Land and Environment Court of New South Wales

CITATION :	**BGP Properties Pty Limited v Lake Macquarie City Council [2004] NSWLEC 399 revised - 05/05/2005**
PARTIES :	BGP Properties Pty Limited (Appl) Lake Macquarie City Council (Resp)
FILE NUMBER(S) :	10042 of 2003
CORAM:	McClellan CJ
KEY ISSUES:	Development Application :- Deemed refusal Industrial subdivision Ecologically sustainable development Precautionary principle Weight to be given to the zoning of land Impacts on animals and plant communities How to construe a scientific committee's determination in relation to an ecological community Noise impacts Construction traffic Bushfire
LEGISLATION CITED:	Mine Subsidence Compensation Act 1961 Rivers and Foreshore Improvement Act 1948 National Parks and Wildlife Act 1974 Threatened Species Conservation Act 1995 Protection of the Environment Administration Act 1991 Water Act 1912 Environmental Planning and Assessment Act 1979 Environment Protection and Biodiversity Conservation Act 1999 (Cth)

CASES CITED:	Beckwith v R (1976) 135 CLR 569; Byron Shire Council v Chrestal Pty Ltd (1983) 49 LGRA 88; Capral Aluminium v Workcover Authority of NSW (2000) 49 NSWLR 610 at [38], [41]-[47]; Carstens v Pittwater Council (1999) 111 LGERA 1; Conservation Council of South Australia v Development Assessment Committee and Tuna Boat Owners Association (No 2) [1999] SAERDC 86; Greenpeace Australia Ltd v Redbank Power Company Pty Ltd & Anor (1994) 86 LGERA 143; Hornsby Shire Council v Vitone Developments Pty Limited [2003] NSWLEC 272; Jansen v Cumberland County Council (1952) 18 LGR(NSW) 167; Kurri Kurri Pty Ltd v Scientific Committee (2003) 128 LGERA 419; Leatch v National Parks and Wildlife Service & Anor (1993) 81 LGERA 270; Mathews v Foggitt Jones Ltd (1926) 37 C L R 455; Michel Projects Pty Ltd v Randwick Municpal Council (1982) 45 LGERA 410; Minister for Aboriginal Affairs v Peko Wallsend Ltd (1986) 162 CLR 24; Mobil Oil Australia Ltd v Baulkham Hills Shire Council (No 2) 1971 28 LGRA 374; Nanhouse.Properties Pty Ltd v Sydney City Council (1953) 9 LGR(NSW) 163; Nicholls v Director-General of National Parks and Wildlife & Ors (1994) 84 LGERA 397 Murrumbidgee Ground-Water Preservation Association v Minister for Natural Resources [2004] NSWLEC 122; R v Adams (1935) 33 CLR 563; Re Drake and Minister for Immigration and Ethnic Affairs (No 2) (1979) 2 ALD 634; Sovar v Henry Lane Pty Ltd (1967) 116 CLR 397; Terrace Tower Holdings Pty Ltd v Sutherland Shire Council (2003) 129 LGERA 195 ; Waugh v Kippen (1986) 160 CLR 156 at 164-165
DATES OF HEARING:	20-21 October 2003 15-23 March 2004
DATE OF JUDGMENT:	08/12/2004

LEGAL REPRESENTATIVES:	P W Larkin/C D Norton (Appl) Sparke Helmore (Sols - Appl) T F Robertson SC/I J Hemmings (Appl) P Rees

JUDGMENT:

THE LAND AND ENVIRONMENT COURT OF NEW SOUTH WALES

McCLELLAN J

THURSDAY 12 AUGUST 2004

10042/03 BGP PROPERTIES PTY LIMITED v LAKE MACQUARIE CITY COUNCIL

JUDGMENT

1 **HIS HONOUR**: This is an appeal pursuant to s 97 of the *Environmental Planning and Assessment Act* 1979 (NSW) *("EPA Act")* against the deemed refusal by Lake Macquarie City Council ("the Council") of an integrated development application to subdivide Lot 1 DP 426613 and Lot 4 DP 248860, No 10A Cowlishaw Street, Redhead in the City of Lake Macquarie into 48 lots (originally 54 lots) for industrial use and storage. The application was amended during the hearing.

2 I was assisted in the appeal by Commissioner Watts. We visited the site in company with the parties on 17 March 2004 and, as is now the common practice of the Court, local residents spoke with me about their concerns in relation to the proposal. Discussion with a number of the experts also occurred on site.

3 Because of the impact of traffic noise on residents of Cowlishaw Street together with the impact of the proposed development on the Sydney Freshwater Wetland and the Tetratheca juncea, I have concluded that the

application should be refused. Before there could be acceptable development of the site there would have to be a significant reduction of the impact of noise on nearby residents. An acceptable subdivision would also need to significantly reduce the impacts on Sydney Freshwater Wetlands and Tetractheca juncea. It is possible that a development which meets these criteria would not be commercially viable, in which event the purpose for which the land has been zoned could not be achieved. Even if this were the case, it would not justify approval of a project which inflicts the level of harm on the natural environment and the amenity of local residents as would occur with the present proposal.

The site of the development

4 The site is situated on the southern side of Cowlishaw Street, bounded on the east by an abandoned railway line, the Fernleigh Track, and on the west by a local open space reservation. It is generally low lying to about 20m above sea level ("ASL") but rises to the west on Quaternary coastal sand deposits east of Jewells Swamp. The site is identified on the map of the local area, figure "A" to these reasons (map not reproduced). An aerial photograph showing the site is in figure "B" (map not reproduced).

5 Lot 4 has an area of 41.22 hectares. Lot 1, which was formerly a road used for mining purposes, passes through the centre of the site in a north-south direction. Lot 1 has an area of 2.47 hectares, giving a total site area of 43.69 hectares.

6 The land is vacant. Significant parts of it have been mined for minerals following which the land has been recolonised by a shrub community dominated by Coastal Tea-tree Leptospermum laevigatum. Other disturbances on the site include:

· fill material in the northeast corner of the site;
· an ultra-light aircraft strip in the central part of the site;
· clearing associated with drainage works, a sewerage line and recreational usage; and
· various tracks traversing the site.

7 The remaining parts of the site generally support native and wetland vegetation.

8 Cowlishaw Street, a relatively short roadway, provides the only vehicular access to the site. Traffic to and from the land must pass nine dwellings on the northern side of that street. On the other side of the street there is a large public playing field, Liles Oval, which is well used by local sporting organisations.

9 The Fernleigh Track, which was formerly a railway line but long since abandoned, forms the eastern and southern boundaries of Lot 4 and creates a physical barrier between Lot 4 and adjoining developed industrial land to the east. Little remains of the actual railway with the exception of an embankment, which enables its original form to be appreciated.

10 To the west and south of the site is other land zoned for the purpose of open space and environmental protection.

11 The main residential area of Redhead is located on the eastern side of Kallaroo Road, which is generally to the east of the site. New residential dwellings have recently been developed on the former Lambton Colliery site and the property adjoining the land to the east, on the western side of Kallaroo Road.

12 Jewells Swamp wetland, a wetland identified pursuant to State Environmental Planning Policy No 14, encroaches onto the south western corner of the site and is generally to the west of the site.

13 To the north are other lands zoned for conservation that provide a contiguous vegetated link between Awabakal Nature Reserve to the northeast and Jewells Swamp. Further to the south is the Belmont Coastal Wetlands Reserve, which also contains SEPP14 wetlands.

14 An established industrial estate off Kallaroo Road adjoins the land to the east and supports a range of commercial and light industrial activities. Further to the east lie a number of sand mining operations, a small retail precinct, and two caravan parks.

15 The land has been undermined and is within the Lake Macquarie Mine Subsidence District. Any proposed improvements would require approval of the Mine Subsidence Board ("MSB") prior to construction.

The proposal and its history

16 The integrated development application was lodged on 14 November 2002 seeking consent to subdivide the land into 48 lots (originally 54 lots) for industrial use and, as later amended, storage. The site has an area of 43.69ha. The proposed lots within the industrial subdivision would cover around 15ha or 34% of the land. The remaining 29ha is intended to remain as open space and function as an environmental protection zone. A plan of the amended application is at figure "C" (map not reproduced).

17 The lots would have areas of between 1,501m2 and 2,175m2, with the average lot size being 1,721m2 distributed over three separate but interconnected precincts, each with four (4) ponds or artificial wetlands. The ponds have an aggregate area of some 4,800m2 as scaled off the plan. However, there are no dimensioned plans of the ponds and if they exceeded 5000m2 the proposal may be designated development (see s 77A of the *EPA Act* and cl 4 of the Regulation together with Pt 1 Schedule 3 to the Regulation).

18 The development relies exclusively on vehicular access from Cowlishaw Street.

19 The applicant maintains that, if implemented, the subdivision would bring a number of benefits to the environment. Apart from likely investment and employment opportunities, the following environmental benefits are identified:

· improvements to the existing drainage systems on the land with particular emphasis on the protection of sensitive ecological areas;

· the selective clearing of vegetation, weed eradication and rubbish removal; and

· the propagation of native seeds and other propagules collected from the site to be used during landscaping and rehabilitation works.

20 Filling and levelling of the proposed industrial precincts is proposed to ensure that all lots would be above the 1 in 100 ARI flood. The applicant has estimated that 50,000m3 of cut and 150,000m3 of compacted fill would be required. However, the council has estimated 220,000m3 of fill may be required. To maintain the drainage characteristics of the land, fill material of a moderate to high permeability would be required. The additional material needed to meet filling requirements would be sourced off-site and comprise crushed sandstone. The applicant suggests that this would also help maintain a slightly acidic groundwater environment, favoured by the Wallum Froglet, which has been identified on the land.

21 The industrial subdivision and roads would be supported on a retaining wall structure, which would also provide a physical separation between development areas and the environmental protection zone. The height of the retaining wall would vary from 1m to over 3m.

22 A stormwater management system is proposed to encourage infiltration and reduce direct runoff by providing artificial wetlands, grassed verges, bio-retention swales and dispersion areas.

23 A Species Impact Statement ("SIS") has been prepared by Gunninah Environmental Consultants in accordance with the *Threatened Species Conservation Act* 1995. When the SIS was prepared, part of the subject land had recently been disturbed by slashing. However, the SIS was prepared as if the slashing had not taken place.

24 The hearing of the appeal commenced on 20 October 2003. However, on the second day of the hearing the applicant recognised that the application was inadequate and sought an adjournment to prepare additional supporting material.

25 An adjournment was granted following which the applicant provided the following further material:

· an outline of an Environmental Management Plan, Bushland Management Plan and Bushfire Management Plan;

· design of each precinct, including conceptual lot layouts and cross sections;

· road design details for the road crossing of the Fernleigh Track, including indicative cross-sections and long sections;

· a flood assessment of the site;

· details of stormwater management; and

· indicative maintenance regimes for on-site systems, roadside swales, bioretention swales, access tracks and roads.

26 The amended proposal is described in the plans prepared by Northrop Structural and Civil Engineers, which became Exhibit K in the proceedings.

27 The amended application was accompanied by an amended Statement of Environmental Effects prepared by ERM and dated 6 January 2004; a revised SIS prepared by Gunninah Environmental Consultants and dated January 2004, a Noise Assessment Report prepared by ERM and dated January 2004; an Outline Environmental Management Plan prepared by ERM and dated January 2004; an Outline Vegetation Management Plan prepared by Gunninah Environmental Consultants and dated January 2004; and an Outline Bushfire Management Plan prepared by ERM dated January 2004.

28 General Terms of Approval under the *Mine Subsidence Compensation Act* 1961, the *River and Foreshores Improvement Act* 1948 and *Water Act* 1912 have issued in respect of the amended application.

Further amended application

29 During the hearing on 18 March 2004, the applicant further amended the proposal to provide an extension of the existing stormwater discharge pipe from Treatment Pond No 3 in Precinct No 2, along the western side of the ultra-light strip, with a final discharge point into an existing channel at the southern end of the ultra-light strip, and filling in of the artificial channels as part of the proposed rehabilitation of the ultra-light strip.

30 The amendment is intended to avoid a possible local decline in groundwater levels and possible loss of the Wallum Froglet habitat.

Notification

31 The application was notified to nearby owners and occupants and the Council received one hundred and eighty-two (182) objections.

32 Residents were concerned about many matters including:
· impact on Jewells Swamp wetland;
· threats to flora and fauna;
· noise and traffic considerations; and
· proximity of the access road to Liles Oval and the Fernleigh Track with consequential risks to the safety of children.

Relevant planning controls

33 There are many planning controls which must be considered in determining the present application. I have provided a reference to them all, and where they are more important, have included relevant extracts. The complexity of both the statutory controls and the issues called up for consideration is considerable.

