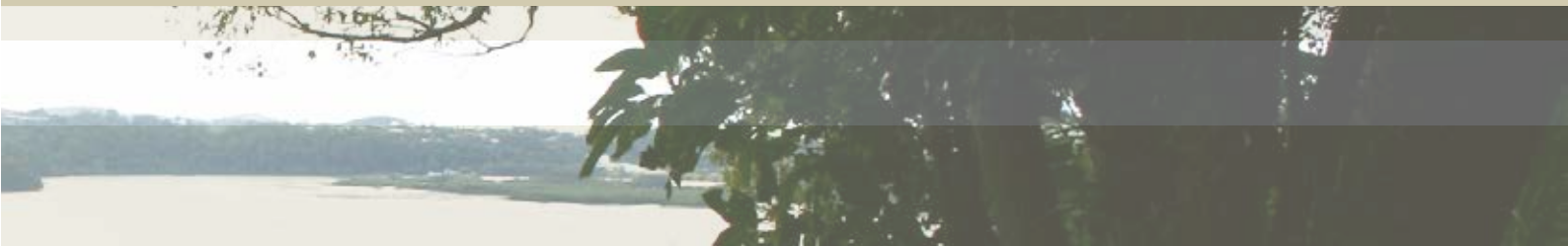

PART 02 SUBDIVISION

- 2.1 Vision for Area E and DA Requirements
- 2.2 Urban Footprint & Design Principles
- 2.3 Design Principle 1 - Environment
- 2.4 Design Principle 2 - Landscape Character and Views
- 2.5 Design Principle 3 - Landforming
- 2.6 Design Principle 4 - Road Layout Traffic and Transport
- 2.7 Design Principle 5 - Open Space
- 2.8 Design Principle 6 - Dwelling and Allotment Mix
- 2.9 Design Principle 7 - Urban Design, Streetscape and Public Domain
- 2.10 Design Principle 8 - Solar orientation
- 2.11 Design Principle 9 - Hazards and Resilience
- 2.12 Design Principle 10 - Infrastructure





2.1 - Vision for Area E

“The vision for Area E is to create opportunities for a high quality suburban and village lifestyle that recognises its contextual relationship to both the site and the landscape character of the Tweed by providing a sense of place, community, environmental stewardship, as well as accessibility to all urban services including a range of open space opportunities and the provision of water, sewer and road infrastructure.”

Best Practice Design and Sustainability

The overall concept for Area E is to produce a high quality residential development and village centre area, which offers a range of housing types and community services, and maximises the opportunities provided by the topography.

The aim is to create a suburban environment that respects the natural landform, while creating a modern look and feel built around a distinctive character and design and reflecting best practice new urban development.

Street layout and allotment configuration will incorporate best practice subdivision design, which is based on principles of good site design and orientation to achieve optimum solar access, capture prevailing breezes and the fantastic views afforded from various vantage points around the site. The residential densities and lot layout minimise urban sprawl and provide the flexibility to develop a range of site and climatically appropriate housing types to meet a range of affordability and lifestyle demands.

Health and Wellbeing

Each of the residential precincts is bounded by and connected to a network of well-designed public open spaces which ensures walkable distances to a variety of recreation spaces.

The open space and recreation strategy for Area E provides a diverse range of quality open spaces and recreational pursuits suited to the site conditions, including the sloping conditions and proximity to large tracts of environmentally protected lands. These areas also provide visual relief to the hardest edges of the built environment.

The sloping site conditions allow diversity in the way recreational space is provided by encouraging additional non-traditional uses like mountain bike trails and community gardens within defined casual and structured open space. Open space areas defined within the structure plan and resultant master plans should ensure that scenic views and elevated areas are generally maintained for the benefit of the broader community and provide flexibility to meet the changing recreation needs of future generations.

Whilst much of the site is sloping, it is important where possible, to ensure that the residential and open space areas have high levels of pedestrian walkability to community facilities, open space and other public spaces, through well designed and accessible pedestrian pathways, cycleways and walking trails.

Creating a Sense of Place

The village centre will serve as the primary meeting place and activity hub within the estate, through well designed commercial and retail spaces co-located with housing and public open space, improving the quality and activity of the public domain and enriching the experience of the community.

The village centre presents as a 'high street' with integrated car parking, vehicular and pedestrian circulation and public domain improvements at a local village scale and character. The development of key sites should demonstrate a high standard of coastal hinterland architecture and urban design, provide a built form character which embraces the public domain and provide landmark developments for the Area E community.

The village centre and surrounding residential area is supported by a strong private and public transport network which connects and integrates Area E to surrounding localities.

Together these attributes will create a sense of place, foster community spirit and develop a sustainable community with strong social wellbeing and livability.

Subdivision Development Application Checklist

Beyond the requirements contained within Section A5 and other applicable documents, the following information is to be submitted with any Development Application for subdivision:

- ☑ Flora and Fauna assessment/s
- ☑ A Wetland Restoration Plan and Habitat Restoration Plan for all land zoned Environmental Protection
- ☑ Visual impact assessment
- ☑ Plans and site sections that demonstrate design measures employed which minimise bulk earthworks over the site
- ☑ Accurately represented and documented detail of all proposed site works including cut, fill, benching and retaining walls
- ☑ Landforming plans detailing the location, management and final placement of Class 6 Soils
- ☑ Any application seeking development consent prior to the construction of Broadwater Parkway, must be accompanied by a traffic study demonstrating the ability for the proposal to be accommodated by existing or alternative proposed road networks to the satisfaction of Council.
- ☑ Density Projection Plan including a breakdown and schedule of differing allotment sizes
- ☑ Structural System Plan (plan and schedule) to demonstrate the nexus between slope, allotment size and appropriate dwelling type.
- ☑ Public Domain Plan
- ☑ Soil Stability and Site Investigations
- ☑ Site Audit Statement (SAS) certifying the land is suitable for the proposed use.

