PART D: SPECIFIC DEVELOPMENT

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D.1 SUBDIVISION GUIDELINES

1.1 INTRODUCTION

The impacts of land subdivision, both environmental and socio-economic, are increasingly recognised and scrutinised. Not only is it considered that subdivision should occur with minimal environmental impact but, where practical, and particularly in the case of rural subdivision, some environmental benefit should result, through repair of environmental damage, revegetation of degraded areas, establishment of vegetation and wildlife corridors, buffers and the like.

This section provides comprehensive guidelines for the preparation and submission of development applications for the subdivision of land, where such a land use is permissible under the provisions of the Cessnock Local Environmental Plan (CLEP).

In particular, this section encourages applicants to prepare subdivision applications having regard to the range of matters likely to be considered in their assessment. This section requires a thorough Site Assessment as the first stage of any proposal, and requires evidence of such assessment to be submitted as the basis of the Statement of Environmental Effects (SOEE) required with every application. Checklists are provided to assist applicants in carrying out the investigations required for different types of subdivision proposals.

For detailed engineering and construction requirements for subdivision, reference should be made to Council's 'Engineering Requirements for Development'.

1.1.1 Application

This Chapter applies to all land within the Cessnock Local Government Area (LGA).

As a matter of Council Policy, this Chapter shall be taken into consideration when determining applications for consent under section 138 of the *Roads Act 1993*.

Under the *Roads Act 1993*, consent of the appropriate road authority is required for the following activities:

- erect a structure or carry out a work in on or over a public road; or
- dig up or disturb the surface of a public road; or
- remove or interfere with a structure, work or tree on a public road; or
- pump water into a public road from any land adjoining the road; or
- connect a road (whether public or private) to a classified road.

1.1.2 Purpose

To provide detailed guidance to applicants in relation to the preparation of development applications for subdivision.

1.1.3 Aims and Objectives

The principal objectives of this Chapter are to:

a) ensure that the potential impacts of all subdivisions and subsequent development take account of the principles of environmental sustainability;

b) to encourage solar efficient subdivision designs that will assist in ensuring that subsequent development is energy efficient;
c) encourage the implementation of environmental buffers and provide opportunities for repair and enhancement of natural systems, especially on land previously degraded;
d) ensure that rural subdivision reinforces the rural character;
e) facilitate subdivision forms which minimise environmental degradation, such as community title subdivisions;
f) ensure that rural subdivision and housing take account of physical constraints such as bush fire, flooding, landslip, etc;
g) further long term planning objectives contained in CLEP by the encouragement of lot creation consistent with those objectives;
h) ensure adequate vehicular access from the public road system to each new lot;
i) ensure all proposed lots are physically capable of development;
j) establish a consistent and coordinated approach to the creation of residential, rural and commercial / industrial lots;
k) adopt criteria for residential, rural, and commercial/industrial lots which ensures each lot is provided with an appropriate level of amenity, service and access;
l) facilitate the supply of residential lots of a wide range of sizes and shapes which reflect the objectives of CLEP, the availability of reticulated services and the need for frontage to public roads;
m) discourage the removal of prime agricultural land from agricultural production and to prevent adverse impacts upon the viability of established or potential agricultural activities; and
n) protect cultural resources (places of cultural and environmental heritage value) from land use or management practices which will lead to their degradation or destruction.

1.2 APPROVAL PROCESS

1.2.1 Consent Authority

Development consent may only be obtained by lodging a development application with the 'consent authority', in most instances this is the Council. Development applications cannot be lodged with accredited certifiers.

Development consent does not cover the detailed construction aspects of subdivision. You will need to obtain a construction certificate prior to commencing any construction work on site.

1.2.2 Principal Certifying Authority

If your subdivision requires development consent and involves construction works you will need to obtain a construction certificate.

Before you commence any construction works, you shall advise Council of the date you intend to commence construction works. You shall provide at least two days notice.

1.2.3 Certification of Works

a) Compliance certificates

You may be required to obtain a compliance certificate from Council as a condition of development consent. This is usually required in cases of subdivision involving road and drainage construction.

The compliance certificate is required to certify that:

- work has been completed and complies with the construction plans and specifications;
- conditions of development consent requiring construction works in accordance with Council's 'Engineering Requirements for Development' have been complied with.

b) Subdivision certificates

A subdivision certificate is a certificate issued by Council on the final plan of subdivision that authorises the registration of the plan with the Department of Lands, Land Titles Office. Council will issue this certificate upon provision of evidence demonstrating compliance with all conditions of development consent.

An accredited certifier acting as the Principal Certifying Authority (PCA) may also issue a subdivision certificate in respect of subdivision identified as complying development under CLEP.

c) Differences between final plan of survey and approved plan

When a plan of proposed subdivision is prepared, the applicant shall ensure that all detail contained on the plan reflects, as accurately as possible, the final intended subdivision.

Council, however, recognises that in some instances it is not possible to compile a plan of proposed subdivision to the exactness required on the final plan of survey that is ultimately lodged at the Land Titles Office, without undertaking extensive and costly work.

Upon preparation of the final plan of subdivision, should a discrepancy appear between the approved plan and final plan, Council may endorse the final plan subject to the following:

(i) the discrepancy is not greater than 2% of the measurements on the approved plan (boundary lengths or area);
(ii) the lot shape and layout is substantially the same as the approved plan;
(iii) the discrepancy will have negligible impact on the environment; and
(iv) Council did not receive significant objection as a result of the public notification process during the assessment process.

With regard to site area, the proposed lot/s shall not be less than the minimum area shown on the Lot Size Map, as per CLEP, Clause 4.1 – Minimum subdivision lot size.

Where in the opinion of Council, the discrepancy is significant or not consistent with the above criteria, Council may request an application under Section 96 Environmental Planning & Assessment Act, or in some cases, a new application.

Any variations below the development standard will be subject to the requirements of CLEP, Clause 4.6 – Exceptions to development standards.

1.2.4 Specific Areas

In some instances, structure plans or development principles plans have been prepared for specific areas. Subdivision applications shall conform with these adopted plans (see Schedules 3-6 for specific requirements), unless written justification for variation warrants Council's support.

1.3 GENERAL REQUIREMENTS FOR SUBDIVISION

1.3.1 Development Principles - CLEP

As well as the provisions in this Chapter, all applications are required to consider the general development principles in the design of the subdivision and address compliance, or otherwise, in the Statement of Environmental Effects.

General development principles with respect to subdivision:

(i) the ratio of depth to frontage of each allotment to be created by the subdivision shall be determined having regard to the purpose for which it is to be used and the need to minimise the creation of vehicular access points to any road and particularly to main or arterial roads;
(ii) the subdivision shall not to any material extent, create or increase the potential for ribbon development along any road, particularly a main or arterial road;
(iii) adequate all weather flood-free access shall be available to each allotment to be created by the subdivision and located so as to minimise the risk of soil erosion;
(iv) a subdivision shall be designed to maximise the retention of natural vegetation in any subsequent development, to ensure that any buildings likely to be erected on allotments created by the subdivision are able to be sufficiently separated and to minimise the potential for significant alterations to the natural land form in any subsequent development by way of construction of access driveways, excavations, filling and the like;
(v) each allotment to be created by the subdivision shall include flood-free land for building sites and in rural areas for the movement of stock during floods;
(vi) each allotment to be created by the subdivision shall provide potential building sites with minimum risk of damage by bushfires or soil instability;
(vii) adequate soil erosion control measures shall be incorporated in the subdivision, including measures to be carried out prior to the subdivision taking place; and
(viii) allotments intended for use for pastoral purposes shall be of sufficient size to ensure an adequate water supply for stock unless water can otherwise be provided.
(ix) the subdivision shall not create or increase the number of allotments having direct access to a watercourse.

Note: The ability to access water from watercourses, bore holes, or the like, requires the approval of the Department of Environment, Climate Change and Water (DECC&W).

1.3.2 Development Standards – CLEP

All zoned land has development standards for subdivision and may have dwelling entitlements as per CLEP, Clause 4.2A – Erection of dwellings in rural and environmental zones. These standards set the minimum lot size for subdivision and the corresponding dwelling entitlement. All applicants should refer to CLEP to establish what the development standard is.

CLEP, Clause 4.6 – Exceptions to development standards, incorporates the provisions of State Environmental Planning Policy (SEPP) No.1 – Development Standards. Any application of this type shall be referred to the Director-General for concurrence. Council will consider the development principles and the zone objectives (as well as any justification contained in the Statement of Environmental Effects and the objection under Clause 4.6) to determine whether any variation shall be supported.

1.3.3 Battle-axe or hatchet shaped allotment & 'right-of-carriageways'

When calculating the area of a battle-axe or hatchet shaped allotment, the area of the battle-axe handle shall be excluded. Similarly, the area of an allotment affected by a 'right-of-carriageway' or private road shall also be excluded from the lot area calculation.

1.4 SPECIFIC REQUIREMENTS FOR RU2 RURAL SUBDIVISION

Note: For subdivision in the RU4: Rural Smallholdings Zone, applicants shall also refer to the specific provisions in CLEP and Part E: Specific Development, Chapter 3: Vineyards District. The provisions relate to lot size, density of development, retention and enhancement of natural vegetation amongst other things.

1.4.1 Element 1: Lot Size and Shape

Performance Criteria

a) Lot sizes and dimensions shall enable dwelling houses to be sited to:
   - protect natural and cultural features;
   - acknowledge site constraints including soil erosion and bushfire risk; and
   - retain special features such as trees and views.

b) The design of the subdivision shall take into account any significant natural features on the site and these shall be retained.

c) Vegetation which adds to the visual amenity of the locality and / or which is environmentally significant shall be preserved in the design of the subdivision proposal.

Prescriptive Measures

a) The minimum lot size is the minimum area shown on the Lot Size Map, as per CLEP, Clause 4.1 – Minimum subdivision lot size.

b) Lots shall accommodate a building envelope of 3,000 m^2 with a minimum dimension of 20 metres. Building envelopes shall be located a minimum of 4.0 metres from significant trees and other significant vegetation or landscape features. Building envelopes shall include the area for the siting of the dwelling-house, outbuildings, landscaping and on-site effluent treatment and disposal areas (if required and permitted).

c) The width to depth ratio of allotments shall not exceed 1:4. If lots are too elongated, land uses in rural areas may be restricted (e.g. the shape of long lots may preclude the establishment of dams).

1.4.2 Element 2: Agriculture

Performance Criteria

a) Buffers shall be provided to existing development on adjoining agricultural properties.

b) The agricultural potential of the land shall not be diminished as a result of a subdivision proposal.

Prescriptive Measures

a) Compliance with *Part C: General Guidelines, Chapter 4: Land Use Conflict & Buffer Zones*.

b) Subdivision of land that is classified as 'prime agricultural land' (classes 1, 2 or 3) may require referral to and comment from NSW Industry and Investment (Agriculture). Any prime agricultural land occurring on the subject land is to be identified on the plans submitted.
c) Subdivision proposals are not to negatively impact upon sustainable agricultural activities.

1.4.3 Element 3: Effluent Disposal

Performance Criteria

a) Effluent and waste water shall be disposed of in a manner which is consistent with the land capability of the property.
b) Effluent and waste water shall be disposed of in a manner that will not cause unhealthy or unsanitary conditions.
c) Where sewer is not available, all effluent shall be retained and disposed of on-site. No pump-out systems will be permitted.
d) No adverse impact is to be caused to the environment generally.

Prescriptive Measures

a) An effluent disposal / geotechnical report may be required depending upon site requirements and constraints. Some assessment of the proposed lots will be required to be submitted with the application to identify basic site constraints and identify any areas considered suitable for effluent disposal. The NSW State Government's 'Environmental & Health Protection Guidelines – On-site Sewage Management for Single Households' (February 1998) should be used as a guide to this assessment.
b) Council may require submission of a geotechnical investigation report in certain cases, depending upon soil conditions, number of lots proposed, size of allotments and the like.
c) Disposal of effluent shall not create a health nuisance or pollution, particularly in relation to nutrients infiltrating into bushland and / or watercourses.
d) Where reticulated sewer is not available, effluent will be contained, treated and disposed of totally on the subject site. The disposal of effluent utilising pump-outs for new lots is unacceptable.
e) For subdivisions proposing to create 5 or more allotments where any boundary of the proposed subdivision is within 2.0 kilometres of an existing sewage reticulation system, Council may require the provision of a reticulated sewerage treatment system. The only circumstances where this standard should be varied is on sites already substantially cleared of native vegetation, where soils are highly suitable for effluent disposal and where they are not located near a watercourse, wetland or other environmentally sensitive area. In these cases, a detailed investigation into the disposal of effluent on-site, including any long-term and / or cumulative effects will be required. Such investigation shall be generally in accordance with the requirements of the NSW State Government's 'Environment & Health Protection Guidelines – On-site Sewage Management for Single Households' (February 1998).
f) Any disposal system within 40 metres of a watercourse is 'Integrated Development' under the provisions of the *Environmental Planning & Assessment Act, 1979*.

1.4.4 Element 4: Flora and Fauna

Performance Criteria

a) Vegetation cover shall be retained wherever practicable as it acts to stabilise soils, minimise runoff, acts as a pollutant trap along watercourses and is important as a habitat for native fauna.
b) Vegetation shall be retained where it forms a link to other bushland areas, buffer zones, wildlife corridors and the like.
c) Allowance for the movement of fauna species on sites shall be maximised to maintain biological diversity.
d) Subdivision proposals shall be designed to minimise disturbance to existing vegetation.
e) Vegetation which is scenically and environmentally significant shall be retained.
f) Vegetation which adds to the soil stability of the land shall be retained.
g) Subdivision proposals shall be designed so as to minimise fragmentation of bushland.
h) Opportunities for revegetation shall be pursued as part of the subdivision process as a trade off for site development and as a means of value adding to the environment. In particular, revegetation of any existing creeks, streams and drainage lines, or repair and revegetation of eroded or otherwise degraded areas shall be considered. Variations to density and lot size may be considered by Council in these instances, where significant environmental benefit can be demonstrated.

Prescriptive Measures

a) See *Part C: General Guidelines, Chapter 2: Flora and Fauna Survey Guidelines*.
b) Under-scrubbing is not to be undertaken without consent.
c) Degraded areas are to be rehabilitated as part of the subdivision.
d) Watercourses and drainage lines to be retained as part of the subdivision scheme are to be stabilised and revegetated with appropriate native species.
e) Environmentally sensitive areas are to be preserved and enhanced with appropriate native vegetation where necessary.

1.4.5 Element 5: Hazards

Performance Criteria

a) Subdivision proposals shall be designed so as to enable separation between future dwelling houses and potential bushfire fronts.
b) Subdivision of flood prone land shall not result in increased risk to life or property, on the subject land or adjoining lands.
c) Subdivision of land that has been identified as being prone to landslip shall not increase the risk to life or property, on the subject land or adjoining lands.
d) Subdivision proposals will be designed to take account of any known contamination of the site, and remediation works undertaken if required.
e) No adverse impacts on surrounding lands shall occur as a result of the subdivision proceeding.

Prescriptive Measures

a) Where a subdivision proposal is located on bushfire prone land the applicant shall comply with the NSW Rural Fire Services' document ‘Planning for Bushfire Protection 2006’ and Council’s Bushfire Management Plan. In general, Council will not favourably consider subdivision of heavily vegetated land in bushfire prone areas

where the subdivision will require subsequent clearing of vegetation to meet required radiation zones, access requirements and the like.

b) In accordance with the requirements of the abovementioned documents, details shall be provided regarding the dimensions of the asset protection zone and arrangements and maintenance for access for bushfire fighting vehicles. Two separate points of access may be required in some circumstances.

c) Where a subdivision proposal is on land identified as being potentially subject to landslip, the applicant shall engage a geotechnical consultant to prepare a report on the viability of subdividing the land and if viable, provide recommendations as to the siting and the type of buildings and waste water treatment systems which could be permitted on the subject land.

d) Compliance with *Part C: General Guidelines, Chapter 3: Contaminated Lands*.

1.4.6 Element 6: Heritage

Performance Criteria

a) Heritage items and their curtilage shall be retained.

b) Subdivision shall be sympathetically designed to minimise the impact on heritage items of the subject land or adjoining lands.

c) Subdivisions shall be sympathetically designed to ensure that the existing heritage value of the streetscape and character of the area is maintained.

d) Adequate curtilage is to be provided around heritage items to provide an appropriate buffer.

e) Where a heritage item is in a state of disrepair, Council may negotiate its restoration as part of the subdivision proposal, having regard to both the need for a viable subdivision, and the desirability of maintaining heritage items for future generations.

Prescriptive Measures

a) See CLEP, Clause 5.10 – Heritage conservation.

b) A subdivision proposal on land which contains, or is adjacent to, an item of environmental heritage as defined in CLEP, Schedule 5: Environmental heritage, shall illustrate the means proposed to preserve and protect such items. In this respect a conservation plan, detailing how the item would be restored, shall accompany the application.

1.4.7 Element 7: Roads and Access

Performance Criteria

a) Existing roads shall be upgraded where necessary to accommodate increased traffic arising from new subdivisions.

b) The impact of new road or accessway works on adjoining residents shall be minimised.

c) Road and accessway construction shall take account of existing topography and vegetation. Cut and fill shall be minimised and vegetation retained wherever practicable.

Prescriptive Measures

a) See Council's 'Engineering Standards for Development'. Access crossing requirements, pavement widths and depths and similar requirements are contained in this document.

b) Design details may be required during development application assessment.

c) A maximum of 2 rural lots may gain access from a 'right of carriage-way'.

1.4.8 Element 8: Soil and Water Management

Performance Criteria

a) Best management practices shall be implemented to control runoff and soil erosion and to trap sediment on the subject land to ensure there is no net impact on downstream water quality. The quality of runoff water from the subject land shall be the same or better than the quality of water prior to the subdivision taking place.
b) Where possible, incorporate natural features into a natural drainage system for the site.
c) Where possible, design multiple use drainage and treatment systems incorporating gross pollutant traps, constructed wetlands and detention basins.
d) The subdivision shall be designed so as to minimise disturbance of the subject land especially in circumstances where there are topographical constraints.
e) Drainage from proposed lots shall be consistent with the pre-development stormwater patterns.

