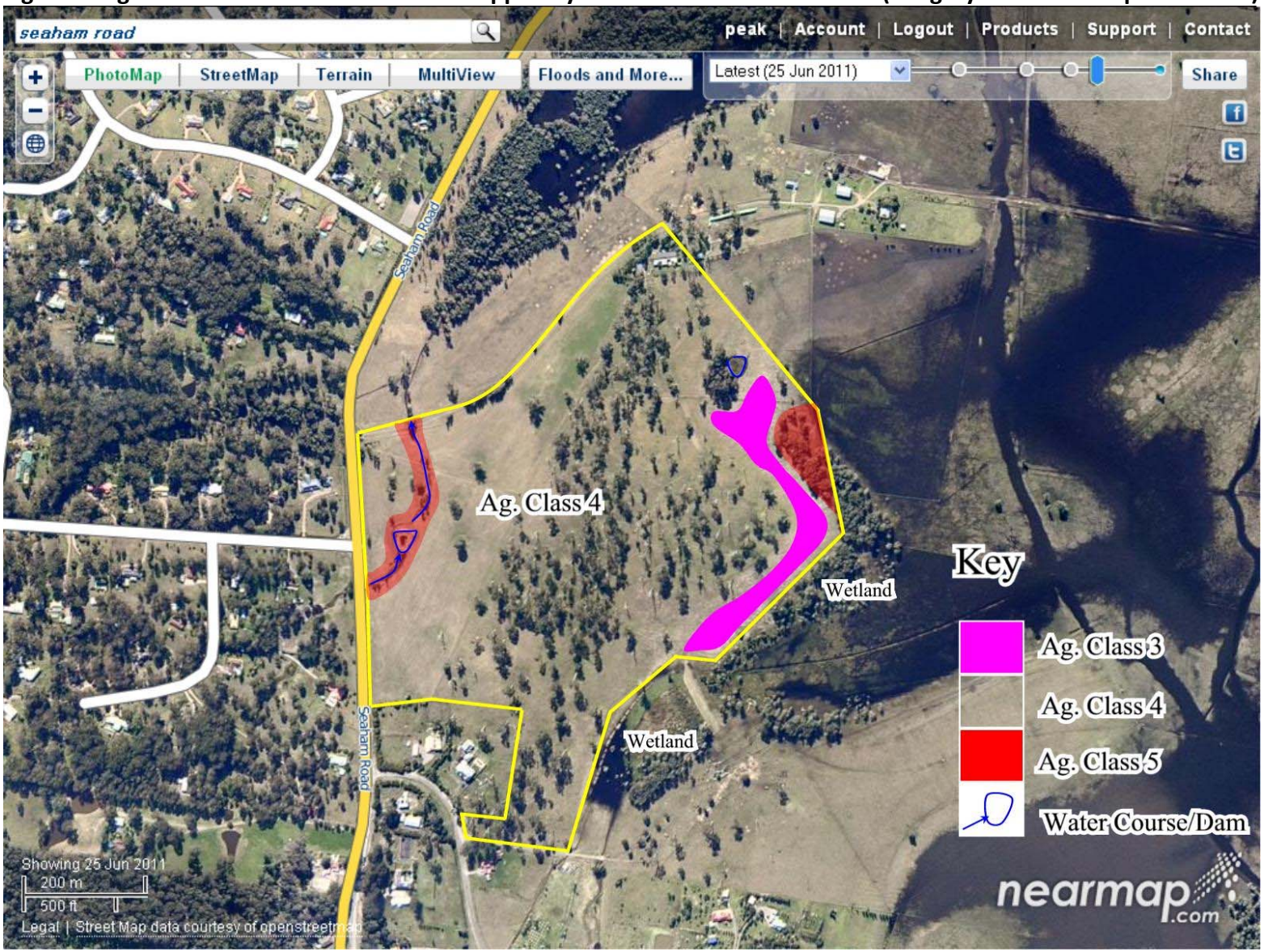
The riparian zones, and areas of vegetation surrounding wetlands have been mapped as Class 5.

Under the *Native Vegetation Act 2003* forested areas (which are not regrowth since 1990 or exempt under any RAMA's under the Native Vegetation Act) are also mapped as Class 5. In this case all understorey/mid storey and many trees has been removed historically, however scattered large remnant forest trees and some wetland species remain. These scattered forest treed areas have not been therefore mapped as Class 5 land, except where natural vegetation remains undisturbed (none on this property).

