Part B – Land Use Based Controls

Chapter B6: Development in the Illawarra Escarpment

Contents

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1 INTRODUCTION

1. This chapter of the DCP provides guidelines for the subdivision of land and the siting and design of buildings within the Illawarra Escarpment.

2. This chapter of the DCP reflects the findings and recommendations of the *Commission of Inquiry into the Long Term Planning and Management of the Illawarra Escarpment May 1999* report by Commissioner William Simpson and the subsequent, *Illawarra Escarpment Strategic Management Plan* (2005), *Illawarra Escarpment Land Use Review Strategy 1 June 2007* and *Illawarra Escarpment Explanatory Document 1 June 2007*, prepared by HLA Envirosciences Pty Ltd on behalf of Council.

3. The chapter applies to all lands within the Illawarra Escarpment generally at or above the RL 50 metre contour level extending upwards to the top of the escarpment with a 150 metre buffer (ie as shown in Figure 1). This chapter applies to lands within the Illawarra Escarpment zoned either: RU1 Primary Production, RU2 Rural Landscape, RU4 Primary Production Small Lots, C1 National Parks and Nature Reserves, C2 Environmental Conservation, C3 Environmental Management, C4 Environmental Living and SP2 Infrastructure under *Wollongong Local Environmental Plan 2009* (WLEP 2009).

4. This chapter of the DCP should be read in conjunction with WLEP 2009 and other parts of this DCP, especially Part E of the DCP.

5. Figure 1 shows the boundaries of the Illawarra Escarpment within the City of Wollongong Local Government Area.

2 OBJECTIVES

1. The key objectives of this part of the DCP are to:

   (a) Protect and maintain the visual character and high scenic environmental quality of the Illawarra Escarpment;

   (b) Protect and conserve the cultural heritage of the Illawarra Escarpment, including places of Aboriginal cultural heritage significance;

   (c) Protect and conserve items of environmental heritage, including former coal mines and villages;

   (d) Ensure development is designed to minimise any potential visual impact upon the escarpment, when viewed from key vantage points throughout the LGA;

   (e) Ensure development is consistent with the principles of Ecologically Sustainable Development, especially inter-generational equity; bearing in mind the unique environmental characteristics of each specific locality within the escarpment area;

   (f) Ensure that development is restricted to legally cleared sites within the escarpment slope and foothill areas only and any such development is well designed to minimise potential bush fire, land instability, flooding and or drainage hazard risks;

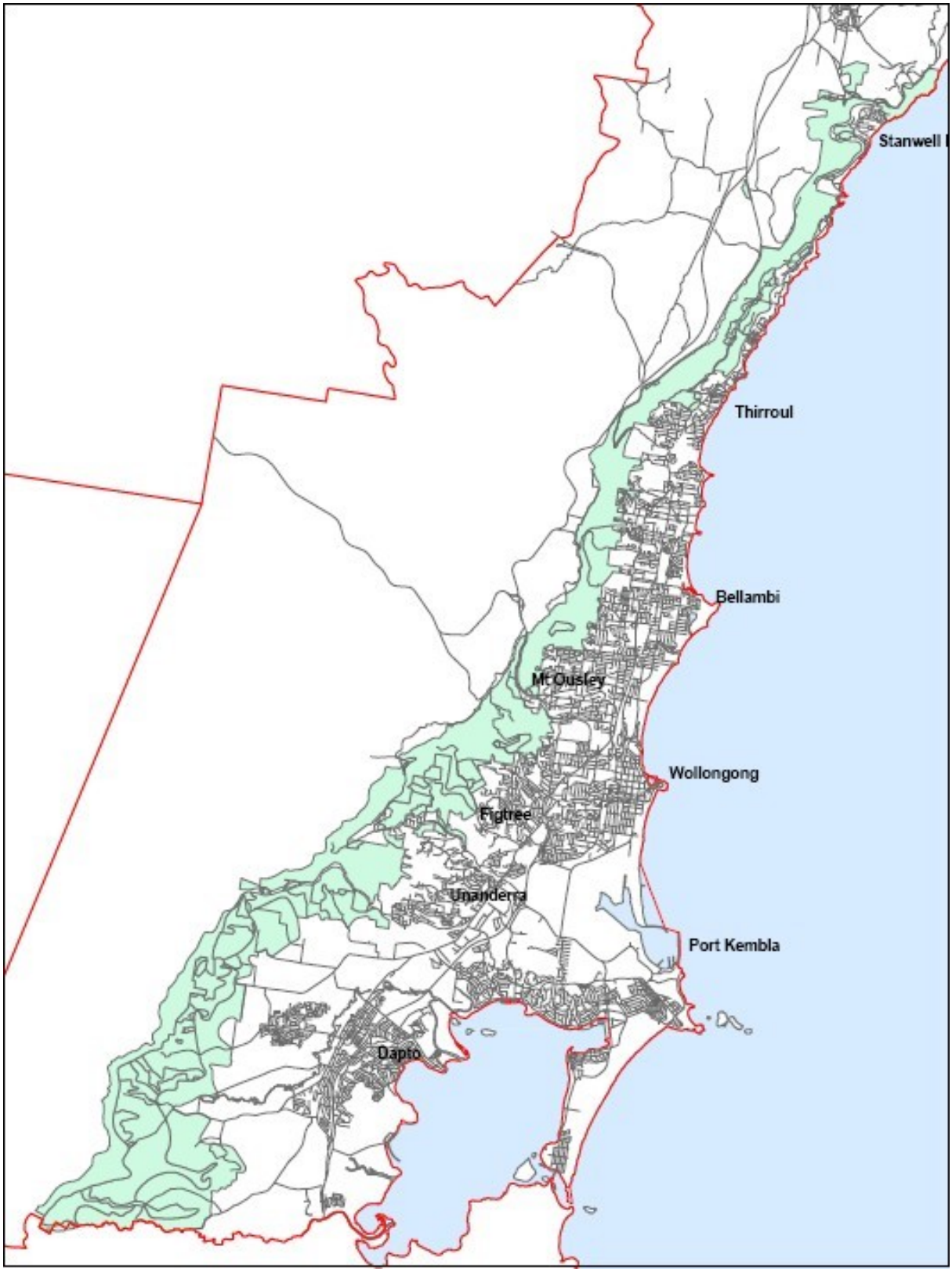
   (g) Ensure that any new development makes provision for adequate water supplies and an environmentally acceptable wastewater treatment system and stormwater drainage;

   (h) Ensure access roads to development are designed to minimise any adverse visual impact on the escarpment and to ameliorate any potential soil erosion or land instability impacts;

   (i) Ensure that electricity and telecommunications infrastructure is provided in a cost effective but environmentally sensitive manner; and

   (j) Facilitate land owners to enter into Biodiversity Stewardship Agreements to manage land for conservation outcomes and create offset sites to generate biodiversity credits.

Figure 1: Illawarra Escarpment in the City of Wollongong Local Government Area



3 DEFINITIONS

Development Opportunity Envelope identifies a building envelope that ensures that development is not visible from important viewing locations for that section of the escarpment.

Visibility is a measure of the extent to which the escarpment may be visible from surrounding locality taking into account the period of the view, view distance and context of the view. The underlying rationale for this aspect of the visual quality analysis is to analyse the visibility of the escarpment by precinct and identify key viewpoints necessary for visual absorption capacity and Development Opportunity Envelope identification. Distance plays a strong influence on visibility as the preparation of the view frame occupied by the escarpment decreases with distance. In addition atmosphere influences tend to reduce the level of contrast between development disturbances and the escarpment landscape.

Visual absorption capacity is an estimation of the capacity of a particular locality of landscape to absorb development without creating a significant change in visual character or a reduction in scenic environmental quality of the locality. The capacity to visually absorb development is primarily dependent on landform, vegetation and existing development. A major factor influencing visual absorption capacity is the level of visual contrast between the proposed development and the existing elements of the landscape in which the proposal is occupied. For example, flat or gently sloping open forest has a higher capacity to visually absorb development than strongly undulating cleared escarpment ridges and escarpment slopes. Further, if visually prominent development already exists on the escarpment then the capacity of the locality to absorb an additional development is higher, than a similar section of the escarpment that has a natural undeveloped visual character.