Prescriptive Measures

a) Depending upon the scale, location and nature of the subdivision proposal, a Soil and Water Management Plan (SWMP) may be required to be prepared by suitably qualified persons. This is most likely where any construction works are required as part of the subdivision. Early consultation with Council officers will confirm whether a SWMP is required. The plan shall detail best management practices in regard to soil conservation and pollution control measures to be installed prior to clearing and earthworks, and be maintained until revegetation measures are complete. The contents of a SWMP are shown in Schedule 1.
b) In subdivision proposals where clearing is minimal and earthworks are limited, a SWMP may not be required. Compliance with Council's 'Engineering Standards for Development' will be required.

1.4.9 Element 9: Stormwater Management and Drainage

Performance Criteria

a) Stormwater runoff from construction of subdivisions and from development resulting from the subdivision is to be adequately detained on site.
b) Water quality in watercourses near subdivisions is to be protected by way of appropriate structures and / or filter mechanisms.

Prescriptive Measures

a) See Council's 'Engineering Requirements for Development'.

1.4.10 Element 10: Utility Services

Performance Criteria

a) All lots created shall have an adequate provision of utility services and not result in a detrimental impact on the environment.
b) The design and provision of public utilities shall conform to the cost effective criteria of the relevant servicing authority.

c) Compatible public utility services shall be located in common trenches so as to minimise the land required, soil erosion and the cost of providing the services.
d) Adequate buffers shall be maintained between utilities and houses to protect amenity and health.
e) The provision of utility services shall not detrimentally impact on the landscape character of an area, or detrimentally impact vegetation corridors.

Prescriptive Measures

a) Adequate water supplies for both domestic and fire fighting purposes shall be available.
b) Electricity shall be provided to all lots, except for those considered by Council to be 'remote', where the requirement may be waived and a covenant placed on the title of the land where possible.
c) Where available, reticulated sewage disposal systems will be required (see Element 3: Effluent Disposal).

1.4.11 Element 11: Visual Amenity

Performance Criteria

a) Subdivision proposals shall be designed so that subsequent development will have minimal impact on significant views and vistas.
b) Subdivisions shall be designed to compliment the landscape rather than altering the landscape to suit a subdivision layout.
c) A subdivision proposal shall be compatible with the cultural and landscape characteristics of the locality or region.

Prescriptive Measures

a) Building envelopes, accessways and roads shall avoid ridge tops and steep slopes.
b) Subdivision of escarpments, ridges, and other visually interesting places shall be managed in such a way that the visual impact rising from development on newly created allotments is minimal.
c) Subdivisions shall be designed so that, when subsequently developed, visually significant vegetation, such as that found on ridge tops and other visually prominent locations will be retained.
d) Proposals to subdivide visually sensitive or prominent areas will require the submission of a visual impact assessment report.

1.5 SPECIFIC REQUIREMENTS FOR RU5 VILLAGE SUBDIVISION

1.5.1 Element 1: Lot Size and Shape

Performance Criteria

a) Lots shall have an appropriate area and dimensions for the siting and construction of a dwelling house and ancillary outbuildings, the provision of private outdoor space and convenient vehicle access and parking.
b) To provide usable areas, lot sizes shall be increased where sites are steep or contain significant landscape features including watercourses and easements.
c) Lot sizes and dimensions shall enable dwelling-houses to be sited to:
    - protect natural and cultural features;
    - acknowledge site constraints including soil erosion and bushfire risk; and
    - retain special features such as trees and views.

d) Lot sizes shall meet with the projected requirements of people with different housing needs and provide housing diversity and choice.
e) Lot sizes and configurations shall be varied to provide a mix of allotment types which create pleasant streetscapes and encourage a variety of housing types.
f) Lots shall be configured to account for significant natural landscape elements or constraints and be designed to minimise environmental impact.

Prescriptive Measures

a) The minimum lot size is the minimum area shown on the Lot Size Map, as per CLEP, Clause 4.1 – Minimum subdivision lot size.
b) Allotments shall have a minimum width of 18 metres at the building line.
c) An allotment shall not be less than 20 metres in depth to ensure there is some flexibility in the choice of housing design and siting, as well as the availability of suitable space for other activities normally associated with a dwelling-house.
d) The dimensions for accessways (handles) for battle-axe shaped allotments are as follows:

Maximum Length	60 metres
Minimum Width	3.5 metres
Minimum width of shared access corridor	5.0 metres

e) No more than 5 allotments shall be served by an accessway.
f) Vegetation which adds significantly to the visual amenity of a locality and / or which is environmentally significant or of habitat value shall be conserved in the design of the subdivision proposal.
g) Lots shall be designed to allow the construction of a dwelling-house with a maximum cut or fill of 1.0 metre from the natural ground level (ie. the dwelling house shall be designed to conform to the existing topography).

1.5.2 Element 2: Accessway (handle) Design

Performance Criteria

a) Accessways (handles) shall provide safe and efficient entry / exit to individual lots.
b) Accessways (handles) shall be landscaped and treated so as to reduce the visual and environmental impact of hard paved areas.
c) Accessways (handles) shall minimise the impact on the amenity of the existing and future dwelling-houses.

Prescriptive Measures

a) Accessways (handles) shall have a minimum sealed width of 3.0 metres.
b) Accessways (handles) shall not serve more than 5 lots.
c) Accessways (handles) shall have a maximum grade of 25% (1:4) at any point.
d) The following standards apply to lots with battle-axe handles:

Allotments	**Minimum width of battle-axe handle (metres)**
1	3.5
2	5.0
3 - 5	2.0 per lot

e) Accessways (handles) shall be sited away from noise and visually sensitive components of existing and future dwelling houses.

f) Where possible, accessways (handles) shall be located on the south side of existing and future dwelling houses.
g) Accessways (handles) shall provide interest and variety and avoid lengthy straight sections.
h) Where the site is steep or fronts a local collector or higher order road (greater than 3,000 vehicles per day) or a highly pedestrianised area, accessways (handles) shall be designed so that vehicles can be driven both onto and off the property in a forward direction.
i) Where vehicles would otherwise have to reverse more than 50 metres, a turning area shall be provided to enable the vehicles to enter and leave the site in a forward direction and reduce the need to reverse over long distances.

1.5.3 Element 3: Effluent Disposal

Performance Criteria

a) Effluent and waste water shall be disposed of in a manner which is consistent with the land capability of the property.
b) Effluent and waste water shall be disposed of in a manner that will not cause unhealthy or unsanitary conditions.
c) Where sewer is not available, all effluent shall be retained and disposed of on-site. No pump-out systems will be permitted.
d) No adverse impact is to be caused to the environment generally.

Prescriptive Measures

a) An effluent disposal / geotechnical report may be required depending upon site requirements and constraints. Some assessment of the proposed lots will be required to be submitted with the application to identify basic site constraints and identify any areas considered suitable for effluent disposal. The NSW State Government's 'Environmental & Health Protection Guidelines – On-site Sewage Management for Single Households' (February 1998) should be used as a guide to this assessment.
b) Council may require submission of a geotechnical investigation report in certain cases, depending upon soil conditions, number of lots proposed, size of allotments and the like.
c) Disposal of effluent shall not create a health nuisance or pollution particularly in relation to nutrients infiltrating into bushland and / or watercourses.
d) Where reticulated sewer is not available, effluent will be contained, treated and disposed of totally on the subject site. The disposal of effluent utilising pump-outs for new lots is unacceptable.
e) For subdivisions proposing to create 5 or more allotments or where any boundary of the proposed subdivision is within 2.0 kilometres of an existing sewage reticulation system, Council may require the provision of a reticulated sewerage treatment system. The only circumstances where this standard should be varied is on sites already substantially cleared of native vegetation, where soils are highly suitable for effluent disposal and where they are not located near a watercourse, wetland or other environmentally sensitive area. In these cases, a detailed investigation into the disposal of effluent on-site, including any long-term and / or cumulative effects will be required. Such investigation shall be generally in accordance with the requirements of the NSW State Government's 'Environment & Health Protection Guidelines – On-site Sewage Management for Single Households' (February 1998).
f) Any disposal system within 40 metres of a watercourse is 'Integrated Development' under the provisions of the *Environmental Planning & Assessment Act 1979*.

1.5.4 Element 4: Heritage

Performance Criteria

a) Heritage items shall be retained.
b) Subdivision shall be sympathetically designed to minimise the impact on heritage items of the subject land or adjoining lands.
c) Subdivisions shall be sympathetically designed to ensure that the existing heritage value of the streetscape and character of the area is maintained.

Prescriptive Measures

a) See CLEP, Clause 5.10 – Heritage conservation.
b) A subdivision proposal on land which contains, or is adjacent to, an item listed in CLEP, Schedule 5: Environmental heritage, shall illustrate the means proposed to preserve and protect such items. In this respect a conservation plan, detailing how the item would be restored, shall accompany the application.

1.5.5 Element 5: Local Street Design

Performance Criteria

a) Street widths shall reflect the role and function of the street in the road hierarchy and traffic generation.
b) Junctions along streets shall be spaced to create safe and convenient vehicle movements.
c) The street network shall create a convenient route for residents between their home and higher order roads.
d) The street network shall facilitate walking and cycling within the neighbourhood and to local activity centres.
e) The street network shall be orientated where practical, to promote efficient solar access for dwelling-houses.
f) The street network shall take into account existing topography and existing open space systems and natural constraints.
g) Streets shall not operate as through traffic routes for externally generated traffic while at the same time limiting the length of time local drivers need to spend in a low speed environment.
h) Streets shall be designed to allow on-street car parking.
i) Streets and lots shall be located so that dwelling-houses are not subjected to unacceptable traffic noise.
j) Streets shall be designed to cater for service vehicles.

Prescriptive Measures

a) Design specifications for streets shall be as follows:

Allotments	Road reserve width (metres)	Minimum carriage way width (metres)	Parking provision	Kerb type
<10	13.0*	6.0	Verge	Rollover
10 - 200	18.0	8.0	Carriage way	Rollover / Upright
200 - 400	20.0	11.0	Carriage way	Upright
> 400	20.0	13.0	Carriage way	Upright

* *May be reduced to a minimum of 10 metres where access is required on only 1 side of the road.*

1. *Cul-de-sacs shall not exceed 200 metres in length unless topographic constraints render other options impracticable.*
2. *Streets shall be designed to provide interest and variety in the streetscape through kerbs (where appropriate), landscaping and paving treatments. The street design shall be compatible with the existing road pattern in the locality.*
3. *No more than 3 turning movements at intersections shall be required in order to travel from any home to the most convenient collector street or higher order road.*
4. *The minimum spacing of staggered junctions in a local street network shall be 20 metres.*
5. *Any subdivision proposal adjoining a rear lane shall be designed so as to provide both vehicular and pedestrian access to the front street. Conversely, Council will not require the upgrading of rear lanes where vehicular and pedestrian access has been provided to the front street.*
6. *Cul-de-sacs for residential roads shall have minimum seal radii of 8.5 metres and boundary radii of 12 metres.*

1.5.6 Element 6: Pedestrians and Cyclists

Performance Criteria

a) The location of footpaths or cycle paths shall be defined using the following parameters:
   - demand for footpaths and cycle paths;
   - opportunities to link open space networks and communities including public transport, local activity centres and schools;
   - topography; and
   - cyclist and pedestrian safety, including Crime Prevention Through Environmental Design (CPTED) guidelines.

b) The alignment of footpaths shall allow safe and convenient use by pedestrians and cyclists and shall be variable enough to accommodate trees and other significant features.

c) Paths shall be designed to enable widening at certain points to allow passing facilities for pedestrians / cyclists.

d) Pedestrian and cyclist paths shall be constructed to provide a stable and attractive surface for projected users which is easily maintained.

Prescriptive Measures

a) No footpaths are required on streets with a traffic volume less than 300 vehicles per day as pedestrians can share the road surface with vehicles in a low speed environment.

b) Footpaths shall be provided on one side of streets with traffic volumes between 300 vehicles per day and 2,000 vehicles per day and on both side of streets with traffic volumes over 2,000 vehicles per day.

1.5.7 Element 7: Solar Access and Lot Orientation

Performance Criteria

a) 80% of lots in a new subdivision shall have 5 star solar access, and the remainder either 4 or 3 star.

b) Lot sizes reflect reasonable consideration of the impact of topography and aspect to maximise solar access.

c) Lots are of a suitable shape to permit the location of a dwelling house with suitable solar access and private open space (see Schedule 2 - Figure 4).

d) Design and location of transport links and access facilitate pedestrian and cyclist activity, and the use of public transport.

Prescriptive Measures

a) See Schedule 2 – Solar Access and Energy Efficiency.

1.5.8 Element 8: Stormwater Management

Performance Criteria

a) Drainage from subdivision sites shall be consistent in both water quality and quantity terms with the pre-development stormwater patterns.
b) Drainage systems shall be designed so as to ensure safety and minimise the likelihood of stormwater inundation of existing and future dwelling houses.
c) Adequate provision shall be made for measures during construction to ensure that the landform is stabilised and erosion controlled.
d) Natural drainage systems shall be incorporated into designs where possible.

Prescriptive Measures

a) Where site topography prevents discharge of stormwater directly to the street gutter or a Council controlled pipe system, inter-allotment drainage shall be provided to accept runoff from existing or future impervious areas on the subject land. The design and construction of the inter-allotment drainage system shall be in accordance with the requirements of 'Australian Rainfall and Runoff (1987)'.
b) Stormwater shall drain by gravity to Council's system which may require inter-allotment drainage. Easements having a minimum width of 2.0 metres are to be identified on submitted plans.
c) Proposals may require the creation of easements over downstream properties for drainage purposes. In this circumstance, a letter of consent from the owner/s of the downstream properties shall be submitted with the Development Application.
d) For subdivision proposals comprising 5 lots or more or where Council deems it necessary, a soil and water management plan (SWMP) shall be prepared by a suitably qualified professional with the aim of minimising erosion and maximising the quality of any water leaving the site. The contents of a SWMP should be modelled on the information in Schedule 1.

1.5.9 Element 9: Utility Services

Performance Criteria

a) All lots created for residential purposes shall have an adequate provision of services and not result in a detrimental impact on the environment.
b) The design and provision of public utilities shall conform to the cost effective criteria of the relevant servicing authority.
c) Compatible public utility services shall be located in common trenches so as to minimise the land required, soil erosion and the cost of providing the services.
d) Adequate buffers should be maintained between utilities and houses to protect residential amenity and health.

Prescriptive Measures

a) Provision of written evidence of compliance with the requirements of all relevant service authorities prior to release of construction certificate or subdivision certificate, as may be appropriate.
b) Underground power to be provided to all lots.

1.6 SPECIFIC REQUIREMENTS FOR R5 LARGE LOT RESIDENTIAL SUBDIVISION

1.6.1 Element 1: Lot Size and Shape

Performance Criteria

a) Lots shall have an appropriate area and dimensions for the siting and construction of a dwelling house and ancillary outbuildings, the provision of private outdoor space and convenient vehicle access and parking.
b) To provide usable areas, lot sizes shall be increased where sites are steep or contain significant landscape features including watercourses and easements.
c) Lot sizes and dimensions shall enable dwelling houses to be sited to:
   - protect natural and cultural features;
   - acknowledge site constraints including soil erosion and bushfire risk; and
   - retain special features such as trees and views.
d) Lots shall be configured to account for significant natural landscape elements or constraints and be designed to minimise environmental impact.

Prescriptive Measures

a) The minimum lot size is the minimum area shown on the Lot Size Map, as per CLEP, Clause 4.1 – Minimum subdivision lot size.
b) Lots shall accommodate a suitable building envelope with a minimum dimension of 20 metres. Building envelopes shall be located a minimum of 4.0 metres from significant trees and other significant vegetation or landscape features. Building envelopes shall include the area for the siting of the dwelling-house, outbuildings, landscaping and on-site effluent treatment and disposal areas (if required and permitted).
c) The design of the subdivision shall take into account any significant natural features on the site and these shall be retained.
d) Vegetation which adds to the visual amenity of the locality and / or which is environmentally significant shall be preserved in the design of the subdivision proposal.
e) The width to depth ratio of allotments shall not exceed 1:4. If lots are too elongated, land uses may be restricted (e.g. the shape of long lots may preclude the establishment of dams).

1.6.2 Element 2: Agriculture

Performance Criteria

a) Buffers shall be provided to existing development on adjoining agricultural properties.
b) The agricultural potential of the land shall not be diminished as a result of a subdivision proposal.

Prescriptive Measures

a) Compliance with *Part C: General Guidelines, Chapter 4: Land Use Conflict & Buffer Zones*.
b) Subdivision of land that is classified as 'prime agricultural land' (classes 1, 2 or 3) may require referral to and comment from NSW Industry and Investment (Agriculture). Any prime agricultural land occurring on the subject land is to be identified on the plans submitted.
c) Subdivision proposals are not to negatively impact upon sustainable agricultural activities.

1.6.3 Element 3: Effluent Disposal

Performance Criteria

a) Effluent and waste water shall be disposed of in a manner which is consistent with the land capability of the property.
b) Effluent and waste water shall be disposed of in a manner that will not cause unhealthy or unsanitary conditions.
c) Where sewer is not available, all effluent shall be retained and disposed of on-site. No pump-out systems will be permitted.
d) No adverse impact is to be caused to the environment generally.