Lake Macquarie Local Environmental Plan 1984

34 The Lake Macquarie Local Environmental Plan was gazetted on 18 April 1984. Some of its aims and objectives are of particular relevance but, as is often the case, point in opposite directions in respect of a particular application. This is true in relation to the present matter. Matters of particular relevance are:

> "(e) to ensure that new industrial and commercial developments are located so as to provide goods access to suppliers and markets;
>
> (f) to locate new employment and population so that there is the greatest possible range of job opportunities; ...
>
> (l) to minimise infrastructure costs by achieving the fullest possible use of existing facilities; ...
>
> (p) to confine residential and industrial development to selected areas which are able to accommodate and contain demand; ...
>
> (s) to protect areas of high landscape value and natural areas of conservation and recreation significance, including coastal wetlands;
>
> (t) to protect areas of scientific, historical or archaeological significance to the region or State;
>
> (aa) to encourage the provision of employment opportunities in locations close to places of residence, particularly for young people and women;"

35 The land is zoned partly 4(a) General Industrial, partly 5(d) Special Uses (Railways), partly 6(c) Open Space (Local Reservation) and partly 5(b) Special Uses (Proposed Arterial Road Reservation) under the Lake Macquarie Local Environmental Plan as shown in figures "D" and "D2" (maps not reproduced). The proposed industrial use of the land is permissible with consent in the 4(a) General Industrial zone.

36 The purpose of these zones in the Lake Macquarie Local Environmental Plan are relevantly identified as follows:

> "In Zone 4(a), land is set aside for general

inoffensive industrial development;
in Zone 5(d), land is set aside for use by the State Rail Authority of New South Wales for railway purposes;

in Zone 6(c), land is set aside for future local public recreation."

37 It is not proposed to develop the land zoned 5(b). No development is proposed of the land zoned 6(c), save for the minor intrusion of a proposed road which is necessary to avoid an ecologically sensitive area in the vicinity of the Wallum Froglet pond in the southwestern sector of the land.

38 Under cl 19(5), (9) and (10) of the Lake Macquarie Local Environmental Plan, consent may be granted for any purpose on land within Zone 6(c) Open space (Local Reservation*)* "until the land is acquired or developed for the purpose for which it is zoned". Under these provisions, the proposed road would be permissible with consent. In any event, "roads" are permissible on this land.

39 The proposed industrial use is prohibited in the 5(d) Special Uses (Railways) zone, although roads, drainage and subdivision are permissible with consent in that zone. However, the applicant seeks to invoke Clause 24A of the Lake Macquarie Local Environmental Plan to permit industrial development of a strip of land some 450m x 50m or 2.25ha in area within that zone. The applicant points to the fact that the "railway land" is no longer required for railway purposes and the railway has been decommissioned and purchased by Lake Macquarie and Newcastle City Councils to develop a regional cycle-way and walkway. It also points to the fact that Lake Macquarie Council recognised that the railway corridor was not required and has generally been removed from the Lake Macquarie Local Environmental Plan 2004 which was gazetted on 19 March 2004.

40 Clause 24A of the Lake Macquarie Local Environmental Plan allows for minor boundary adjustments of zones and applies to land within 20m of another zone boundary. However, the Council argues that to allow a minor boundary adjustment in this case would be inappropriate because it would effectively extinguish the zone. If the railway land is to be used for industrial purposes, the Council says that it should be formally rezoned to permit the industrial use.

41 As I have indicated, roads are permissible within the 5(d) Special Uses (Railways) zone and, with a slight amendment of the most recent plan, proposed Lot 30 could be cut back so that it would extend only 20m into "railway" land. In my opinion, this would allow the application of cl 24A of the Lake Macquarie Environmental Plan.

42 Clause 35 of the Lake Macquarie Local Environmental Plan requires the consent authority to take into consideration the likely effect of any proposed development on the heritage significance of an heritage item and on its setting when development is proposed in the vicinity.

43 The Belmont Railway (RT-04), the branch lines from the Belmont Railway (RT-05) and the mine manager's house (RH-07) are all identified as items of local and regional heritage significance under Schedule 7 of the Lake Macquarie Local Environmental Plan and are located within the vicinity of the land.

Lake Macquarie Local Environmental Plan 2004 (LEP2004)

44 Lake Macquarie Local Environmental Plan 2004 was gazetted on 19 March 2004 and has general application within the city and proposes that much of the site be included in conservation zones. However, most of the site is noted as "deferred". Other parts are zoned 5: Special Uses (d) Special Uses (Railways); 7(1) Conservation (Primary) and 7(3) Environmental (General).

45 Clause 11(1) of Lake Macquarie Local Environmental Plan 2004 provides transitional arrangements for pending applications. It requires the present application to be assessed as if the zonings under the Lake Macquarie Local Environmental Plan continue to apply to the land, although regard must be had to Lake Macquarie Local Environmental Plan 2004.

46 Of particular significance in Lake Macquarie Local Environmental Plan 2004 is the perpetuation of the 5(b) Special Uses (Proposed Arterial Road Reservation) zoning of land to the west of the subject land. This reservation passes through the Jewells Creek wetland. If this road proposal is carried out, unless it is carefully designed, it would be likely to have significant adverse environmental impacts on the integrity and long term viability of the wetland system. This would include impacts on the integrity of the wetland on the subject land.

Hunter Regional Environmental Plan 1989 (HREP)

47 Hunter Regional Environmental Plan 1989 was made on 17 March 1989. It contains various provisions relevant to industrial land including cl 17, which provides that the Council should have regard to the need to:

> "(a) ensure that an adequate supply of zoned and serviced industrial land is available in appropriate locations to meet needs, taking into account the extensive nature of modern industrial and quasi-industrial development."

State Environmental Planning Policy 14 - Coastal Wetlands (SEPP14)

48 The aim of SEPP14, which was first gazetted on 12 December 1985, is to ensure that the coastal wetlands are preserved and protected.

49 The prescribed SEPP14 Wetland 861 (Jewells Swamp) encroaches upon the site in the southwestern corner. This part of the site is zoned 6(c) Open space (Local Reservation) and is not proposed for industrial development.

50 The applicant accepts that if the development is carried out, there would

be alterations to the volume and/ or quality of surface stormwater flows or groundwater flows across the site. However, the applicant maintains that the stormwater management facilities have been appropriately designed to effectively mitigate any potential adverse impacts on the nearby wetlands.

51 Clause 7(1) of SEPP14 provides that a person shall not in relation to identified wetlands "(a) clear that land; (b) construct a levee on that land; (c) drain that land; (d) fill that land, except with the consent of the Council and the concurrence of the Director."

52 Pursuant to cl 7(3) of SEPP14 and s 29 of the Act, development for which consent is required by cl 7(1) of SEPP14 becomes designated development for the purposes of the *EP&A Act.* The application was not considered as designated development and, if the Court was contemplating consent, further consideration would need to be given to this aspect.

State Environmental Planning Policy No 19 - Bushland in Urban Areas (SEPP19)

53 SEPP19 aims to protect and preserve bushland and applies to the local government area of Lake Macquarie.

54 Bushland is defined in the following terms:

> **"bushland** means land on which there is vegetation which is either a remainder of the natural vegetation of the land or, if altered, is still representative of the structure and floristics of the natural vegetation."

55 Clause 6 of SEPP19 provides that consent is required before bushland can be disturbed, except in some circumstances which are not presently relevant. The discretion to grant consent is confined by clause 6(4), which is in the following terms:

> "(4) A consent authority shall not consent to the carrying out of development referred to in subclause (1) unless:
>
> (a) it has made an assessment of the need to protect and preserve the bushland having regard to the aims of this Policy,
> (b) it is satisfied that the disturbance of the bushland is essential for a purpose in the public interest and no reasonable alternative is available to the disturbance of that bushland, and
> (c) it is satisfied that the amount of bushland

proposed to be disturbed is as little as possible and, where bushland is disturbed to allow construction work to be carried out, the bushland will be reinstated upon completion of that work as far as is possible."

56 Clause 9(2) makes special provision for the development of land which adjoins bushland zoned or reserved for public open space purposes.

57 The Council believes that part of the site zoned 6(c) Open space (Local Reservation) is bushland within the meaning of SEPP19. In the amended plans, that bushland is no longer proposed to be developed for industrial purposes, except for a minor intrusion of the proposed road between Precincts 2 and 3.

58 To the north and west of the site there is bushland zoned 6(c) Open space (Local reservation) under the Lake Macquarie Local Environmental Plan. A variety of vegetation types have been identified on this land including Smooth Barked Apple/ Red Bloodwood open forest (south western corner), wet heath/ sedgeland (central western and north eastern areas) as well as other native vegetation types including regenerating dry heath in areas previously sand mined. These areas are representative of the structure and floristics of the natural vegetation and are accordingly bushland within the meaning of SEPP19.

State Environmental Planning Policy No 44 - Koala Habitat Protection (SEPP44)

59 Eucalyptus robusta (Swamp Mahogany), listed in Schedule 2 of SEPP44*,* has been identified as occurring on the land. In the environmental protection zone this species constitutes in excess of 15% of the total number of trees. The applicant accepts that the areas of Eucalyptus robusta (Swamp Mahogany) could qualify as potential Koala habitat; however, it maintains that there is no evidence of Koala presence on the site or adjoining land. The applicant also maintains that there are no recent historical records of Koala in the east Lake Macquarie area.

State Environmental Planning Policy No 55 - Remediation of Land (SEPP55*)*

60 SEPP55 was gazetted on 28 August 1998. Under cl 2(1), the object of this Policy is to provide for a State-wide planning approach to the remediation of contaminated land.

61 Clause 2(2) aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment.

62 The applicant accepts that geotechnical investigations have identified

previous mining activities on the site (Douglas 1998 and 2003) and have noted that low-level radioactivity might sometimes be associated with mineral sands mining. Low-level radiation can result due to the presence of monazite, which occurs naturally and generally exhibits very low radioactivity. Mining can concentrate the mineral, particularly in former stockpile sites.

63 However, the applicant relies on the fact that Environmental Resource Management Australia Pty Ltd undertook a contamination assessment of the land and concluded that there is unlikely to be contamination that cannot be readily remediated prior to the development of the site. I do not believe that contamination is a problem on the site.

Mine Subsidence Compensation Act 1961 (Mines Act)

64 The *Mines Act* declares particular areas to be mine subsidence districts. Approval is required under s 15 of the Act for erections of buildings, alterations or subdivision proposals within these districts. The site has been previously undermined and is within the Lake Macquarie Mine Subsidence District. Accordingly, the proposal is classified as integrated development and approval pursuant to the Mine Subsidence Board is required.

65 The applicant has indicated that future development of buildings on the proposed subdivision would incorporate design principles to minimise subsidence impacts on buildings and ensure structures remain safe and serviceable throughout their design life. This has been accepted by the Board and General Terms of Approval dated 21 January 2004 have been issued by the Board.

Rivers and Foreshore Improvement Act 1948 (NSW) (RFI Act)

66 Part 3A of the *RFI Act* relates to the protection of rivers and lakes.

67 There is a small watercourse in the northeastern corner of the land (Crockers Creek), which would be impacted by the proposed industrial development. Accordingly, the development application was referred to the NSW Department of Infrastructure, Planning and Natural Resources ("DIPNR") as the approval authority under the *RFI Act*.

68 General Terms of Approval in respect of that part of the proposed works within 40m of protected waters, being the tributaries of Crockers Creek, issued on 17 March 2004.

69 Jewells Creek appears to enter the southwestern part of the land and it is not clear whether DIPNR have been asked to consider this as ‘protected waters’ under the *RFI Act.* If consent was contemplated, there would be a need for further consideration of this matter.

National Parks and Wildlife Act 1974 (NSW) (Parks Act)

70 The *Parks Act* includes the following objects:

> "(1)(a) the conservation of nature, including, but not limited to, the

conservation of:

(i) habitat, ecosystems and ecosystem processes, and

(ii) biological diversity at the community, species and genetic levels, and

(iii) landforms of significance, including geological features and processes, and

(b) the conservation of objects, places or features (including biological diversity) of cultural value within the landscape, including, but not limited to:

(i) places, objects and features of significance to Aboriginal people, and

(ii) places of social value to the people of New South Wales, and

(iii) places of historic, architectural or scientific significance,

(c) fostering public appreciation, understanding and enjoyment of nature and cultural heritage and their conservation.

(2) The objects of this Act are to be achieved by applying the principles of ecologically sustainable development."

71 Particular provision is made for threatened species, endangered populations and endangered ecological communities. In this respect, s 118A provides that it is an offence to harm or pick any threatened species or endangered populations or ecological community or damage the habitat of a threatened species, endangered population or endangered ecological community without permission. A development consent carries with it the relevant permission.

Threatened Species Conservation Act 1995 (NSW) (TSC Act)

72 The *TSC Act* has the following objects:

"3 Objects of Act

The objects of this Act are as follows:

(a) to conserve biological diversity and promote ecologically sustainable development, and

(b) to prevent the extinction and promote the recovery of threatened species, populations and ecological communities, and
(c) to protect the critical habitat of those threatened species, populations and ecological communities that are endangered, and
(d) to eliminate or manage certain processes that threaten the survival or evolutionary development of threatened species, populations and ecological communities, and
(e) to ensure that the impact of any action affecting threatened species, populations and ecological communities is properly assessed, and
(f) to encourage the conservation of threatened species, populations and ecological communities by the adoption of measures involving co-operative management."