The *Water Management Act 2000* restricts clearing along all drainage/river lines, and their riparian zones within 10-40m of their bank (distance dependant on stream order). These areas have therefore been mapped as Class 5. In this case the unnamed creek line as shown in Figures 2 & 5 is a 1st Order Stream (Strahler system) ideally requiring at least a 10m vegetated riparian zone (Department of Water and Energy, 2008) under the *Water Management Act* and may require revegetation if referred to Office of Environment and Heritage.

Figure 8: Agricultural land classification map (from NSW DPI, circa 1980)

Figure 9: Agricultural Land Classification – mapped by PEAK LAND MANAGEMENT (imagery from nearmap June 2011)



6.0 CURRENT AGRICULTURAL ENTERPRISE & SURROUNDING LANDUSE

The current landuse consists of a cattle grazing enterprise, specialising in fattening steers.

Mr Statham has stated he currently runs between 30-40 head opportunistically dependent upon the season, selling and buying them usually twice a year in a good season. The whole property is grazed. He rarely agists cattle/horses from surrounding properties. Two horses were present during inspection, as well as around 20 cattle.

Current infrastructure is in reasonable condition. Fences where they exist are in average condition, workshop and house are in good condition, cattle yards are workable and pastures as described are in poor to moderate condition and need fertilizing/weeds eradicated. Water troughs are in good order.

6.1 CARRYING CAPACITY

Using the standard DSE* method of calculating carrying capacities of stock (based on estimating area of land capability class, and pasture type) and with reference to *Beef Stocking Rates and farm sizes – Hunter Region* (2006), the following estimate is made of total carrying capacity for the property for a steer enterprise (Table 2).

Table 2: Subject sites total DSE stock carrying capacity.

Ag Suitability Class	Subject site land area (Ha)	*DSE Rating at present	Total DSE*	Carrying Capacities (steer production –@ 21.3 DSE*)
3	Approx 2	Average 10	20	1
4	Approx 42	Average 8	336	16
5	2	0	0	0
TOTAL	**46**		**356**	**17**

**DSE refers to Dry Sheep Equivalent. This is a way of comparing how much feed a dry (non lactating) sheep would consume compared to other animals such as steers, etc (see Appendix 4 and 5).*

The sustainable carrying capacity for the subject site at present (Table 2) is around 17 steers in a Feeder Steer Production System using DSE figures for steers from NSW DPI, 2017. Therefore the property is currently overstocked, and financial figures presented below will compare the sustainable figure of 17 steers, compared to the actual average figure which is currently being run on the property (probably not sustainably, as evidenced by the weedy run down pastures).

6.2 FINANCIAL

From discussions held with Mr & Mrs Statham, an overview of an average year's financial situation is as follows:

Income: Approximately $24 540- $32 720/yr from sale of 60-80 head of steers.

Expenses : Insurance-$1500
Labour - $3750 (250hrs/yr @ $15/hr)
Fuel/maintenance/repairs - $3000 (tractor/part car use)
Rates - $2400
Water- $1200
Fertilizer - $1000
Other - $1000

Total Expenses- $13 850

Total Gross Margin – between $10 690- $18 870 /yr dependant on season.

The financial returns are therefore small, and is unviable in the long term. Mr & Mrs Statham rely on off farm income to keep the farm running.

A Gross Margin budget for a typical steer fattening enterprise from NSW DPI figures 2017 is shown over. It shows the Gross Margin/Steer as $409/year (excluding pasture cost).

Note: The NSW DPI figures are based on a yearly fattening enterprise system, and only include variable costs. They do not include overhead costs such as labour, capital improvements, rates, insurances, mortgage repayments, etc .

The figures are therefore comparable and it becomes obvious that this is not a commercially viable operation.

As is a similar case along many parts of the coastal region of NSW where land prices are high the true value of the property is in its land value which is not able to be realised, unless the property is sold. This is what has occurred in this instance.

Figure 10: A Gross Margin budget for a typical steer fattening enterprise for 100 steers (NSW DPI figures 2017).