4 ESCARPMENT PRECINCTS WITHIN THE CITY OF WOLLONGONG LOCAL GOVERNMENT AREA

The *Illawarra Escarpment Land Use Review Strategy* divided the Illawarra Escarpment within the city into ten (10) distinct precincts, namely:

1. Marshall Mount / Calderwood Precinct – This precinct is the southern most precinct and highest precinct of the Illawarra Escarpment and extends northwards from the Wollongong City LGA southern boundary with Shellharbour City Council to Huntley Colliery / Avon Colliery at Bong Bong Pass;
2. West Dapto Bowl Precinct – This precinct extends northwards from Bong Bong Pass in the south to Mt Kembla and the Farmborough Heights ridgeline above Kembla Grange;
3. The Heights Precinct – This precinct includes the contained concave landform between the Mt Kembla footslopes and Mt Nebo footslopes and includes the suburbs of Farmborough Heights, Unanderra and Cordeaux Heights and the catchments of Allans Creek and Charcoal Creek and the lower catchments of American Creek and Brandy and Water Creek;
4. Mt Kembla Precinct – This precinct includes the elevated, closed and contained landscape of the suburbs of Mt Kembla and Kembla Heights and is located within the side slopes and tributary floor of American Creek, which runs parallel to the Cordeaux Heights ridgeline to the east and the escarpment to the west;
5. Mt Keira Precinct – This precinct covers the elevated footslopes of Mt Keira extending from Mt Nebo and the O'Briens Road ridgeline, Figtree in the south, through the Mt Keira Road ridgeline, West Wollongong to the Keiraville / University of Wollongong ridgeline in the north;
6. Balgownie Valley Precinct – This precinct is a contained concave distinct valley extending further back from the coastal plain to the escarpment between the prominent landforms of Mt Keira and Brokers Nose. The suburbs of Keiraville, Mt Ousley, Mt Pleasant and Balgownie occur within this precinct;
7. Coastal Ridges Precinct – This precinct extends from Brokers Nose in the south to the vegetated ridgeline separating Thirroul and Austinmer in the north and the suburbs of Tarrawanna, Corrimal, Russell Vale, Woonona Heights, Bulli and Thirroul occur in this precinct;
8. Cliff Coast Precinct – This precinct extends from the vegetated elevated ridgeline adjacent to Mountain Road, Thirroul in the south to the end of the escarpment adjacent to the School of Arts at Clifton in the north and includes the suburbs of Austinmer, Coledale, Wombarra, Scarborough and Clifton;
9. Stanwell Precinct – This precinct includes the headlands and valleys between Clifton and Bald Hill and includes the suburbs of Coalcliff and Stanwell Park; and
10. Maddens Plain Precinct – This precinct is located within undulating perched heathland above the escarpment adjacent to the existing Illawarra and Boomerang Golf Courses.

5 VISUAL IMPACT ASSESSMENT

5.1 General

1. The *Illawarra Escarpment Strategic Management Plan* recognises the significant scenic and aesthetic value of the escarpment and includes several objectives, principles and actions to conserve these values:

   'Protect and conserve the cultural heritage of the escarpment including not only physical items but the scenic and aesthetic values that inspire people and draw them to the Illawarra for tourism and recreation" (p.4).

   "Identify areas of natural or scenic aesthetic attraction that add to the overall 'value' of the escarpment. Whilst one person's perceived value is different to another's, there seems uniform appreciation amongst the community that the 'naturalness' and scenic quality of the escarpment is a valuable asset that needs to be protected." (p.17).

   "Development proposals, controls, conditions of consent and management policies should seek to preserve, protect and reinforce the scenic attributes of each high quality area." (p.47).

2. Development in any precinct of the escarpment will require an appropriate visual impact assessment to be undertaken early in the design phase.

3. Visual impact assessment involves two main steps:

   (a) Identification of a Development Opportunity Envelope for the subject site; and

   (b) Visual impact assessment of the potential impact of the proposed development.

4. The Development Opportunity Envelope is determined based on Key Vantage point view locations that have been nominated for each escarpment precinct. These view locations are contained in Appendix 1. Also included in Appendix 1 are guidelines relating to the visual absorption capacity and the potential for development opportunity envelopes within each precinct.

5.2 Development Opportunity Envelope

1. Development will only be permitted where it is contained within a Development Opportunity Envelope. The Development Opportunity Envelope identifies the limits of development and form that may enable satisfaction of the net gain in the scenic and aesthetic values of the escarpment.

2. Identifying the Development Opportunity Envelope requires assessment of the following aspects:

   (a) Size of the cleared portion of the site;

   (b) Slope of the land;

   (c) Height of surrounding vegetation;

   (d) Type and composition of surrounding vegetation (e.g. closed rainforest, open forest, woodland, grassland);

   (e) Length of the clearing up the slope of the escarpment;

   (f) Angle of line of sight over foreground vegetation from nominated key viewing locations;

   (g) Interception point of the line of sight from nominated key viewing locations, on the canopy of the vegetation behind and / or above the cleared site; and

   (h) The assessment will require input of the sightlines from key viewing locations by a Registered Surveyor.

3. The vertical limit of the Development Opportunity Envelope shall be defined as no greater than 66% of the height of the forest trees providing foreground screening adjacent to the Development Opportunity Envelope.

5.3 Visual Impact Analysis

1. The potential visual impact of a proposed development within a precinct may be assessed by considering a combination of two factors:

   (a) Visibility of the development; and

   (b) Visual absorption capacity of the landscape to absorb the development.

2. An assessment of the visual impact of a proposed development must take into consideration the following elements:

   (a) Key viewpoints;

   (b) Period of view;

   (c) Context of view; and

   (d) Extent of view.

5.3.1 Key Viewpoints

1. Key viewpoints / vantage areas that need to be considered for any development have been nominated for each precinct. These are included in Appendix 1.

2. Views of the escarpment from local roads closer than 4km are considered to be of a local visual nature. All other views are considered to be of regional visual significance.

5.3.2 Period of View

1. The view is either

   (a) Intermittent if it will be viewed from a car travelling along a road; or

   (b) Stationary if the proposal can be viewed from a fixed location or for an extended period of time.

5.3.3 Context of View

1. The context of the view relates to where the proposed development is being viewed from. For instance the context will be different if viewed from a house where views can be considered for an extended period of times, as opposed to a glimpse obtained from a moving vehicle.

5.3.4 Extent of View

1. The extent to which various components of a development would be visible is critical. For example, if the visibility assessment is of a development proposal in escarpment forest, it may be considered to have a local scale visual impact, whereas if a development proposal is located in another area of the escarpment, it may be considered to have escarpment scale visual impact.

2. The capacity of the landscape to absorb development is to be ranked as high, medium or low, with a low ranking representing the highest visual impact upon the scenic environmental quality of the specific locality, since there is little capacity to absorb the visual impact within the landscape.

5.4 Visual Impact Assessment Report

1. A Visual Impact Assessment report may be required to be submitted with a Development Application for certain developments, including new dwelling houses or subdivisions. Therefore, it is recommended that a formal pre-lodgement meeting be organised with Council's Development Assessment and Certification Division to determine whether a Visual Impact Assessment report will be required for the specific development proposal.

2. A Visual Impact Assessment report may also be required for any proposed alterations and additions to an existing dwelling or the erection of new outbuildings. This will be at the discretion of the Manager or the Area Manager of the Development Assessment and Certification Division depending upon the nature of the proposal and exact location of the subject site within the escarpment.

3. The Visual Impact Assessment report should be prepared by a suitably qualified and experienced environmental planning consultant or landscape architect with expertise in visual impact analysis/ assessment.