73 The *TSC Act* requires that regard be had in the planning and development approval process to the potential for adverse impacts upon threatened fauna and flora, and their habitats.

74 The *TSC Act* modifies the *EP&A Act* by imposing a requirement on a consent authority to determine "…whether there is likely to be a significant effect on threatened species, populations or ecological communities, or their habitats." Eight factors are listed in s 5A of the *EP&A Act* which "…must be taken into account" by a consent or determining authority when considering a development proposal or development application". It is commonly referred to as the "eight part test".

75 If it is determined having regard to the eight part test that the proposed development or activity is "…on land that is, or is part of, critical habitat or is likely to significantly affect threatened species, populations or ecological communities, or their habitats", then a Species Impact Statement ("SIS") must be prepared.

76 In the present case, although it was suggested that an SIS may not be required, one was prepared in accordance with the requirements of the Director-General. I have considered the SIS when evaluating the proposal.

Lake Macquarie Development Control Plan No 2 - Development in General Industry Zones (DCP2)

77 DCP2 provides for the control of development in general industrial zones including the dimensions of subdivided lots. All the proposed lots have widths and areas in excess of the minimum specified in DCP2 and generally

meet the requirements of both the Council's Subdivision Code and DCP2.

Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act)

78 The *EPBC Act* came into force on 16 July 2000 and requires approval of the Commonwealth Minister for the Environment for actions that may have a significant impact on matters of national environmental significance. The *EPBC Act* also requires Commonwealth approval for certain actions on Commonwealth land. Matters of national environmental significance under the Act include the following:

· World Heritage properties;
· Ramsar wetlands;
· threatened species or ecological communities listed in the *EPBC Act;*
· migratory species listed in the *EPBC Act*;
· Commonwealth marine environment; and
· nuclear actions.

79 The applicant accepts that there are a number of relevant threatened species and one threatened ecological community recorded on the subject land. The SIS accompanying the development application concluded that the proposed industrial subdivision would not adversely affect the viability of either that threatened species or ecological community. In fact, the SIS concluded that the proposed industrial subdivision would provide an opportunity to improve the environmental management of the land.

80 The applicant maintains that the proposed industrial subdivision would not have a significant impact on matters of national environmental significance and, as such, has not sought the approval of the Commonwealth Minister for Environment under the *EPBC Act*.

The Council’s decision

81 When the Class 1 application was filed with the Court, the Council had not finally determined the matter. However, it has opposed the grant of any consent throughout the hearing.

Ecologically Sustainable Development

82 Before considering the evidence in relation to each issue and its significance to the decision in this appeal, it is necessary to resolve the approach to be taken to the evaluation of some matters. The evidence raises for consideration a number of complex issues relating to the potential impact of the development on threatened species and ecological communities or their habitats. When such issues are raised, there is often difficulty in arriving at absolute conclusions as to the existence of a relevant species, community or habitat and their disposition on a given site. Even greater difficulties can arise in identifying the impacts from the development, particularly when the proposal accepts that impacts will occur but seeks to ameliorate them by carefully designing the development and providing for ongoing operation or maintenance within an environmentally

sensitive framework.

83 In the present case, the site is in part low lying and is located in an area of undoubted environmental sensitivity. That sensitivity is marked by its proximity to the area identified as Jewells Wetland, which is to the west and northwest of the site. The site contains the threatened species known as the Wallum Froglet (Crinia tinnula) and the threatened population Tetratheca juncea. It also contains the threatened ecological communities known as the Sydney Freshwater Wetland and the Sydney Coastal Estuary Swamp Forest. The general disposition of these species and communities are shown on the map figure "E" in these reasons (map not reproduced).

84 In these circumstances, senior counsel for the respondent submitted that the correct approach to evaluation of the evidence in relation to these matters was to apply the body of principles known as "ecologically sustainable development." This would include the approach to decision-making reflected in the “precautionary principle”.

85 The *EP&A Act* was amended in 1998 to include within its objects the encouragement of “ecologically sustainable development” (s 5(a)(vii)). However, the phrase was not defined and, accordingly, it is necessary to understand the intention of the Parliament when making the amendment.

86 The inclusion of a reference to "ecologically sustainable development" in the *EP&A Act* can be contrasted with the *Protection of the Environment Administration Act* 1991 (NSW). Under the latter Act, an objective of the Environment Protection Authority is stated to be “to protect, restore and enhance the quality of the environment in New South Wales, having regard to the need to maintain ecologically sustainable development” (s 6(1)(a)). That reference to "ecologically sustainable development" is described in s 6(2) in the following terms:

> "(2) For the purposes of subsection (1) (a), ecologically sustainable development requires the effective integration of economic and environmental considerations in decision-making processes. Ecologically sustainable development can be achieved through the implementation of the following principles and programs:
>
> (a) the precautionary principle—namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.
>
> In the application of the precautionary principle, public and private decisions should be guided by:

(i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and
(ii) an assessment of the risk-weighted consequences of various options,

(b) inter-generational equity—namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,

(c) conservation of biological diversity and ecological integrity—namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,

(d) improved valuation, pricing and incentive mechanisms—namely, that environmental factors should be included in the valuation of assets and services, such as:

(i) polluter pays—that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,
(ii) the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,
(iii) environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market

mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems."

87 This description of "ecologically sustainable development" is utilised by many other NSW Acts, where the object is to ameliorate the impact of government or private actions on the natural or built environment. The relevant legislation includes the following: *Agricultural Tenancies Act* 1990 (s 3), *Coastal Protection Act* 1979 (s 3), *Contaminated Land Management Act* 1997 (s 3), *Energy Services Corporations Act* 1995 (s 5), *Fisheries Management Act* 1994 (s 3), *Gas Supply Act* 1986 (s 3), *Landcom Corporation Act* 2001 (s 6), *Local Government Act* 1993 (s 7), *National Parks and Wildlife Act* 1974 (s 2A), *Native Vegetation Conservation Act* 1997 (s 3), *Pesticides Act* 1999 (s 3), *Plantations and Reafforestation Act* 1999 (s 3), *Protection of the Environment Operations Act* 1997 (s 3), *Rural Fires Act* 1997 (s 3), *State Owned Corporations Act* 1989 (s 8, s 20E), *Sydney Water Act* 1994 (s 21), *Sydney Water Catchment Management Act* 1998 (s 14), *Threatened Species Conservation Act* 1995 (s 3), *Transport Administration Act* 1988 (s 5, s 18B, s 19D, s 20), *Water Avoidance and Resource Recovery Act* 2001 (s 3), *Waste Recycling and Processing Corporation Act* 2001 (s 5), *Water Management Act* 2000 (s 3), *Western Lands Act* 1901 (s 2). Elsewhere in this and other legislation, "ecologically sustainable development" is also said to be a factor for consideration in certain circumstances and/or by certain persons, including in the *Coastal Protection Act* (s 37A, s 38(1)(b1), s 39(4)(a1), s 44(a1), s 54A), *Contaminated Land Management Act* (s 10), *Fisheries Management Act* (s 220S(2), s 221A(1)(c), s 221Q), *Independent Pricing and Regulatory Tribunal Act* 1992 (s 15(1)(f)), *Local Government Act* 1993 (s 89(1)(c) and (2)), *Natural Resources Commission Act* 2003 (s14(a)), *Plantations and Reafforestation Act* 1999 (s 15(6)), *Rural Assistance Act* 1989 (s 18(4)), *Rural Fires Act* 1997 (s 9, s 48(3), s 51(2), s 100J(3)(a)), *Sporting Venues Management Act* 2002 (s 7), *Sydney Harbour Foreshore Authority Act* 1998 (s 15), *Threatened Species Conservation Act* 1995 (s 44, s 97), *Waste Avoidance and Resource Recovery Act* 2001 (s 6(3)), *Waste Recycling and Processing Corporation Act* 2001 (s 6(5), s 15(1)), *Water Management Act* 2000 (s 14(3), s 292(3), s 372(4)).

88 Of particular significance because of its impact upon the decision-making processes of councils are the relevant provisions of the *Local Government Act* 1993. They include s 7(e), s 8(1), s 82(3B), s 89(1)(c), s 89(2), s 430(2).

89 Counsel for the applicant submitted that without an express definition of "ecologically sustainable development" in the *EP&A Act*, it was doubtful whether the reference to "ecologically sustainable development" in the objects included the precautionary principle. He contrasted the *EP&A Act*

with other legislation where the definition of "ecologically sustainable development" in the *Protection of the Environment Administrative Act* 1991 was expressly incorporated.

90 The principles which are now commonly understood to be incorporated within the description “ecologically sustainable development” are derived from the Rio Declaration, which was devised at the United Nations Conference on Environment and Development, the “Earth Summit”, held in Rio de Janeiro in June 1992. Of course the principles had been under consideration by many people before the Summit and had been given significant impetus by the Report of the World Commission on Environment and Development, *Our Common Future,* known as the Brundtland Report after its chairman, the then Prime Minister of Norway. The Commission was established by the United Nations.

91 The Rio Declaration provided 27 principles to guide the international community in achieving sustainable development, one of which was the precautionary principle. It was incorporated as Principle 15 as follows:

> “In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”

92 On 1 May 1992 the Commonwealth, the State of New South Wales, the Australian Local Government Association and other parties entered into an agreement known as the Inter-Governmental Agreement on the Environment. Although not bound by the Inter-Governmental Agreement on the Environment, local government expressed through the Australian Local Government Association an intention to adhere to its objectives. The Agreement reflects the policy which should be applied unless there are cogent reasons to depart from it: *Re Drake and Minister for Immigration and Ethnic Affairs (No 2)* (1979) 2 ALD 634 at 641, 645.

93 As foreshadowed in the Inter-Governmental Agreement on the Environment, a National Strategy for Ecologically Sustainable Development was developed with the co-operation of Commonwealth, State and local government (the ”ecologically sustainable development strategy”). As with the Inter-Governmental Agreement on the Environment, the endorsement by the Local Government Association of the "ecologically sustainable development strategy" does not legally bind local government authorities to observe the terms of the strategy, but a proper exercise of their powers would mean that local government authorities (and the Court on appeal) would apply the "ecologically sustainable development strategy" unless there were cogent reasons to depart from the policy.

94 Under the Inter-Governmental Agreement on the Environment, the parties have agreed that the development and implementation of environmental policy and programmes by all levels of government should be guided by the considerations and principles set out in Section 3 of the Agreement: cl 3.1. The considerations and principles in Section 3 relate to ecologically sustainable development. In cl 3.5, the parties agree that the principles of ecologically sustainable development should inform policy making and programme implementation. The four well-known principles of ecologically sustainable development – the precautionary principle, intergenerational equity, conservation of biological diversity and ecological integrity, and improved valuation, pricing and incentive mechanisms – are set out in cl 3.5 in the same terms as in the *Protection of the Environment Administration Act* (*POE Act*), the Environmental Planning and Assessment Regulation 1994 (NSW) and the *TSC Act*.

95 The schedules to the Inter-Governmental Agreement on the Environment deal with specific areas of environmental policy and management and form part of the Inter-Governmental Agreement on the Environment. They set out the ways in which the principles of ecologically sustainable development can be implemented by all levels of government. The schedules relevant to the exercise of powers under the *EP&A Act* to determine development applications for development that may have an effect on the conservation of biological diversity, such as in the present case, are Schedules 2 (Resource Assessment, Land Use Decisions and Approval Processes), 3 (Environmental Impact Assessment), 6 (Biological Diversity), and 9 (Nature Conservation).

96 The core objectives and guiding principles of the "ecologically sustainable development strategy" are set out on pp 8-9. The Strategy then examines the application of ecologically sustainable development principles to various sectors. The "ecologically sustainable development strategy" then considers inter-sectoral issues in Part 3. Sections 9, 11, 13 and 15 in Part 3 are relevant.

97 Section 9 deals with biological diversity. Section 11 deals with native vegetation. Of relevance to this case is the challenge and objective of protecting native vegetation on private land. Section 13 deals with land use planning and decision-making. The challenge and objectives are to ensure land use decision-making processes and land use allocations in all levels of government meet the overall goal of ecologically sustainable development. Section 15 deals with environmental impact assessment. The challenge and objective is to ensure that the guiding principles of ecologically sustainable development are incorporated into environmental impact assessment processes.

98 It is true, as the applicant emphasises, that the *EP&A Act* makes particular reference to considering the principles of ecologically sustainable development in relation to some matters (see s 79B(5)(g), s 112D(1)(g), 112E (1)(f) and s 115H). Each of these provisions relate to consideration by others of matters relevant to the administration of the *EP&A Act* where other

bodies have concurrence or consultative roles. The objects of the *EP&A Act* would not inform the decision of the other body creating the necessity to expressly identify it in the *EP&A Act*.