Prescriptive Measures

a) An effluent disposal / geotechnical report may be required depending upon site requirements and constraints. Some assessment of the proposed lots will be required to be submitted with the application to identify basic site constraints and identify any areas considered suitable for effluent disposal. The NSW State Government's 'Environmental & Health Protection Guidelines – On-site Sewage Management for Single Households' (February 1998) should be used as a guide to this assessment.
b) Council may require submission of a geotechnical investigation report in certain cases, depending upon soil conditions, number of lots proposed, size of allotments and the like.
c) Disposal of effluent shall not create a health nuisance or pollution particularly in relation to nutrients infiltrating into bushland and / or watercourses.
d) Where reticulated sewer is not available, effluent will be contained, treated and disposed of totally on the subject site. The disposal of effluent utilising pump-outs for new lots is unacceptable.
e) For subdivisions proposing to create 5 or more allotments of 2.0 hectares or below in size, or where any boundary of the proposed subdivision is within 2.0 kilometres of an existing sewage reticulation system, Council may require the provision of a reticulated sewerage treatment system. The only circumstances where this standard should be varied is on sites already substantially cleared of native vegetation, where soils are highly suitable for effluent disposal and where they are not located near a watercourse, wetland or other environmentally sensitive area. In these cases, a detailed investigation into the disposal of effluent on-site, including any long-term and / or cumulative effects will be required. Such investigation shall be generally in accordance with the requirements of the NSW State Government's 'Environment & Health Protection Guidelines – On-site Sewage Management for Single Households' (February 1998).
f) Any disposal system within 40 metres of a watercourse is 'Integrated Development' under the provisions of the *Environmental Planning & Assessment Act 1979*.

1.6.4 Element 4: Flora and Fauna

Performance Criteria

a) Vegetation cover shall be retained wherever practicable as it acts to stabilise soils, minimise runoff, acts as a pollutant trap along watercourses and is important as a habitat for native fauna.
b) Vegetation shall be retained where it forms a link to other bushland areas, buffer zones, wildlife corridors and the like.
c) Allowance for the movement of fauna species on sites shall be maximised to maintain biological diversity.

d) Subdivision proposals shall be designed to minimise disturbance to existing vegetation.
e) Vegetation which is scenically and environmentally significant shall be retained.
f) Vegetation which adds to the soil stability of the land shall be retained.
g) Subdivision proposals shall be designed so as to minimise fragmentation of bushland.
h) Opportunities for revegetation will be pursued as part of the subdivision process as a trade off for site development and as a means of value adding to the environment. In particular, revegetation of any existing creeks, streams and drainage lines, or repair and revegetation of eroded or otherwise degraded areas shall be considered. Variations to density and lot size may be considered by Council in these instances, where significant environmental benefit can be demonstrated.

Prescriptive Measures

a) See *Part C: General Guidelines, Chapter 2: Flora and Fauna Survey Guidelines*.
b) Under-scrubbing is not to be undertaken without consent from Council.
c) Degraded areas are to be rehabilitated as part of the subdivision.
d) Watercourses and drainage lines to be retained as part of the subdivision scheme are to be stabilised and revegetated with appropriate native species.
e) Environmentally sensitive areas are to be preserved and enhanced with appropriate native vegetation where necessary.

1.6.5 Element 5: Hazards

Performance Criteria

a) Subdivision proposals shall be designed so as to enable separation between future dwellings and potential bushfire fronts.
b) Subdivision of flood prone land shall not result in increased risk to life or property both on the subject land and adjoining lands.
c) Subdivision of land that has been identified as being prone to landslip shall not increase the risk to life or property on the subject land or adjoining lands.
d) Subdivision proposals will be designed to take account of any known contamination of the site, and remediation works undertaken if required.
e) No adverse impacts on surrounding lands shall occur as a result of the subdivision proceeding.

Prescriptive Measures

a) Where a subdivision proposal is located on bushfire prone land the applicant shall comply with the NSW Rural Fire Services' document ‘Planning for Bushfire Protection 2006’ and Council’s Bushfire Management Plan. In general, Council will not favourably consider subdivision of heavily vegetated land in bushfire prone areas where the subdivision will require subsequent clearing of vegetation to meet required radiation zones, access requirements and the like.
b) In accordance with the requirements of the abovementioned documents, details shall be provided regarding the dimensions of the fire protection zone and arrangements and maintenance for access for bushfire fighting vehicles. Two separate points of access may be required in some circumstances.
c) Where a subdivision proposal is on land identified as being potentially subject to landslip, the applicant shall engage a geotechnical consultant to prepare a report on the viability of subdividing the land and if viable, provide recommendations as to the siting and the type of buildings and waste water treatment systems which could be permitted on the subject land.
d) Compliance with *Part C: General Guidelines, Chapter 3: Contaminated Lands*.

1.6.6 Element 6: Heritage

Performance Criteria

a) Heritage items and their curtilage shall be retained.
b) Subdivision shall be sympathetically designed to minimise the impact on heritage items of the subject land or adjoining lands.
c) Subdivisions shall be sympathetically designed to ensure that the existing heritage value of the streetscape and character of the area is maintained.
d) Adequate curtilage is to be provided around heritage items to provide an appropriate buffer.
e) Where a heritage item is in a state of disrepair, Council may negotiate its restoration as part of the subdivision proposal, having regard to both the need for a viable subdivision, and the desirability of maintaining heritage items for future generations.

Prescriptive Measures

a) See CLEP, Clause 5.10 – Heritage conservation.
b) A subdivision proposal on land which contains, or is adjacent to, an item listed in CLEP, Schedule 5: Environmental Heritage, shall illustrate the means proposed to preserve and protect such items. In this respect a conservation plan, detailing how the item would be restored, shall accompany the application.

1.6.7 Element 7: Roads and Access

Performance Criteria

a) Existing roads shall be upgraded where necessary to accommodate increased traffic arising from new subdivisions.
b) The impact of new road or accessway works on adjoining residents shall be minimised.
c) Road and accessway construction shall take account of existing topography and vegetation. Cut and fill shall be minimised and vegetation retained wherever practicable.

Prescriptive Measures

a) See Council's 'Engineering Standards for Development'. Access crossing requirements, pavement widths and depths and similar requirements are contained in this document.
b) Design details may be required during development application assessment.
c) A maximum of two rural lots may gain access from a 'right of carriage-way'.

1.6.8 Element 8: Soil and Water Management

Performance Criteria

a) Best management practices shall be implemented to control runoff and soil erosion and to trap sediment on the subject land to ensure there is no net impact on downstream water quality. The quality of runoff water from the subject land shall be the same or better than the quality of water prior to the subdivision taking place.
b) Where possible, incorporate natural features into a natural drainage system for the site.
c) Where possible, design multiple use drainage and treatment systems incorporating gross pollutant traps, constructed wetlands and detention basins.

d) The subdivision shall be designed so as to minimise disturbance of the subject land especially in circumstances where there are topographical constraints.
e) Drainage from proposed lots shall be consistent with the pre-development stormwater patterns.

Prescriptive Measures

a) Depending upon the scale, location and nature of the subdivision proposal, a Soil and Water Management Plan (SWMP) may be required to be prepared by suitably qualified persons. This is most likely where any construction works are required as part of the subdivision. Early consultation with Council officers will confirm whether a SWMP is required. The plan shall detail best management practices in regard to soil conservation and pollution control measures to be installed prior to clearing and earthworks and maintained until revegetation measures are complete. The contents of a SWMP are shown in Schedule 1.
b) In subdivision proposals where clearing is minimal and earthworks are limited a SWMP may not be required. Compliance with Council's 'Engineering Standards for Development' will be required.

1.6.9 Element 9: Stormwater Management and Drainage

Performance Criteria

a) Stormwater runoff from construction of subdivisions and from development resulting from subdivision is to be adequately detained on site.
b) Water quality in watercourses near subdivisions is to be protected by way of appropriate structures and / or filter mechanisms.

Prescriptive Measures

a) See Council's 'Engineering Requirements for Development'.

1.6.10 Element 10: Utility Services

Performance Criteria

a) All lots created shall have an adequate provision of utility services and not result in a detrimental impact on the environment.
b) The design and provision of public utilities shall conform to the cost effective criteria of the relevant servicing authority.
c) Compatible public utility services shall be located in common trenches so as to minimise the land required, soil erosion and the cost of providing the services.
d) Adequate buffers shall be maintained between utilities and houses to protect amenity and health.
e) The provision of utility services shall not detrimentally impact on the landscape character of an area, or detrimentally impact vegetation corridors.

Prescriptive Measures

a) Adequate water supplies for both domestic and fire fighting purposes must be available.
b) Electricity shall be provided to all lots, except for those considered by Council to be 'remote', where the requirement may be waived and a covenant placed on the title of the land where possible.

c) Where available, reticulated sewage disposal systems will be required (see Element 3: Effluent Disposal).

1.6.11 Element 11: Visual Amenity

Performance Criteria

a) Subdivision proposals shall be designed so that subsequent development will have minimal impact on significant views and vistas.
b) Subdivisions shall be designed to compliment the landscape rather than altering the landscape to suit a subdivision layout.
c) A subdivision proposal shall be compatible with the cultural and landscape characteristics of the locality or region.

Prescriptive Measures

a) Building envelopes, accessways and roads shall avoid ridge tops and steep slopes.
b) Subdivision of escarpments, ridges, and other visually interesting places shall be managed in such a way that the visual impact rising from development on newly created allotments is minimal.
c) Subdivisions shall be designed so that, when subsequently developed, visually significant vegetation, such as that found on ridge tops and other visually prominent locations will be retained.
d) Proposals to subdivide visually sensitive or prominent areas will require the submission of a visual impact assessment report.

1.7 SPECIFIC REQUIREMENTS FOR R2 & R3 RESIDENTIAL SUBDIVISION

1.7.1 Element 1: Lot Size and Shape

Performance Criteria

a) Lots shall have an appropriate area and dimensions for the siting and construction of a dwelling-house and ancillary outbuildings, the provision of private outdoor space and convenient vehicle access and parking.
b) To provide usable areas, lot sizes shall be increased where sites are steep or contain significant landscape features including watercourses and easements.
c) Lot sizes and dimensions shall enable dwelling-houses to be sited to:
   - protect natural and cultural features;
   - acknowledge site constraints including soil erosion and bushfire risk; and
   - retain special features such as trees and views.
d) Lot sizes shall meet with the projected requirements of people with different housing needs and provide housing diversity and choice.
e) Lot sizes and configurations shall be varied to provide a mix of allotment types which create pleasant streetscapes and encourage a variety of housing types.
f) Lots shall be configured to account for significant natural landscape elements or constraints and be designed to minimise environmental impact.

Prescriptive Measures

a) The minimum lot size is the minimum area shown on the Lot Size Map, as per CLEP, Clause 4.1 – Minimum subdivision lot size.
b) Allotments shall have a minimum width of 18 metres at the building line.

c) An allotment shall not be less than 20 metres in depth to ensure there is some flexibility in the choice of housing design and siting as well as the availability of suitable space for other activities normally associated with a dwelling-house.
d) The dimensions for accessways (handles) for battle-axe shaped allotments are as follows:

Maximum Length	60 metres
Minimum Width	3.5 metres
Minimum width of shared access corridor	5.0 metres

e) No more than 5 allotments shall be served by an accessway.
f) Vegetation which adds significantly to the visual amenity of a locality and / or which is environmentally significant or of habitat value shall be conserved in the design of the subdivision proposal.
g) Lots shall be designed to allow the construction of a dwelling-house with a maximum cut or fill of 1.0 metre from the natural ground level (ie. the dwelling-house shall be designed to conform to the existing topography).

1.7.2 Element 2: Accessway (handle) Design

Performance Criteria

a) Accessways (handle) shall provide safe and efficient entry / exit to individual lots.
b) Accessways (handles) shall be landscaped and treated so as to reduce the visual and environmental impact of hard paved areas.
c) Accessways (handles) shall minimise the impact on the amenity of the existing and future dwelling-houses.

Prescriptive Measures

a) Accessways (handles) shall have a minimum sealed width of 3.0 metres.
b) Accessways (handles) shall not serve more than 5 lots.
c) Accessways (handles) shall have a maximum grade of 25% (1:4) at any point.
d) The following standards apply to lots with battle-axe handles:

Allotments	**Minimum width of battle-axe handle (metres)**
1	3.5
2	5.0
3 - 5	2.0 per lot

e) Accessways (handles) shall be sited away from noise and visually sensitive components of existing and future dwelling-houses.
f) Where possible accessways (handles) shall be located on the south side of existing and future dwelling-houses.
g) Accessways (handles) shall provide interest and variety and avoid lengthy straight sections.
h) Where the site is steep or fronts a local collector or higher order road (greater than 3,000 vehicles per day) or a highly pedestrianised area, accessways (handles) shall be designed so that vehicles can be driven both onto and off the property in a forward direction.
i) Where vehicles would otherwise have to reverse more than 50 metres, a turning area shall be provided to enable the vehicles to enter and leave the site in a forward direction and reduce the need to reverse over long distances.

1.7.3 Element 3: Heritage

Performance Criteria

a) Heritage items shall be retained.
b) Subdivision shall be sympathetically designed to minimise the impact on heritage items of the subject land or adjoining lands.
c) Subdivisions shall be sympathetically designed to ensure that the existing heritage value of the streetscape and character of the area is maintained.

Prescriptive Measures

a) See CLEP, Clause 5.10 – Heritage conservation.
b) A subdivision proposal on land which contains, or is adjacent to, an item listed in CLEP, Schedule 5: Environmental Heritage, shall illustrate the means proposed to preserve and protect such items. In this respect a conservation plan, detailing how the item would be restored, shall accompany the application.

1.7.4 Element 4: Local Street Design

Performance Criteria

a) Street widths shall reflect the role and function of the street in the road hierarchy and traffic generation.
b) Junctions along residential streets shall be spaced to create safe and convenient vehicle movements.
c) The street network shall create a convenient route for residents between their home and higher order roads.
d) The street network shall facilitate walking and cycling within the neighbourhood and to local activity centres.
e) The street network shall be orientated where practical, to promote efficient solar access for dwelling houses.
f) The street network shall take into account existing topography and existing open space systems and natural constraints.
g) Streets shall not operate as through traffic routes for externally generated traffic while at the same time limiting the length of time local drivers need to spend in a low speed environment.
h) Streets shall be designed to allow on-street car parking.
i) Streets and lots shall be located so that dwelling-houses are not subjected to unacceptable traffic noise.
j) Streets shall be designed to cater for service vehicles.

Prescriptive Measures

a) Design specifications for streets shall be as follows:

Allotments	Road reserve width (metres)	Minimum carriage way width (metres)	Parking provision	Kerb type
<10	13.0*	6.0	Verge	Rollover
10 - 200	18.0	8.0	Carriage way	Rollover / Upright
200 - 400	20.0	11.0	Carriage way	Upright
> 400	20.0	13.0	Carriage way	Upright

* *May be reduced to a minimum of 10 metres where access is required on only 1 side of the road.*

1. *Cul-de-sacs shall not exceed 200 metres in length unless topographic constraints render other options impracticable.*
2. *Streets shall be designed to provide interest and variety in the streetscape through kerbs (where appropriate), landscaping and paving treatments. The street design shall be compatible with the existing road pattern in the locality.*
3. *No more than 3 turning movements at intersections shall be required in order to travel from any home to the most convenient collector street or higher order road.*
4. *The minimum spacing of staggered junctions in a local street network shall be 20 metres.*
5. *Any subdivision proposal adjoining a rear lane shall be designed so as to provide both vehicular and pedestrian access to the front street. Conversely, Council will not require the upgrading of rear lanes where vehicular and pedestrian access has been provided to the front street.*
6. *Cul-de-sacs for residential roads shall have minimum seal radii of 8.5 metres and boundary radii of 12 metres.*

1.7.5 Element 5: Pedestrians and Cyclists

Performance Criteria

a) The location of footpaths or cycle paths shall be defined using the following parameters:
   - demand for footpaths and cycle paths;
   - opportunities to link open space networks and communities including public transport, local activity centres and schools;
   - topography;
   - cyclist and pedestrian safety, including Crime Prevention Through Environmental Design (CPTED) guidelines.

b) The alignment of footpaths shall allow safe and convenient use by pedestrians and cyclists and shall be variable enough to accommodate trees and other significant features.

c) Paths shall be designed to enable widening at certain points to allow passing facilities for pedestrians / cyclists.

d) Pedestrian and cyclist paths shall be constructed to provide a stable and attractive surface for projected users, which is easily maintained.

Prescriptive Measures

a) No footpaths are required on streets with a traffic volume less than 300 vehicles per day as pedestrians can share the road surface with vehicles in a low speed environment.

b) Footpaths shall be provided on one side of streets with traffic volumes between 300 vehicles per day and 2,000 vehicles per day and on both side of streets with traffic volumes over 2,000 vehicles per day.

1.7.6 Element 6: Solar Access and Lot Orientation

Performance Criteria

a) 80% of lots in a new subdivision shall have 5 star solar access, and the remainder either 4 or 3 star.

b) Lot sizes reflect reasonable consideration of the impact of topography and aspect to maximise solar access.

c) Lots are of a suitable shape to permit the location of a dwelling-house with suitable solar access and private open space (see Schedule 2 - Figure 4).

d) Design and location of transport links and access facilitate pedestrian and cyclist activity, and the use of public transport.

Prescriptive Measures

a) See Schedule 2 – Solar Access and Energy Efficiency.

1.7.7 Element 7: Stormwater Management

Performance Criteria

a) Drainage from subdivision sites shall be consistent in both water quality and quantity terms with the predevelopment stormwater patterns.
b) Drainage systems shall be designed so as to ensure safety and minimise the likelihood of stormwater inundation of existing and future dwelling houses.
c) Adequate provision shall be made for measures during construction to ensure that the landform is stabilised and erosion controlled.
d) Natural drainage systems shall be incorporated into designs where possible.

Prescriptive Measures

a) Where site topography prevents discharge of stormwater directly to the street gutter or a Council controlled pipe system, inter-allotment drainage shall be provided to accept runoff from existing or future impervious areas on the subject land. The design and construction of the inter-allotment drainage system shall be in accordance with the requirements of 'Australian Rainfall and Runoff (1987)'.
b) Stormwater shall drain by gravity to Council's system which may require inter-allotment drainage. Easements having a minimum width of 2.0 metres are to be identified on submitted plans.
c) Proposals may require the creation of easements over downstream properties for drainage purposes. In this circumstance, a letter of consent from the owner/s of the downstream properties shall be submitted with the Development Application.
d) For subdivision proposals comprising 5 lots or more or where Council deems it necessary, a soil and water management plan (SWMP) shall be prepared by a suitably qualified professional with the aim of minimising erosion and maximising the quality of any water leaving the site. The contents of a SWMP shall be modelled on the information in Schedule 1.