NSW GOVERNMENT Primary Industries

BEEF CATTLE GROSS MARGIN BUDGET

Farm enterprise Budget Series: February 2017

Enterprise: **Growing out steers 240kg - 460kg in 12 months**
Enterprise Unit: **100 steers**
Pasture: **Improved Pasture**

INCOME:			**Standard Budget**	**Your Budget**
88	Steers @	$1,587 /hd	$139,656	
10	Steers @	$1,553 /hd	$15,525	
	A. Total Income:		**$155,181**	

VARIABLE COSTS:				
Steer Purchase	100 steers purchased at	$996 /hd	$99,600	
Cartage to Property	100 steers at	$15.00 /head	$1,500	
Livestock and vet costs: see section titled beef health costs for details.			$1,380	
Fodder crops (12 ha)			$3,000	
Hay & Grain or silage			$0	
Drought feeding costs.			$0	
Pasture maintenence (for 108 ha of improved country)			$10,800	
Livestock selling cost (see assumptions on next page)			$8,724	
	B. Total Variable Costs:		$125,004	

	GM including pasture cost	GM excluding pasture cost
GROSS MARGIN (A-B)	**$30,177**	**$40,977**
GROSS MARGIN/STEER	**$301.77**	**$409.77**
GROSS MARGIN/DSE*	**$34.97**	**$47.48**
GROSS MARGIN/HA	**$279.42**	**$379.42**

Change in gross margin ($/steer) for change in price &/or the weight of sale stock

Liveweight (kg's) of Stock sold		**Steer sale price cents/kg live**				
		325	**335**	**345**	**355**	**365**
Steer wt.						
-20 kgs	**440**	154	196	237	278	320
0	**460**	215	259	**302**	345	388
+20 kgs	**480**	277	322	367	411	456

Change in gross margin ($/steer) for change in purchase price & sale price.

Steer Purchase Price C/Kg	**Steer sale price cents/kg live**				
	325	**335**	**345**	**355**	**365**
375	311	355	398	441	484
395	263	307	350	393	436
415	215	259	**302**	345	388
435	167	211	254	297	340
455	119	163	206	249	292

PEAK LAND MANAGEMENT

Assumptions **Growing out steers 240kg - 460kg in 12 months**

Enterprise unit is 100 steers purchased at 9 months of age at 240kg liveweight, held for 12 months and sold direct to feedlots at 460kg liveweight.

Sales			
90% steers sold at 21 months	460 kg	@345c/kg	live weight
10% steers sold at 21 months	450 kg	@345c/kg	live weight
Purchases			
Steers purchased at 9 months	240 kg	@415c/kg	live weight

Steers kept for 12 months

Selling costs include: Commission 4%, yard dues $0 (sold direct to feedlot.)
MLA levy $5/hd, average freight cost to feedlot 20.00/hd,
no NLIS tags costed in this budget.

Mortality rate of adult stock: 2%

The average feed requirement for this enterprise is rated at 1.29 LSU 8.90 dse's*. This is an average figure and will vary during the year.

Note that as with breeding enterprises there has been no interest charged on livestock. If an interest charge of 10% pa is charged a further $9960 of costs should be allowed in the budget.

Marketing Information:
Finished animals are best marketed in deck loads of straight lines, so care needs to be taken when purchasing stores to ensure an even line of weaners for weight and frame.
Later maturing types prefered for the Japanese feedlot 120-170 day grain fed market.
Freight costs will vary depending on proximity to major feedlots.

Production Information:
It may be necessary to wean the steers after purchase which requires adequate facilities on farm.
Growing out enterprises can be risky because of the price variation in both purchases and sales. Producers should consult the table on the previous page that shows gross margin changes due to variation in purchase and sale prices. Producers should determine the maximum purchase price they are prepared to pay before the sale.
Liveweight and description buying are recommended methods.

NSW Department of Primary Industries Farm Enterprise Budget Series

6.3 SURROUNDING LANDUSES

The subject site is surrounded by small lot rural residential allotments to the south (Nelsons Plains) and west (Brandy Hill) , wetlands to the east which are also grazed when not in flood, and more wetland/pasture grazing to the north.

It is not expected that any of these property owners would be affected in anyway by the proposed subdivision. It is acknowledge that this property may offer some flood refuge for cattle, however flood free land also exists on neighbouring properties that run cattle.

7.0 CONCLUSION

The property has been assessed in terms of its agricultural viability by an analysis of its natural physical assets – soil, water, topography, climate, agricultural land class, its man made assets – water infrastructure, land improvements and an economic analysis of its major agricultural enterprise – beef cattle.