99 The *EP&A Act* now provides in s 79C for the matters to be considered when a development application is determined. Section 79C(1) provides as follows:

> " (1) **Matters for consideration—general**
>
> In determining a development application, a consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application:
>
> (a) the provisions of:
>
> (i) any environmental planning instrument, and
>
> (ii) any draft environmental planning instrument that is or has been placed on public exhibition and details of which have been notified to the consent authority, and
>
> (iii) any development control plan, and
>
> (iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph),
>
> that apply to the land to which the development application relates,
>
> (b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,
>
> (c) the suitability of the site for the development,
>
> (d) any submissions made in accordance

with this Act or the regulations,

(e) the public interest."

100 In *Carstens v Pittwater Council* (1999) 111 LGERA 1, Lloyd J was required to consider whether s 79C(1) was an exhaustive statement of the matters to be considered. His Honour held that it was not and, in coming to this conclusion, he confirmed that the discretion in s 79(C) was to be informed and exercised in a manner which promotes the objects of the Act. With respect to principles of ecologically sustainable development, his Honour said (at LGERA 25):

> "The Commissioner's decision contains the following statements:
>
> > 'The Act requires that the principles of ecologically sustainable development (ESD) must be a factor in an assessment of the impact on the environment of a combined Development Application and Construction Certificate ...
> >
> > To achieve the objects of the Act and in particular ESD principles, a balance needs to be struck between the man-made development and the need to retain the natural vegetation.'
>
> Mr Tomasetti submits that the Commissioner erred in holding that the Act required that the principles of ecologically sustainable development (ESD) must be a factor in the assessment of the impact; it is not a factor which is set out in s 79C(1), neither is the phrase defined in the Act. Mr Preston submits that having regard to (a) the express object in s 5(a)(ii) of the EP&A Act of encouraging ESD; (b) the fact that one of the central issues in determining the development application concerned the likely effect on a threatened ecological community; (c) the desirability of an administrative decision-maker exercising discretionary statutory powers in a way which promotes the objects of the Act; (d)

> the fact that the principles of ESD are relevant to many of the s 79C(1) generic categories of matters; (e) the fact that the principles of ESD have been accepted internationally, nationally and within New South Wales as relevant to environmental decision-making; and (f) the absence of any provision in s 79C(1) or elsewhere which states that ESD is an extraneous consideration, the Court should not conclude that ESD is an irrelevant consideration. Mr Preston refers to a number of cases in the Court and elsewhere in which ESD principles have been applied. I have previously discussed under ground (1) above the relationship between the objects of the EP&A Act described in s 5 and the matters to be taken into consideration in determining a development application set out in s 79C(1). In the light of that discussion and for the reasons which I have there stated, I concluded that s 79C(1) sets out the matters that **must** be taken into consideration, but that subsection does not exclude from consideration matters not listed and which may be of relevance to the particular development application and which further the objects of the Act. That is to say, it is not an irrelevant consideration for the decision-maker to take into account a matter relating to the objects of the Act. One of those objects is to encourage ecologically sustainable development (s 5(a)(vii)). Moreover, one of the considerations expressly mentioned in s 79C(1) is '(e) the public interest'. In my opinion it is in the public interest, in determining a development application, to give effect to the objects of the Act. For these reasons I do not accept the submission that the Commissioner erred in holding that the principles of ESD must be a factor in the consideration of a combined development application and construction certificate."

101 I respectfully agree with his Honour's conclusion.

102 In *Terrace Tower Holdings Pty Ltd v Sutherland Shire Council* (2003)

129 LGERA 195 the Court of Appeal was required to consider the breadth of matters which could be considered under s 79(C). Mason P, with whom Spigelman CJ and Ipp JA agreed, said (at LGERA 209-210):

> "In any event, matters relevant to the public interest touching a particular application are not confined to those appearing in published environmental planning instruments, draft or final. Obviously such instruments carry great and at times determinative weight, but they are not the only source of information concerning the public interest in planning matters. The process of making such instruments is described by Beazley JA in Save the Showground for Sydney Inc v Minister for Urban Affairs and Planning (1997) 95 LGERA 33 at 42-44. Nothing in the Environmental Planning and Assessment Act stipulates that environmental planning instruments are the only means of discerning planning policies or the 'public interest'. For one thing, the government is not the only source of wisdom in this area. A consent authority may range widely in the search for material as to the public interest (see generally Shoalhaven City Council v Lovell (1996) 136 FLR 58 at 63; Patra Holdings Pty Ltd v Minister for Land & Water Conservation (2001) 119 LGERA 231 at 235."

103 Although the weight to be given to any particular matter is for the decision-maker to determine, it may be that if a matter of great significance is not given appropriate weight, the decision will be invalid (see *Minister for Aboriginal Affairs v Peko Wallsend Ltd* (1986) 162 CLR 24 at 41).

104 In *Conservation Council of South Australia v Development Assessment Committee and Tuna Boat Owners Association (No 2)* [1999] SAERDC 86, the Environmental Resources and Development Court of South Australia considered the role of ecologically sustainable development in a decision with respect to a proposal to establish tuna farms in the waters of South Bay in the Spencer Gulf.

105 The court said (at [20]-[25]):

> "20. In this matter, it was submitted that the Court should have regard to the precautionary principle, in assessing whether the development would be ecologically sustainable. As each proposed

development is fundamentally identical, we will use the singular term. In these reasons, we will refer to the principles of ESD as they are set out in the IGAE, because of the greater detail in that document.

21. To understand the precautionary principle, it is necessary to look at little at the history of its development. It is common knowledge that it has resulted from increasing world-wide concern about the consequences of damage to the environment. The principle has been developed through international fora and declarations with respect to action to limit and minimise environmental damage in the interests of all. An understanding of the precautionary principle and its effect is essential to an understanding of the term 'ecologically sustainable' as it is applied to development. We were not referred by counsel to any authorities or articles with respect to the meaning and consequences of the application of the precautionary principle. We have relied on our own researches and had regard, inter alia, to the following articles:

1. Gunther Handl, Environmental Security and Global Change: The Challenge to International Law 1Yb. Int'l Env. L (1990);
2. James Cameron, The Precautionary Principle – Core Meaning, Constitutional Framework and Procedures for Implementation (1993), Paper presented at the Precautionary Principle Conference, Institute of Environmental Studies, University of New South Wales, September 1993;
3. Warwick Gellett, Environmental Protection and the 'Precautionary Principle': A Response to Scientific Uncertainty in Environmental Management (1997) EPLJ 52;
4. Owen MacIntyre & Thomas Mosedale, The Precautionary Principle as a Norm of Customary International Law 9 J Env. L 221 (1998); and
5. Charmian Barton, The Precautionary Principle in Australia: Its Emergence in

Legislation and as a Common Law Doctrine 22 Harv. Envtl.L.Rev 509 (1998). Generally, the precautionary principle in its various formulations has been said to be ‘preventive’ (Cameron), and to involve the minimisation of consequential environmental impact (MacIntyre & Mosedale), and the taking of remedial action upon evidence of a significant but not necessarily provable risk of environmental harm (Handl).

22. There would appear to be general agreement amongst the authors of articles on the precautionary principle that it was developed in response to the recognition, based upon observation, that the environment could not assimilate all the consequences of activities impacting upon it. Implicit in this recognition is an acknowledgment that science and the scientific method have limitations. Because of the limitations, it is unlikely that the full consequences of the impact of a particular act or activity upon the environment can be known in advance. The scientific process involves deriving knowledge from the testing of a hypothesis. A number of biases have been identified in the process, giving rise to comments such as ‘the normal process of scientific reasoning is not as logically water-tight as one might imagine’ (Fisk, David Environmental Science and Environmental Law 10 J Env.L 3 (1998). The scientific method does not necessarily give the quality of certainty to the opinion or assessment of a scientist. Indeed, one writer has suggested that a scientific opinion might be best evaluated for reliability by testing it against seven types of uncertainty he identified as being likely to be found in any scientific assessment or opinion, namely conceptual uncertainty, measurement uncertainty, sampling uncertainty, mathematical modelling uncertainty, causal uncertainty, testing uncertainty and communicative and cognitive uncertainty (P.Brad Limpert,

Beyond the Rule in Mohan: A New Model for Assessing the Reliability of Scientific Evidence 54 Univ Toronto L Rev. (1998)). Thus, the inherent uncertainty or bias in the scientific method combined with (generally speaking) a perennial lack of resources and a consequential lack of data to assist scientists, leads inevitably to the conclusion that there is likely to be an incomplete understanding of the full extent of the environmental impacts of any particular act or activity proposed. That prospect, supported by empirical observations gathered world-wide, led to the development of the precautionary principle as a commonsense approach to avoid or minimise serious or irreversible harm to the environment.

23. There have been and are various formulations of the precautionary principle around the world. That which has been adopted by the Government of South Australia through being a party to the IGAE, and which is reflected in the legislation of the State Government (the Environment Protection Act 1993) is broad and non-specific. It is the same formulation set out in the Rio Declaration on Environment and Development (1992), to which Australia is a signatory. We have set it out above.

24. The question arises as to who has the onus of satisfying us that the proposed development would be carried out in an ecologically sustainable way, and located, sited, designed, constructed and managed to be ecologically sustainable. It is well accepted in the literature, and it stands to reason, that the proponent needs to satisfy us that the development would be ecologically sustainable. In the matter before us, is the proponent called upon to prove this, only when the appellant has proved, on the balance of probabilities, that there is a threat of serious or irreversible damage to the environment? That cannot be the case. It is our task, as it was that of the relevant authority, to assess the

proposed development against the relevant provisions of the Development Plan. The development should be ecologically sustainable in the terms of Objective 35 and Principle of Development Control 12. The onus lies on the proponent to show that the development would meet the policy set out in the Development Plan. In any event, it cannot be the case that the appellant must prove that the development will threaten serious or irreversible environmental damage, for another reason. Because of the inherent uncertainty in a scientific opinion, an appellant is unlikely to be able to show that a particular development would be likely to result in serious or irreversible damage to the environment. In reasoning thus, we have taken ‘threat’ to mean ‘likelihood’ or ‘probability’: see the relevant word meanings in the Macquarie Dictionary (second edition). However, the appellant must be mindful of its status as appellant and the provisions of Section 17(4) of the Environment, Resources and Development Court Act 1993 and thus would need to show that there is a prospect of serious or irreversible damage to the environment, should the proposed development proceed. If that is shown, the burden of proof switches to the proponent and it will be necessary for the proponent to show, in order to have his or her development classified as ecologically sustainable, the following:

- the measures that the proponent will take (within the limits of practicability) to avoid serious or irreversible damage to the environment; and
- that the risk-weighted consequences of the development assessed together do not suggest that serious or irreversible environmental damage would be sustained.

The above is derived from the IGAE, which recorded the agreement of the parties as to the process for reaching decisions, in the application of the precautionary principle (see above).

> 25. The proponent would have to satisfy the burden of proof by evidence as to the likely consequences of the proposal, including scientific evidence (with its limitations), evidence as to the proposed management regime and measures, and evidence to assist the Court in the assessment of the risk-weighted consequences of the proposal."

106 The matter later went on appeal to the South Australian Full Court (110 LGERA 1) where it was submitted that the Environmental Resources and Development Court had wrongly imposed an onus on the applicant to justify the grant of consent. The Chief Justice rejected the submission and said (at LGERA 6-7):

> "I disagree. It is true that generally there is no onus on an applicant for development consent to establish that the development consent should be granted. The relevant authority must simply assess the proposed development against the relevant Development Plan. But in this case, the DP contains an objective and principle that invokes the concept of ESD. That in turn, in a case like the present, invites the use of the precautionary principle, simply because all of the consequences of the proposed development are not known and fully understood.
>
> In such a case, assessing the proposal against the DP requires a consideration of whether it is a development which is ecologically sustainable. As the longer term consequences of the proposed development are not known, it is appropriate to require measures that will avert adverse environmental impacts that might emerge. That was the ERD Court's approach. It was open to it to so proceed. The Court did not wrongly impose an onus on the Association in relation to the assessment of the proposal against the DP. The approach of the Court simply reflected what was inherent in one of the matters that the Court had to consider, the issue of ESD. There can be no hard and fast rules about what is required in a case such as this. Everything will depend upon the

circumstances of the particular case, especially the level of knowledge about the environmental impacts of the particular proposal. I agree broadly with what the Court said:

> ‘The proponent would have to satisfy the burden of proof by evidence as to the likely consequences of the proposal, including scientific evidence (with its limitations), evidence as to the proposed management regime and measures, and evidence to assist the Court in the assessment of the risk-weighted consequences of the proposal.’

This should not be taken as a proposition of law, but simply as an expression in the particular case of what, in general terms, was required before the ERD Court could properly find for the Association when considering whether the development would be managed so as to be ecologically sustainable.”