1.7.8 Element 8: Utility Services

Performance Criteria

a) All lots created for residential purposes shall have an adequate provision of services and not result in a detrimental impact on the environment.
b) The design and provision of public utilities shall conform to the cost effective criteria of the relevant servicing authority.
c) Compatible public utility services shall be located in common trenches so as to minimise the land required, soil erosion and the cost of providing the services.
d) Adequate buffers should be maintained between utilities and houses to protect residential amenity and health.

Prescriptive Measures

a) Provision of written evidence of compliance with the requirements of all relevant service authorities prior to release of construction certificate or subdivision certificate, as may be appropriate.
b) Underground power to be provided to all lots.

1.8 SPECIFIC REQUIREMENTS FOR IN2 & IN3 INDUSTRIAL SUBDIVISION

Note: For subdivision in the IN1: General Industrial zone, applicants shall refer to the specific provisions in Cessnock Local Environmental Plan and Part E: Specific Development, Chapter 6: Hunter Employment Zone.

1.8.1 Element 1: Lot Sizes and Shapes

Performance Criteria

a) Each proposed lot shall offer a maximum utility in terms of building space and accessibility bearing in mind the requirements of modern industrial activity.

b) Council recognises that lot sizes for the different types of industrial subdivision will vary according to functional purpose. No minimum lot sizes are specified as the land area required for a particular industrial activity or activities shall reflect the most efficient and beneficial utilisation of the land involved. In considering an application for subdivision, Council will have regard to the following factors:
   - if the subdivision involves the creation of a significant number of lots then provision shall be made for a variety of lot sizes;
   - the size of lots shall provide sufficient space to accommodate the industrial operations and buildings envisaged, make allowance for possible future expansion and allow the site to function properly and efficiently in terms of development requirements. These requirements may relate to factors such as: safe ingress and egress; vehicular movement within the curtilage of the site; parking; deliveries; storage and bin areas; boundary setback requirements; and landscaped areas; and
   - the overall pattern of lot sizes in the locality and the type of industrial activity characteristic of the locality in which the subdivision is located.

Prescriptive Measures

a) The minimum width of a lot in an industrial zone shall be 30 metres at the building line. Lot widths of less than 30 metres will be considered where lots are part of an integrated industrial development

b) Battle-axe shaped allotments shall comply with the minimum width at the building line stated above. Battle-axe handles shall have a minimum width of 8.0 metres.

c) The above standards have been imposed to ensure that lots shall have dimensions which permit the safe manoeuvring of trucks within the lot, so that trucks and cars can enter and leave the lot in a forward direction.

1.8.2 Element 2: Access and Road Layout

Performance Criteria

a) Road layouts and access points shall be designed to provide for the safe and efficient movement of traffic to and from each proposed lot within the industrial areas.

b) Access from individual lots to major roads shall be minimised. The use of minor roads for such access is desirable wherever practicable.

c) Battle-axe lots may be acceptable for light and service industries which are not serviced by larger vehicles. Details such as the shape of the effective lot area, the need for truncation in the lot and the width of the access handle will be determined on a merits basis.

Prescriptive Measures

a) The following design requirements apply to roads servicing industrial lots:

Road reserve width	Carriage way width (minimum)	Footway
20 metres	13 metres	3.5 metres

b) Cul-de-sacs for industrial roads should have minimum kerb radii of 13.5 metres and boundary radii of 17.0 metres.

1.8.3 Element 3: Adjoining Development

Performance Criteria

a) Industrial land uses should be compatible with adjacent commercial and or residential areas.

Prescriptive Measures

a) The applicant may be required to indicate how the industrial land could be developed and also show the location of landscaping, building and other site planning techniques with the aim of minimising impact on adjoining commercial and or residential uses.

1.8.4 Element 4: Utility Services

Performance Criteria

a) New industrial lots shall be provided with all services including water, sewer, power, telephone and gas where appropriate.

Prescriptive Measures

a) Connection to a reticulated sewerage system is a normal requirement of an industrial subdivision. However, where a reticulated sewerage connection is not available and is not likely to be available for some time, the Council may consider Development Applications on the basis that:

- it is satisfied that the development will be limited to ‘dry industry’; and
- any application for industrial subdivision in unsewered areas is accompanied by an effluent disposal report.

b) All industrial subdivisions shall be connected to the power and water supply for the locality.

SCHEDULE 1 – SOIL AND WATER MANAGEMENT PLANS

The following matters may need to be addressed in the preparation of a Soil and Water Management Plan (SWMP).

The matters are general in nature and may not all be appropriate for different types and scales of subdivision.

- Construction of a perimeter or diversion bank to manage water movement.
- Construction of sediment traps and sediment basins and filter fences to collect sediment, nutrients and trash prior to site disturbance.
- Minimisation and prompt stabilisation of disturbed areas.
- Staggered site works (with progressive landscaping).
- Drainage control measures to control water movement and quality.
- The sowing of a cover crop on disturbed areas to minimise the time and period disturbances are exposed and to reduce erosion.
- The collection of silts and clays through flocculation where soils are known to be dispersable.
- Soil and water management measures should be designed for the 1 in 5 year storm event.
- Council shall be notified 48 hours prior to the commencement of site works so as to enable a site inspection of the control measures.
- Polluted and nutrient rich runoff from the site should not contaminate receiving waters or ground waters.
- Development of slopes greater than 20% should be avoided.
- Any development on land with slopes greater than 20% will require an evaluation of the site's stability by means of a geotechnical report. In such areas cut and fill should not exceed depths of 1.0 metre.
- A soil contamination assessment should accompany all Development Applications on properties where there is the likelihood of contamination due to past activities, such as; mining; agriculture; industry; tanneries; or where there is evidence of extensive introduced landfill. If any soil contamination is found a report shall be prepared detailing the extent and levels of contamination and any appropriate mediation measures, in accordance with Part C: General Guidelines, Chapter 3: Contaminated Lands.
- The discharge of water through adjoining lands should reflect the pre-development or natural situation. Concentration flows of unpolluted water, should be channelled to natural drainage systems or absorbed into the groundwater in an appropriate manner.
- Energy dissipaters should be used to reduce the velocity of stormwater into watercourses, foreshore areas and tidal zone.

SCHEDULE 2 – SOLAR ACCESS & ENERGY EFFICIENCY

1. LAND SUBDIVISION

This section applies to all applications for the subdivision of land with a site area of 1.0 hectare or greater, or the subdivision of land involving the development of 5 or more building allotments.

This section should also be taken into consideration when designing developments proposed for future subdivision of any kind.

1.1. Subdivision Design

Background Principles

Subdivision design is about manipulating the key variables of aspect, shape and density in combination with site characteristics such as topography and slope to achieve an optimum mix of lot sizes and energy efficiencies. It shall also promote and facilitate pedestrian activity, bicycle use and access to public transport to minimise transport energy use (see Figure 3).

A solar-efficient subdivision will ensure that the overall development is significantly more energy efficient than conventional development because once the lots are correctly aligned and proportioned, individual houses in general will perform better with comparatively less effort.

A subdivision design shall maximise and protect solar access for each dwelling-house. This is achieved by defining the lot size, shape, orientation, the solar setback line and possibly a building height envelope, which together determine the ideal location of the northern wall of a dwelling-house and the true solar north-facing windows, for any given lot. Together, these factors ensure that dwelling-houses are located on lots such that reasonable solar access is achievable.

Subdivision design: promoting and facilitating pedestrian activity, bicycle use, and access to public transport

Source: Amcord, 1995

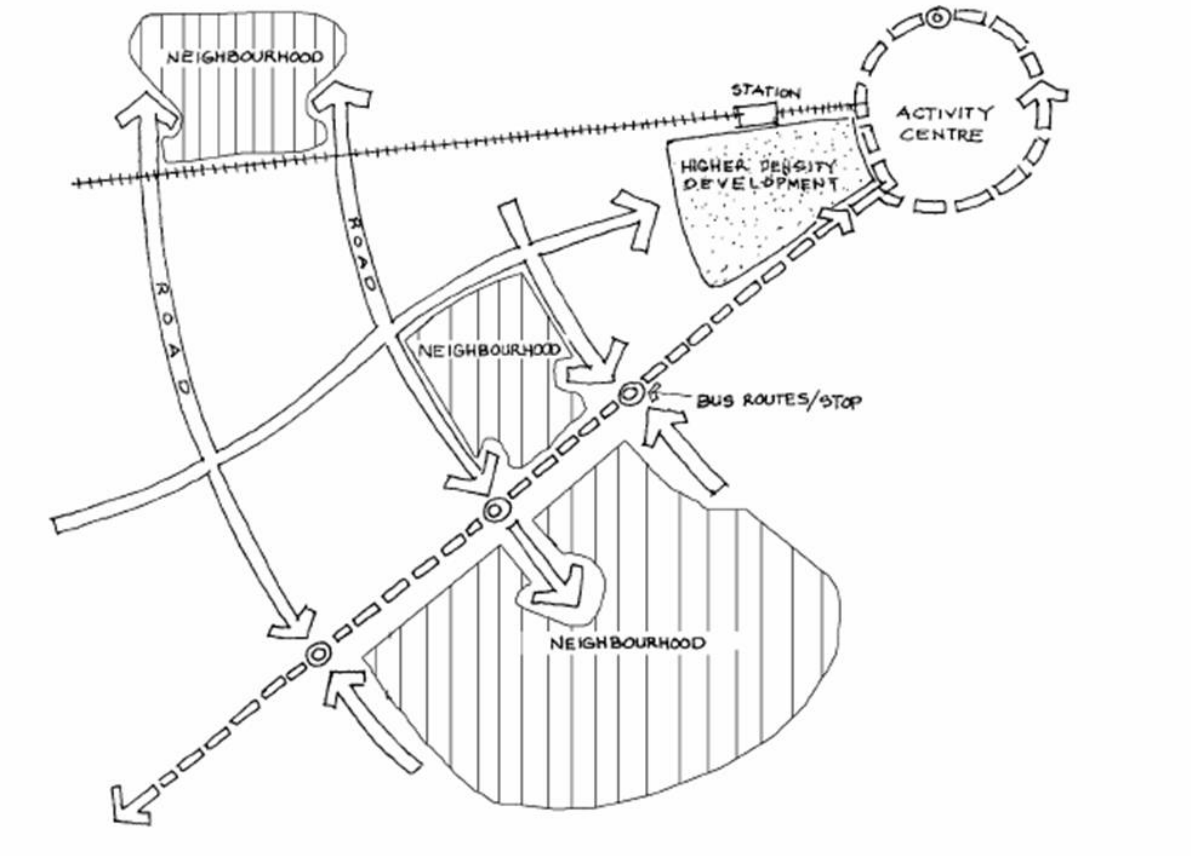


Figure 1

How to satisfy the submission requirements: Subdivision Design Intent

- To maximise the number of residential allotments which have good solar access and therefore which optimise the design performance of energy smart homes.
- To minimise reliance on private car use.

Performance criteria: The intent can be achieved where:

- 80% of lots in a new subdivision have 5 star solar access, and the remainder either 4 or 3 star.
- Lot sizes reflect reasonable consideration of the impact of topography and aspect to maximise solar access.
- Lots are of a suitable shape to permit the location of a dwelling-house with suitable solar access and private open space (see Figure 2).
- Design and location of transport links and access facilitate pedestrian and cyclist activity, and the use of public transport.

Lot shape and dwelling orientation
Source: Amcord, 1995

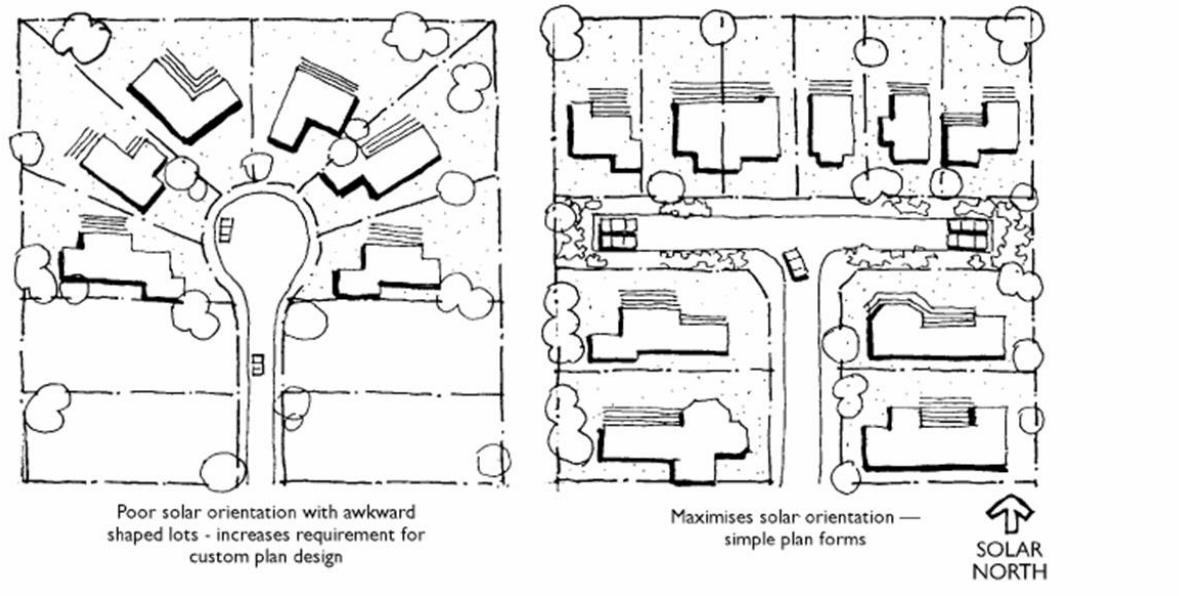


Figure 2

Possible design solutions

This section suggests possible solutions to meet the performance criteria. Adoption of any one or range of suggestions will not necessarily achieve compliance but may contribute.
Orientation and topography suitability

Lots should (ideally) be orientated so that one axis is within 30^0 east and 20^0 west of true solar north (see Figure 3).

North-facing slopes improve opportunities for solar access, with smaller lots best suited to north-facing slopes with gradients of less than 15% (less than 1:6). South-facing slopes impose a penalty on solar access and therefore larger lots / lowest densities are best suited to south-facing slopes (see Figure 4).

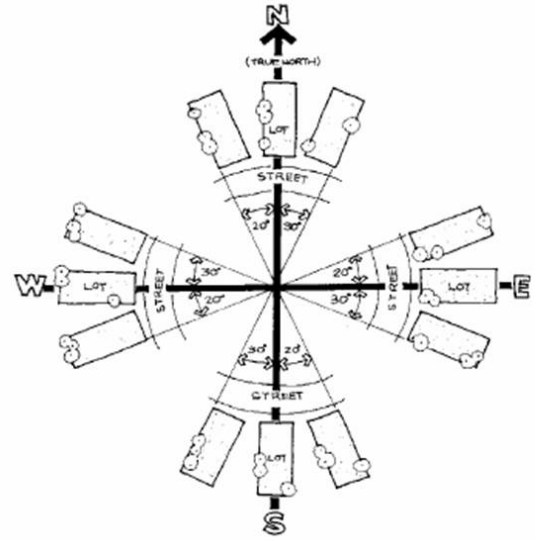
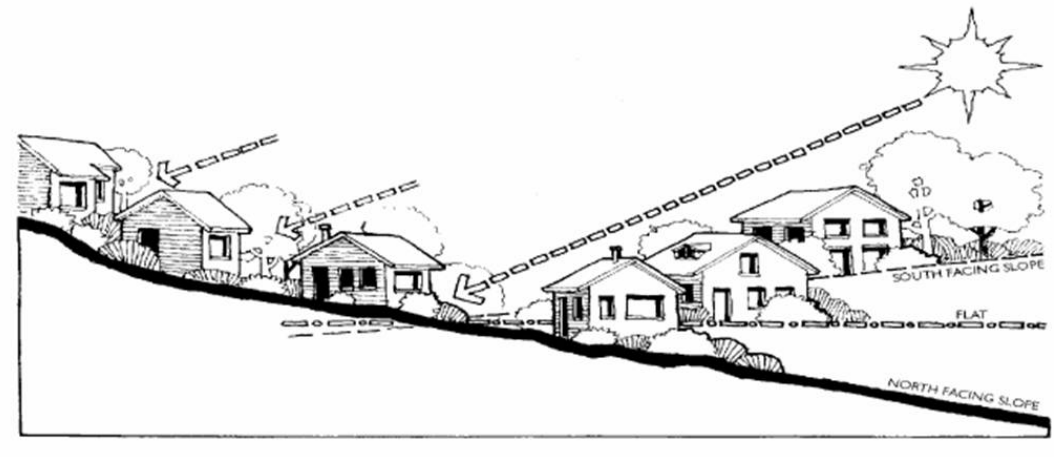


Figure 3
Preferred orientation of lots in an energy efficient subdivision.
Source: Amcord, 1995