This assessment has found:

- The land is primarily Class 4 , with some small areas of Class 3 and 5 lands.
- The existing beef cattle fattening enterprise is unviable, or at best achieves a very low income not justifying the ongoing operational costs.
- Pastures as a result have run down, and the owners require off farm income to survive.
- NSW DPI 2006 note that a minimum area for a functional feeder steer enterprise is 108 Ha on medium fertilized Class 3 country at around 8DSE/Ha. This DSE is equivalent to this property, and shows that it needs to be at least twice the size of its current area just to become viable.
- 22ha of flood prone land, which is all of the Class 3 mapped land, will not be subdivided and is available for ongoing agricultural or other uses.

The other agricultural options available for this property include:

- Different beef cattle enterprises – ie weaners – these however are also likely to return similar or less income and are not viable over this small farm area;
- Other horticultural operations – limited by soils which are more suitable for grazing than cropping, and high setup costs, lack of water availability for irrigation, and high labour requirements;
- Sell property to a local adjoining farmer (who may not have the capital required to buy this farm due to inflated land prices) and amalgamate beef cattle grazing.

The property is constrained by its limited arable agricultural land size of around 46Ha limiting numbers of stock and resultant income, soils, slopes, flooding, high input costs of fertiliser, electricity, fuel and labour which are all rapidly rising, and income from agricultural produce relatively low.

It is therefore considered that agriculture on this property will remain unviable, unless perhaps a boutique, or specialist enterprise with high returns and low labour demands is found. At this stage opportunities are scarce. The long term decline of agriculture in the coastal areas, especially near urban areas which are expanding and requiring residential land pushing up land prices/rates will continue, with agriculture being pushed west to more broadacre operations on lower cost land.

The proposed rezoning conforms with most of the aims and objectives of *SEPP (Rural Lands) 2008* in that it is located in a current part rural residential area surrounded on two sides by small rural residential allotments, on land that is well suited to planned future supply of rural residential (on a main road, close to Maitland and Port Stephens). The proposal will to a certain extent alienate and fragment agricultural land, however the land is predominantly not Prime Agricultural Land, and extensive grazing is available over the Class 3 floodplains of Eskdale Swamps, and other flood prone land over the subject property. These areas are unlikely to ever be built upon due to flooding constraints (includes all those areas on this property below the 1: 100 year flood levels – around 22ha of land). The small number of steers/cattle turned off this property will not have any significant affect on agricultural production in the local area.

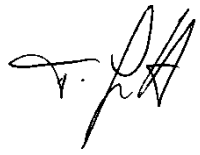
The proposal conforms to the NSW DPI *Policy for the Protection of Agricultural Land (2004)* in that most land to be rezoned is Class 4 – non prime agricultural land. Provision is made to retain all Class 3 land in the one ownership. Possible conflict with existing agricultural operations will be minimised through the separation of proposed lots/residences from farm dwellings/sheds to the northeast by over 300m, thereby reducing any possible noise or odour affects. There are no other close farm holdings.

The proposal addresses *Farm Subdivision Assessment Guidelines 2009* (NSW Industry and Investment). Although some agricultural land (around 26Ha of non prime land) will be lost to agricultural production this may occur anyway due to the unprofitability of the enterprise. The land at present does not contribute greatly to agricultural production in the region. The proposed lot sizes are smaller than surrounding lifestyle residential allotments in surrounding subdivisions, however this makes little difference to agriculture production as it unlikely that any significant agricultural production is feasible on any sized small (<2Ha) rural residential lot.

The proposed rezoning for a lifestyle residential subdivision is considered to have a minor impact on agricultural production in this area. It is considered to be a responsible development of land, in an area severely constrained by flooding and environmental constraints.

It also allows new landowners with different skills, experience, cash, and labour to be injected into this area which will improve the social and economic opportunities for the local community.

Report prepared by:



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PEAK LAND MANAGEMENT

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Port Stephens Shire Council

APPENDIX 1: PHOTOS OF SUBJECT SITE

Entrance to Eskdale – agisted horses in front paddock.

Front paddock – note weeds such as Fireweed

Class 4 land – suited to grazing, constrained land for cropping.

Red Podzolic soil sample over crest of property. Note poorly structured topsoil and clay subsoil.

Wetland adjacent to eastern boundary. Cropping /soil disturbance should not occur near this wetland.

Pastures dominated by Fireweed, usually indicating poor stock/pasture management, and poorer soil fertility. Will result in decrease in stock carrying capacity.

Class 3 Land – lower eastern flats

Casuarina glauca (Swamp Oak) trees over front paddock indicating high water table/occasional flooding and therefore this land classed as Class 4, suited to grazing not cropping.

Example of existing rural residential lot to the west of this property.