107 The Chief Justice also considered the context of the precautionary principle. Emphasising that the principle did not claim that consent should not be granted if all of the consequences of the proposal could not be ascertained, the Chief Justice said (at LGERA 8):

> “I do not accept that in reaching the conclusion it did the ERD Court has, in effect, taken the view that the proposed development will not be consented to because all of the consequences that might flow from it are not known. That is not what the Court decided. Obviously, one must take care not to drift into that position. It is clear enough that the ERD Court was saying no more than that it would consent to the proposed development only if there was a monitoring regime that would detect emerging adverse impacts and a scheme of conditions which would enable an appropriate authority to require those impacts to be averted if and when they

emerged."

108 The role of the precautionary principle in environmental decisions was considered by this Court in *Leatch v National Parks and Wildlife Service & Anor* (1993) 81 LGERA 270. The proceedings raised a challenge to the grant of licence to take or kill endangered fauna. Describing the precautionary principle as "a statement of commonsense", Stein J said (at LGERA 282):

> "… has already been applied by decision-makers in appropriate circumstances prior to the principle being spelt out. It is directed towards the prevention of serious or irreversible harm to the environment in situations of scientific uncertainty. Its premise is that where uncertainty or ignorance exists concerning the nature or scope of environmental harm (whether this follows from policies, decisions or activities), decision-makers should be cautious."

109 In *Greenpeace Australia Ltd v Redbank Power Company Pty Ltd & Anor* (1994) 86 LGERA 143, Pearlman J said (at LGERA 154):

> "The application of the precautionary principle dictates that a cautious approach should be adopted in evaluating the various relevant factors in determining whether or not to grant consent; it does not require that the greenhouse issue should outweigh all other issues.".

110 In *Nicholls v Director-General of National Parks and Wildlife & Ors* (1994) 84 LGERA 397, Talbot J was apprehensive about the role of the precautionary principle in environmental decisions. Describing it as being "framed appropriately for the purpose of a political aspiration," his Honour said that "its implementation as a legal standard could have the potential to create interminable forensic argument" (at LGERA 419). With respect, I do not share his Honour's perspective. In *Murrumbidgee Ground-Water Preservation Association v Minister for Natural Resources* [2004] NSWLEC 122 I said that statutory recognition of the precautionary principle has made it:

> "… a central element in the decision making process and cannot be confined. It is not merely a political aspiration but must be applied when decisions are being made under the *Water Management Act* and any other Act which adopts the principles." *(at [178])*

111 In the present case, the respondent argues that "decisions which pay heed to the (precautionary) principle must now not only seek to avoid irreversible damage but to treat conservation of biodiversity as a

fundamental consideration." Although it was suggested that there is a "presumptive onus" on the party threatening irreversible damage to the environment, it was accepted by senior counsel that "where the development proposes a permanent input on a complex and dynamic ecosystem that principle will have an important operation."

112 The submission was reinforced by recognition of the fact that, in appropriate cases (of which the present is one), the development must be accompanied by a species impact statement prepared in accordance with Division 2 of Part 6 of the *TSC Act* and with regard to the obligation imposed on the concurrence authority to take into consideration the principles of ecologically sustainable development (s 79B(g) *EP&A Act).* Furthermore, on appeal, the Court is required to have regard to the views of any concurrence authority (see *Michel Projects Pty Ltd v Randwick Municpal Council* (1982) 45 LGERA 410 at 414-415 and *Byron Shire Council v Chrestal Pty Ltd* (1983) 49 LGRA 88) which will include the principles of ecologically sustainable development (see s 79B(5)(g) *EP&A Act).*

113 In my opinion, by requiring a consent authority (including the Court) to have regard to the public interest, s 79(C)(e) of the *EP&A Act* obliges the decision-maker to have regard to the principles of ecologically sustainable development in cases where issues relevant to those principles arise. This will have the consequence that, amongst other matters, consideration must be given to matters of inter-generational equity, conservation of biological diversity and ecological integrity. Furthermore, where there is a lack of scientific certainty, the precautionary principle must be utilised. As Stein J said in *Leatch*, this will mean that the decision-maker must approach the matter with caution but will also require the decision-maker to avoid, where practicable, serious or irreversible damage to the environment.

114 Consideration of these principles does not preclude a decision to approve an application in any cases where the overall benefits of the project outweigh the likely environmental harm. However, care needs to be taken to determine whether appropriate and adequate measures have been incorporated into such a project to confine any likely harm to the environment.

Significance of the zonings

115 The context in which the issues in this case must be resolved includes the history of the use of the land and the contribution which it now makes to the existing natural environment. Although zoned industrial, that zoning was imposed at a time when the community's understanding of the significance of some elements of the natural environment was not as mature as it now is. Consideration of matters of inter-generational equity and the conservation of both biological diversity and the ecological integrity of land were not such significant elements of environmental decision-making as they are today.

116 Notwithstanding the fact that the ecological integrity of the site may be threatened if the major road reservation were utilised for its purpose, I am satisfied that this is not a significant matter in this case. The reservation

was also imposed at a time when the ecological significance of the area was unlikely to have been given any, or at least any mature, consideration. It would be inappropriate to make a decision in the present case upon the assumption that construction of the proposed road is inevitable.

117 In the ordinary course, where by its zoning land has been identified as generally suitable for a particular purpose, weight must be given to that zoning in the resolution of a dispute as to the appropriate development of any site. Although the fact that a particular use may be permissible is a neutral factor (see *Mobil Oil Australia Ltd v Baulkham Hills Shire Council (No 2)* 1971 28 LGRA 374 at 379), planning decisions must generally reflect an assumption that, in some form, development which is consistent with the zoning will be permitted. The more specific the zoning and the more confined the range of permissible uses, the greater the weight which must be attributed to achieving the objects of the planning instrument which the zoning reflects (*Nanhouse Properties Pty Ltd v Sydney City Council*(1953) 9 LGR(NSW) 163; *Jansen v Cumberland County Council* (1952) 18 LGR(NSW) 167). Part 3 of the *EP&A Act* provides complex provisions involving extensive public participation directed towards determining the nature and intensity of development which may be appropriate on any site. If the zoning is not given weight, the integrity of the planning process provided by the legislation would be seriously threatened.

118 In most cases it can be expected that the Court will approve an application to use a site for a purpose for which it is zoned, provided of course the design of the project results in acceptable environmental impacts.

119 However, there will be cases where, because of the history of the zoning of a site, which may have been imposed many years ago, and the need to evaluate its prospective development having regard to contemporary standards, it may be difficult to develop the site in an environmentally acceptable manner and also provide a commercially viable project.

The course of the proceedings

120 The hearing in these proceedings originally commenced on 20 October 2003. However, as I have indicated, the applicant, apparently conscious of some deficiencies in its material, sought an adjournment which was granted. Thereafter, amended plans were prepared and lodged with the council. The amended plans have been considered during the resumed hearing.

121 The issues which were ultimately defined in the proceedings required resolution of the different views of experts in relation to a number of significant matters. As will become commonplace in proceedings in this Court, the oral testimony of the experts was taken by a process of concurrent evidence. This involved the swearing in of the experts with similar expertise, who then gave evidence in relation to particular issues at the same time. Before giving evidence, the experts had completed the joint

conferencing process, which enabled the court to identify the differences which remained and which required resolution through the oral evidence. Each witness was then given an opportunity to explain their position on an issue and provided with an opportunity to question the other witness or witnesses about their position. Questions were also asked by counsel for the parties. In effect, the evidence was given through a discussion in which all of the experts, the advocates and the Court participated.

122 Both Commissioner Watts and I found this to be an efficient and effective method to receive expert evidence. It enabled ready identification of fundamental issues and it ensured that court time was devoted to understanding those issues and providing the Court with the material necessary to resolve them. Apart from enhancing the quality of the Court's decision, it ensured that a number of days of hearing time were saved.

The hearing

123 Evidence was tendered on behalf of the respondent council from the following:

· Mr F J Bravo, Wildlife biologist;
· Mr G R Sainty, Wetlands scientist;
· Dr M J Mahony, Ecologist (Frogs);
· Ms T A James, Botanist/ ecologist (Flora);
· Mr G K Warnes, Environmental planner;
· Mr P J Jamieson, Civil engineer (Drainage);
· Mr C Hallam, Traffic engineer;
· Mr M Bridges Acoustic engineer;
· Dr Payne, Ecologist (Tetratheca juncea);
· Mr S O'Connor, Bushfire consultant;
· Mr Humpries, Flora and fauna consultant.

124 Written evidence was received from local residents and oral evidence was also given by some on-site. The resident witnesses were:

· Mr E Tonks, objector;
· Mr W Humphris, resident of No 145 Cowlishaw Road, Redhead;
· Ms A Crumblin, resident of No 137 Cowlishaw Road, Redhead;
· Mr and Mrs C Wallace, No 141 Cowlishaw Road, Redhead;
· Nat and Joe Fitzgerald, No 143 Cowlishaw Road, Redhead;
· Ms K Keir, resident of No 137A Cowlishaw Road, Redhead;
· Ms L Wigney, resident of No 139 Cowlishaw Road, Redhead;
· Ms D Smith, resident of No 119A Cowlishaw Road, Redhead;
· Mr P Davies, Representative of the Cricket Club, Redhead;
· Ms V Morrison, Representative of the Redhead Soccer Club;
· Mr A Fenton, resident of No 118 Collier Street, Redhead;
· Ms J Culshaw, resident of No 60 Burns Street, Redhead;
· Mr Robinson, resident of No 120 Collier Street, Redhead;
· Mr J Whitbread, resident of No 122 Collier Street, Redhead;
· Ms C Gray, resident of No 66 Kalaroo Street, Redhead;
· Ms B Orr, resident of No 75 Kalaroo Street, Redhead;

· Ms S Pullman, Past President of the Redhead Public School P & C Association;
· Mr Whitford, resident of No 147 Cowlishaw Road, Redhead;
· Mr P Fennel, resident of No 28 Seaside Drive, Redhead; and
· Mr J Banfield, resident of No 26 Elsden Street, Redhead.

125 On behalf of the applicant, evidence was given by:

· Mr D F Fanning, Ecological consultant;
· Mr G B Winning, Ecologist;
· Mr J Argue, Civil engineer (Drainage);
· Mr J M Waugh, Traffic engineer;
· Mr D Jurevicius, Acoustic engineer;
· Mr S O'Connor, Town planner;
· Mr F Mohen, Water resources engineer;
· Mr S Downes, Water resources engineer;
· Mr P W Wright, Groundwater consultant;
· Mr S Jones, Groundwater consultant;
· Mr J Ways, Traffic engineer;

126 The experts also prepared joint reports which were tendered during the hearing.

127 The evidence given during the hearing was complex and lengthy reports were provided. It is not possible and it would not be appropriate to refer to it all in these reasons. However, I have attempted to distil the essential elements of the evidence on any issue so that my reasoning process is adequately exposed.

The issues

128 On 28 February 2004 the council filed a further amended statement of issues, which included the following:

> "1. Whether the development application is one to carry out designated development and whether the Court has jurisdiction to hear the matter in the absence of an Environmental Impact Statement (section 78A(8)(a)). (EPA Act 1979)
>
> Particulars
>
> Lot 4 DP 248860 Cowlishaw Street, Redhead is land to which State Environmental Planning Policy 14 - Coastal Wetlands applies (clauses 7(1), (3)).
>
> 2. Whether the Species Impact Statement complies with the requirements of the Director-General of National Parks and Wildlife Service, as notified under section

111(1) of the Threatened Species Conservation Act 1995, and if not, whether the Court has jurisdiction to hear the matter.

3.1 Whether the proposed development will have a significant adverse effect on the threatened species and/or populations of the Wallum Froglet (Crinia tinnula) and Tetratheca juncea.

3.2 Whether the proposed development will have a significant adverse effect on the threatened ecological communities of Sydney Freshwater Wetland and Sydney Coastal Estuary Swamp Forest.
3.3 Whether the proposed development will have a significant adverse effect on the habitats of the Wallum Froglet (Crinia tinnula) and Tetratheca juncea.

3.4 Whether or not the carrying out of the development will involve a Key Threatening Process within the meaning of Schedule 3 of the Threatened Species Conservation Act 1995.

4. Whether the development is permissible given that Lot 4 DP 248860 and Lot 2 (sic) DP 42613 (sic) ("the land") is in part zoned "5.SPECIAL USES (d) Special Uses (Railways)" under the Lake Macquarie LEP 1984.

5. Whether the development ought be approved given that the land is to be zoned 7(1) Conservation (Primary) and 7(3) Environmental (General) under the Draft Lake Macquarie Local Environmental Plan 2002 (version 6) that was forwarded to the Director-General of Planning on 29 November 2002 under s. 68(4) of the EPA Act 1979.

6. Whether the proposed development will adversely affect the heritage significance of the Belmont Railway, a heritage item of

local and regional significance listed in Schedule 7 to the Lake Macquarie LEP 1984.

7. Whether arrangements satisfactory to the Hunter Water Corporation and the Council have been made for the provision of a water supply to, and for the removal or disposal of sewage from and the drainage of the land (clause 17 Lake Macquarie LEP 1984).