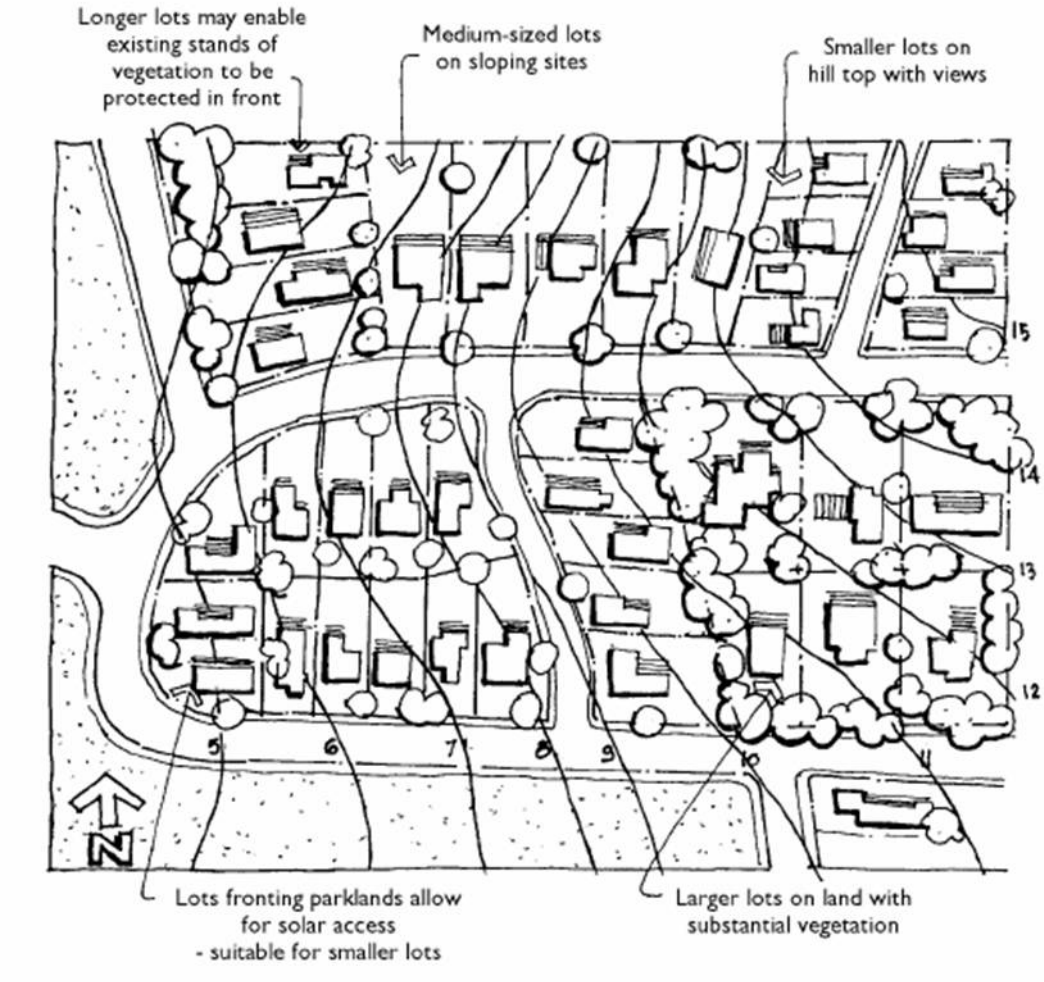
Figure 4
Slope and aspect: how the slope and aspect of a lot affects shadowing and dwelling density.
Source: Amcord 1995



Lot size and shape

- Sloping sites are suitable for medium to large lots only (see Figure 5).
- Lots < 350m² are located on land with less than 10% (1:10) slope across the frontage.
- Lots > 450m² are capable of containing a building platform rectangle measuring 10 metres x 15 metres (see Figure 5).
- Lots 300m² to 450m² are capable of holding a building platform of 9.0 metres x 15 metres where the major axis of the block is between 30^0 east and 20^0 west of true solar north.
- Lots of <300m^2 approximate square or rectangular shapes.
- Where lots do not comply with orientation, a building platform 9.0 metres x 15 metres is available with the orientation within 30^0 east and 20^0 west of true solar north.

Figure 5
Lot size, slope and aspect



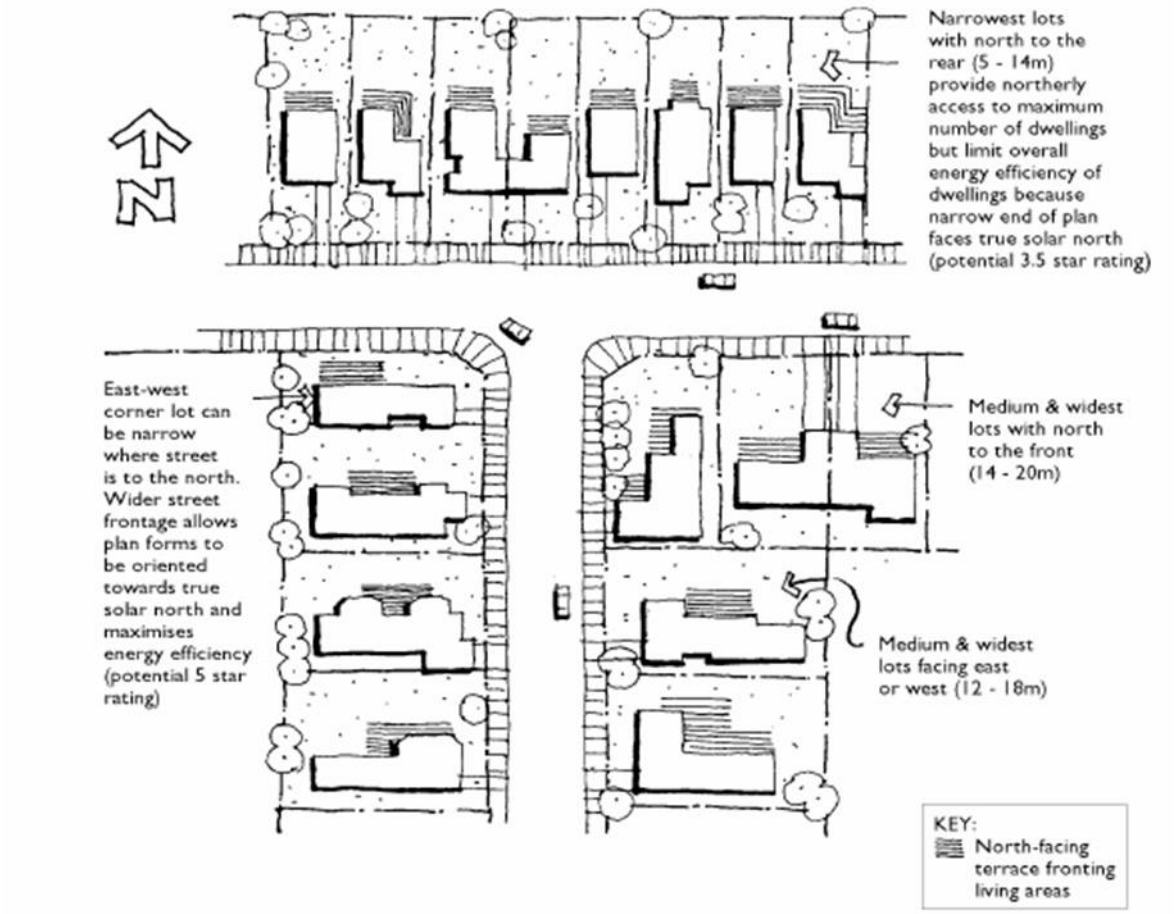
Access

- Footpaths are designed to access public transport routes.
- Subdivision design includes: clearly marked bicycle network; marked kerbside bike lanes; dedicated cycleways; and links to regional cycleways.
- Pedestrian and cyclist routes shall be designed in accordance with Crime Prevention through Environmental Design (CPTED) guidelines.

Setbacks

- Variable setbacks and zero lot lines are a means of maximising solar opportunity, especially with small or narrow lots. Setbacks are manipulated to maximise solar access for all lots (see Figures 6 & 8).

Figure 6
Lot width, orientation and street frontage



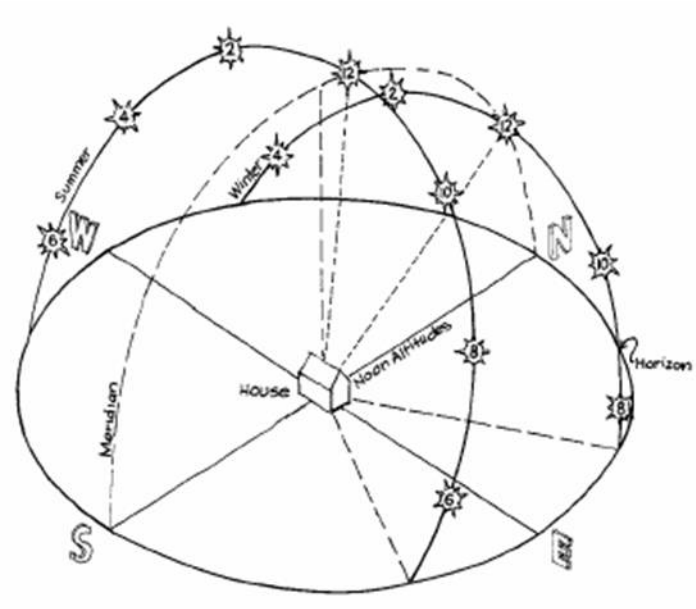
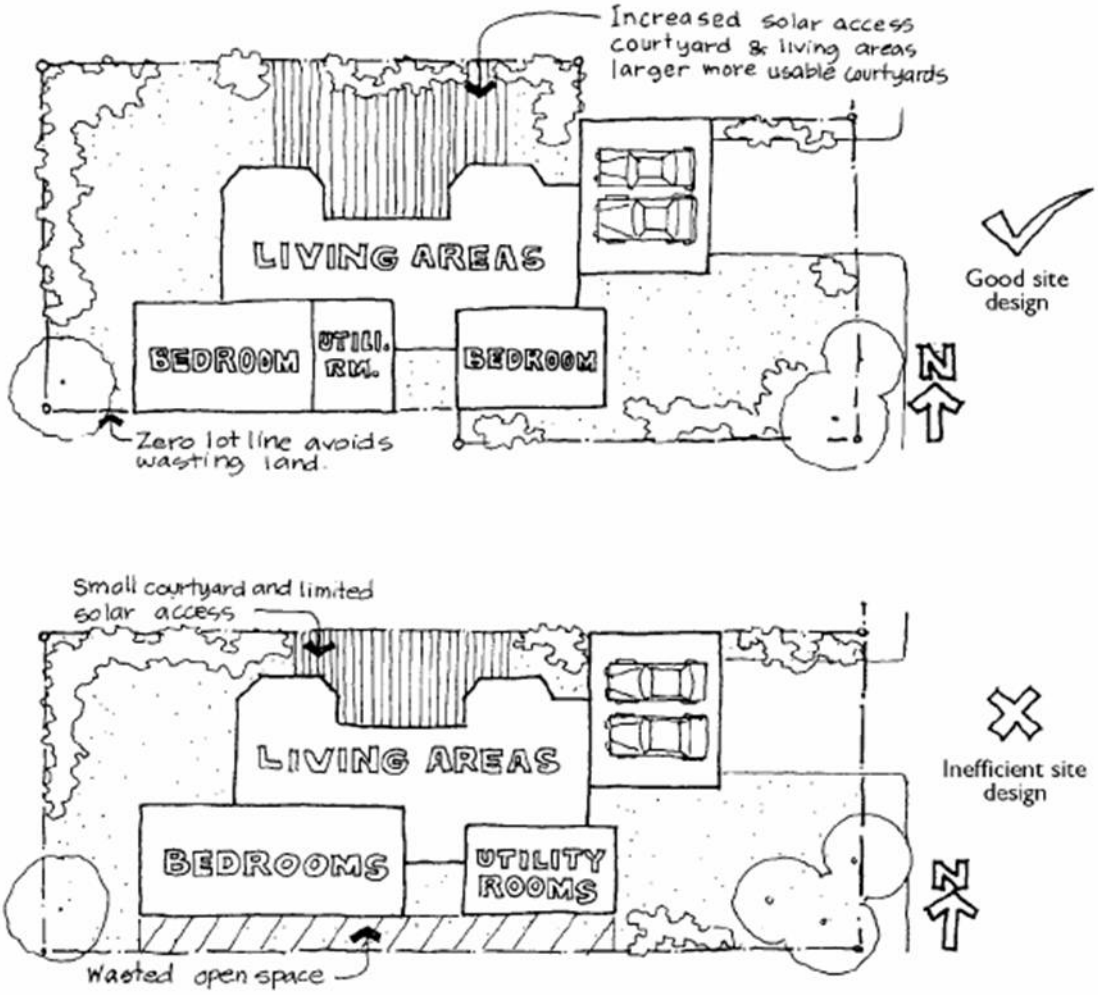


Figure 7
Variations in the suns path during the year

Figure 8
Variable setbacks and solar access



1.2 URBAN DESIGN AND LANDSCAPING

Background Principles

Streets and public spaces in a subdivision can be designed to contribute to solar efficiency, chiefly through the selection and location of trees.

In temperate climates such as most parts of New South Wales, deciduous trees can make the greatest shade in summer and allow sunlight to penetrate in winter.

Where evergreen indigenous trees would create unwanted shadows, deciduous trees will contribute towards pedestrian comfort, and avoid overshadowing. Trees can also be used as wind breaks, and many evergreen species are ideal for this purpose provided that the potential conflicts between evergreen species and solar access are properly managed.

Note: There are potential conflicts between the principles of ESD, biodiversity and the use of non-indigenous deciduous trees which also require managing of leaf drop issues.

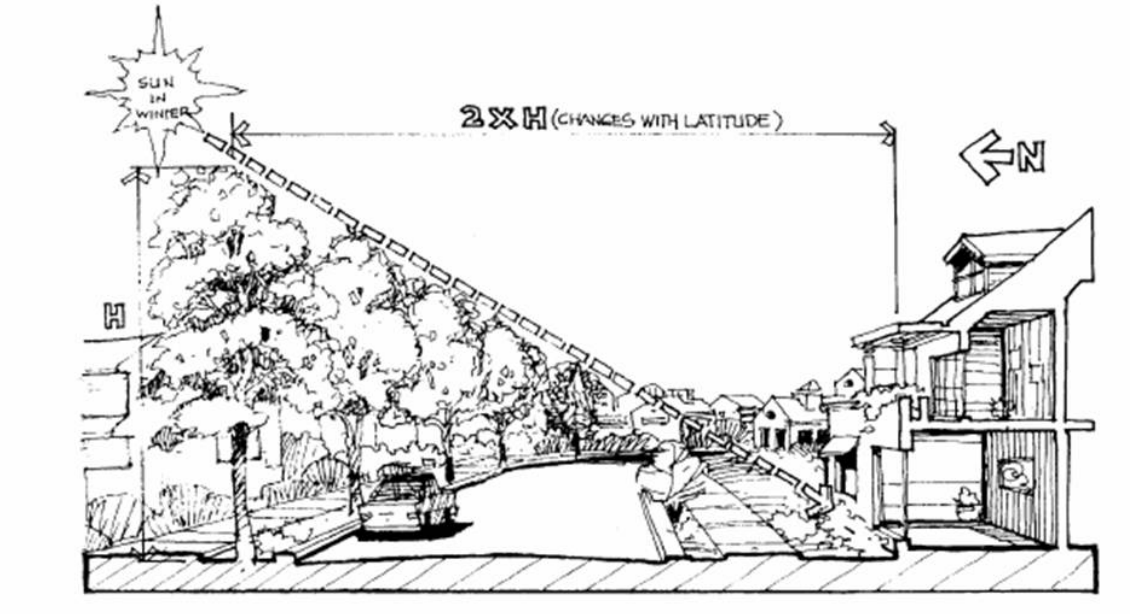
How to satisfy the submission requirements: Urban Design and landscaping Intent

- To ensure that streetscape components do not detrimentally affect solar access to individual dwelling-houses.

Performance criteria: The intent can be achieved where:

- Street tree species are selected to provide summer shading while not impeding solar access to dwelling-houses in winter.
- Trees are planted or retained so as not to impede solar access to dwelling-houses.
- Streetscapes contribute as winter windbreaks.

Figure 9
Streetscapes: basic principles for tree planting for selective shading, summer and winter
Source: Amcord 1995



Possible Design Solutions

This section suggests possible solutions to meet the performance criteria. Adoption of any one or range of suggestions will not necessarily achieve compliance, but may contribute.

- Select deciduous trees for solar efficiency where shadows may impact on housing.
- Plant taller tree species on the northern side of east-west aligned streets and shorter species on the southern side.
- Select plantings with low maintenance and low water consumption. (Consider leaf drop as a maintenance item from an ESD point-of-view).
- Retain existing vegetation in the master plan to minimise solar obstruction to dwelling-houses.
- Select evergreen species for windbreaks and plant them along the southern or western side of the area being protected against the wind.
- Ideally, select indigenous species that preserve the solar access of adjoining properties.

SCHEDULE 3 – GRETA (ILLALONG), MULBRING (SOUTH) & ABERMAIN (NORTH)

This schedule applies to land zoned R5: Large Lot Residential under the Cessnock Local Environmental Plan at Greta (Illalong) (Figure 1), Mulbring (South) (Figure 2) and Abermain (North) (Figure 3).

1. SUBDIVISION DESIGN

Lot Configuration

Lot configuration shall be consistent with the Development Principles Plan (Figures 1 - 3). In the case where there is justification for variation from this plan, such a variation will be considered where the principles of the Control Plan are followed and adjoining landowners are not disadvantaged.

Planning Principle:

Development, particularly subdivision design, shall provide a mix of lot sizes where possible in order to avoid monotonous layouts and to provide a range of housing opportunities.

General Standards:

(a) Varied sizes and dimensions of lots shall be designed, particularly in subdivisions creating more than 2 lots.
(b) New lots and vehicular access points shall be designed to ensure that the siting of dwelling houses (or other traffic generating development) does not create:

- multiple access points to a through road;
- the visual appearance of multiple buildings fronting a through road; and,
- a hazard to traffic or pedestrian safety.

Access

Planning Principle:

Road and accessways within the development site shall be sited and designed to be efficient and practical with regard to expected traffic volumes while maintaining the rural character and minimising any environmental impact.

Road Hierarchy:

Greta (Illalong):

Access into Illalong is via Tuckers Lane to the east, which connects directly to Main Road 220, Camp Road to the south and Mansfield Street into Greta in the north. Mansfield Street is the main through link and primary distributor. The other roads form a relatively tight grid on both sides of Mansfield Street. Figure 1 shows the determined internal road layout and lot configuration for the R5: Large Lot Residential area.

Mulbring (South):

The land in Figure 2 fronts Main Road 220, giving quick access to both Cessnock and Kurri Kurri. The primary distributors for the area are Palmer Street and Child Street. Main Road 597 runs from the north east corner of Figure 2 to Buchanan. Figure 2 shows the determined internal road layout and lot configuration for the R5: Large Lot Residential zone.