4. Development will only be supported where the Visual Impact Assessment report demonstrates that a Development Opportunity Envelope is available and the development will not generate an adverse visual impact upon the scenic environmental quality of the relevant escarpment precinct. In certain cases the Visual Impact Assessment report and accompanying architectural plans must identify any recommended visual impact mitigation measures including (but not necessarily limited to) additional landscaping treatment, building design measures and / or recommended selective external finishes/ materials.

6 ABORIGINAL HERITAGE

6.1 General Advice

1. The Illawarra Escarpment contains a number of recorded Aboriginal sites and places of Aboriginal cultural heritage significance, including walking tracks and sites containing rock shelters, axe grinding grooves, open campsites, and scarred trees. However, there may be many more undiscovered or unrecovered sites/ places of cultural heritage significance.
2. Where a site falls within an "area of potential Aboriginal heritage significance", prospective applicants are required to undertake a search of the Heritage NSW's Aboriginal Heritage Information Management System (AHIMS) database, in order to determine whether their subject site contains any recorded Aboriginal object and / or Aboriginal place of cultural heritage significance.
3. If the AHIMS database indicates that the site contains a recorded Aboriginal object or an Aboriginal place of significance, the preparation of an Aboriginal Archaeological and Cultural Heritage Assessment report will be required.
4. The Aboriginal Archaeological and Cultural Heritage Assessment report will be required to be prepared in accordance with the requirements of the Aboriginal Heritage chapter in Part E of this DCP.

7 HERITAGE (EUROPEAN)

7.1 General Advice

1. The Illawarra Escarpment Heritage Assessment 2007 report (prepared by Mayne – Wilson & Associates and Heritage Futures in association with Godden Mackay Logan) confirmed that the escarpment contains a large number of significant natural and human-made items of environmental heritage.
2. It is recommended that applicants obtain a Section 10.7 Planning Certificate from Council to confirm whether the subject site contains an item of environmental heritage or is within a heritage conservation area under Schedule 5 of *Wollongong Local Environmental Plan 2009*.
3. If the subject site contains an item of environmental heritage or is within a heritage conservation area, a heritage impact assessment report will be required to accompany any Development Application for a subdivision or development upon the subject site.
4. The preparation of the heritage impact assessment report must be carried out in accordance with the requirements of the Heritage Chapter in Part E of this DCP.

8 THREATENED SPECIES IMPACT ASSESSMENT

8.1 General Advice

1. The Illawarra Escarpment contains several endangered ecological communities and a large number of threatened flora and fauna species and their supporting habitats.
2. At the formal pre-lodgement meeting, Council staff will provide assistance on what endangered ecological communities, threatened flora and / or fauna species or population or their habitat are known to be within the locality of the subject site. However, the applicant should also undertake a review the Department of Planning and Environment Threatened Species website for threatened flora and fauna species, endangered populations and endangered ecological communities; and the Atlas of NSW Wildlife / Bionet for threatened species, ecological communities.
3. A flora and / or fauna impact assessment report is required where:

   (a) There is a potential impact upon the identified threatened species either directly or indirectly.

(b) There is proposed direct or indirect impacts on native vegetation or fauna habitats such as waterbodies, watercourses or dams.

(c) For any proposal which may have an effect on "Matters of National Significance" under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999.

4. Any required flora and / or fauna impact assessment report shall be prepared in accordance with the requirements set out in Wollongong DCP 2009 Chapter E18.

9 GEOTECHNICAL / LAND INSTABILITY ISSUES

9.1 General Advice

1. A geotechnical report will be required for the majority of development upon lands within the Illawarra Escarpment, except in certain cases where previous geotechnical investigations have conclusively proven that a particular site or locality is not subject to any slope instability impacts.

2. The geotechnical report is required to be prepared by a suitably qualified and experienced geotechnical engineer.

3. The geotechnical report shall be prepared in accordance with the requirements of the Geotechnical Guidelines chapter contained in Part E of this DCP.

10 SUBDIVISION REQUIREMENTS

10.1 Site Analysis

10.1.1 Objectives

(a) To ensure site analysis is the first step in the design of any proposed subdivision within the Illawarra Escarpment.

(b) To ensure any proposed subdivision takes into account a range of natural constraints including slope, topographical, landform, bush fire hazard risk, geotechnical constraints and / or any man – made constraints.

(c) To ensure any proposed subdivision retains significant remnant trees or other vegetation, especially foreground screening vegetation and any building envelopes are located below visually dominant ridge lines, in order to maintain the scenic environmental quality of the locality.

(d) To ensure a proposed subdivision is designed to mitigate against any potential adverse impact upon any endangered ecological community or threatened flora or fauna species.

(e) To ensure that subdivision design takes into account any identified Aboriginal archaeological site or culturally significant heritage site.

10.1.2 Development Controls

1. Site analysis should be the first step in the design of any subdivision.

2. The site analysis should consider both the natural and human-made constraints. In this respect, the following factors should be taken into consideration as part of the subdivision design:

   (a) The slope and orientation of the subject site;

   (b) Site constraints such as topography / landform, geotechnical issues, flood prone land, bush fire hazard, acid sulphate soils, threatened flora or fauna species or endangered ecological communities;

   (c) Retention of special features such as significant remnant trees or other vegetation, views to / from the site, protection of visually dominant ridge lines, scenic environmental quality of the site and surrounding locality, protection of riparian vegetation;

   (d) Archaeological conservation and cultural heritage issues;

   (e) Availability of reticulated water and sewerage, electricity supplies and telecommunications;

   (f) Provision of suitable stormwater drainage line;

(g) The relationship of the proposed subdivision layout with the existing subdivision pattern and character of the surrounding locality;

(h) Solar access and daylight access for future dwellings in the subdivision; and

(i) Road layout and access arrangements taking into account the surrounding local road network in the locality and the topographical constraints of the site whist minimising any potential visual impact upon the scenic environmental quality of the escarpment.

10.2 Minimum Allotment Subdivision Size

10.2.1 Objective

(a) To ensure any proposed subdivision complies with minimum subdivision allotment size requirements under Wollongong Local Environmental Plan 2009.

10.2.2 Development Controls

1. Any proposed subdivision shall be in accordance with the minimum subdivision allotment size requirement under *Wollongong Local Environmental Plan 2009* and the relevant Lot Size Map applying to the subject site.

10.3 Subdivision Layout and Building Envelopes

10.3.1 Objectives

(a) To ensure the subdivision layout and associated building envelopes for future dwellings are designed to suit the natural landform and topography of the site.

(b) To ensure building envelopes within subdivisions are located to the rear of any landform bench and behind any foreground screening protection, in order to maintain the high scenic environmental quality of the locality, when viewed from key viewing locations identified within each specific escarpment precinct.

10.3.2 Development Controls

1. The subdivision layout and associated building envelopes must be designed to suit the natural landform, rather than altering the landform to accommodate the subdivision and any future dwelling and other out buildings.
2. Any proposed subdivision must be sited below the sight lines from the key viewing locations `within the specific escarpment precinct as identified in Appendix 1. In this respect, building envelopes are to be contained within areas identified as a Development Opportunity Envelope following visual assessment (Refer to Section 5). The building envelope should be located at the rear of any landform bench and behind any foreground screening vegetation, in order to minimise any adverse local or regional visual impacts, when viewed from key viewing locations.
3. Driveways, roads and drainage works must be designed and sited to have minimum visual impact and minimum impact on the natural landform.