8. The land adjoins Lot 5 DP 248860 which is zoned "6.OPEN SPACE (c) Open Space (Local Reservation)" under the provisions of the Lake Macquarie LEP 1984 and having regard to the provisions of State Environmental Planning Policy No. 19 - Bushland in Urban Areas, whether:

8.1 there is any need to retain bushland on the land;

8.2 the proposed development will have an adverse effect on bushland upon Lot 5 DP 248860 and in particular, on the erosion of soil, the siltation of streams and the spread of weeds and exotic plants within Lot 5 DP 248860; and

8.3 there are any other matters, which in the opinion of the Court are relevant to the protection and preservation of the bushland upon Lot 5 DP 248860. (Clause 9 SEPP 19)

9. Whether the proposal makes any or adequate provision for the management of bushfire risk.

Particulars

The land is designated as medium and high bushfire hazard in the respondent's Bushfire Risk Management Plan (16 August 2002).

10. Given the earlier development of the land for the purpose of sandmining

involving the extraction of heavy metal minerals from sand deposits in the central and western sections of the land, whether the applicant ought to submit a report to the Court specifying the findings of a preliminary investigation of the land carried out in accordance with the Contaminated Land Planning Guidelines (clause 7 State Environmental Planning Policy No. 55 - Remediation of Land).

11. Whether the development ought be approved in the absence of:

11.1 a detailed plan indicating existing ground levels for the land;

11.2 details of the quantity, quality and finished levels of fill;

11.3 detailed engineering plans showing cross-sections and longitudinal sections for all roads proposed; and

11.4 an assessment in accordance with the New South Wales "Acid Sulfate Soils Planning Manual" (1998);

Particulars

The land is identified on the respondent's Acid Sulfate Soil Map as being land likely to be affected by acid sulfate soils at levels greater than 2m below natural ground surface. It is likely that works associated with development will be carried out below that level.

11.5 details as to the location and specifications of any sewerage pump station and associated lines that will be installed on/or under the land.

11.6 a traffic study showing the effect of the proposed development upon roads and road safety in the locality;

11.7 details showing what, where and how:

· stormwater detention controls, and
· nutrient controls; and
· gross pollutant controls; and
· erosion and sediment control,

will be provided on the land, with calculations to establish that those controls are adequate, sufficient and will work;

11.8 a report from an acoustic consultant demonstrating whether the use of the land for its intended purposes will comply with the Environmental Protection Authority's "Industrial Noise Policy".

12.1 Given the proposed development proposes the placement of fill within a flood storage area within the meaning of the "Floodplain Management Manual" (NSW Government, January 2001), whether such development, either by itself or cumulatively, is likely to cause a significant reduction in storage capacity in the flood storage area.

12.2 Whether the development ought to be approved in the absence of the applicant providing a flood study that fixes the 1:100 year ARI flood levels for the land in order to enable the Court to determine whether the development will or will not lead to a significant increase in flood levels or flood hazard at the land or elsewhere; and if the land is flood liable land within the meaning of clause 22A of the Lake Macquarie LEP 1984, whether the applicant should provide to the Court a Flood Plain Management Plan prepared in accordance with that clause prior to the Court determining the development application.

13.1 Whether the proposed use of Cowlishaw Street, a street serving residential properties by traffic accessing the development, will adversely affect the amenity of occupants of those residences.

Particulars

The impacts on the amenity are in respect of noise and safety.
13.2 Whether Cowlishaw Street is suitable, given its construction width and standard, to carry traffic accessing the proposed development.

14. The public interest represented by the anticipated objections that will be received following the required advertising and notification of the development application having regard to Issues 1 and 2 above."

Sydney Freshwater Wetland

129 The Scientific Committee has determined Sydney Freshwater Wetland to be an endangered ecological community pursuant to the relevant provisions of the *TSC Act.* There was a dispute between the parties as to the extent of Sydney Freshwater Wetland occurring on the site. In issue was whether some areas of wet heath, swamp forest and swamp scrub can be considered part of the Sydney Freshwater Wetlands ecological community. The applicant contended for a significantly smaller area of Sydney Freshwater Wetlands than did the respondent.

130 Para 4 of the Scientific Committee's final determination is in the following terms:

"Sydney Freshwater Wetlands are a mosaic community with considerable variation due to fluctuating water levels and seasonal conditions. Characteristic vegetation is sedges and aquatics particularly Eleocharis sphacelata, Baumea juncea, Baumea rubiginosa, Baumea articulata, Gahnia sieberiana, Ludwigia peploides subsp montevidensis and Persicaria species. There may be considerable areas of open water particularly where drainage conditions have been altered. **There may be patches of emergent trees such as Melaleuca quinquenervia and shrubs** . (Emphasis added by the applicant.)

131 The Scientific Committee’s determination describes Sydney Freshwater Wetland by reference to soil type, topography and species. Many of the identified species are shrubs and not sedges or aquatic herbs. The community is said to be a “…mosaic with considerable variation due to fluctuating water levels and seasonal conditions”. There is no question but

that the characteristic vegetation of the community is present on the subject land. The difficulty is whether the areas where there are emergent trees or shrubs together with open water should be identified as part of the community.

132 Evidence in relation to Sydney Freshwater Wetland was given by Ms James and Messrs Sainty, Winning and Fanning. They agreed that:

· the Sydney Freshwater Wetland community identified by the NSW Scientific Committee occurs on the subject site;

· sedgeland, wet heath, swamp forest and swamp scrub are wetland communities, as the term is generally understood; and

· the boundaries, or the extent, of Sydney Freshwater Wetland will vary over time depending on climatic circumstances;

· irrespective of whether *"wet heath"* is included or not in Sydney Freshwater Wetland, the wet heath on the subject site and that present to the northwest (within the Jewells Swamp catchment) constitute the only areas of the Sydney Freshwater Wetland community within the coastal area of Lake Macquarie Local Government Area. The wet heath community is part of a dunal wetland system and has local (that is, within Lake Macquarie Local Government Area) biodiversity value.

133 The fundamental disagreement was as to whether patches of emergent trees such as melalecua quinquenervia and other shrubs found in association with sedgelands should be included in Sydney Freshwater Wetland. Messrs Fanning and Winning confined Sydney Freshwater Wetland to swales and depression and excluded any significant areas of wet heath, swamp forest and swamp scrub. In coming to their conclusion Messrs Fanning and Winning emphasised the fact that the Scientific Committee referred to "patches of emergent trees … and shrubs."

134 I have included as figure "F" a map of the site (map not reproduced), which identifies the areas accepted by both parties to be Sydney Freshwater Wetland and the additional area identified by Ms James and Mr Sainty. The areas identified by Messrs Fanning and Winning total approximately 1.5 ha whereas Ms James and Mr Sainty are of the opinion that it extends over 13 ha.

135 If the application were approved there would be direct effects on about 4.5 ha of the additional area identified by Ms James and Mr Sainty. This would generally occur in the northern section of the site in the vicinity of precinct 1. However, because the SIS is not definitive, it is unclear whether the impact may be greater from infrastructure such as sewage, water, power easements and drainage structures. There may also be indirect impacts resulting from a concentration of stormwater runoff and contaminants carried by overland flows. However, in relation to the area of wetland which they identified, Messrs Fanning and Winning were satisfied, that there would not be significant adverse impacts provided the suggested stormwater management measures were implemented.

136 The respondent submitted that the Scientific Committee's determination should be construed beneficially: see *Mathews v Foggitt Jones Ltd* (1926) 37 C L R 455 at 464-465; *Sovar v Henry Lane Pty Ltd* (1967) 116 CLR 397 at 405-406; *Waugh v Kippen* (1986) 160 CLR 156 at 164-165 per plurality; *Capral Aluminium v Workcover Authority of NSW* (2000) 49 NSWLR 610 at [38], [41]-[47]. It was submitted that the construction to be preferred is one which promotes the object and purpose underlying the Act and, in particular, conserves biodiversity. That purpose is made clear by s 12 of the *TSC Act* which provides that an ecological community is eligible to be listed if, in the opinion of the Scientific Committee, it is likely to become extinct unless circumstances and factors threatening its survival cease.

137 The applicant accepted that the ordinary meaning of the words of the final determination should guide its application and submitted that because the *Parks Act* establishes criminal offences in relation to harming fauna or picking plants that are part of endangered ecological communities (s 118A(1) and (2)), which are strict liability offences with substantial penalties, the final determination of the Scientific Committee must be construed in a manner which gives reasonable certainty in its application *(Kurri Kurri Pty Ltd v Scientific Committee* (2003) 128 LGERA 419 at 423 per Spiegelman CJ at 459-60 per Hodgson JA; *Hornsby Shire Council v Vitone Developments Pty Limited* [2003] NSWLEC 272 at [108]-[117]).

138 In *Vitone* I identified the problem with ambiguity in determinations when I said (at [108]):

> "It is plain that there will be difficulties in the administration of the Threatened Species Conservation Act unless the descriptions in the Final Determinations of the Scientific Committee are clear and unambiguous. This is especially the case in relation to ecological communities. Because the Committee may be assumed, rightly, to be concerned with an effective description of an ecological community, which has scientific integrity, it may not always express itself in language, which enables all who must obey the law to recognise whether the community exists in a particular location."

139 In *VAW* Hodgson JA said (at 459-60):

> "Furthermore, what is contemplated is plainly a number of species, and specification of the species will not in most cases identify with precision either the extent of the assemblage or the area occupied. When one looks at any particular location, plainly one will not find all species

> at that particular location. It will often be the case that the species in question include many species, which are commonplace. Thus there are questions inevitably raised as to whether a group of species at or near a particular location, some or all of which may be commonplace, do or do not form part of the assemblage of species, which assemblage of species includes but is not exhausted by the species at or near this particular area. There will often be cases where there are areas of transition between one ecological community, broadly considered, and another ecological community, where species, which are part of each ecological community, occur. Precise determination of whether those species in the transitional area are to be regarded as part of one ecological community or of the other, or of neither, will be incapable of precise and definite determination.
>
> It is plain therefore that a certain amount of vagueness and uncertainty in the determination of boundaries of ecological communities is an inevitable result of the formulations chosen by the legislature. It must follow, in my opinion, that a certain amount of vagueness and imprecision will not necessarily cause a determination that a named ecological community is an endangered ecological community to be regarded as void or invalid because of uncertainty or lack of definition. "

140 It was further submitted by the applicant that because endangered ecological communities are protected by the criminal provisions of the *Parks Act*, the appropriate approach to construing those provisions is as stated by the High Court in *R v Adams* (1935) 33 CLR 563 at 567-568 per Rich, Dixon, Evatt and McTiernan JJ:

> "No doubt, in determining whether an offence has been created or enlarged, the Court must be guided, as in other questions of interpretation, by the fair meaning of the language of the enactment, but when that language is capable of more than one meaning, or is vague or cloudy so that its denotation is uncertain and no sure

> conclusion can be reached by a consideration of the provisions and subject matter of the legislation, then it ought not to be construed as extending any penal category."

141 Similarly, in *Beckwith v R* (1976) 135 CLR 569 at 576, Gibbs J stated:

> "In determining the meaning of a penal statute the ordinary rules of construction must be applied, but if the language of the statute remains ambiguous or doubtful the ambiguity or doubt may be resolved in favour of the subject by refusing to extend the category of criminal offences... The rule is perhaps one of last resort."

142 In *VAW* Spiegelman CJ said (at 423):

> "It is the consequences of the exercise of the Scientific Committee's listing power for those who may become subject to the associated offences found in other legislation, namely the National Parks and Wildlife Act 1974 (NSW), as set out by Hodgson JA, that render it necessary to imply a requirement of reasonable certainty. People should know when they are, or are likely to be, at hazard of committing an offence."

143 Ms James gave evidence that in her opinion, apart from direct impacts, damage to the Sydney Freshwater Wetland would result from greater ponding of water, impact on ephemerality, and changes to water chemistry. However, it was submitted by the applicant that the fact that large portions of the site (particularly along the western boundary, and in most of precincts 2 and 3) have been subject to substantial disturbance from sandmining had apparently not compromised the viability of these wetlands. Accordingly, it was suggested that Ms James' concerns were exaggerated.

144 The applicant submitted that the stormwater treatment system had been designed to minimise impacts on the wetlands, and hydrologic modelling had confirmed that any changes would be minimal. The evidence of Mr Winning, who reviewed the hydrologic modelling, was that, despite the sensitivity of the wetlands, the likely hydrological change would not be significant. However, this evidence was confined to the smaller area of Sydney Freshwater Wetland which the applicant's witnesses defined.

145 The applicant submitted that although the experts had agreed that the wet heath vegetation, regardless of whether or not it was classified as Sydney Freshwater Wetland, has some “local” significance, no expert had justified retention of the areas of wet heath proposed to be cleared, if they

were not in fact Sydney Freshwater Wetland. However, inherent in this proposition is that if a greater area than identified by Messrs Fanning and Winning should be classified as Sydney Freshwater Wetland, the proposal would be unacceptable.