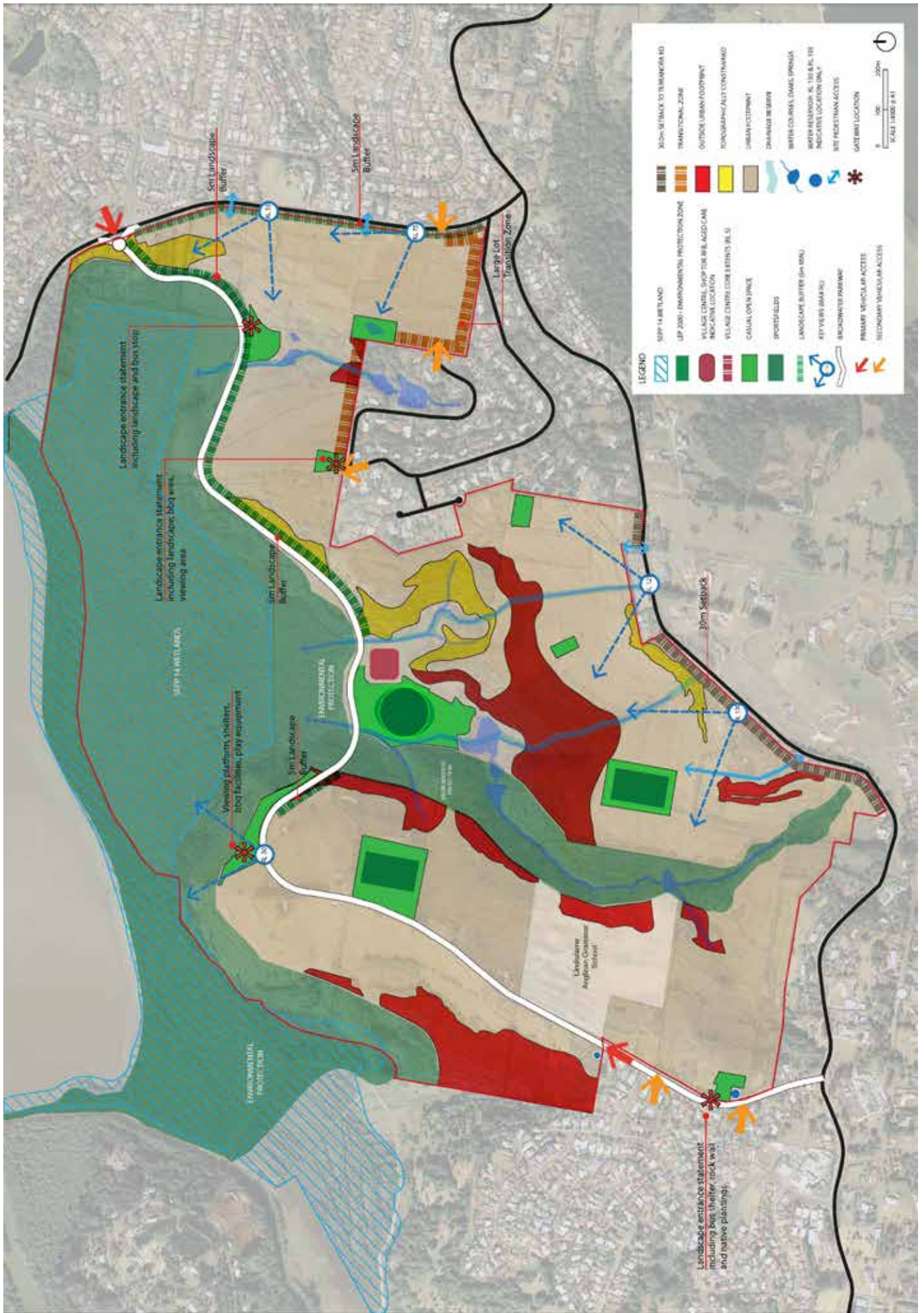


Figure 2.1 - Urban Footprint Controls

2.2 - Urban Footprint & Design Principles

In order to realise the Vision for Area E, this Code contains a detailed Urban Footprint, followed by a series of Design Principles, applicable to the various stages of development that Area E will contain. These Design Principles are integrated and should be read in conjunction with each other to ensure holistic high quality outcomes for the site.

The Urban Footprint for Area E is detailed within Figure 2.1 and has been derived from the following methodology.

In total, Area E comprises 296ha of land, comprising a mixture of Urban, Special Uses and Environmental Protection. In establishing an urban footprint for development, the land identified for environmental protection is removed, in keeping with the Vision of this Code. Whilst these tracts of land may still be modified by development, as is allowable under the Tweed LEP, the intent of this Code is to rehabilitate and protect these areas. Accordingly, development is not supported within the environmental protection zones/areas by this Code, except for opportunities to improve its condition, maintenance and enjoyment.

After removing environmental protection areas from the urban footprint, the next highest order constraint is land that is identified as possessing a combination of greater than 18 degrees slope and identified as 'Bushland'. It is acknowledged by this Code that portions of the identified land may be minor in size and significance and can be incorporated within a wider urban development concept, however, these tracts of land also comprise a significant portion of the site's landscape and visual character, and accordingly their retention or enhancement is of importance. The Urban Footprint displayed within Figure 2.1 details the tracts of land possessing these attributes which may be considered for sensitive urban development where it can be demonstrated that the development satisfactorily addresses the Design Principles of this Code. Council may also consider urban development in these areas that is vital for the implementation of the Code, i.e. essential infrastructure.

The final determinative constraint informing the urban footprint is land mapped as bushland. Whilst not normally a prohibitive constraint, in order to achieve the vision and design principles of the Code, it is considered critical to retain the majority of this land for its visual quality, urban relief and to integrate with wildlife corridors. As with above, where bushland is fragmented and can be incorporated within a wider urban development concept, the urban footprint has been modified accordingly.

It is critical to acknowledge that the above constraints are not exhaustive of the constraints that apply to the site. Additional constraints such as flooding, acid sulphate soils, soil stability, slope and bushfire prone land for instance have the capacity to influence the type, style and scale of development. Further discussion on these matters is contained throughout this Code.