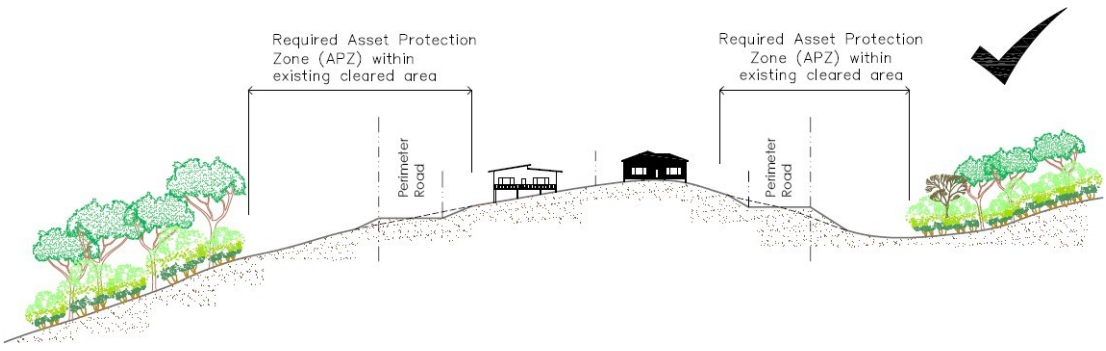


Figure 2: Subdivision layout with Perimeter Road and Asset Protection Zones (APZ)

4. Building envelopes must be sited having regard to any existing remnant vegetation, landscape features, topographical and slope constraints.
5. The proposed building envelope shall be restricted to legally cleared areas of the site only.
6. The building envelope should ensure all ancillary outbuildings such as garages or sheds and other ancillary structures are consolidated within the surrounding curtilage of the dwelling house on each lot. This will assist in ameliorating any potential adverse visual impact from the development upon the escarpment.
7. The building envelope shall exclude any required building line setback and any easements truncating the site.
8. The creation of Asset Protection Zones (APZ) as per the requirements of the "*Planning for Bush Fire Protection guidelines 2019*" must not be achieved by the removal of remnant vegetation. Any APZ must be restricted only to legally cleared portions of the land within the subject site. Therefore, a lower subdivision lot yield may be realised, notwithstanding the indicative minimum subdivision lot size requirement contained in the WLEP 2009 Lot Size Map.
9. The removal of remnant vegetation within the escarpment will generally not be permitted, except in exceptional circumstances where a proposed access road requires the removal of a very limited number of trees (but not foreground screening trees) to accord with the requirements of the "*Planning for Bush Fire Protection guidelines 2019*". Any such tree clearing will be restricted to parts of the site which are below key view sight lines for the specific precinct. The clearing of foreground screening trees or remnant vegetation on ridgelines or the escarpment upslope will not be supported. Therefore a redesign of the subdivision layout plan will be required to ensure the protection of foreground screening trees, or remnant vegetation on ridgelines, knolls and upper escarpment slopes.
10. The building envelope and the proposed location of the private access road shall be shown on the required site plan and / or subdivision plan accompanying the Development Application. The site plan / subdivision plan shall show all existing easements or other restrictions on the use of the land and also include natural contour levels (at 2 metre intervals) of the subject site.
11. A tree survey plan shall also be provided in support of any Development Application where tree clearing is proposed, to enable the provision of suitable vehicular access to a lot. Any tree survey plan should identify the extent of remnant vegetation on the site and must specifically identify the tree species and number of trees proposed to be removed. The tree survey plan must also show natural contour levels at 2 metre contour intervals, to assist Council in assessing the suitability of the proposed access arrangement and whether the proposed limited tree removal is acceptable.
12. In the event that Council ultimately supports a proposed subdivision, a condition of consent will be imposed requiring a restriction on the use of land pursuant to the provisions of Section 88B of the *Conveyancing Act 1919* which shows the building envelope for each lot within the subdivision, as well as any new easements or restrictions.

10.4 Access Road Requirements

10.4.1 Objectives

(a) To ensure all allotments have direct access to a dedicated public road or access via a private access handle to a dedicated public road.

(b) To ensure all roads are designed to avoid aligning with ridgelines or other visually dominant parts of a site and should be positioned behind foreground screening vegetation.

(c) To minimise the visual impact of access roads by restricting the extent of vegetation clearing, especially with regard to foreground vegetation and by limiting the colour finishes on roads.

(d) To ensure all access roads, bridges and culverts are designed to cater for a range of vehicle types, including bush fire fighting trucks and other emergency vehicles.

10.4.2 Development Controls

1. All allotments shall have direct access to a dedicated public road or access via a private access handle or right of carriageway to a dedicated public road. Access handles for battleaxe allotments must be retained in the private ownership of either one allotment or a number of allotments with reciprocal rights of carriageway created pursuant to Section 88B of the *Conveyancing Act 1919*. No more than three (3) battleaxe lots may be serviced by a shared private access road or reciprocal rights of carriageway.
2. All lots must be provided with an all-weather vehicular access road with direct access to and from a

dedicated public road.

3. All public or private access roads / rights of carriageway should be designed to avoid aligning with ridgelines and should be positioned behind screening vegetation.

4. The colour finish of any private access road or right of carriageway shall be of muted bushland or earthen tones such as dark greys, dark greens or browns. Light grey and white coloured finish surfaces are not permitted.

5. The maximum length of a private access road or shared right of carriageway (i.e. for up to 3 dwellings / lots) shall be 600 metres, as measured from the nearest public road to the identified building envelope for each lot. This requirement shall be shown on the subdivision plan accompanying the Development Application.

6. A minimum vertical clearance of 4 metres is along the access road required from any overhanging obstruction, such as tree canopies / branches.

7. The minimum road pavement width of a shared private access road for up to three (3) battle axe allotments shall generally be 4 metres except where the access is greater than 200 metres in which case, a six (6) metre road pavement width is required.

8. A loop road shall be provided around any building envelope dwelling upon land within the escarpment or alternatively, a turning circle with a minimum 12 metre outer radius shall be provided on the site, in close proximity to the building envelope for a future dwelling house.

9. Within bush fire hazard areas, access to allotments shall be in accordance with the requirements of the NSW Rural Fire Service *"Planning for Bush Fire Protection 2019"*, including the provision for satisfactory access and manoeuvring of fire fighting vehicles.

10. The maximum gradient for a sealed road shall not exceed 15 degrees and the maximum gradient for an unsealed road shall not exceed 10 degrees. The maximum cross fall of any road shall not exceed 10 degrees.

11. Any bridge or culvert structure over a creek or natural drainage line shall be designed and constructed to cater for a minimum 15 tonne emergency fire fighting truck.

10.5 Road Design and Construction Requirements

10.5.1 Objective

(a) To ensure all subdivisions are designed to provide satisfactory public and private access roads for all types of vehicles, especially fire fighting trucks and other emergency vehicles.

10.5.2 Development Controls

1. The minimum road design and construction requirements for public roads and private access roads shall be in accordance with Table 1 below:

Table 1: Road type characteristics and construction requirements

ROAD TYPE	MINIMUM ROAD CARRIAGEWAY WIDTH (m)	MINIMUM VERGE WIDTH EACH SIDE (m)	MINIMUM TOTAL ROAD RESERVE WIDTH(m)
Public Road servicing less than 30 dwellings / lots	7.5 metres	3.5 metres with upright kerbing	14.5 metres
Cul-de-sac (Public Road)	7.5 metres with a minimum 12 metre wide cul-de-sac bulb	3.5 metres with upright kerbing	14.5 metres
Minor Public Road / Access Way servicing a maximum 10 dwellings / lots	6 metres	3.5 metres with roll- over kerbing	13 metres

ROAD TYPE	MINIMUM ROAD CARRIAGEWAY WIDTH (m)	MINIMUM VERGE WIDTH EACH SIDE (m)	MINIMUM TOTAL ROAD RESERVE WIDTH(m)
Private Access Road /Right of Carriageway Battle – axe handle servicing a maximum of 3 dwellings / lots	4 metres (ie where the access handle is less than 200 metres in length) 4 metres but enlarged to 6 metres (ie with 20 metre long passing bays) at every 200 metre interval along the access road / ROW, to enable fire fighting trucks to access the lot(s), whilst also allowing resident vehicles to exit the site during bush fire emergencies	NA	6 metres (ie where the access road is less than 200 metres in length) or 8 metres (ie where the access road is greater than 200 metres in length and requires passing bays)

Additional Requirements:

(1) Refer to Council's Subdivision Policy for general subdivision design and the construction requirements for roads, stormwater drainage, utility services and other infrastructure.