146 I visited the site with the Commissioner at which time the parties and the witnesses discussed their respective opinions as to the extent of Sydney Freshwater Wetland. I have concluded that the area which should be classified as Sydney Freshwater Wetland is significantly greater than suggested by Messrs Fanning and Winning. It will always be difficult to accurately define the boundaries of such an ecological community having regard to the variability of weather conditions and the diminishing integrity of the community, either by disturbance of areas within it or the reducing intensity of species at the boundary. However, I do not accept the approach to the determination of the Scientific Committee adopted by Messrs Fanning and Winning. The definition contemplated a "mosaic community with considerable variation." The approach adopted by Messrs Fanning and Winning tended to confine the identified area to swales and depressions and did not adequately recognise low lying areas associated with sedgelands, which also include wet heath, swamp forest and swamp scrub.

147 However, although there are significant areas of Sydney Freshwater Wetland on the land, I am satisfied that those areas are not as extensive as the respondent's witnesses suggest. The respondent's witnesses included as Sydney Freshwater Wetland degraded areas that had been recently disturbed by motor vehicle and pedestrian access.

148 Leaving aside any indirect impacts, I am satisfied that in the order of 30% of the identifiable area of the Sydney Freshwater Wetland community would be removed by the proposed development. This impact is largely due to the location of the road and precinct 1 on the northern end of the site and the industrial lots in that location made necessary by providing access exclusively from Cowlishaw Street. Disturbance of the community to this extent carries the prospect that, if implemented in its present form, the community would suffer beyond the area of actual disturbance with unquantifiable but potentially far more significant consequences.

149 The fact that Sydney Freshwater Wetland may be damaged by a particular development proposal will not necessarily be fatal to an approval. However, great care is required to ensure that any decision adequately acknowledges principles of ecologically sustainable development and ensures in particular, that ecological communities with high conservation value are not lost.

150 In the present case, it is agreed that the Sydney Freshwater Wetland on this site has significant biodiversity value. I am satisfied that value extends beyond a matter of local significance and is related to the complex of wetlands, including Jewells Swamp. The present proposal will destroy a substantial area of the Sydney Freshwater Wetland and, in time, the indirect effects could remove it entirely and affect the resilience and integrity of the

wetland system, both on and off the site. These known impacts, together with the possible future impacts, are sufficient to cause me to conclude that the present application should be refused.

Tetratheca juncea

151 Ms James and Messrs Winning and Fanning substantially agreed as to the extent of the threatened plant species Tetratheca juncea on the site. This is shown on figure "G" (map not reproduced).

152 They agreed that:

· there is a substantial population of thousands of Tetratheca juncea on the site;

· this is the largest known population of Tetratheca juncea and is regarded as highly significant;

· the combined mapping of Tetratheca juncea habitat by Ms James et al (2002) and HWR (2001) is accepted as the total area of habitat for this species on the land (a total of 16.5ha);

· about 4ha of Tetratheca juncea habitat is to be removed (Ms James qualified this by stating *"at least"* 4ha of Tetratheca juncea would be removed, including by clearing for drainage works in the Environmental Protection Zone);

· 4ha constitutes 24% of the Tetratheca juncea habitat on the site;

· There will also be indirect impacts on the Tetratheca juncea population resulting from the development (possibly including bushfire protection measures, hydrologic changes, and edge effects);

· there will be some localised changes to vegetation in proximity to the dispersion areas, some of which are in areas where there is a higher density of Tetratheca juncea; and

· there have been (and continue to be) other impacts on Tetratheca juncea habitat within the areas to be retained in the Environmental Protection Zone (including track creation, recreation vehicle use, slashing and clearing).

153 The witnesses also agreed that in addition to the direct loss of 24% of its habitat, mostly within precinct 1 and to a lesser extent in precinct 2, further plants would be lost through clearing for drainage works. However, the witnesses could not agree on the extent of indirect impacts likely to arise from groundwater changes, effects from stormwater discharge, and impact on pollination.

154 According to Ms James, the predicted 10-20cm groundwater rise would be likely to cause "substantial damage" due to a greater propensity for ponding of water, impact on ephemerality, and changes to water chemistry.

155 Ms James considered the rise in groundwater levels would be likely to particularly affect the habitat of the Tetratheca juncea causing dieback. She emphasised that the Tetratheca juncea is used to drier conditions and

suggested that significant areas of Tetratheca juncea habitat are likely to be affected by even small changes in surface topography affecting soils and general species composition.

156 The response from the applicant was that the stormwater treatment system has been designed to minimise impacts on the wetlands, Mr Winning being of the view that the likely hydrological change would not be significant.

157 Based on groundwater modelling and their own experience, Messrs Winning and Fanning believed that impacts on vegetation, including on Tetratheca juncea itself, would be localised around stormwater dispersion areas.

158 The applicant drew attention to hydrological studies of post development conditions which it was submitted indicate that Ms James' fears are ill-founded. It was suggested that the cross-sections in the Douglas Report, '*Report on Groundwater Study and Geotechnical Assessment by Douglas Partners'* show only minor changes in groundwater levels and that the rise in groundwater levels should not impact upon the habitat of the Tetratheca juncea except for areas around stormwater dispersion points, or at the boundaries of wetter areas.

159 In response to a question from the Court, Ms James conceded that she did not know enough about the hydrology of the site to be definite about the likely extent of the groundwater changes.

160 I accept the evidence of Ms James that a rise in water table by 10cm to 20cm is likely to have an adverse impact on the health and vigour of the Tetratheca juncea. I am satisfied that there is a real likelihood that the area suitable for the Tetratheca juncea would be reduced by the increase in the water table. However, the extent of the impact on Tetratheca juncea cannot be accurately identified. Before any industrial development of the land could be approved, some more definitive work to identify the true extent of hydrological change would be required so that an accurate picture of the likely loss of Tetratheca juncea could be arrived at.

Edge effects

161 Ms James' evidence is that indirect impacts on Tetratheca juncea would occur along the perimeter of its habitat, including impacts from construction of asset protection zones. She estimated that along 2km of the boundary of the proposal (within a zone at least 10 metres wide), between the development and the Environmental Protection Zone, about 2ha of the Tetratheca juncea would be affected. She was also concerned about the practicality of effective long-term management of this perimeter area within the Environment Protection Zone.

162 Messrs Winning and Fanning were of the opinion that, given the extent of habitat to be retained, the design and management of the development (including impact amelioration measures) and the nature of the Tetratheca juncea species, indirect impacts would be minimal.

163 Mr Winning pointed out that edge effects arise out of uncontrolled runoff, dumping, residents mowing, incursion of children and household pets - all of which frequently result from residential development - are unlikely to be generated by this development.

164 It was pointed out for the applicant that it would be highly unlikely that there will be cause for anyone to enter the bushland surrounding the proposed industrial precincts, except for management purposes, as the proposal will be bounded by roads predominantly constructed on retaining walls and fill. If the development goes ahead, the site would benefit as motorbikes and 4WD vehicles would be excluded from those sensitive areas. It was also emphasised that stormwater runoff would be collected in roadside swales, treated, and piped to natural watercourses away from the Tetratheca juncea habitat.

165 I am satisfied that proper management of the perimeter of the proposed industrial precincts is possible and, accordingly, edge effects could be minimised. The possibility of edge effects is not a factor in my conclusion that the application should be refused.

Tetratheca juncea pollination effects

166 Ms James gave evidence that the fragmentation of the Tetratheca juncea community on the land and the reduction in wet heath/ sedgeland vegetation, both of which attract pollinators, would impact on the health and vigour of the Tetratheca juncea. Mr Fanning and Mr Winning hold a contrary view.

167 Mr Fanning noted that even if some parts of the wet heath/ sedgeland were removed through development, there would remain around 150-180ha of habitat for pollinators in the adjacent Jewells Swamp wetland that would ensure that pollination continued. He also noted that pollinating plants surrounded the small triangular clump of Tetratheca juncea to be retained south of Precinct 1.

168 It was submitted that as the proposed Vegetation Management Plan would provide measures for ongoing management of vegetation within the Environmental Protection Zone and for the estimated 75% of the population which would remain on the land, the conditions for Tetratheca juncea would be improved significantly overall.

169 For the council, evidence was given that with the removal of a significant swathe of the wet heath/sedgeland and with the construction of retaining walls to support the road system and buildings, the Tetratheca juncea population would be isolated from its pollinators. Consequently, it was submitted that there was no evidence establishing that the pollinators of the Tetratheca juncea would be left with sufficient resources on-site and, given the “barrier effect” of the development, those pollinators would not enter the site from off-site areas.

170 The respondent's experts indicated that the long term impact of reducing pollination sources would be more severe for Tetratheca juncea

because:

· the fruit set is low and likely to contribute to declining populations;

· the longevity of seed in the soil is short, indicating that the species is dependent on annual seed set to maintain a viable seed bank;

· Tetratheca juncea pollinators are typically rare;

· Tetratheca juncea forms mycorrhizal associations with at least two species of fungi to enhance the uptake of nutrients from infertile soils, which fungi are adversely affected by soil disturbance and changes in acidity of the soil; and

· the existing Tetratheca juncea habitat on the site is likely to have been adversely affected already by past and ongoing activities, including slashing, creation of tracks and weed invasion.

171 The evidence and discussion of the impacts of the development on pollinators does not enable me to come to any final conclusion in relation to this matter. That there will be an impact is undeniable but the severity of the impact is not known with certainty. However, I am satisfied that care must be taken in the design of any proposal for this site to ensure that the integrity of the Tetratheca juncea population is not adversely affected by disruption of the pollination process. It would be prudent to provide a direct connection to offsite pollinators.

Wallum Froglet

172 The experts on both sides were in substantial agreement as to the location on the site of the threatened species Wallum Froglet. Everyone accepted that this population is significant. Dr Mahoney and Mr Winning are also in substantial agreement as to the location of high-density frog habitat.

173 Dr Mahoney identified five potential sources of impact on the froglet:

· direct impact from habitat removal in precinct 2, the access road between precincts 2 and 3 and from construction of the road between precincts 1 and 2;

· hydrologic changes to the periodicity of the wetlands;

· water quality and groundwater chemistry changes;

· increase in predation of the Plague Minnow; and

· competition between the Wallum Froglet and other more common species that will be drawn to the artificial wetlands.

174 The direct impacts of the proposed development will affect a relatively small area of the total area of froglet habitat on the land. The area affected is identified on figure "H" to these reasons (map not reproduced). It has also been suggested that a slight rerouting of Road No 4 between precincts 2 and 3 into the 6(c) zone could take place which would ensure the road would be further removed from the most densely populated froglet habitat. There were no plans to show the proposed deviation of the road but the

parties accepted that a deferred commencement condition could be imposed to effect this change.

175 If the alignment of the road were altered, the separation distance between the Wallum Froglet pond and the road could be as much as 30m to 40m. At locations near the habitat pond, the road is 3m above the natural surface of the land. If constructed as proposed, the road would be supported on fill contained within a sloping retaining wall. Although the road could be removed from the pond, it would be likely that in constructing it, construction vehicles would need to pass near to the pond with a significant risk of direct impacts upon it.

176 Obviously, the further any development could be removed from the Wallum Froglet habitat, the greater the chance of survival of the threatened species.

177 The applicant's witnesses accepted that minor changes in periodicity would occur as a result of the predicted increase in average groundwater levels.

178 It was submitted that based on the *'Report on Groundwater Study and Geotechnical Assessment by Douglas Partners',* these changes would be small when compared to the natural variability of groundwater levels on the land, and that accordingly, the essential ephemerality of the ponds would not be altered. The applicant's case is that the ponds will merely remain wetter for slightly longer periods.

179 Messrs Fanning and Winning are of the opinion that these changes would not adversely affect the survival of the froglet and expressed the following conclusions:

· the level of water in the ponds is dependent on the height of the water outflow point;

· with an elevated level of groundwater there would be minor increases in the time for the ponds to dry out;

· there will be no expression of groundwater at the surface during low water level events (1 in 5 year events) and in high water events, surface water expression will occur at the same places under pre-development and post-development conditions.

180 I am satisfied that the groundwater regime and potential impacts have been well studied and despite some adverse impacts from groundwater rise, these would not be significant. Any impacts on the Wallum Froglet arising from changes in groundwater levels have not contributed to my conclusion that the application should be refused.

Impacts on Wallum Froglet from changes in water chemistry

181 I am satisfied that the water treatment system has been designed to meet specific performance criteria intended to minimise changes to the water chemistry. The performance measures are provided in Table 19 of the

Surface Water Engineering Report. There would be a slight increase in nutrients for some rainfall events, and for the average rainfall event mean concentrations will decrease, as will the amount of suspended solids. However, impacts on nutrient levels would be acceptable.

182 Dr Mahoney expressed concern that the acidity of the groundwater would change as a result of the proposed removal of peat from beneath Precinct No 3. He was concerned that surface stormwater flows would no longer infiltrate acidic subsurface peat.