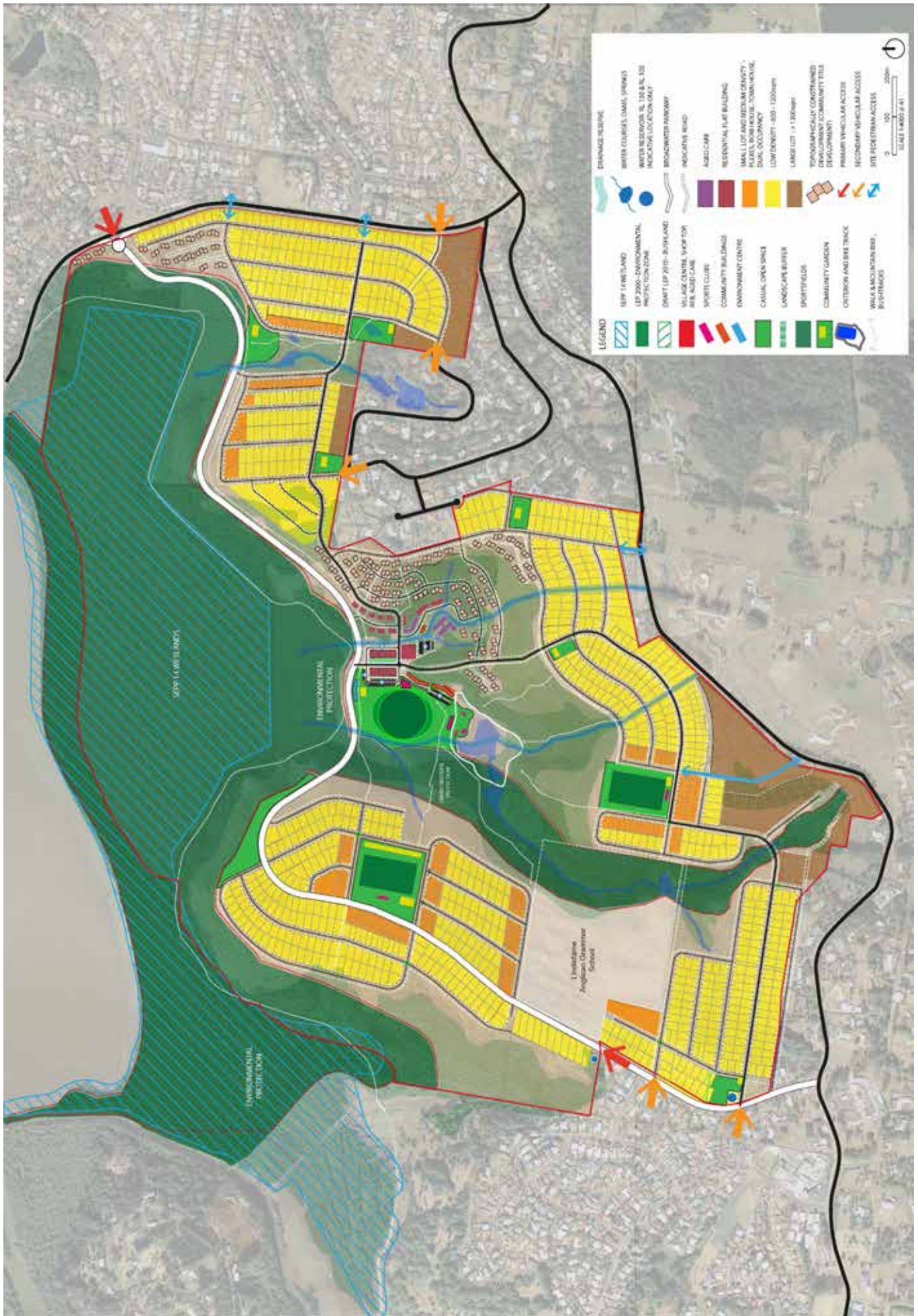


Figure 2.2 - Indicative Structure Plan

Objectives

- *Achieve the orderly and efficient use of land.*
- *Achieve a landscape character strategy that urban development within Area E should be compact settlements interspersed within the dominating landscape composition of wetland, vegetated valleys, vegetated escarpment and ridgelines.*
- *Promote high quality development that integrates the Design Principles of this Code.*
- *Promote an urban release area of design excellence.*

Development Control

1. Development within the identified urban footprint must address the design principles of this Code, as well as Council's other applicable policy instruments, standards and guidelines within a subdivision development application.
2. In addition to Development Control 1, development of land identified as Topographically Constrained are encouraged to consult with Council planners throughout the design and application preparation process.
3. This Code does not support urban development outside the urban footprint unless for critical/essential infrastructure.

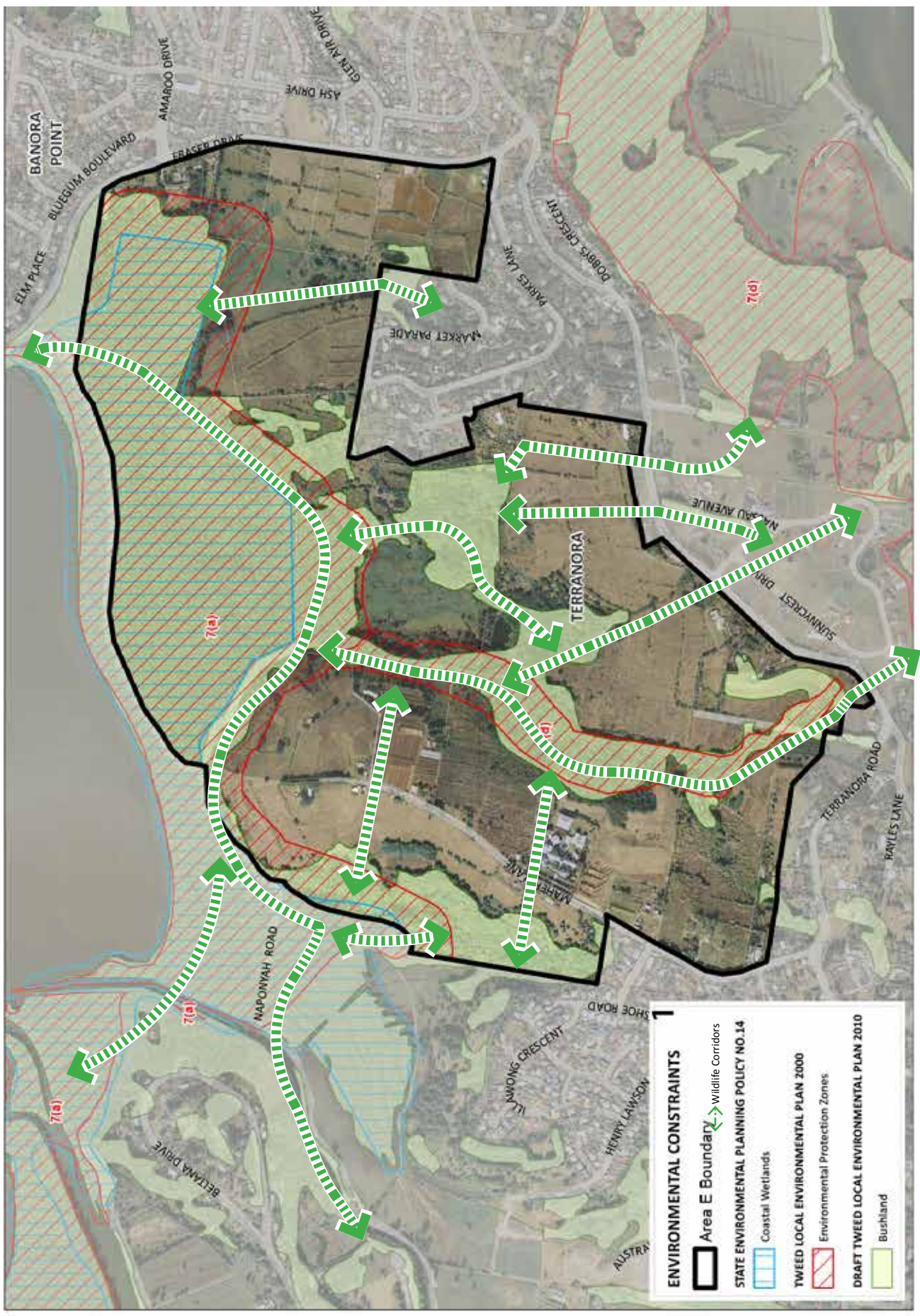


Figure 2.3 - Environmental Attributes

2.3 - Design Principle 1: Environment

Vision

To facilitate the preservation and enhancement / rehabilitation of environmental zones providing management for the conservation of threatened and endangered species. This includes the maintenance of open drainage networks as land of environmental quality where possible, preservation of native bush land vegetation and recognition of areas high environmental amenity value. Ensure that proposed uses adjacent to environmental protection zones do not have significant adverse impacts.

Preserve

Whilst large tracts of the environmental land has been cleared in the past, environmental surveying has identified a number of endangered ecological communities (EECs), both within land currently identified for Environmental Protection, and within urban zoned land. As part of the preparation of individual development applications, flora and fauna assessments will be required to identify the presence of land of high environmental quality, suitable buffering and ongoing management. Urban development within land identified as Environmental Protection is strongly discouraged by this Code, as indicated by the Urban Footprint illustrated in Figure 2.1.

Enhance

Area E comprises a number of deep, vegetated valleys and bush-clad slopes, forming an important part of its landscape and visual character. As part of the future subdivision and development of Area E development must incorporate design features to not only maintain these visual characteristics, but link with adjoining ecology and wildlife corridors. Development proponents must explore methods to provide visual 'breaks' to the built form by way of suitably vegetated corridors permeating throughout Area E. Figure 2.3 provides examples of green corridors that must be investigated within future applications both for their environmental and urban design/visual value.