(2) Road carriageways must be widened at bends to allow for wider vehicular travel paths (Austroads Turning Templates).

(3) Roads should be designed to provide visual interest in the streetscape through kerbs (where appropriate), landscaping and paving treatments. The road design should be compatible with the existing road pattern in the locality.

(4) The minimum spacing of staggered intersections in a local road network should be 20 metres.

10.6 Requirement for Upgrading of Poorly Constructed or Unformed Public Roads

10.6.1 Objective

(a) To ensure all lots have suitable, safe and efficient access to and from public roads and that all road and stormwater drainage infrastructure works are properly constructed.

10.6.2 Development Control

1. All allotments in a subdivision must gain direct access to / from a properly formed public road. In areas where the subdivision fronts a poorly constructed or unformed public road, the subdivision will be subject to the construction of full kerb and gutter, stormwater drainage, full or half road construction and sealing in addition to the provision of nature strips with a 3% cross fall to the roadway.

10.7 Servicing Arrangements

10.7.1 Objectives

(a) To ensure the provision of infrastructure servicing / utilities is carried out in accordance with the requirements of Council and the relevant infrastructure servicing authority.

(b) To maximise the opportunities for shared (common) trenching and to reduce constraints on landscaping within road reserve verges.

10.7.2 Development Controls

1. Consultation with infrastructure servicing authorities is recommended at an early stage in the planning process to ensure that all allotments can be appropriately serviced by electricity supplies, telecommunications and whether or not Sydney Water will be able to provide reticulated water supplies and / or sewerage services to the subdivision.
2. The submission of documentary evidence from Sydney Water is required at the time of Development Application lodgement which indicates whether reticulated water supplies and / or reticulated sewage supplies may be provided to the subdivision.
3. Documentary evidence is required from an electricity infrastructure provider which confirms the requirements for the provision of electricity supplies to the subdivision.
4. The subdivision plan should provide details of the location of any required electricity sub-stations.
5. Telecommunication services are to be provided to all proposed lots. The submission of documentary evidence from a telecommunications carrier will be required for any approved subdivision prior to the release of the Engineering Construction Certificate.
6. Where a subdivision is approved, a condition of consent will be imposed requiring the submission of a Notice of Requirements from Sydney Water Corporation to Council prior to the release of the Engineering Construction Certificate for the proposed subdivision. Additionally, a separate condition of consent will be imposed requiring the submission of a Section 73 certificate from Sydney Water Corporation prior to the release of the final Subdivision Certificate.
7. Conditions of consent will be imposed requiring the submission of documentary evidence from an electricity provider and telecommunications carrier that satisfactory arrangements have been made for the provision of electricity supplies and telecommunications to the subdivision.

10.8 Subdivision upon Bush Fire Prone Land

10.8.1 Objectives

(a) To ensure any subdivision upon land classified as bush fire prone land is designed to minimise the potential bush fire hazard risk.

(b) To ensure any subdivision upon bush fire prone land is designed to provide an efficient and safe road network which minimises potential bottle-necks.

(c) To ensure any subdivision upon bush fire prone land is designed to minimise the siting of future dwellings away from ridge tops and other steeply sloping land, especially upslope lands, within saddles or narrow ridge crests.

(d) To provide accessible public refuge areas, wherever practicable.

(e) To ensure each subdivision upon bush fire prone land is designed to provide satisfactory asset protection zone (APZ) separation distances from the bush fire hazard and guarantee that future dwellings are capable of achieving conformity with the “deemed-to-satisfy” requirements of the Building Code of Australia.

10.8.2 Development Controls

1. Any proposed subdivision upon land classified as bush fire prone land will require the lodgement of an Integrated Development Application under Section 91 of the *Environmental Planning and Assessment Act 1979* since the formal concurrence of the NSW Rural Fire Service (RFS) will be required pursuant to the requirements of Section 100B of the *Rural Fires Act 1997*. The Integrated Development Application will be referred to the RFS Headquarters to determine whether a Bush Fire Safety Authority will be issued under Section 100B of the *Rural Fires Act 1997*.
2. Any proposed subdivision upon bush fire prone land is required to comply with the requirements of the NSW Rural Fire Service publication titled “*Planning for Bush Fire Protection 2019”.* A bush fire impact assessment report will be required to be submitted with a Development Application which proves that the proposed subdivision fully complies with requirements of the “*Planning for Bush Fire Protection 2019”.* The bush fire impact assessment report shall be prepared by a suitably qualified and experienced

consultant.

3. The bush fire impact assessment report shall be prepared by a suitably qualified and experienced consultant. Refer to the Bush Fire Management chapter in Part E of the DCP.

11 DWELLING AND OUTBUILDING DESIGN REQUIREMENTS

11.1 Dwelling Siting and Orientation

11.1.1 Objectives

(a) To ensure development maintains the scenic environmental quality of the surrounding locality.

(b) To prevent the siting and orientation of any new building upon any prominent ridgeline or hilltop.

(c) To encourage new buildings to be well designed to suit the natural landform, topographical and other constraints of a site as well as preserve native trees and other vegetation, wherever possible.

11.1.2 Development Controls

1. The footprint of any dwelling and ancillary outbuildings or structures shall be restricted to the approved subdivision building envelope / Development Opportunity Envelope for the subject site. In cases of any existing allotment where building envelopes have not been identified, proposed buildings shall be restricted to legally cleared areas of the site only.

2. Buildings are to be orientated within the building envelope having regard to detailed site analysis.

3. The siting of any dwelling and / or outbuildings shall either be behind foreground screening remnant tree stands or within the lower part of a site whereby the building has no or little visibility from key viewing locations in the specific escarpment precinct.

11.2 Maximum Floor Space Ratio / Density

11.2.1 Objective

(a) To ensure any dwelling house or other building complies with the maximum floor space ratio requirements under *Wollongong Local Environmental Plan 2009*.

11.2.2 Development Control

1. The maximum floor space ratio for dwelling houses or other development within the escarpment shall be consistent with the relevant Floor Space Ratio Map contained in *Wollongong Local Environmental Plan 2009*.

11.3 Maximum Building Height

11.3.1 Objectives

(a) To ensure the height of any dwelling house or other building complies with the height provisions contained in Wollongong Local Environmental Plan 2009.

(b) To maintain the landscape character and scenic environmental quality of the specific precinct within the Illawarra Escarpment.

11.3.2 Development Controls

1. The maximum building height for dwelling houses and other ancillary outbuildings within the escarpment shall be in accordance with the relevant Height of Buildings Map contained in *Wollongong Local Environmental Plan 2009*.

2. Dwelling houses should generally be restricted to a single storey height and broken up into a series of pavilion forms, which step down the slope of the site.

3. Two-storey dwelling houses and other buildings will only be permitted in circumstances where the building envelope is either screened by foreground remnant vegetation or is within a valley floor /

lower escarpment slopes and the proposed building will have no or little visibility from key viewing locations in the specific escarpment precinct.

11.4 Minimum Building Separation Distance

11.4.1 Objectives

(a) To ensure the development is sympathetic with the landscape character and scenic environmental quality of the locality.

(b) To provide sufficient separation distances between dwelling houses, secondary dwellings and rural land uses, in order to minimise any potential adverse land use conflicts and / or additional pressures on adjoining agricultural activities.

(c) To minimise potential conflicts within the rural / non-urban zones and land uses within adjoining zones.

(d) To preserve and maintain satisfactory native vegetation buffer screen planting along property boundaries.

11.4.2 Development Control

1. Buildings must be sited in a manner that provides spatial separation between neighbouring properties, in order to provide privacy, avoid overshadowing and enable vegetative buffers between dwellings.