183 The applicant's evidence indicated that the froglet would not be affected because precinct No 3 is downstream of the froglets' habitat and the groundwater infiltration of the peat, which is at depth, would not alter.

184 Dr Mahoney was also concerned about the discharge of neutral or slightly alkaline stormwater runoff from the industrial precincts through the froglet habitat. The applicant maintained that the proposal has been designed to avoid this. To further assist this position, the applicant sought during the hearing to alter the design of a stormwater outlet from Precinct No 2 to ensure that froglet Pond 1, in the vicinity of the ultra-light strip, could be successfully reinstated.

185 I am satisfied that the design of the proposal would be satisfactory to deal with ground and surface water flows so that the chemistry of water on the site would not alter in a manner which adversely affected froglet habitat.

The Plague Minnow

186 The Plague Minnow is a fish species with a potential to invade ponds and predate on the Wallum Froglet. On the site inspection, Plague Minnow was seen in a pond on the eastern side of the land and it was agreed that the Plague Minnow is already present in some areas of the land. Mr Fanning was of the opinion that there was no evidence that the Plague Minnow is a danger to the Wallum Froglet, and that some frog species had been known to co-exist with the Plague Minnow especially where, as here, sedges offering cover for froglet eggs and tadpoles fringe the wetlands.

187 The applicant argued that the Plague Minnow is presently kept in balance with populations of froglet by retaining wetland ephemerality and by reason of the ponds occasionally drying out. The results of the hydrologic modelling confirm that whilst some ponds may take longer to dry out, ephemeral conditions will remain. It was argued that the proposed stormwater regime has been specifically designed to ensure that direct connections would not exist between froglet habitat and areas where the Plague Minnow might exist; therefore the risk of predation would not be exacerbated.

188 Ms James and Mr Sainty were not convinced by this argument. They considered that it could be expected that there would be some increased predation of the Plague Minnow on the froglet due to the increase in the time during which the ponds contain water. The ponds could also be

expected to be of greater depth due to the predicted rise in groundwater, thus supporting a greater minnow population.

189 The evidence is not conclusive. However, because the impact of the Plague Minnow on the froglet could be devastating, caution is necessary. However, if it was the only potential negative impact on the natural environment from the proposal, it could not justify refusal of the application.

Indirect impacts on Wallum Froglet - increased competition from other species

190 Dr Mahoney was also concerned that the artificial wetlands with neutral pH, to be established within the industrial precincts, would be likely to attract other wetland species including the common frog, which would compete with the Wallum Froglet.

191 Mr Fanning was of the opinion that the acidic environment of the froglet habitat would discourage entry of other species and buffer the froglet from such competition.

192 I am satisfied that the concern of Dr Mahoney, although valid, would not alone justify refusal of the application.

Noise and amenity impacts on Cowlishaw Street

193 The impact of noise from the projected traffic to and from the development is a major issue. There may be as many as 1040 additional vehicles per day including trucks. The only access proposed for the industrial subdivision is an extension of Cowlishaw Street. The street is developed on its northern side by conventional dwelling houses. Apart from when the playing fields are in use, the street is a quiet residential street carrying little traffic during the day or night. There are nine houses, two of which receive noise impact from traffic on Redhead Road. The others have a generally quiet acoustic environment without impacts from traffic noise. The prediction of the acoustic consultants who gave evidence is that all of the dwellings will be adversely affected by noise from traffic going to and from the development if the subdivision is approved. It is agreed that the increase in noise is significant and, unless ameliorated in some appropriate manner, would impose unacceptable impacts upon the occupants of the affected dwellings.

194 In a joint statement, Messrs Jurevicius and Bridges said the following:

> "The applicant’s traffic noise model … shows exceedances on EPA traffic noise criteria at Cowlishaw Street residences of up to 3.7 dBA during the day and 5.4 dBA during the night due to the proposed industrial subdivision. Exceedances of this magnitude are significant and require some form of noise mitigation or control before traffic noise levels can be considered acceptable.

> Additional traffic noise on Redhead Road (including Kalaroo Road) due to the proposal is close to or below the 2 dBA increase allowed by the EPA's Environmental Criteria for Road Traffic Noise (ECRTN) at all receivers and is considered acceptable."

195 In that joint statement, Messrs Jurevicius and Bridges also agreed in respect of sleep disturbance noise:

> "Maximum noise levels around 80 dBA from trucks and 64-72 dBA from cars are expected at the façade of Cowlishaw Street residential properties as vehicles travel into and out of the subdivision. Predicted maximum levels exceed the EPA's recommended 'sleep disturbance' level of 65 dBA, derived from Appendix B of the EPA's Environmental Criteria for Road Traffic Noise, outside the dwelling and indicate residents will be disturbed from sleep as vehicles enter and leave the site. Most Cowlishaw Street residents are not currently subjected to significant traffic noise levels likely to disturb sleep."

196 Various noise mitigation measures were suggested. They include:

· noise barriers;

· increased setback or buffer widths between residents and noise sources;

· source noise control; and

· modifications to receiver properties.

197 However, because of the existing form of the dwellings and the confined nature of the roadway, it was agreed that the only 'practical' noise measures would be to treat the individual residential buildings. This could be done by providing:

· thicker window glass with double glazing requiring the façade to be sealed at night and thereby excluding the opportunity for natural ventilation;

· acoustically stronger and sealed doors;

· additional insulation in external walls and roof cavities.

198 The applicant proposed a condition requiring the applicant to offer noise mitigation measures for the houses in Cowlishaw Road. On the site inspection, none of the residents of the most affected properties in Cowlishaw Street agreed to have mitigation works carried out on their

dwellings. They objected to being enclosed in air-conditioned internal spaces within their dwellings. I consider their objection to be entirely reasonable.

199 Typical of the residents' concern for noise is that expressed by Ms Nowak:

> "It is entirely inappropriate for a residential road to be the sole access for such a development. The proposal would see Cowlishaw Road reclassified from a 'local' to a 'collector' road. Neither the old or new LEP intended Cowlishaw Road to be a 'collector'. The old LEP showed a road linking back to Kallaroo Road and this missing link was intended as the main access. Given this road cannot be built for environmental reasons it follows that the original LEP was entirely flawed at this location and should be ignored for development assessment."

200 The Lake Macquarie Local Environmental Plan map gazetted in 1984 shows an arterial road reservation passing by the site linking areas to the northwest and another potential road, being a road associated with Mining Lease No 27, linking the site to Kallaroo Road to the south. If that road or a road in a similar location was created, access to the site could be obtained by roads through existing industrial areas avoiding the impacts of this current proposal on the residents of Cowlishaw Street.

201 As I have indicated, an examination of the relevant planning maps shows that the site has been identified for industrial development for many years. However, before it could be developed for that purpose, a number of environmental criteria must be satisfied. Appropriate access is critical. Being a large industrial subdivision it will be unlikely, having regard to matters of traffic safety and convenience, that a single means of access will be suitable. Difficulties of providing safe means of access and egress in the event of major bushfire, not an unlikely event in the area, are also of concern.

202 Beyond these matters, and of overriding significance in this case, is the impact on the local residents from the likely traffic noise both during the day and, more particularly, at night. It is one matter to permit development which exploits a significant natural resource, maybe a quarry, where the resource is only available at limited locations knowing that noise attenuation is required to make the project acceptable to nearby residents, or perhaps to provide a regional roadway on similar conditions. However, it is quite different when the resource is not unique and there is a capacity to provide access in a manner which does not impact upon local residents to an unacceptable degree.

203 In the present case, the industrial zone both pursuant to the Northumberland County Scheme and the Lake Macquarie Local Environmental Plan was gazetted at a time when routes in addition to Cowlishaw Road were contemplated to give vehicular access to the site. The area set aside for industrial purposes had frontage on its eastern and south-eastern boundary to Kallaroo Road. Land had been set aside in the reservation in the Local Environmental Plan which would have provided an interchange with the proposed main road at the southern end of the site and it was obviously contemplated that if industrial development occurred, it would have access at that location to the main road. To allow the industrial use of the subject land with only one vehicular access route would impose unexpected and unreasonable environmental impacts along that route. It is possible that some limited industrial use of the site may be acceptable if the other identified environmental constraints could be overcome, even if access is only available from Cowlishaw Road. However, the intensity of development proposed in the present application is not compatible with the reasonable expectation of the existing residents to be able to enjoy their dwellings without unacceptable noise impacts.

Other matters

Restriction on floor space

204 Messrs Waugh and Hallam agreed that if the daily traffic flow of the proposed industrial subdivision were no more than 1040 vehicles/day, the amenity of Cowlishaw Street would, from a traffic safety perspective, be safeguarded.

205 In order to restrict the development to this level of traffic generation, Messrs Waugh and Hallam recommended that the floor space ratio of the development should be confined. Mr Hallam recommended limiting the gross floor area of the entire subdivision to 20,000m2 assuming a factory/light industrial use. Mr Waugh assumed a limit on the ground floor area of 26,000m2 for a warehouse use.

206 With this level of traffic generation, Messrs Waugh and Hallam agreed that the intersection of Cowlishaw Street and Redhead Road would continue to operate in a satisfactory manner, as the traffic carrying capacity of the road would not be exceeded. They also agreed that no works would be required to improve the capacity of the intersection.

207 Mr Waugh recommended that left in and left out only movements be allowed from the eastern leg of Cowlishaw Street at the intersection with Redhead Road. If approval had been contemplated, it would have been necessary to impose conditions which ensured that those outcomes were achieved.

Noise from industrial use

208 Messrs Jurevicius and Bridges agreed that most industries within the proposal would require some form of noise management and a detailed acoustic assessment would be required for each particular area. They

acknowledged that a change in the general noise environment was likely and the existing high level of residential amenity would be reduced.

209 Again, if approval had been contemplated, effective conditions would have been required.

Construction traffic

210 It was estimated that between 150,000m3 of fill, or about 300,000 tonnes to 440,000 tonnes, would need to be brought to the site to enable the development to be carried out. Although this was not stated in the original Statement of Environmental Effects, the estimated number of truck movements required to complete this task would be about 35,000. The noise impacts and traffic consequences for Cowlishaw Street would obviously be significant.

211 Messrs Hallam and Waugh recommended that a Construction Traffic Management Plan be prepared specifying the hours of haulage and the number of truck movements per hour. They also agreed that such a plan "… would need to be reviewed and approved from the point of view of both traffic engineering and noise issues".

212 Whether a satisfactory plan could be prepared which is acceptable to the applicant has not been further pursued. If consent had been contemplated, these issues would require further detailed consideration.

Bushfire

213 There is no doubt that the site is prone to bushfires which follow a typical pattern from the west. This fact was recognised by the applicant, who has accepted the Environmental Protection Zone in the proposed subdivision, together with areas identified as Asset Protection Zones, must perform to protect proposed buildings from unacceptable fire hazards. The witnesses for the parties could not agree as to whether the proposed plan of subdivision would achieve appropriate bushfire safety outcomes.

214 If approval of the subdivision had been contemplated, this is another issue which would have required detailed consideration. However, in general, provided adequate areas of each proposed allotment have been included at the subdivision stage, fire protection measures are matters which can be included as part of the development of the individual allotments. It is difficult to provide appropriate measures without knowing the location, design and prospective use of particular premises. Of critical significance is the location, species type and density of proposed landscaping.

215 These matters would also have needed resolution if consent had been appropriate. However, there is no reason why conditions could not be provided at both the subdivision stage and later stages which ensure adequate protection from the risk of bushfire is available to any development on the subdivided lots.

Development within the vicinity of heritage items

216 Belmont Railway, the branch lines from the Belmont Railway, and the mine manager's house are all identified as items of local and regional significance under Schedule 7 of the Lake Macquarie Local Environmental Plan and are all located within the vicinity of the land.

217 Clause 35 of the Lake Macquarie Local Environmental Plan requires the consent authority to take into consideration the likely effect of that proposed development on the heritage significance of an item and on its setting when development is proposed in the vicinity.

218 The Heritage Council reviewed the impact of the proposal on the heritage significance, both locally and regionally, of the Belmont Railway. It also requested the council to consider an appropriate interpretation of the heritage values of the Belmont Railway in the vicinity of the subject land and impose conditions on any determination to ensure it was adequately addressed.

219 This matter did not loom large in the hearing and, if the Court had been favourably disposed towards the application, it could impose conditions requiring appropriate interpretation of this item.

Orders

220 The orders are:

1. The appeal under s 97 of the *Environmental Planning and Assessment Act* 1979 is dismissed.
2. Integrated development application No DC/03/01633/3B lodged with the respondent council on 11 November 2002 to subdivide Lot 1 DP 426613 and Lot 4 DP 248860, No 10A Cowlishaw Street, Redhead in the City of Lake Macquarie into 48 lots (originally 54 lots) for industrial use, is refused development consent.
3. The exhibits, with the exception of Exhibits K, L, M, N, O, P, Q, AB, AC, AS, AT, 55 and 57, are returned.

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