Rehabilitate

It is required as part of the future subdivision and development of Area E that areas of the Environmental Protection Zone are restored and rehabilitated. The rehabilitation of environmental land will provide an important buffer to the Terranora Broadwater and State Environmental Planning Policy No. 14 Wetland, particularly during the construction phase of the urban release area, as well as improving the amenity of the area. As discussed in other areas of this Code the desired road pattern is to include road interfaces with natural areas rather than private land tenure, allowing an improved public interface with these areas, easier management and rehabilitation.



Area E has a unique and varied ecology ranging from sensitive SEPP 14 Wetlands and saltmarshes along the northern lower reaches where the site joins the Terranorra Broadwater to the densely vegetated valleys and gullies, that comprise a diverse mix of endemic pockets of remnant rainforest, other significant endemic species and introduced exotic species. Photo Credits: Wetlands Restoration

Objectives

- *The environmental lands, natural watercourses and other natural systems are protected and retained.*
- *To preserve and protect land of high ecological significance from urban development.*
- *To encourage the enhancement of land with high environmental qualities.*
- *To provide for the rehabilitation and enhancement of degraded habitat and ensure that comprehensive rehabilitation plans form part of any future development applications or masterplans.*
- *To provide for the protection and improvement of existing hydrological conditions in Terranora Broadwater.*
- *To provide a natural growth boundary to residential development and visual relief for the proposed urban environment.*
- *To integrate localised 'green belts' into the urban footprint.*
- *To create additional wildlife corridors.*
- *To embody urban development within a park-like setting.*

Development Control

The following information is to be submitted with any Development Application for subdivision:

- Flora and Fauna assessments will be required to identify the presence of land of high environmental quality, suitable buffering and ongoing management.
- A Wetland Restoration Plan and Habitat Restoration Plan must be prepared to Council's satisfaction for all land zoned for Environmental Protection.

1. Demonstrate that the environmental protection areas are retained and protected, that existing wildlife corridors and vegetative links have been maintained, and links identified within Figure 2.3 established. These links could be continuous tracts of vegetation, or where they traverse urban areas, a strong linking canopy of native street trees.;
2. Demonstrate suitable buffering and ongoing management of land possessing high environmental quality;
3. Demonstrate that an adequate buffer of at least 20m (which may include the road reserve) is retained around the edge of the environmental protection area;
4. Demonstrate the works identified within the Council approved Wetland Restoration Plan and Habitat Restoration Plan that the development will be responsible for and the intended method of addressing the works required;
5. Demonstrate that any wetland on the land will be restored and managed to the consent authority's satisfaction to restore freshwater wetland values and minimise breeding habitat for saltwater mosquitoes and biting midges.

Note - It is acknowledged that land requiring restoration works is in fragmented ownership. To this extent, Council is open to discussion with applicants regarding delivery methods for the restoration work identified to ensure equitable distribution across the landowners and development of Area E. The developer will be responsible for the restoration works of the area of environmental protection to Council's satisfaction. Should environmental areas be dedicated to Council in any subdivision or other development, Council may enter into an agreement for a maintenance period and contribution prior to handover and all restoration works must be completed to Council's satisfaction.



View - Looking north from Fraser Drive



View - Looking east towards Fraser Drive



View - Looking north from Mahers Lane Precinct



View - Looking South West from Mahers Lane Precinct

2.4 - Design Principle 2: Landscape Character and Views

Vision

The landscape and visual character of the site should be recognised and enhanced. Existing significant landscape features including topography, overland flow paths, dams, native vegetation and other significant stands of vegetation will be retained. Realise and retain key visual character components of the site through a contemporary urban structure and built form.

Recognise

The unique attributes of Area E has provided a varied, yet strong landscaped and visual character. As a result of topography and historical land uses, the key visual character components of the site include:

- Strong visual connection with the Terranora Broadwater, Border Ranges and undulating vegetated hinterland;
- The visual connection of site with other surrounding urban settlements including parts of Banora Point to the east and Bilambil to the west;
- Rural/Agricultural land use prominence, providing tree lined accesses, windbreaks, older farm houses and other agriculturally based built forms;
- The dominance of two clear ridge lines;
- Ridgelines separated by two steep, deep vegetated valleys;
- Small watercourses running through each of the valleys;
- Vegetated hillside within the central precinct;
- Sporadic pockets of vegetation on slopes;
- Visual prominence from numerous private and public vantage points;
- The area is presently defined by a collection of residential precincts within a vegetated undulating hinterland setting.

The site is highly visible from the northern side of the Terranora Broadwater looking south. Figure 2.5 details the prominent vantage points where Area E is viewed from.

Enhance

Some of the site's best views are experienced from the highest points of the site travelling along Terranora Road. It is important that these key vantage points and identified view fields are not obstructed by future development. Whilst elevated areas deliver high quality views, cross-site views should also be acknowledged and embraced. The natural visual focus of Terranora Broadwater and its edges as a natural setting is to be enhanced through the prescribed Urban Footprint and rehabilitation plans. Elevated public open space areas must retain views to Terranora Broadwater, and where possible, the Border Ranges. The provision of viewing platforms as a gateway feature (particularly to the Mahers Lane precinct) needs to be explored.