11.5 Building Form and Construction

11.5.1 Objectives

(a) To ensure development is sympathetic with the landscape character and scenic environmental quality of the specific precinct within the Illawarra Escarpment.

(b) To prevent the siting and orientation of any new building upon any prominent ridgeline or hilltop.

(c) To encourage new buildings to be well designed to suit the natural landform, topographical and other constraints of a site as well as preserve native trees and other vegetation, wherever possible.

11.5.2 Development Controls

1. The gross floor area of any first floor of a two-storey dwelling house should not exceed 70% of the gross floor area of the ground floor, in order to reduce the potential bulk of a dwelling house.
2. For any sloping site with a gradient of 10% (6 degrees) or more, the dwelling house shall be split level or of a raised timber floor construction, rather than a slab on ground construction.
3. Large dwellings (e.g. greater than 150m^2 on one floor) are to be split level or have their bulk broken down into two or more pavilion forms to lessen their scale and obtrusiveness.
4. A variety of roof forms (except flat roof designs), setbacks of upper floors, split floor levels, balconies, verandahs and/or eave overhangs shall be utilised to minimise building bulk.
5. Facades are to have a variety of light and shade provided by balconies, balustrades, awnings, screens, pergolas, decks and eaves.
6. Any proposed solar energy collector panels are to be positioned to minimise any potential visual impact from reflectivity of the panels from key sight line locations in the specific escarpment precinct.

11.6 External Building Materials and Finishes

11.6.1 Objectives

(a) To ensure all dwellings and other buildings are constructed of external building materials and colour finishes which reinforce the landscape character of the Illawarra Escarpment.

(b) To ensure all buildings are constructed of external building materials which comply with the requirements of the for "*Planning for Bush Fire Protection 2019*" and Australian Standard AS 3959:2018 *Construction of Buildings in Bushfire-prone Areas*.

11.6.2 Development Controls

1. Dwelling houses should be constructed with external building materials which reinforce the coastal woodland / rainforest character of the Illawarra Escarpment.
2. External building materials may include dark face brickwork, rendered or bagged masonry, stone, glass, weatherboard and metal cladding. Highly reflective untreated wall or roof materials will not be supported.
3. All external building materials must comply with the requirements of NSW Rural Fire Service "*Planning for Bush Fire Protection 2019"* and Australian Standard AS 3959:2018 *Construction of Buildings in Bushfire-prone Areas*.
4. All external wall materials/ finishes should be subtle, natural colours such as mid to dark greens, mid to dark browns or dark greys. Primary vibrant colours are to be restricted to highlights and trims, which are only visible in close proximity to the development and not from any key vantage point.
5. Lightly coloured or highly polished reflective material should be avoided to minimise any potential visual impact.
6. The colour of the roof shall complement the colour of the building façade but must be restricted to either a mid to dark green, mid to dark brown or dark grey colour finishes. The use of lightly coloured or unpainted roofing materials will not be supported.

11.7 Ancillary Outbuildings

11.7.1 Objectives

(a) To ensure the siting of ancillary outbuildings is within the curtilage of the main dwelling house.

(b) To ensure any outbuilding is located behind foreground vegetation and below any visually dominant ridgeline or hilltop.

11.7.2 Development Controls

1. The siting of outbuildings shall be within the curtilage of the main dwelling house and restricted to any approved building envelope/ Development Opportunity Envelope, in order to minimise potential visual impacts.
2. The siting of outbuildings is to be behind any foreground vegetation and below any visually dominant ridgeline or hilltop.
3. The design, building form, external building materials and colours of all outbuildings should be integrated with the external appearance of the main dwelling house.
4. Large agricultural storage sheds and the like are generally not appropriate for the escarpment area except in situations where the site is fully screened by foreground remnant vegetation or is situated within a lower part of the site. Secondly, the site for any large agricultural storage shed must be below the key viewing area sight lines for the specific escarpment precinct.

11.8 Dwelling houses and other buildings upon bush fire prone land

11.8.1 Objectives

(a) To ensure any dwelling house, secondary dwelling or other development upon bush fire prone land is designed to minimise the potential bush fire hazard risk.

(b) To minimise the siting of any dwelling houses or secondary dwellings away from ridge tops and other steeply sloping land, especially upslope lands, within saddles or narrow ridge crests.

(c) To ensure each dwelling house, secondary dwelling or other development residential subdivision is designed to provide satisfactory asset protection zone (APZ) separation distances from the bush fire hazard and guarantee that all dwellings are capable of achieving conformity with the "deemed-to-satisfy" requirements of the Building Code of Australia.

11.8.2 Development Controls

1. Any Development Application for a dwelling house or any other buildings upon land classified as bush fire prone land (i.e. under the RFS Bush Fire Prone Land Map (BFPLM)) must conform to all of the

requirements and specifications contained in the NSW Rural Fire Service publication titled *"Planning for Bush Fire Protection guidelines 2019"*.

2. A bush fire impact assessment report will be required to be submitted with a Development Application which demonstrates that the proposed development complies with the requirements of the *"Planning for Bush Fire Protection guidelines 2019"*. The bush fire impact assessment report shall be prepared by a suitably qualified and experienced consultant.

3. Any Development Application for a proposed development within the flame zone or where the proposal involves an alternate solution under the *"Planning for Bush Fire Protection guidelines 2019"*, will generally be referred to the district RFS Fire Control Centre for appropriate review and comment.

12 GENERAL REQUIREMENTS

12.1 Fencing

12.1.1 Objective

(a) To ensure fencing is of a design that is sympathetic with the scenic environmental quality of the locality.

12.1.2 Development Controls

1. Appropriate forms of fencing include post and wire or timber post and rail fencing. Front palisade fencing in a dark green or mid to dark brown colour may be suitable in certain circumstances.

2. Light coloured fencing or metal sheeting fencing is not supported.

3. Retaining walls, courtyard walls, fences and garden walls are to be of neutral or earthy colours.

12.2 Landscaping

12.2.1 Objectives

(a) To retain remnant native vegetation wherever possible, in order to maintain the landscape character and scenic environmental quality of the specific precinct within the Illawarra Escarpment.

(b) To encourage the use of native species indigenous to the Illawarra Region, especially rainforest species with a low bush fire hazard risk, wherever possible.

(c) To ensure all new buildings are sited and designed to protect and preserve native vegetation and all construction works incorporate appropriate measures to protect native trees and understorey vegetation from damage.

12.2.2 Development Controls

1. All new dwelling houses and other new buildings must incorporate appropriate landscape planting which help to soften the built form, retain the scenic character of the area, shelter the dwelling against undesirable climate conditions, maintain privacy and protect against potential soil erosion problems.

2. The following issues must be considered as part of the required landscape plan for any new dwelling or outbuilding:

   (a) Remnant vegetation should be retained, particularly significant trees on the site.

   (b) Native rainforest species with a low bush fire hazard risk which are indigenous to the Illawarra should be used, wherever possible.

   (c) Development should maximise habitat values and connectivity between bushland area through its siting, design and landscape treatment.

   (d) Vegetation to be retained onsite should be clearly marked to avoid accidental damage.

   (e) All construction works and materials (including stockpiling; fencing; installation of services; equipment e.g. site sheds and machinery; earthmoving equipment and skips for waste) are to be located away from vegetation to be retained onsite.

   (f) In bush fire prone areas, landscaping must be provided in accordance with the Bush Fire Management chapter in Part E of the DCP. Where a Bush Fire Assessment report recommends

the removal of vegetation to achieve APZ requirements, these requirements must be reflected on the landscape plan and the accompanied arborist report.

(g) Site landscaping must be integrated with stormwater management controls.

(h) All imported topsoil, fill or mulch must be free of weed species (including priority weeds).

12.3 Stormwater Drainage / Flooding

12.3.1 Objectives

(a) To minimise stormwater drainage run-off impacts upon downstream properties.