Abermain (North):

The main through distributor road is Frame Drive and it should be considered the primary road of the area. This road bisects the area covered directly by this plan and links the area directly with the more built-up part of Abermain. From here, Frame Drive connects with Main Road 218 (Maitland Road), the arterial road linking Cessnock and Kurri Kurri. The area is bounded by Bathurst Street on the west, Church Street on the east and Gingers Lane on the north. Lismore Street links Frame Drive to Bathurst Street on the south. Figure 3 shows the determined internal road layout and lot configuration for the R5: Large Lot Residential area.

Temporary Road Access

All allotments shall have permanent public road access constructed to Council's standards. Council may, however, permit temporary road access to a land locked parcel where no other public road access is available at the time of approval. This temporary access shall be constructed in accordance with Council's requirements with standards depending on the level of traffic generation.

The creation of a temporary road will be in accordance with Section 9 *Roads Act 1993*. In the case of the Illalong area it is unlikely temporary road access will be required given the existing road network.

General Standards:

For subdivisions involving the construction of new roads or accessways, a plan shall be developed to illustrate a circulation system which:

(a) relates to the number of lots and expected number of dwelling-houses to be serviced;
(b) minimises impact on the rural landscape and environment through clearing, civil engineering works, or disturbance to natural features;
(c) identifies the role of any accessways in terms of the road hierarchy and the existing grid layout;
(d) employs construction specifications that are sympathetic to the natural site features;
(e) permits flood-free access to each lot; and
(f) permits pedestrian, equestrian and cycle access with minimal conflict with vehicles.

In determining the standard for road construction reference should be made to Council's 'Engineering Requirements for Development' which covers matters of road standards and drainage, and erosion control measures relating to roadworks.

2. SITING OF BUILDINGS

Views

Planning Principles:

a) development shall retain distant, local and internal views; and
b) dwelling houses shall be screened from the noise and visual intrusion of main roads.

General Standards:

Development shall be sited to enhance rural outlooks by:

a) siting buildings to maximise distant and local rural views from both indoor and outdoor living areas; and
b) siting buildings to limit views into adjoining lots or adjoining unattractive or restricted views.

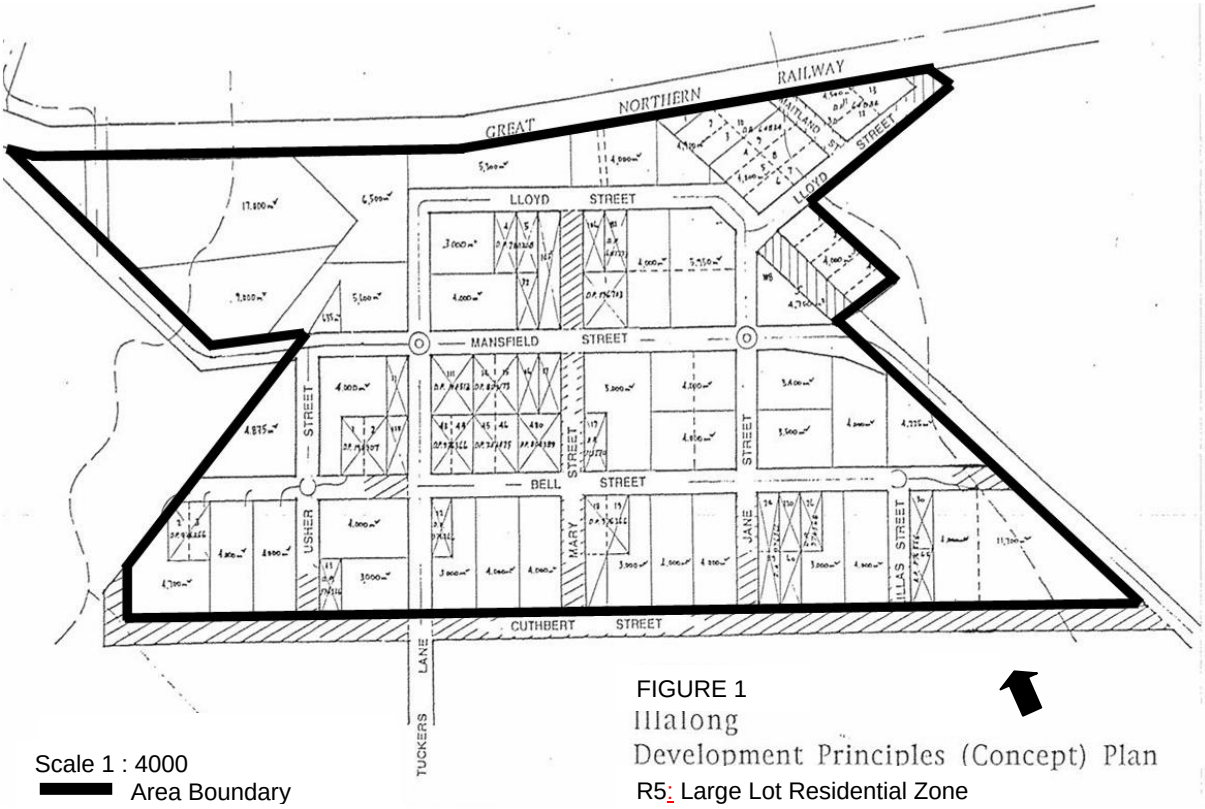


FIGURE 1
Illalong
Development Principles (Concept) Plan
R5: Large Lot Residential Zone

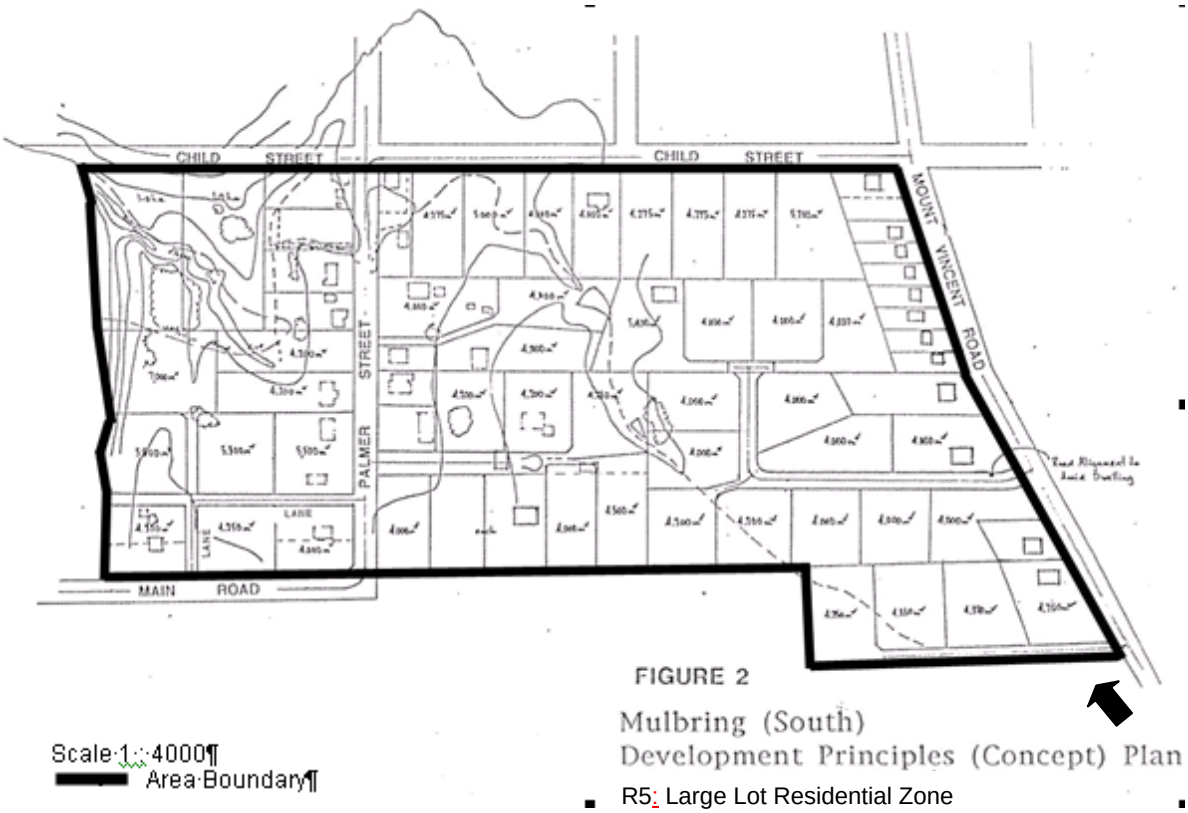
Slope

The land in Figure 1 is classified as having a 1%-5% slope in the Land Resources Study of the City of Greater Cessnock (Hunt, 1982). The major portion is categorised as footslope (B3) with a minor area of drainage plain (B5) in the south-east along the creek line. The land does not have a significant mass movement hazard. It has no significant limitations to residential development.

Soil

The land in Figure 1 is classified as being composed of Greta Red Podzolic soil (RPga). This soil type is of low to moderate erosion hazard and has no significant limitations to residential development.

Most of the land is defined as having moderate sheet erosion of 10% to 20% of bare ground (Class 22). Along the creek line in the south-east portion of the subject land, there is minor gully erosion of less than 1.5 metres in depth (Class 51). Consequently, in some locations erosion and sediment control measures will be necessary.



Slope

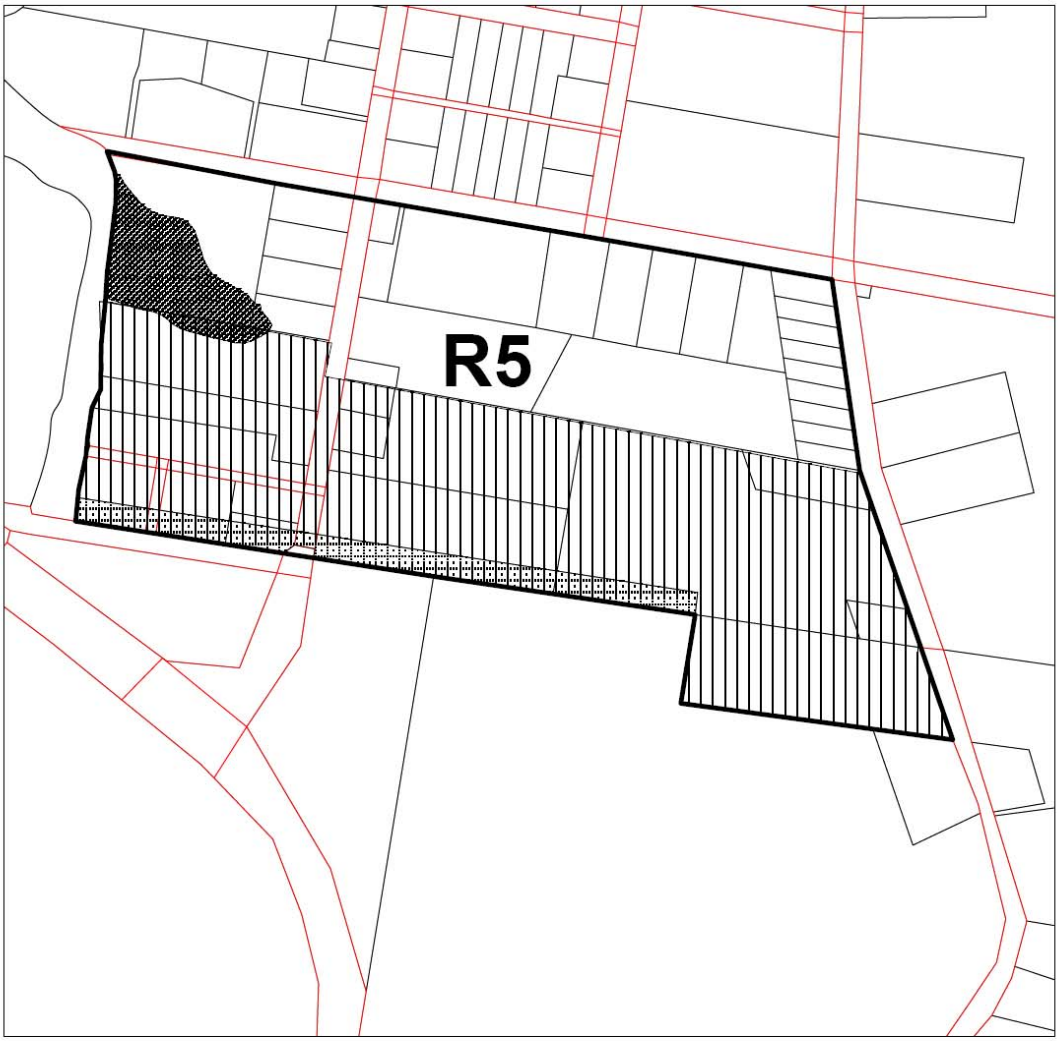
The land in Figure 2 ranges in slope from 0% - 1% floodplain (A4) to 10% - 15% sideslope (D2). The major part of the land has a 1% - 5% sideslope (B1) in the Land Resources Study of the City of Greater Cessnock (Hunt, 1982). The land does not have a significant mass movement hazard.

Soil

The major part of the land in Figure 2 is classified as being composed of Fairhill yellow Podzolic soil (YPfl) which has a moderate to extreme erosion hazard. There is a small amount of Wallis Creek Yellow Podzolic Soil (YPwk) to the south of the subject area. This soil has a low erosion hazard.

Most of the land has minor gully erosion of less than 1.5 metres depth (Class 51) and moderate streambank erosion along Wallis Creek (Class 64). Thus, some locations will require sediment and erosion control measures.

View Sensative Zone
Mulbring South Smallholding Area



Land affected by 1 in 100 year floods.
No buildings shall be located in the flood prone area.

View Sensitive Zone

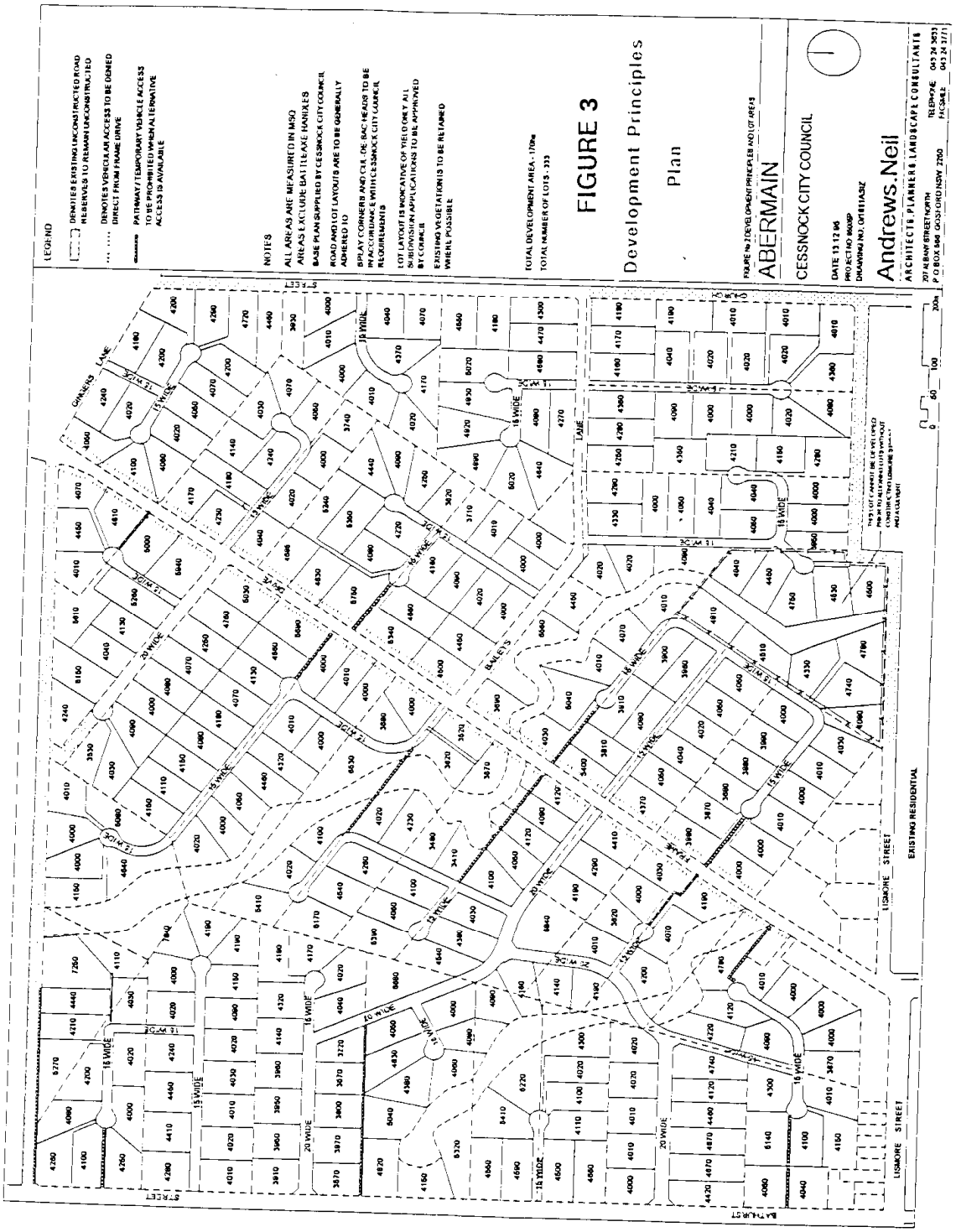
Landscape Buffer Zone

Planning Principles:

Views

Specific Controls:

(a) Development envelopes shall be sited on proposed lots in the View Sensitive Zone (Figure 2A) to enhance rural outlooks and to limit the visual intrusion of Main Road 220.
(b) A landscape buffer shall be planted on lots closest to Main Road 220 in the location shown. This landscape buffer is to screen the house from the road and the road from the house. It is also intended to promote the rural atmosphere of the area by maintaining and enhancing rural outlooks from within these properties.
(c) Selected trees shall be tall growth and long-lived (over 60 years). Those nearest the Main Road need to be tolerant of pollution and require little maintenance by being mechanically strong and insect and disease resistant.
(d) The selected trees should preferably be native in origin to enhance the rural character of the area.