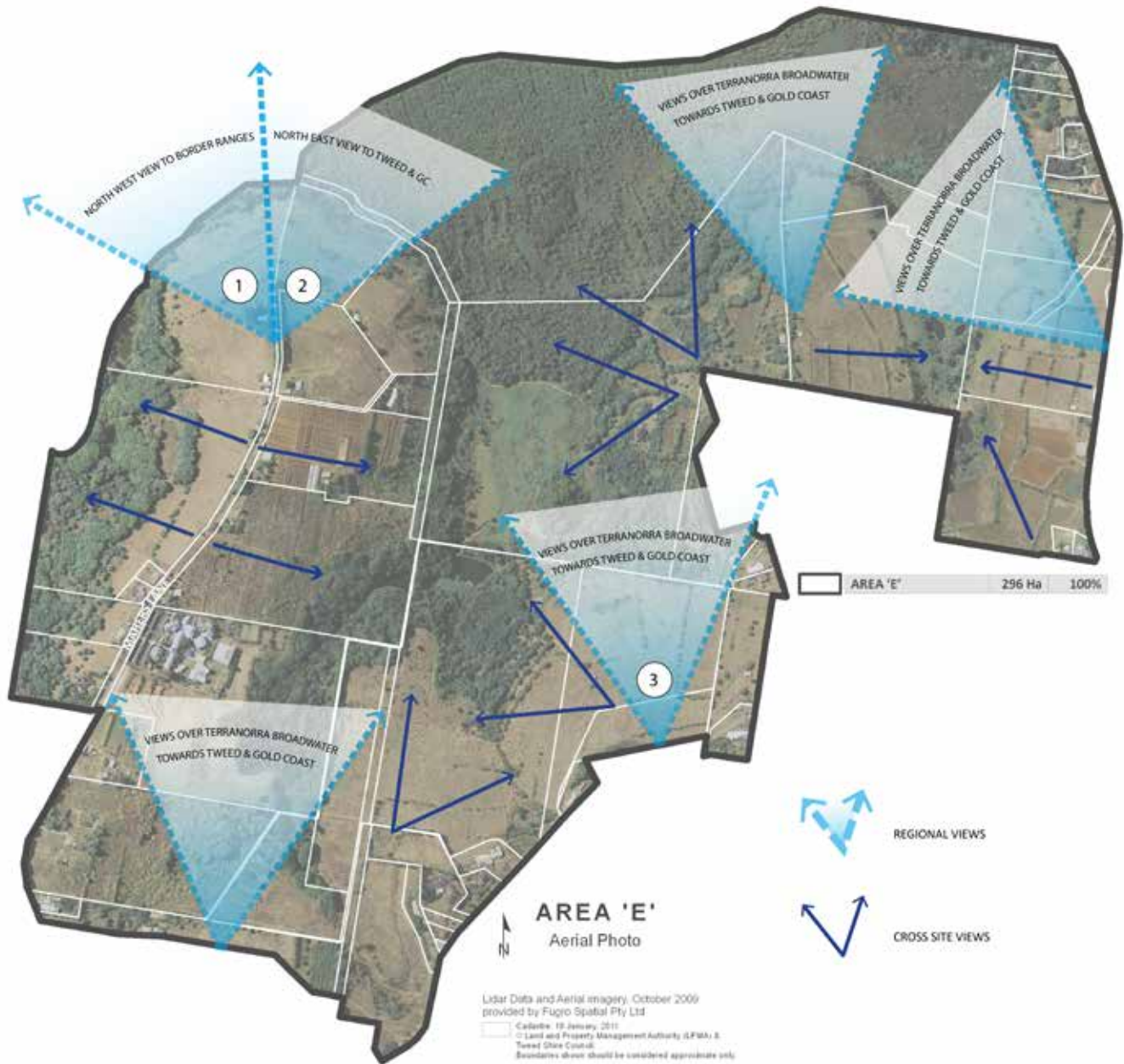


Figure 2.4 - Views out of Area E and Internal Views

Objectives

- *Maintain the integrity of ridge lines, valleys and natural topographic features as an important part of the localities character.*
- *Promote subdivision design which reduces the need for benching and significant cut and fill.*
- *To ensure site modifications, retaining walls and engineered elements do not adversely impact on the streetscape, or precincts character.*
- *The watercourses and vegetated drainage lines running through the site provide excellent visual, recreational, educational and environmental preservation opportunities and are to be integrated with opportunity for pedestrian links between.*
- *Realise and retain key visual character components of the site through a contemporary urban structure and built form.*
- *Provide view sharing and maintenance of view fields.*
- *Maintain important regional and local views.*
- *Preserve the visual amenity of and within the site.*
- *The identification and retention of green breaks, important feature trees / stands of trees and important view fields.*

Development Control

The following information is to be submitted with any Development Application for subdivision:

- Visual impact assessment

1. Any proposal must detail consistency with the visual strategies detailed above in the format of a visual impact assessment as part of any subdivision development application. The visual analysis should address:
 - key vantage points both into and out of the Area E site as identified within this plan;
 - provide visualisations of subdivision pattern and indicative built form by way of 3D photo montage from key surrounding vantage points around the site (refer to Fig 2.5), as well as from key cross site vantage points. All visualisations are to be provided at an appropriate scale for meaningful assessment. Montages should illustrate a representation of indicative built form including particularly roof materials and colour.
2. Any proposal must not obstruct the key view lines as identified in the identified 5 key views illustrated at Figure 2.5 and demonstrate the subdivision design enables future development of lots that can preserve the key view lines.
3. Any proposal must demonstrate that the undulating and vegetated valley character is maintained as an important part of the sites visual character in terms of regional inward views.

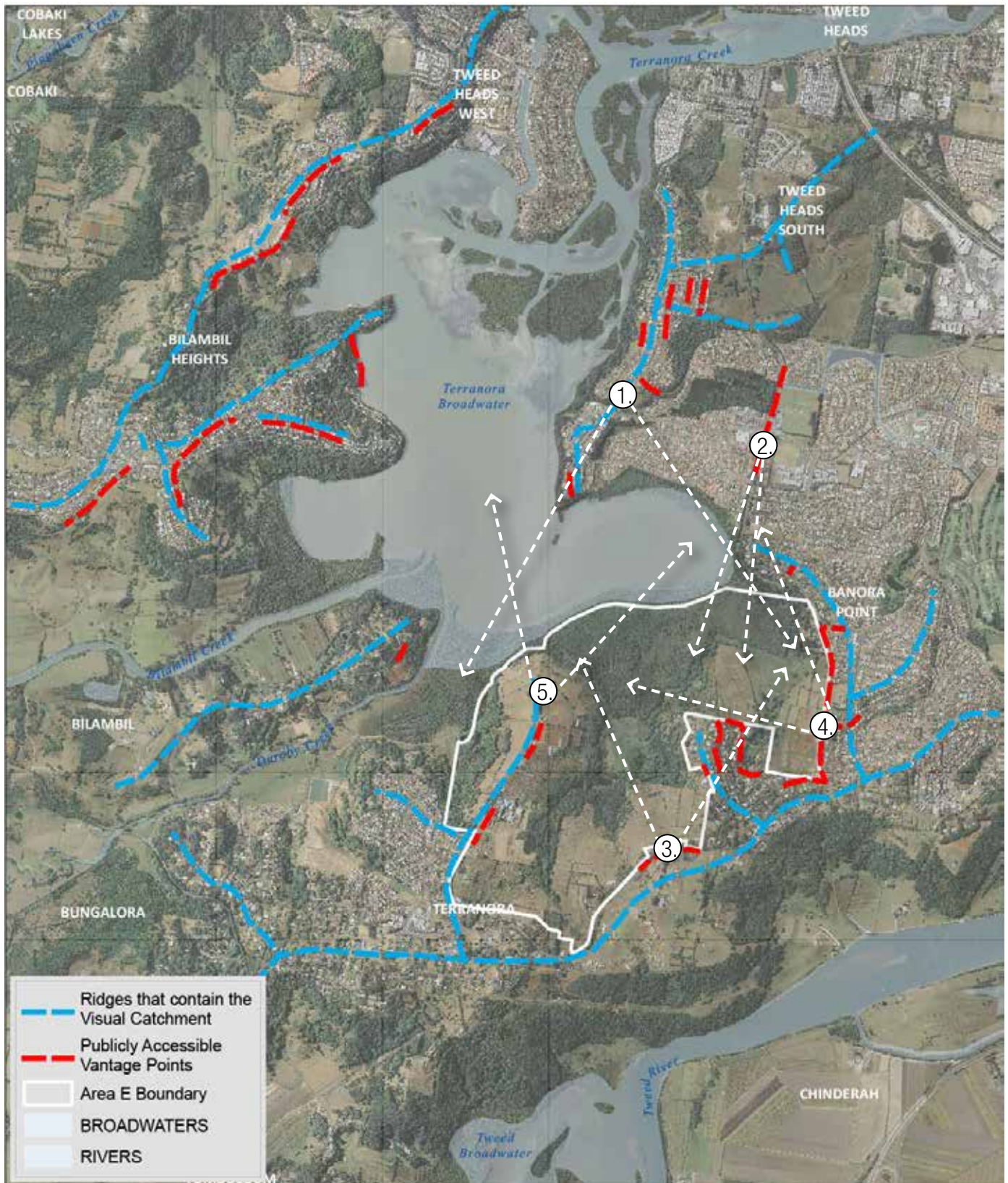


Figure 2.5 - Visual Catchment of Area E and Key Public Vantage Points

-
4. Achieve the outcomes of the Tweed Scenic Landscape Strategy.
 5. Any proposal must identify remnant vegetation across the site including existing paddock windbreaks and seek to retain or interpret these important elements of the sites visual character. Suggested means of embodying these components include adapting existing vegetated wind break lines as street trees, to create more visually attractive streetscapes; maintain the presence of existing mature trees to assist in visually defining the identified character zones and preserving ecological habitat.
 6. Any proposal must demonstrate a building design and structural system which reduces the need for benching and significant cut and fill thereby maintaining the topographic integrity and visual character of the site.
 7. Identification and retention of significant vegetation (including non-native species) that contribute significantly to the landscape character of the locality.
 8. Significant landscape features including overland flow paths, dams, native vegetation and other significant stands of vegetation are to be identified and retained in any development application.