(b) To limit post development discharges to pre-development levels.

(c) To provide a sustainable stormwater drainage and water quality environment incorporating both natural and human-made landscape features and which is aesthetically pleasing.

(d) To encourage water sensitive urban design initiatives to maintain or enhance the water quality in watercourses.

(e) To ensure any development upon flood prone land is in accordance with the requirements of the Floodplain Management chapter in Part E of the DCP.

12.3.2 Development Controls

1. A detailed stormwater drainage concept plan together with calculations is required to be submitted with the Development Application.

2. The proposed stormwater drainage system for the subdivision shall be designed in accordance with the requirements of the Stormwater Management and Water Sensitive Urban Design chapters in Part E in this DCP and shall incorporate water sensitive urban design techniques, wherever possible, in order to minimise runoff and restrict discharge from the site.

3. All stormwater drainage systems are to be designed to prevent public access to any hazardous drainage and water quality facilities.

4. The discharge of stormwater runoff must be restricted into a lawful point of discharge such as a natural watercourse or waterway to which the development site naturally drains or existing stormwater drainage systems as agreed to by Council.

5. Where there is no existing lawful point of discharge, the developer must:

   (a) Dedicate the discharge point to Council's connecting reserves or easements that provide legal continuity from the site to an off-site legal point of discharge into a natural watercourse or waterway or suitable public stormwater drainage system and

   (b) Construct the necessary connecting drainage works.

6. For downward sloping sites away from public roads or watercourses, written evidence is required from downstream property owners which confirms their agreement for stormwater drainage pipes and associated creation of necessary easements through their properties, in order to guarantee that satisfactory arrangements have been made for stormwater drainage from the site. Documentary evidence of the downstream owner's consent to the creation of a necessary stormwater drainage easement and associated pipelines is required at the time of lodgement of the Development Application.

7. Any development upon a site which is identified as "flood affected" by Council's Property database system must comply with the requirements of Chapter E13: Floodplain Management in Part E of the DCP and the NSW Floodplain Development Manual.

12.4 Water Supply

12.4.1 Objectives

(a) To ensure any dwelling within the Illawarra Escarpment is provided with sufficient water supply to cater for domestic water and livestock watering requirements.

(b) To ensure a separate dedicated water supply storage tank is provided for fire fighting purposes in accordance with the NSW Rural Fire Service "*Planning for Bush Fire Protection guidelines 2019*".

12.4.2 Development Controls

1. The provision of an on-site (non-reticulated) water supply system with a minimum storage capacity of 100,000 litres is required for each dwelling. The water supply is recommended to comprise of a number of underground and above ground rainwater tank(s), in order to provide some flexibility in catering for both domestic water supply and livestock watering requirements.

2. The provision of a dedicated water supply storage tank for fire fighting purposes is also required for each dwelling, as per the NSW Rural Fire Service *Planning for Bush Fire Protection guidelines 2019*.

3. The full details of the proposed water supply systems shall be submitted with the Development Application.

12.5 Wastewater Management / Treatment Systems

12.5.1 Objectives

(a) To ensure the protection of the environment including groundwater, surface water, land and vegetation through the selection of an appropriate on-site sewage management system for the site.

(b) To prevent potential public health risks from on-site sewage disposal.

12.5.2 Development Controls

1. For lands unserviced by reticulated sewerage supplies, a wastewater treatment system is required to be provided in accordance with the On-site Sewage Management Systems chapter in Part E of the DCP.

2. The full design details of the proposed wastewater management system are to be submitted with the Development Application for any dwelling house or other development.

12.6 Waste Management

12.6.1 Objectives

(a) To minimise the volume of waste generated during the demolition and construction phases of development through re-use and recycling and the efficient selection and use of resources.

(b) To minimize demolition waste by promoting adaptability in building design and focusing upon end of life deconstruction.

(c) To provide appropriately located, sized and accessible waste storage facilities.

(d) To ensure all subdivisions are designed to provide suitable storage for waste and recycling bins within the public road reserve.

12.6.2 Development Controls

1. Any development must be designed to ensure compliance with the requirements of the Waste Management chapter in Part E of the DCP.

2. All subdivisions must be designed to enable the suitable provision for waste facilities. In cul-de-sacs, the head of the cul-de-sac must be designed to provide sufficient road reserve width (footpath area), in order to enable the storage of garbage and recycling bins without hindering access to adjacent properties.

3. Battle axe allotments shall provide sufficient area within the battle axe access handle to cater for the provision of garbage and recycling bins. This garbage and recycling bin storage area shall be provided within 2 metres of the adjoining public road.

4. Applicants are also encouraged to liaise directly with staff from Council's Waste Services Section of the Open Space and Environmental Services Division, in order to guarantee satisfactory waste service arrangements are available and to minimise potential future problems arising from poorly designed waste and recycling storage facilities.

12.7 Riparian Corridor Management

12.7.1 Objectives

(a) To protect urban creeks and riparian corridors from further degradation and improve their environmental function.

(b) To conserve, enhance and protect existing native riparian vegetation, wherever possible.

(c) To maintain or enhance the stability of the bed and banks of a watercourse.

(d) To minimise 'edge effects' at the riparian corridor / urban interface by the provision of a suitable riparian corridor width.

(e) To ensure riparian land management measures are compatible with floodplain risk management objectives.

12.7.2 Development Control

Any proposed subdivision or development on, in or within 40 metres of any bed of a river, creek or intermittent watercourse, lake or estuary will be subject to compliance with the requirements of Chapter E23 Riparian Corridor Management in this DCP.

12.8 BASIX (Residential Building Sustainability)

12.8.1 General

1. The BASIX Certificate identifies the energy and water saving features to be incorporated into the development. A BASIX Certificate is required for a dwelling house or secondary dwelling. A BASIX Certificate is also required for alterations and additions to an existing dwelling house where the estimated cost of construction is $50,000 or more as well as a swimming pool / spa for a dwelling where the capacity of the pool or spa is 40,000 litres or more.

2. A BASIX Certificate is issued after a BASIX assessment has been satisfactorily completed using the NSW Department of Planning web-based planning tool.

3. The BASIX Certificate must be obtained prior to lodgement of the Development Application or the Complying Development Application. The BASIX commitments are also required to be shown on the relevant architectural plans submitted with the Development Application or the Complying Development Application. The specifications accompanying the architectural plans must also identify the BASIX commitments. The BASIX commitments must include factors such as wall insulation and water saving showerheads and taps.

13 REFERENCES

HLA-Envirosciences Pty Ltd. 2007. *Illawarra Escarpment Explanatory Document*, 1 June 2007, prepared for Wollongong City Council

HLA-Envirosciences Pty Ltd. 2007. *Illawarra Escarpment Land Use Review Strategy*, 1 June 2007, prepared for Wollongong City Council

NSW Rural Fire Service, 2019. "*Planning for Bush Fire Protection 2019"*

Wollongong City Council. 2005. *Illawarra Escarpment Strategic Management Plan*

Appendix 1: Key View Point Locations for Each Precinct within the Illawarra Escarpment

Precinct 1 – Marshall Mount / Calderwood Precinct

1. Any proposal to develop within the Marshall Mount / Calderwood precinct must be accompanied by a Visual Impact Assessment report of the proposed development, taking into account both the local and regional context.
2. The landscape within the Marshall Mount / Calderwood precinct has varying capacity to visually absorb development. The elevated clearings on the 220m contour are highly visible from a distance. The steep slope angle and visible grass surface limits identification of areas to site development within these cleared areas.
3. The North Marshall Mount Valley is a contained landscape with a high visual absorption capacity and Development Opportunity Envelope potential.
4. The ridgelines adjacent to Huntley Colliery provide landform screening and a high visual absorption capacity and Development Opportunity Envelope potential. The siting of development at the rear of landform benches and the planting of foreground screening forests on beach fronts may help the site achieve a high visual absorption capacity and Development Opportunity Envelope potential.
5. Bong Bong Pass mine stockpile site is a highly visible site which if not carefully managed or developed inappropriately, may pose a significant visual impact when viewed from various key viewpoints in the precinct and beyond.