Slope

The land in Figure 3 (ABERMAIN (NORTH)) is classified as having a 1%-5% slope in the Land Resources Study of the City of Greater Cessnock (Hunt, 1982). The majority of the land is in the category of sideslope (B2) as defined by Emery 1981. A very limited area along Deep Creek is classified as floodplain (B4) or drainage (B5). The land does not have a significant mass movement hazard.

Soil

The land in Figure 3 is classified as being composed of Kutlung Yellow Podzolic soil (Ypkg). This soil can have a low to extreme erosion hazard. Soils are generally shallow and stony and can have poor drainage properties.

The land to the west of Deep Creek is categorised as having minor gully erosion of less than 1.5 metres deep (Class 51). The land to the east of Deep Creek is categorised as having minor sheet erosion of 1% to 10% of bare ground (Class 21). The creek itself has minor streambank erosion (Class 54) or minor rill erosion (Class 41). Consequently, residential development on the land in Figure 3 may cause some erosion problems. Therefore, soil erosion or sedimentation measures will be necessary.

SCHEDULE 4 - SAWYERS GULLY, ROTHBURY & NORTH ROTHBURY and MULBRING (NORTH)

This schedule applies to land zoned R5: Large Lot Residential under the Cessnock Local Environmental Plan at Sawyers Gully (Figure 1), Rothbury & North Rothbury (Figure 2) and Mulbring (North) (Figure 3).

1. SUBDIVISION DESIGN

Site Considerations

Planning Principles

(i) To ensure that the amenity of the area is maintained.
(ii) To ensure that subdivision takes account of on-site constraints and opportunities.

Site Considerations

A number of site constraints and opportunities will influence subdivision design and several fundamental principles should be followed in the design phase:

- location of roads to minimise land cut / fill and avoid natural drainage lines;
- maximise the number of dwelling sites with favourable aspects, eg. reduced wind exposure and maximum solar access;
- avoid unnecessary impacts on vegetation and fauna;
- adequate separation of dwelling sites from adjoining land uses and future dwelling sites;
- selection of development envelopes to minimise exposure to bushfire in high risk areas and the need to clear vegetation around development sites;
- provide for building sites with suitable slope, soils and levels of erosion risk;
- protection of remnant stands of vegetation particularly along streams and watercourses;
- avoid multiple access from major feeder roads;
- provide dwelling sites with areas suitable for effluent disposal; and
- provide dwelling sites that are adequately drained and free of flooding.

Specific Constraints

i) Established remnant vegetation stands and corridors.
ii) Poor soil permeability, structure, low fertility and high erosion risk in many areas.
iii) Existing water courses with fragile soil strata and vegetation.
iv) Visibility of areas from public roads.
v) Relative uniform slope with significant cleared land that provides little opportunity for topographical or vegetation barriers between incompatible uses.
vi) Some localised flooding. Flooding along Wallis Creek and tributaries (Mulbring North).
vii) Specific areas with excessive slope (North Rothbury). Sites with considerable slope, particularly along the south-western extreme of Mulbring North.
viii) Existing stone fruit orchard on Portions 36, 37 and 38 located along the northern most section of Wallis Creek, Mulbring North.

Principle Plan Layout

The preferred Principle Plan Layout shown in Figures 1, 2 & 3 follows several basic principles. The road layout is such that lots are serviced mainly from internal roads with the majority of points of access along lower order internal roads. Given the multiple ownership arrangements, however, there is a need to form some points of access with these major roads in order to service internal allotments. The co-operation of landholders in co-ordinating the development of multiple holdings is essential in producing an optimum subdivision layout.

Sawyers Gully: where possible, access is to be minimised along Frame Drive and Main Road 558.

Rothbury & North Rothbury: where possible, access is to be minimised along Main Road 220.

Mulbring (North): where possible, access is to be minimised along Main Road 195.

Council will consider a variation from this conceptual layout where the alternative meets the objectives of this plan and is based on sound planning principles and does not disadvantage adjoining landowners.

Road Design

The applicant shall provide a subdivision plan which incorporates a road layout that complies in general with the relevant Development Principles Plan and has regard to the following principles:

(i) road standards that reflect expected traffic volumes. Reference should be made to Council's 'Engineering Requirements for Development' which covers matters of road standards, drainage and erosion control measures relating to roadworks;

(ii) a logical hierarchy that provides direct individual property access from the lowest order of road possible;

(iii) minimisation of the overall length and straight alignment of access roads;

(iv) avoidance of battle-axe allotments where possible. This configuration may, however, be advantageous where it facilitates temporary road access, reduces the length of dedicated road serving a small number of allotments and does not create large wasted areas;

(v) roads shall be located to avoid on-site constraints and retain landscape features including rock outcrops, vegetation and drainage lines;

(vi) roads shall be located along contours to avoid the need for land cut and fill; and

(vii) for Rothbury and North Rothbury, changes in road alignment along Main Road 220, particularly along the southern section of the site, to increase restricted sight distances at a number of points of access. The applicant shall ensure that sight distances meet acceptable standards which take into account the design speed of the Main Road.

Temporary Road Access

All allotments shall have permanent public road access constructed to Council's standards. Council may, however, permit temporary road access to land locked parcels where no other public road access is available at the time of approval. This temporary access shall be constructed in accordance with Council's requirements with standards depending on the level of traffic generation.

The creation of a temporary road will be in accordance with Section 9 *Roads Act 1993*.

2. SITING OF BUILDINGS

Development / Building Envelopes

Applicants shall indicate building envelopes on the proposed plan of subdivision that are relatively constraint free. Development or building envelopes are areas designated for the erection of dwelling houses, outbuildings and waste water disposal.

Development / building envelopes are to be identified on plans submitted with a development application for subdivision and should be based on a detailed site assessment. The area will need to be free of substantial vegetation, well drained, of low bushfire risk and erosion hazard.

As a guide a development / building envelope will:

a) have a minimum area of 1,500m^2, however this may be reduced depending on effluent disposal requirements;
b) have a natural slope of not greater than 15% (1 in 7) except for those areas which show extreme erosion risk were acceptable grades shall be reduced;
c) be outside of natural drainage lines: and
d) respect the view of residents of adjoining allotments.

Setbacks

Planning Principle

Buildings shall be setback from roads and boundaries to enable future road re-alignment and to ensure a level of privacy appropriate to the zone.

General Standards

Minimum setback of dwelling houses from the road shall be 30 metres.
Minimum setback of dwelling houses from side boundaries shall be 20 metres.

The setbacks are considered appropriate minimums for the areas where the rural character is to be maintained. Variations from these setbacks will be permitted only where reasonable justification can be given.

3. FLOODING (MULBRING NORTH)

The Wallis Creek catchment is excessive and begins in the Sugarloaf Range to the south, Heaton State Forest to the east and Brokenback Range to the west. The size and nature of this catchment has resulted in substantial flooding along Wallis Creek and its tributaries in the past.

Specific controls

Applicants proposing the subdivision of land likely to be affected by flooding of Wallis Creek are required to undertake investigations to determine the extent of flood affectation. Investigations shall be carried out by a suitably qualified professional. The study shall identify the 1 in 100 year flood line below which building construction will be prohibited.

All development / building envelopes and dwelling house sites are to be outside of the flood affected areas. Identified 1 in 100 floodlines are to be placed on the plan of subdivision and a Section 88B restriction ‘as to user’ created to prohibit buildings within the flood affected area.

FIGURE 1 DEVELOPMENT LAYOUT PLAN Sawyers Gully

Sawyers Gully 1(C2) area (land within Figure 1) is generally undulating to flat with slope varying between 1-10%.

Slope

Substantial watercourses drain the majority of the area. The northern most part of the area drains north-west to an unnamed creek. The north-eastern and eastern sections of the land drains to Black Waterholes Creek. While the southern section drains to Deep Creek. The site is within the Swamp Creek Catchment and flows from this area will directly influence water quality within this Creek system. Significant sections of watercourses contain established stands of vegetation along banks which provide habitat for fauna, provide corridors for fauna movement and play an important role in soil (creek bank) stabilization.

Soils

At a broad scale the area is composed of land having two soil types. The northern three quarters of the site contains brown Podzolic soils and the southern most on quarter Yellow Podzolics. The following table shows the typical soil characteristics and limitations of the two dominant soil types.

Mapping Soil Unit	***Erosion Hazard***	***Mass Movement Hazard***	***Limitations to Urban Development***	***Limitations to Rural Development***	***Other Features***
Kuttung Yellow Podzolic Soils (Ypkg)	*Low to extreme. Mostly high to very high.*	*Areas of mass movement occur within this unit associated with slopes > 20%*	*Mass movement shallow soils, some poorly drained areas, erodibility.*	*Low inherent fertility, shallow stony soils, erodibility.*	*Acid poorly structured topsoil, often shallow and stony, variable permeability.*
Bishops Bridge Brown Podzolic Soils (BPbe).	*High at surface and low in subsoil*	*Not significant*	*Erodibility.*	*Low fertility, erodible surface soils*	*Low permeability, low fertility, acid, poorly structured topsoil.*

LEGEND

DENOTES VEHICULAR ACCESS TO BE DENIED

DENOTES EXISTING UNCONSTRUCTED ROAD

DENOTES EXISTING SMALLER SIZED LOT

NOTES

BASE PLAN SUPPLIED BY CESSNOCK CITY COUNCIL

LOT LAYOUT IS INDICATIVE ONLY

SIZE OF LOTS IS SUBJECT TO DETAILED SURVEY

AREAS EXCLUDE BATTLEAXE HANDLES

SIZE OF LOTS ARE IN HECTARES

MAINTAIN CREEK VEGETATION

TOTAL STUDY AREA - 3,487 HA

TOTAL EXISTING LOTS - 22

TOTAL NEW LOTS - 74

FIGURE 2

Development Principles

for Rothbury and North Rothbury

Cessnock City Council

0 50 100 200 300m

Scale

Project No: 9612pP

Drawing No: DP1212

Date: 12 December 1996

Andrews.Neil

ARCHITECTS.PLANNERS.LANDSCAPE CONSULTANTS

207 ALBANY STREET NORTH
P O BOX 566 GOSFORD NSW 2250

TELEPHONE: 043 24 3633
FACSIMILE: 043 24 3771

Slope

The North Rothbury South area is generally undulating to flat with slope varying between 1-10%. Mid-slope areas contain grades between 1-15% with some central east parts and north east parts of the site having slopes between 20^{o} and 30^{o}.

The whole site drains via several water courses into Black creek and flows from this area directly influence water quality within this Creek system which has known water quality problems. Significant sections of watercourses contain established stands of vegetation along banks which provide habitat for fauna, provide corridors for fauna movement and play an important role in soil (creek bank) stabilisation.

Soils

Rothbury & North Rothbury

At a broad scale the area is composed to land having two soil types. The area contains predominantly Rosebrook Brown Podzolic soils with a small area in the north eastern corner of the zone consisting of Rothbury Brown Podzolics. The following table shows the typical soil characteristics and limitations of the two dominant soil types.

Mapping Soil Unit	*Erosion Hazard*	*Mass Movement Hazard*	*Limitations to Urban Development*	*Limitations to Rural Development*	*Other Features*
Rosebrook Brown Podzolic Soils (Bprk)	*Erodibility very high at surface, low in subsoil. Hazard generally moderate to high depending on terrain.*	*May be significant on slopes > 30%*	*Strong textural contrast between soil horizons causes lateral flow of infiltrated water, erodibility.*	*Low inherent fertility, erodible surface soils.*	*Permeability low to moderate.*
Rothbury Brown Podzolic Soils (BprY)	*Erodibility moderate at surface, low in subsoil. Hazard generally moderate to high depending upon terrain.*	*May be significant on slopes > 30%*	*Strong textural contrast between soil horizons causes lateral flow of infiltrated water, erodibility.*	*Low inherent fertility, erodible surface soils.*	*Permeability low.*

FIGURE 3
Mulbring (North)
Development Principles (Concept) Plan

Slope

The Mulbring (North) area (see Figure 3) is generally undulating to flat with slope varing between 1 – 10%. The south-western corner of the site (in particular), contain slopes in excess of 10%.

Substantial watercourses drain the majority of the area. The north-eastern corner of the area drains in a north-easterly direction to John Brown Lagoon. The remainder of the land drains into Wallis Creek. The site is within the Wallis Creek Catchment, and flows from this area directly influence water quality within this Creek system. Significant sections of watercourses contain established stands of vegetation along banks which provide habitat for fauna, provide corridors for fauna movement and play an important role in soil (creek bank) stabilisation.

Soils

Minor sheet and gully erosion exists across much of the area with moderate gully erosion evident along watercourses.

At a broad scale the area is composed of land having four soil types. The majority of the site east of New Street consists of Brunkerville Yellow Podzolic soils. On the western side of New Street much of the northern sector contains Kuttung Yellow Podzolic soils with the remaining southern area consisting of Fairhill Yellow Podzolics. Congewai Alluvial soils occur in a narrow band along Wallis Creek. The following table shows the typical soil characteristics and limitations of the four dominant soil types.

Mapping Soil Unit	***Erosion Hazard***	***Mass Movement Hazard***	***Limitations to Urban Development***	***Limitations to Rural Development***	***Other Features***
Kuttung Yellow Podzolic Soils (Ypkg)	*Low to extreme. Mostly high to very high.*	*Areas of mass movement occur within this unity associated with slopes > 20%.*	*Mass movement shallow soils, some poorly drained areas erodibility.*	*Low inherent fertility, shallow stony soils, erodibility.*	*Acid poorly structured topsoil, often shallow and stony, variable permeability.*
Brunkerville Yellow Podzolic soils (Ypbe)	*Low to moderate very high at urface, low in subsoil*	*Not significant.*	*Poor drainage, erodibility.*	*Low inherent fertility, erodibility of surface soil.*	*Nil.*
Fairhill Yellow Podzolic soils (Ypfl)	*Moderate to extreme, very high at surface.*	*Areas of mass movement occur within this unit.*	*Erodicility, mass movement.*	*Low inherent fertility, erodibility of*	*Stony B horizon.*

SCHEDULE 5 - VILLAGE OF GRETA (NORTH)

This schedule applies to the land at Greta (North) zoned RU2: Rural Landscape and R5: Large Lot Residential under Cessnock Local Environmental Plan as shown on Map 1.

1. SUBDIVISION DESIGN

Lot Configuration

Planning Principles

The carrying out of development shall not create or increase ribbon development or adversely affect road safety. Development, particularly subdivision design, shall provide a mix of lot sizes where possible in order to avoid monotonous layouts and to provide a range of housing opportunities.

General Standards

(a) Varied sizes and dimensions of lots shall be designed, particularly in subdivisions creating more than 2 lots.

(b) New lots and vehicular access points shall be designed to ensure that the siting of dwelling houses (or other traffic generating development) does not create:

- multiple access points to a through road;
- the visual appearance of multiple buildings fronting a through road; and
- a hazard to traffic or pedestrian safety.

Access

Planning Principles

Road and accessways within the development site shall be sited and designed to be efficient and practical with regard to expected traffic volumes while maintaining the rural character and minimising any environmental impact.

Road Hierarchy

Greta (North) has no through roads. The road system is basically an extension of the grid pattern that forms the existing built-up area of Greta. Wyndham Street should be considered the primary distributor road as it is the central street of the area and the most trafficked.

General Standards

For subdivisions involving the construction of new roads or accessways, a concept plan shall be developed to illustrate a circulation system which:

(a) relates to the number of lots and expected number of dwelling houses to be serviced;

(b) minimises impact on the rural landscape and environment through clearing, civil engineering works, or disturbance to natural features;

(c) demonstrates that the role of any accessways are unambiguous in terms of the road hierarchy;

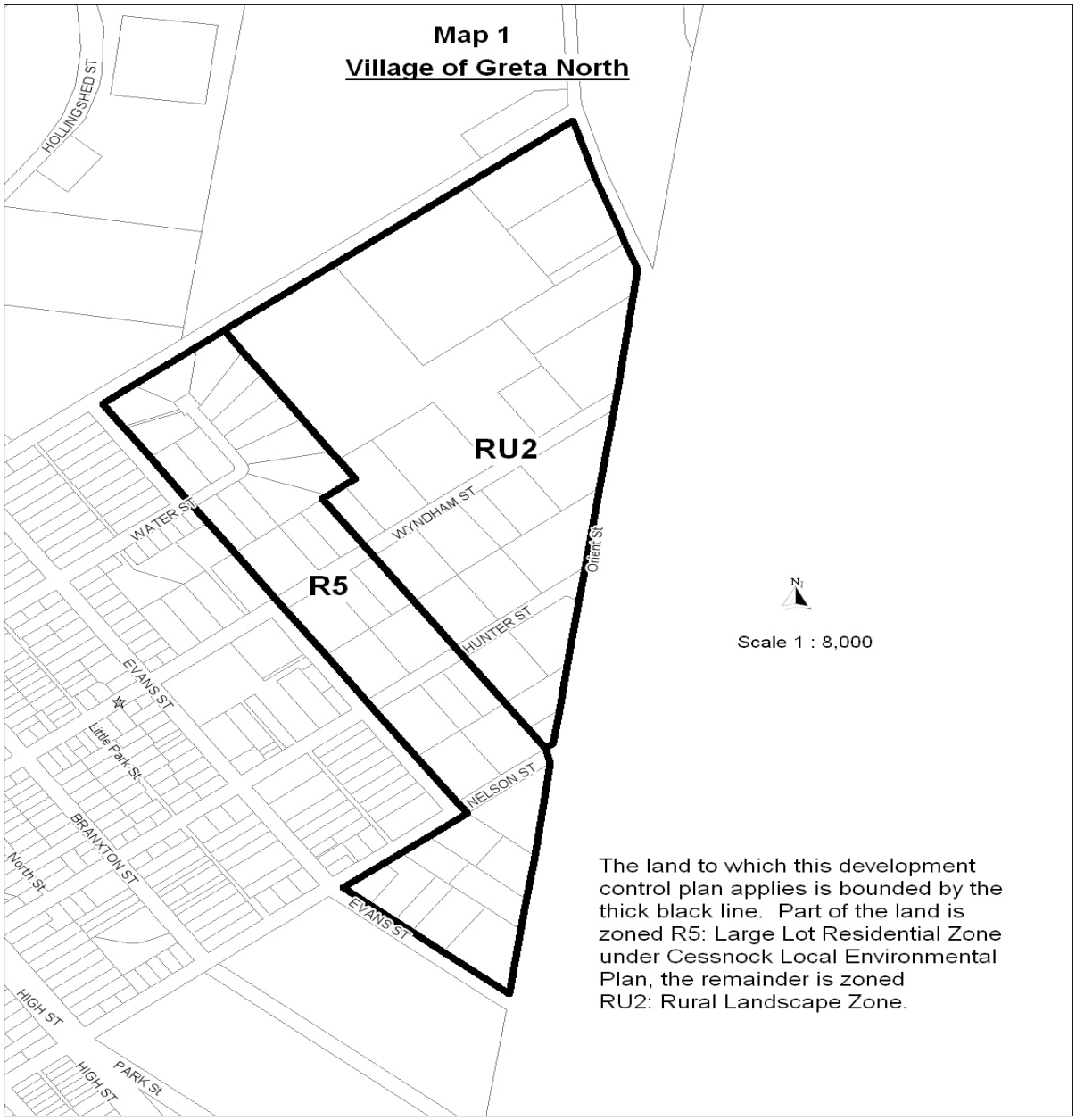
(d) employs construction specifications that are sympathetic to the natural site features;

(e) permits flood-free access to each lot; and

(f) permits pedestrian, equestrian and cycle access with minimal conflict with vehicles.