View 01 - Champagne Drive



This is a panoramic view looking south from Champagne Drive in the Vintage Lakes subdivision. Maintaining the visual and landscape character of the site, experienced from within the site as well as from surrounding residential areas and various vantage points around the Terranorra Broadwater, is an important landscape character consideration when preparing masterplans for the various precincts.

It is important to recognize that whilst there are significant outbound views, the site is also highly visible from vantage points all around the Terranorra Broadwater. By looking back into the site we are also able to understand some of the key elements which define the sites visual and landscape character.

Existing built form also forms part of the view field. Integration of the existing built form, on larger lots (Market Parade) as a positive response to visual character with dwellings 'sitting within' the landscape, with surrounding vegetation and landscape almost obscuring it. This is contrasted by the bright orange roofs in bottom left corner which dominate the view field due to the absence of integrated landscaping of an appropriate scale which is not appropriate for the Area E site.

View 01 - Applies to all Areas of Area E

Vegetation forms 'green fingers' running up ridgelines, gullies and valleys.

Wetland vegetation forms foreground

Existing built form within Market Parade / Parkes Lane integrates well with landscape. This is to be replicated across all developable areas in Area E.



Existing View

Retain and enhance this middle band of vegetation. Community title building roofs within predominantly landscaped backdrop.

Wetland vegetation



View Analysis

View Characteristics

- The low area waters edge and wetland vegetation up to about 10m high.
- The vegetated valleys or green fingers climb up the sites two main valleys.
- Large tracts of bushland vegetation, some native some exotic including camphor laurel.
- Open undulating paddocks which are each divided and indispersed by these green breaks and green fingers which divides the site into clear pockets or precincts.
- The varied ridgeline climbing to the highest point around sunnycrest subdivision, stand of Norfolk Island trees which are a regional marker or landmark.

Controls

1. Reproduction of this image as a photomontage to demonstrate how the following characteristics are achieved:
 - Retain strong middle band of vegetation (acceptable to see roofs of community title and topographically sensitive development dispersed within). Although much of this vegetation is exotic species, the preservation of the canopy and ‘greening’ of th Area E site is an important part of the visual character;
 - Retain the integrity of the ridgeline by limiting building height;
 - Retain the integrity of the paddock ‘green windbreak’ lines through the establishment of street trees;
 - Retain vegetation running up gullies / valley and other pockets of bushland / vegetation;
 - Developable area to be interspersed and framed by vegetated foreground, middle landscaped band and vegetated gullies;
 - No red, terracotta, white or blue roofs; and
 - Acceptable to see the tops of buildings within the village centre just above wetland vegetation line.

Norfolk Pines on top of the ridge are a regional landmark.

Open paddock areas defined by tree lined fences and vegetation to steeper inclines.

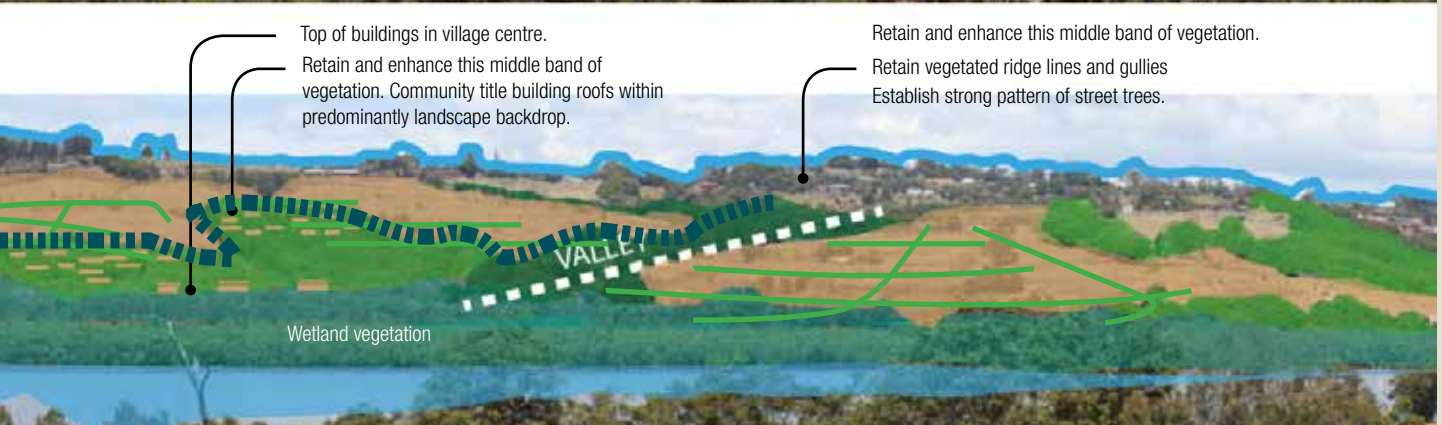
Middle band of vegetation forms a strong green backdrop to village centre location.



Top of buildings in village centre.
Retain and enhance this middle band of vegetation. Community title building roofs within predominantly landscape backdrop.

Retain and enhance this middle band of vegetation.
Retain vegetated ridge lines and gullies
Establish strong pattern of street trees.

Wetland vegetation



View 02 - Fraser Drive Looking South



This is a view taken from the bottom of Fraser Drive looking south towards the ridge slope at the end of Parkes Lane/Market Parade, across the top of where the proposed village centre would be, to the vegetated middle band and Terranorra Road ridgeline beyond.

Taken from the busy intersection of Fraser and Leisure Drive, this view offers a long vista back towards the Area E site which is visually prominent and provides a green peri-agricultural backdrop including large tracts of vegetation in the foreground, vegetation running up the gullies and existing paddock windbreaks and fenceline delineations.

Given the visual prominence of the Area E site from this location, future development will also be highly visible from this location. As such it is important to retain and enhance the key characteristics of the existing view, that is providing a green backdrop where vegetation, street trees, tree lined ridge dominate the view field. Development whilst visible should be contained within the existing open paddock areas, broken up by a strong pattern of street trees which replicate the existing pattern of paddock wind break trees.

View 02 - Applies to the ridge at the end of Market Parade and across the open paddock area below Terranorra Road.

- Open paddock.
- Paddock treed windbreaks.
- Existing pockets of vegetation forming middle 'green band'.
- Tree lined ridgeline. Development is visible through vegetation.