Table 2: Precinct 1 – key view point GPS Coordinates [MGA (GDA 94)]

Location	Easting	Northing
Cleveland Road	292666	6178571
Marshall Mount Road	295290	6176379
Marshall Mount Road	293308	6175129
Marshall Mount Road	292374	6174461

Precinct 2 – West Dapto Bowl

1. Any proposal to develop within the West Dapto Bowl precinct must be accompanied by a Visual Impact Assessment report of the proposed development, taking into account both the local and regional context.
2. The landscape within the West Dapto Bowl precinct has varying capacity to visually absorb development. Clearings within the escarpment associated with the Wongawilli Colliery development are indistinct in the landscape in this area therefore the area has a high visual absorption capacity and a high Development Opportunity Envelope potential.
3. Clearings within the escarpment associated with rural residential development from Wongawilli through Dombarton to Reddalls Road are highly visible from a distance. The Development Opportunity Envelope potential for rural residential development will be restricted to legally cleared sites where foreground screen planting exists or where foreground screen planting revegetation works can effectively screen the site.

Table 3: Precinct 2 - key view point GPS Coordinates [MGA (GDA 94)]

Location	Easting	Northing
Farmborough Road	298936	6184885
Fairloch Park	298976	6184782
Canterbury Road	300646	6183615
West Dapto Road	298848	6183454
West Dapto Road	297349	6183372
West Dapto Road	296646	6182696
West Dapto Road	294888	6182490
Bong Bong Road	294607	6181025
Bong Bong Road	294292	6180728
Diamond Brothers Reserve	296667	6181093
Cleveland Road	294786	6179689

Precinct 3 – The Heights

1. Any proposal to develop within The Heights precinct must be accompanied by a Visual Impact Assessment report of the proposed development, taking into account both the local and regional context.
2. The landscape within The Heights precinct is highly visible from a distance. Any development will be limited to legally cleared sites which are capable of being screened through with appropriate revegetation works.

Table 4: Precinct 3 - key view point GPS Coordinates [MGA (GDA 94)]

Location	Easting	Northing
Derribong Drive	300858	6186799
Staff Road	300462	6186169
Waples Road	299580	6185375
Farmborough Road	298936	6184885
Fairloch Park	298976	6184782
Kotara Crescent	300895	6184478
Canterbury Road	300646	6183615

Precinct 4 – Mt Kembla

1. Any proposal to develop within the Mount Kembla precinct must be accompanied by a Visual Impact Assessment report of the proposed development taking into account the local context only.
2. The landscape within the Mt Kembla precinct has a high capacity to absorb development owing to its contained landscape and hence, a high Development Opportunity Envelope potential exists.
3. There are no key viewing points required to be considered in this precinct and hence only localised views occur.

Precinct 5 – Mount Keira

1. Any proposal to develop within the Mt Keira precinct must be accompanied by a Visual Impact Assessment report of the proposed development, taking into account both the local and regional context.
2. There were few opportunities for future development on cleared land within this precinct, with the exception of the Kemira Colliery area located on the eastern slopes above Keiraville.
3. Clearings within the landscape associated with the Kemira Colliery development are indistinct in the landscape and as a consequence the land has a high visual absorption capacity and Development Opportunity Envelope potential.

Table 5: Precinct 5 - key view point GPS Coordinates [MGA (GDA 94)]

Location	Easting	Northing
Derribong Drive	300858	6186799
Staff Road	300462	6186169
Bourke Street	306323	6191935
Guest Park	306128	6192409
Meadow Street Reserve	305915	6194343
Francis Street	306223	6194798

Precinct 6 – Balgownie Valley

1. Any proposal to develop within the Balgownie Valley precinct must be accompanied by a Visual Impact Assessment report of the proposed development, taking into account both the local and regional context.

2. The landscape within the Balgownie Valley precinct has varying capacity to visually absorb development. Clearings within the escarpment associated with the Corrimal Colliery development are indistinct in the landscape and provide a high capacity to absorb development with careful siting of the Development Opportunity Envelope.

Table 6: Precinct 6 - key view point GPS Coordinates [MGA (GDA 94)]

Location	Easting	Northing
Mount Ousley Road	306048	6191160
Northgate Centre	306197	6191145
Bourke Street	306323	6191935
Guest Park	306128	6192409

Precinct 7 – Coastal Ridges

1. Any proposal to develop within the Coastal Ridges precinct must be accompanied by a Visual Impact Assessment report of the proposed development, taking into account both the local and regional context.

2. A number of clearings within the escarpment associated with the South Bulli Colliery development have long slope lengths on less steep slopes and are highly visible from a distance. Clearings within the escarpment associated with South Bulli Colliery with foreground screening forest are less highly visible from a distance. Potential exists following revegetation works for development to be visually absorbed in the landscape, following creation of an appropriate Development Opportunity Envelope.

3. Clearings within the escarpment associated with rural residential development on escarpment benches on Bulli Pass when viewed from below are indistinct in the landscape, with a high visual absorption capacity and a high Development Opportunity Envelope potential.

Table 7: Precinct 7 - key view point GPS Coordinates [MGA (GDA 94)]

Location	Easting	Northing
Guest Park	306128	6192409
Meadow Street Reserve	305915	6194343
Francis Street	306223	6194798
Bellambi Lane	307059	6195780
Hollymount Park	307640	6196696

Location	Easting	Northing
Hollymount Park	307489	6196870
Mailbag Hollow Park	308072	6199050
Bulli Beach Surf Life Saving Club	309145	6198304
Sandon Point	309259	6199295
Thirroul Surf Life Saving Club	309254	6200791
Mountain Road	309584	6201438
Headland Avenue	310428	6202470
Woonona Beach	308907	6197385
Mount Keira Lookout	303014	6191168
Southern Gateway	307032	6201588
Panorama House	307661	6202191

Precinct 8 – Cliff Coast

1. Any proposal to develop within the Cliff Coast precinct must be accompanied by a Visual Impact Assessment report of the proposed development, taking into account both the local and regional context.
2. Existing residential development clearing on escarpment benches (immediately above the railway line) are relatively indistinct in the landscape with a high visual absorption capacity and a Development Opportunity Envelope potential.
3. Any new development will be restricted to within existing clearings on rear of escarpment benches. The escarpment benches must have foreground screening forest to ensure that any potential developments when viewed from below is indistinct in the landscape.

Table 8: Precinct 8 - key view point GPS Coordinates [MGA (GDA 94)]

Location	Easting	Northing
Sandon Point	309259	6199295
Mountain Road	309584	6201438
Headland Avenue	310428	6202470
St James Park	310738	6203480
Coledale Beach	311100	6203981

Location	Easting	Northing
Southern Gateway	307032	6201588
Panorama House	307661	6202191

Precinct 9 – Stanwell Precinct

1. Any proposal to develop within the Stanwell precinct must be accompanied by a Visual Impact Assessment report of the proposed development, taking into account both the local and regional context.

2. Views of development below the railway line and within the re-entrant valley landscape of the precinct would be considered local visual impacts.

3. Development within the Stanwell precinct should be complimentary with the existing landscape and urban character.

Table 9: Precinct 9 - key view point GPS Coordinates [MGA (GDA 94)]

Location	Easting	Northing
Paterson Road	313550	6208728
Stanwell Park	314728	6210720

Precinct 10 – Maddens Plains

1. Any proposal to develop within the Maddens Plains precinct must be accompanied by a Visual Impact Assessment report of the proposed development, taking into account both the local and regional context.

2. The low stature of the landscape vegetation and the proximity to the escarpment edge at Maddens Plains provides no screening benefit for any potential development in this landscape. The study concluded that the landscape structure provides a low visual absorption capacity with minimal to no Development Opportunity Envelope potential.