Connection to the Sewer System

The Hunter Water Corporation (HWC) requires developments in the vicinity of Orient Street to connect to a Corporation sewermain. Consult with the HWC in this regard.



Slope

The land subject of this plan is undefined in the Land Resources Study of the City of Greater Cessnock (Hunt, 1982). Mass movement hazards are not significant.

Soils

Erosion and sediment control

The land the subject of this plan is classified as being composed of Greta Red Poszolic soil (RPga). This soil type is of low to moderate erosion hazard and has no significant limitations to residential development.

As with slopes, most of the subject land is undefined in terms of erosion hazard in the Land Resources Study of the City of Greater Cessnock (Hunt, 1982). However, a small pocket of minor sheet erosion, Class 21 (1% to 10%) of bare ground), is identified in the extreme north west of the area subject of this plan.

Consequently, individual assessment should be made as to the erosion hazards of specific properties.

SCHEDULE 6 - NULKABA VILLAGE AND SURROUNDING AREA

This schedule applies to the land at Nulkaba shown in Map 1.

1.2 SUBDIVISION DESIGN – RU2 RURAL LANDSCAPE ONLY

Lot Configuration

Lot configuration shall be consistent with the Development Principles Plan (Map 2). In the case where there is justification for variation from this plan, such a variation will be considered where the principles of this Control Plan are followed and adjoining landowners are not disadvantaged.

Planning Principles:

The carrying out of development shall not create or increase ribbon development or adversely affect road safety. Development, particularly subdivision design, shall provide a mix of lot sizes where possible in order to avoid monotonous layouts and to provide a range of housing opportunities.

General Standards:

(a) Varied sizes and dimensions of lots should be designed, particularly in subdivisions creating more than 2 lots.

(b) New lots and vehicular access points shall be designed to ensure that the siting of dwelling-houses (or other traffic generating development) does not create:

- multiple access points to a through road;
- the visual appearance of multiple buildings fronting a through road; and
- a hazard to traffic or pedestrian safety.

Future Urban Subdivision

Planning Principles:

The carrying out of development shall not prejudice future urban subdivision in cases where Council is of the opinion that the land has long term urban development potential.

General Standards:

The configuration of lots and the siting of buildings should facilitate the land's possible future re-subdivision.

Access

Planning Principles:

Road and accessways within the development site shall be sited and designed to be efficient and practical with regard to expected traffic volumes while maintaining the rural character and minimising any environmental impact.

Road Hierarchy

Main Road 220 (Orient Street) is the major arterial road that abuts the eastern margins of the plan area. This road provides quick access to both Cessnock and Branxton. The main through distributor road is O'Connors Road (Pokolbin Street). This provides access to Pokolbin and an alternative less direct route to Cessnock via Mount View Road. Both Kerlew Street and Austral Street do not continue far beyond Pinchen Street. These latter 3 streets together with Fletcher Street, Occident Street and Boreas Street are the local roads giving direct access to properties in the area. Map 2 shows the determined internal road layout and lot configuration.

Temporary Road Access

All allotments shall have permanent public road access constructed to Council's standards. Council may, however, permit temporary road access to a land locked parcel where no other public road access is available at the time of approval. This temporary access shall be constructed in accordance with Council's requirements with standards depending on the level of traffic generation.

The creation of a temporary road will be in accordance with Section 9 *Roads Act 1993*.

General Standards:

For subdivisions involving the construction of new roads or accessways, a plan shall be developed to illustrate a circulation system which:

(a) relates to the number of lots and expected number of dwelling houses to be serviced;
(b) minimises impact on the rural landscape and environment through clearing, civil engineering works, or disturbance to natural features;
(c) identifies the role of any accessways in terms of the road hierarchy and the existing grid layout;
(d) employs construction specifications that are sympathetic to the natural site features;
(e) permits flood-free access to each lot; and
(f) permits pedestrian, equestrian and cycle access with minimal conflict with vehicles.

In determining the standard or road construction reference should be made to Council's 'Engineering Requirements for Development' which covers matters of road standards, drainage and erosion control measures relating to roadworks.

Connection to the Sewer System

Planning Principles:

Development should be connected to the town sewer system wherever possible.

Specific Controls:

The Hunter Water Corporation Limited requires developments in the vicinity of the following areas to connect to a Corporation sewer-main:

(a) Pokolbin Street;
(b) Austral Street; and
(c) Kerlew Street.

Consultation:

The Hunter Water Corporation should be consulted regarding sewer connection availability.

2. SPECIAL CONSIDERATIONS

Drainage and Flooding Issues

The Nulkaba Flood Study (Willing and Partners 1993) has indicated that, in the event of a 1 in 100 year flood, flood levels could be increased by 20mm to 50mm with the new development in the western and northern area of Nulkaba (see Map 1).

Planning Principles

Development should be carried out so as to make provision for the drainage corridors identified in the above study and minimise damage resulting from flood events.

General Standards

In the area designated on Map 1, on-site detention (OSD) storage systems shall be constructed to serve all new lots before any dwelling houses or impervious surface is constructed. OSD storage systems shall be designed so that existing flow rates are not exceeded. The applicant should consult Council's Works Department in regard to the design of the OSD storage system.

Affected Area

Map 1 shows the area subject to a 1 in 100 year flood and the specific controls outlined in this clause apply to the Nulkaba Village & Surrounding Area.

Specific Controls:

(a) in the Flood Control Area shown on Map 1 (hatched), no buildings or structures shall be permitted;

(b) the minimum floor level of habitable buildings (outside the hatched area) shall be at least 0.5 m above the relevant 1 in 100 year flood level contour;

(c) all subdivision applications shall show development / building envelopes. These shall be sited outside the flood prone area shown (hatched) on Map 1; and

(d) development applications shall be accompanied by a survey from a Registered Surveyor to determine the contours of the land at an interval of 0.5 metres and a vertical datum of Australian Height Datum.

Cessnock Airport - Height Limitations

The western portion of the land the subject of this plan is within the flight path for Cessnock Airport. Therefore, Clause 6.3 of the Cessnock Local Environmental Plan applies. This Clause relates to obtaining Council consent to construct buildings above the obstacle height limitation surface for the airport.

Planning Principles

No buildings or other structures shall be constructed that would constitute a hazard to aircraft.

Specific Controls:

(a) in the area marked 'A' on Map 3, no building or structures over 10 metres high shall be permitted;
(b) in the area marked 'B' on Map 3, no building or structures over 7.0 metres high shall be permitted; and
(c) tall growth trees shall not be planted in flight path affected areas 'A' or 'B' shown on Map 3.

Cessnock Airport - Noise Constraints

Planning Principles

The extreme western portion of the area of this plan is on the border of the 20 ANEF (Australian Noise Exposure Forecast) noise contour (see Map 3). Locations over 25 ANEF are generally considered unsuitable for residential development. Locations between 20 and 25 ANEF are regarded as 'conditionally acceptable' in terms of residential development, depending on the level of interior noise. This is shown specifically in Map 3.

The rest of the area is below 20 ANEF. It may be concluded that residential development in the area not shaded is not adversely affected by aircraft noise.

General Standards

Interior noise levels in residential development shall conform to the Australian Standard ***Acoustics*** - *Aircraft Noise Intrusion - Building Siting and Construction,* AS 2021 -1985.

Specific Controls:

a) wherever possible, buildings should be sited away from the 20-25 ANEF affected area;

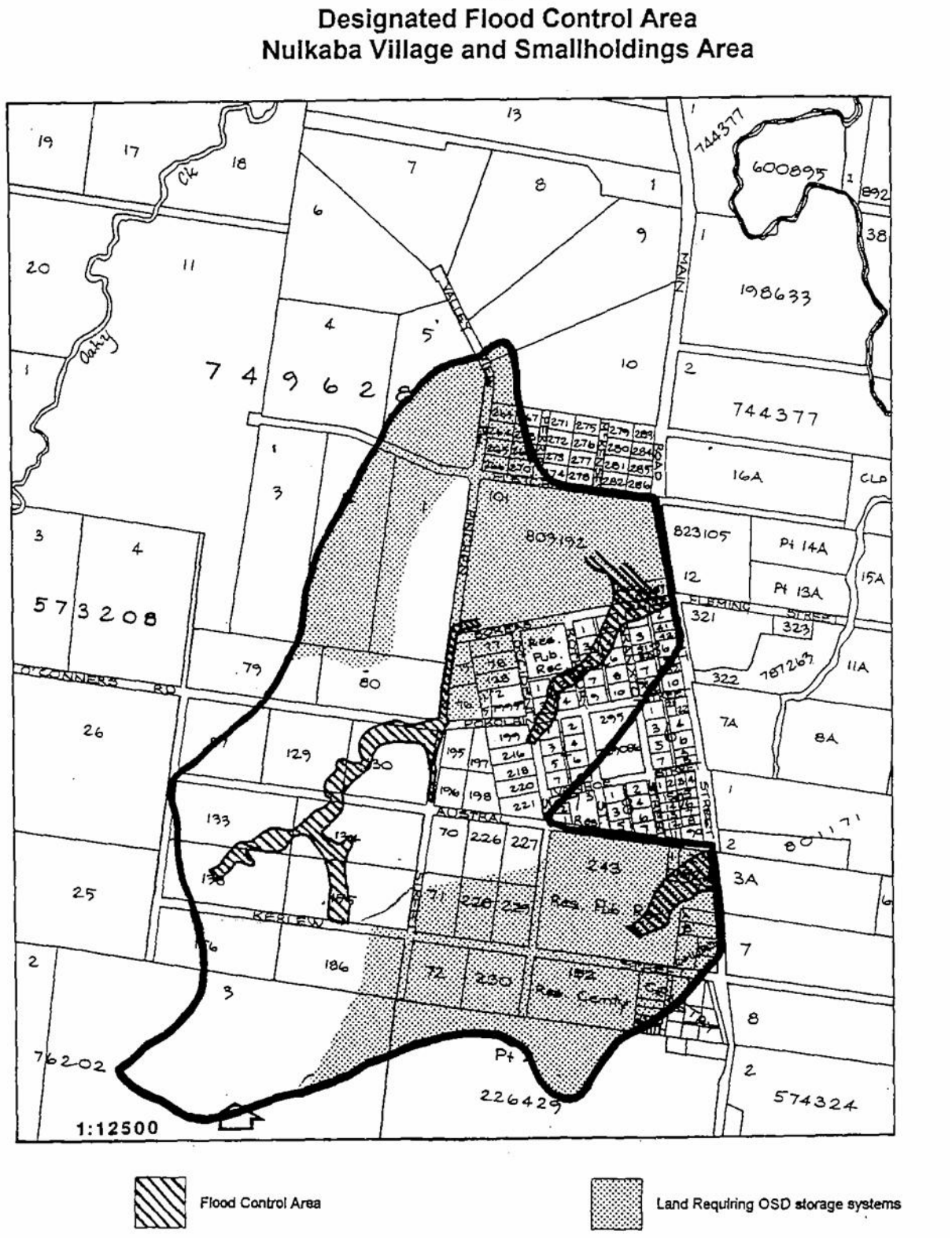
b) Clause 6.4 of Cessnock Local Environmental Plan applies to all land within the 20-25 ANEF affected area. No building for the purposes of human habitation may be erected in the affected area unless interior noise levels comply with AS 2021.

c) for residential building and development in the 20-25 ANEF affected area, development applications (for subdivision or dwelling-houses, where lots are existing) shall be accompanied by a report from a qualified acoustical engineer. This report shall state the anticipated level of interior noise in normal domestic areas and in relaxing / sleeping areas of the dwelling-house.

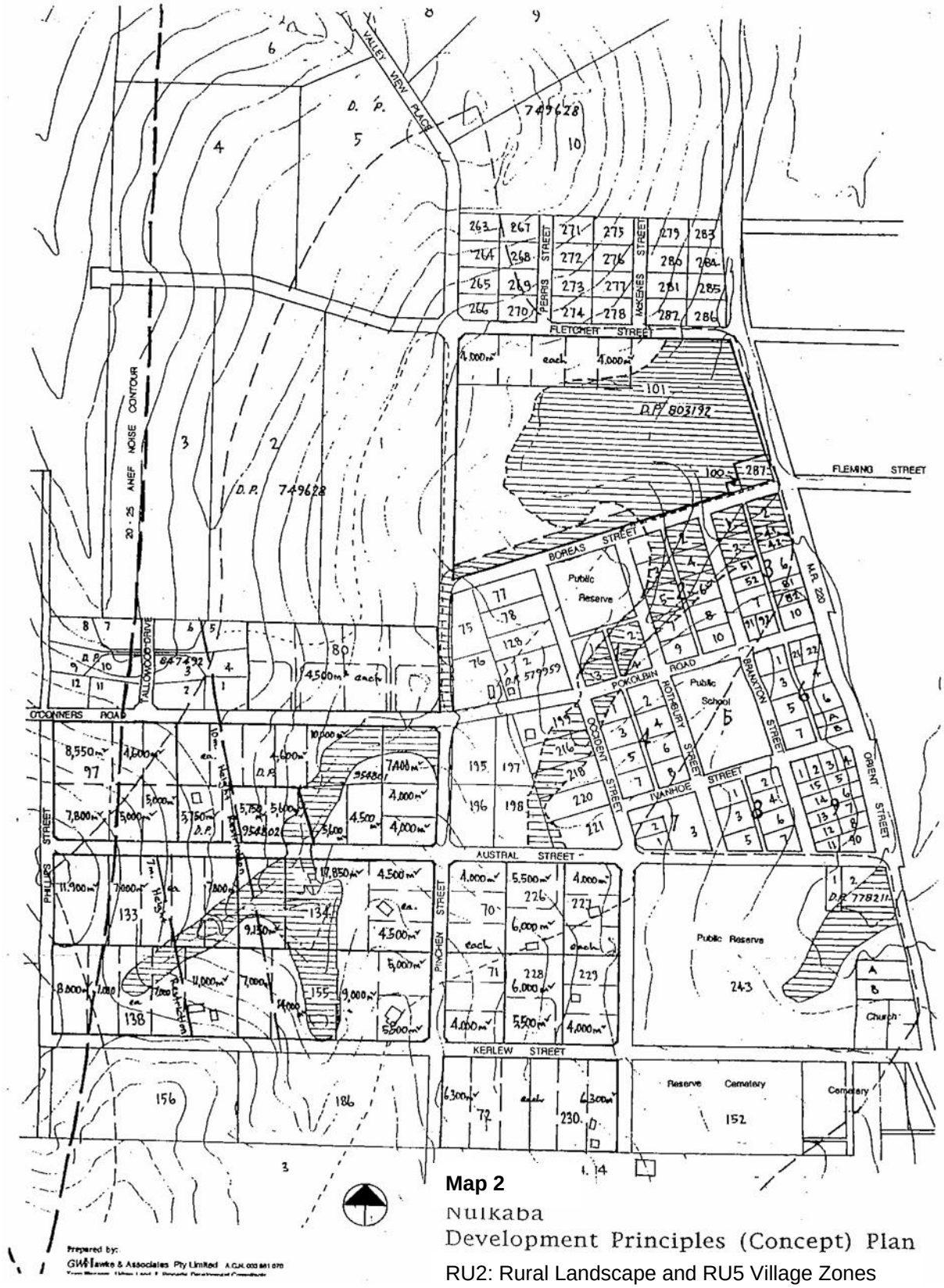
Advice

Section 3 of AS 2021 relates to building construction against aircraft noise intrusions. This section, together with the associated sound transmission data for building components, should be consulted when preparing a development application for land within the 20-25 ANEF contours.

Map 1



Note: The land to which this schedule applies is bounded by the thick black line.



Map 2

Nulkaba

Development Principles (Concept) Plan

RU2: Rural Landscape and RU5 Village Zones

Slope

The land the subject of this plan is classified as having a 1% - 5% slope and being in the category of sideslope (B2) as classified in the Land Resources Study of the City of Greater Cessnock (Hunt 1982). The land does no have a significant mass movement hazard. It has no significant limitations to residential development.

Soil: Erosion and Sediment Control

Soils

The land the subject of this plan is classified as being composed of Cessnock Lateritic Podzolic soil (LPck). This soil type is of low erosion hazard. The undeveloped land the subject of this plan is classified as being susceptible to minor sheet erosion (Class 21). Consequently, the land has no significant limitations to residential development in terms of erosion or sedimentation issues.

MAP 3

Airport Affected Areas
Nulkaba Village and Smallholdings Area

Height Restriction Area "A"

Height Restriction Area "B"

20 - 25 ANEF Noise Contour Area