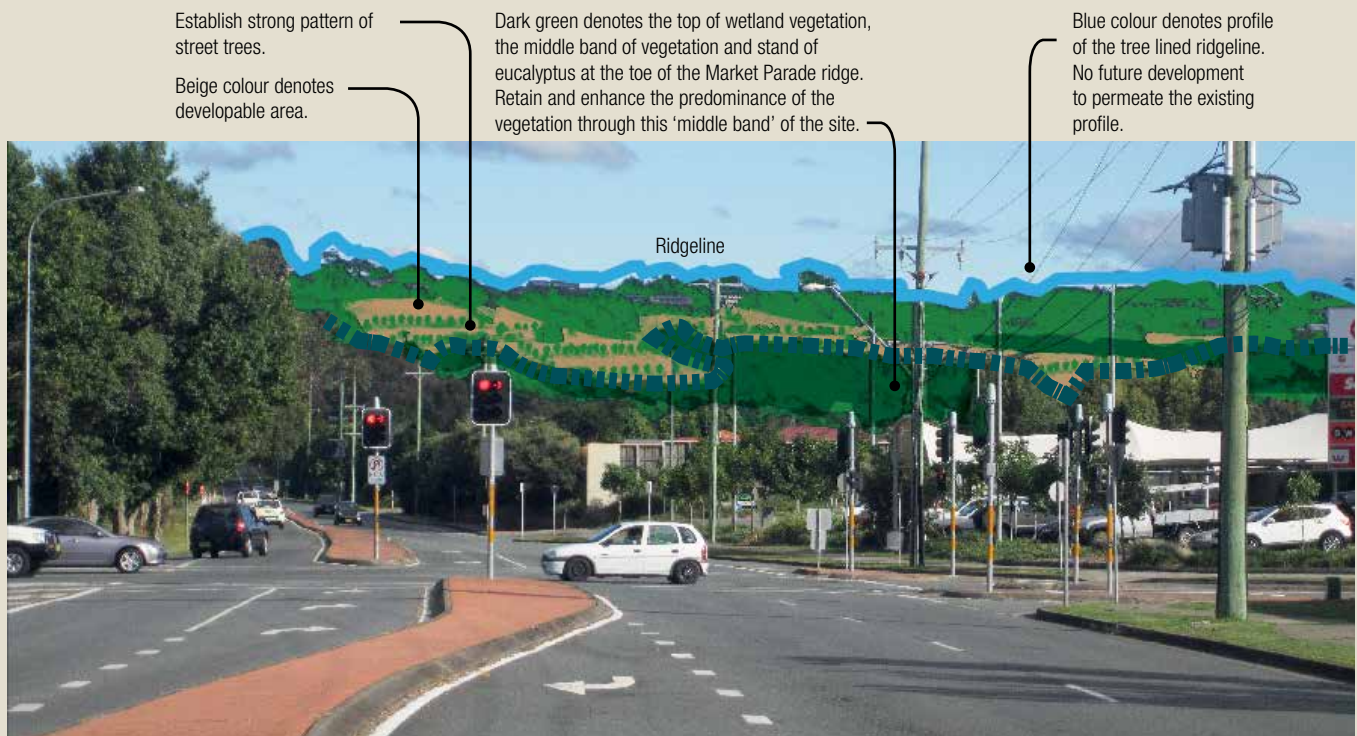
Existing View

View Characteristics

- Area E from the end of the Market parade ridge line across to the open paddock area below Terranorra Road forms the backdrop to this busy intersection of Fraser and Leisure Drive.
- The view composition consists of fore (wetland and eucalyptus stands), mid and background stands of vegetation. The layering of the pockets of vegetation, and vegetated paddock windbreaks with open paddock in between which define the existing visual character.
- Vegetation which extends up the valley's and gullies which read as 'green fingers'.
- Open undulating paddocks which are each divided and indispersed by green windbreaks which run along and perpendicular to contours.

Controls

1. As part of a development application for the subdivision of this land a photomontage from this view must be prepared to demonstrate how the following characteristics are achieved:
 - retain strong middle band of vegetation (acceptable to see roofs of community title and topographically sensitive development dispersed within). Although much of this vegetation is exotic species, the preservation of the canopy and 'greening' of th Area E site is an important part of the visual character;
 - Retain the integrity of the ridgeline by limiting building height;
 - Retain the integrity of the paddock 'green windbreak' lines through the establishment of street trees;
 - Retain vegetation running up gullies / valley and other pockets of bushland / vegetation including the stand of eucalyptus trees at the toe of the ridgeline;
 - Developable area to be interspersed and framed by vegetated foreground, middle landscaped band and valley's gullies; and
 - No red, terracotta, white or blue roofs. Use colours which have low levels of reflectivity and glare. As such choose neutral greens, browns and grey tones which is more related to the natural landscape.



View Analysis

View 03 - Terranorra Road Looking North



View 03 - Applies to the undeveloped allotments which directly adjoin Terranorra Road. (see shaded area above)

This is a panoramic view taken from Terranorra Road looking north over the Area E Site towards the Terranorra Broadwater and beyond to Tweed Heads and Coolangatta.

It is likely that as a stage of subdivision development the land in the foreground of the view will be subsequently developed for residential purposes. Whilst it is likely that the future allotments will gain access from internal roads (rather than directly off Terranorra Road), it is important to restrict the building height in this area to avoid obscuring this important uninterrupted panoramic view.

All future development should be of a height as to not project into the sweeping view taking in Terranorra Broadwater, the Gold Coast in the distance and Tweed Heads to the left. Development should generally be kept to the height of the existing vegetation.

Long uninterrupted views of the wetland, Terranorra Broadwater, Pacific Ocean and beyond must not be obstructed by development of the site when viewed from Terranorra Road



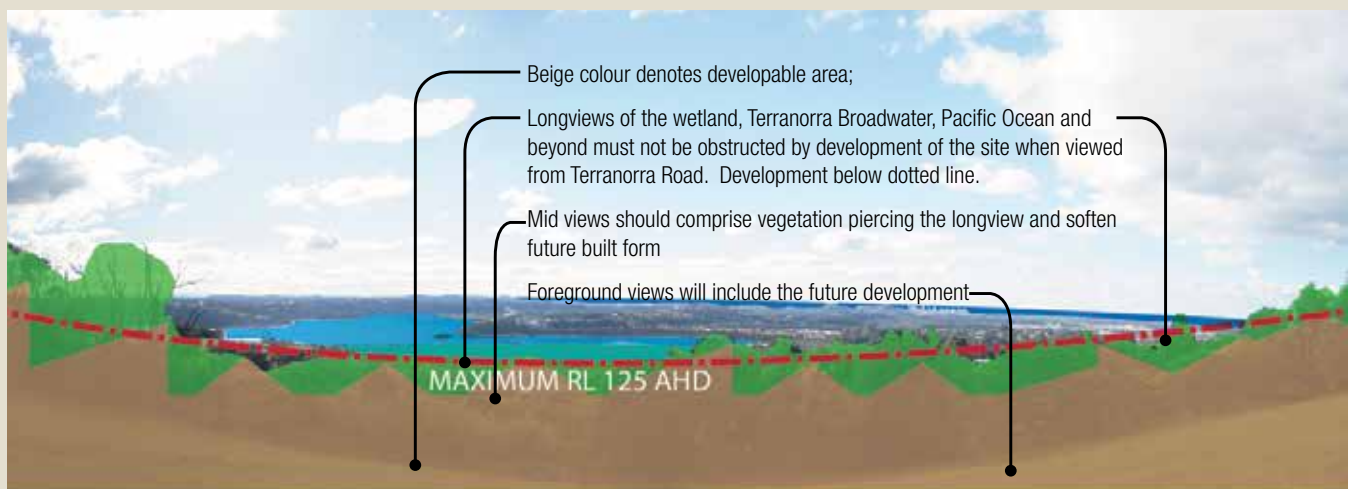
Existing View

View Characteristics

- Panoramic regional views which take in Terranorra Broadwater, Tweed Heads, Coolangatta, Pacific Ocean and beyond to Gold Coast and South Stradbroke Island;
- The vegetated wetland areas on the southern edge of the Terranorra Broadwater;
- Large tracts of bushland vegetation extending up ridgelines and valleys;
- Foreground highlevel vegetation which piece the primary view field.

Controls

1. Parcels of land which will potentially impact on this view field are required to prepare a photomontage to demonstrate how the following characteristics are achieved:
 - Longviews of the wetland, Terranorra Broadwater, Pacific Ocean and beyond must not be obstructed by development of the site when viewed from Terranorra Road. Development must be below dotted white line (RL 125 AHD).
 - Mid views should comprise vegetation piercing the longview and soften future built form.
 - Foreground views will include the futue development, with views and vegetation between built form.
 - No red, terracotta, white or blue roofs. Use colours which have low levels of reflectivity and glare. As such choose neutral greens, browns and grey tones which is more related to the natural landscape.



View Analysis

View 04 - Fraser Drive Looking North



View 04 - Applies to the allotments which directly back onto Terranorra Road. (see shaded area above)

This is a panoramic view taken from Fraser Drive looking north over the Area E Site towards the Terranorra Broadwater and beyond to Tweed Heads and Bilambil heights with the Border ranges beyond.

This is a significant view experienced primarily from the motor vehicle heading north along Fraser Drive where the broader region is revealed. The composition of the view includes the rolling landform and vegetation of Area E in the foreground, the Terranorra Broadwater in the mid ground, and the Border ranges and other regional ridgelines to the north in the background.

It is likely that as a stage of subdivision development the land in the foreground of the view will be subsequently developed for residential purposes. Whilst it is likely that the future allotments will gain access from internal roads (rather than directly off Fraser Drive) it is important to restrict the building height in this area to avoid obscuring this important uninterrupted panoramic view.

All future development should be of a height as to not project into the sweeping view taking in Terranorra Broadwater, the Gold Coast in the distance and Tweed Heads to the left.

This area has also been identified for a landscape buffer treatment to obscure the rear fences of the future allotments and avoid a continuous band of fence dominating the view. As such the landscape buffer needs to be layered in height. Low level shrubs and ground covers to obscure the fence along with more significant tree species which will grow up to form a canopy along the western side of Fraser Drive, but still allowing a view through and beyond.

Ridgeline at the end of Parkes Lane to have strong tree canopy running along its length (to its potential intersection with Broadwater Parkway)

Redline denotes limit of development height;

Longviews of the wetland, Terranorra Broadwater and Border Ranges must not be obstructed by development of the site when viewed from Fraser Road.



Existing View

View Characteristics

- panoramic regional views which take in Terranorra Broadwater and west towards the Border Ranges;
- the vegetated wetland areas on the edge of the Terranorra Broadwater;
- large tracts of bushland vegetation extending up ridgelines and valleys.

Controls

1. Longviews of the wetland, Terranorra Broadwater, Pacific Ocean and beyond must not be obstructed by development of the site when viewed from Fraser Drive by limiting the height of buildings to below the redline indicated in the diagram below as a measure of the RL at the rear of an allotment +1.8m. Additional height will be considered where it can be demonstrated through the production of photomontages that a building will not impact on view.
2. Landscape buffer along Fraser Drive to include layering of native vegetation including species which will establish a strong higher level canopy but still allow views through to the Terranorra Broadwater, mid level shrubs and ground covers.
3. Rear fences backing onto Fraser Drive to be maximum of 1.8m high and screened with native plants within the 5.0m landscape buffer (fence West of landscape buffer). The upper 600mm of the rear fences must have 50% transparency. fences are to consist of two of more different materials. Colourbond fences are not permitted.

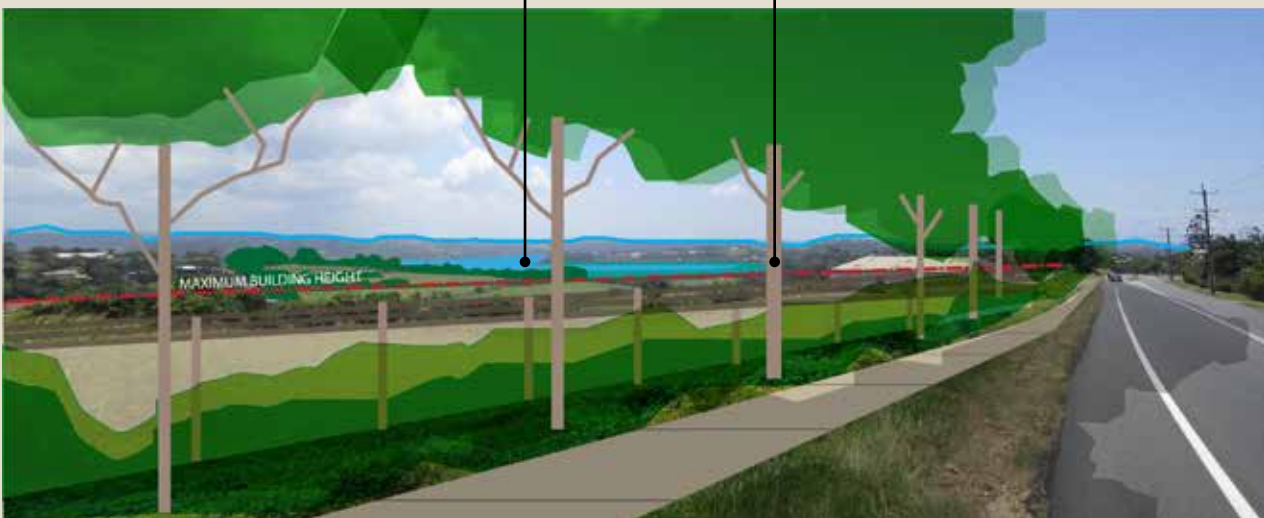
Retain views to Terranorra Broadwater, Border Ranges and ridgelines to the north beyond

Restrict development to below redline to retain water view from Fraser Drive

4. Submit photomontage or other documentation at subdivision stage of typical dwellings on designed lots to demonstrate that the key characteristics of the view will be retained.
5. No red, terracotta, white or blue roofs. Use colours which have low levels of reflectivity and glare. As such choose neutral greens, browns and grey tones which is more related to the natural landscape.
6. Fraser Drive and Broadwater Parkway 5.0m landscape buffer areas are to include (refer to Figure 2.13, 2.15):
 - a strong layering of native vegetation including a high level tree canopy and lower level shrubs and ground cover;
 - a pedestrian pathway a minimum of 1.2m wide,
 - street furniture including bench seats, water supply and bus shelters at key locations to be identified within the public domain plan;
 - where back fences adjoin these landscape buffer areas they are to be a maximum of 1.8m high with the upper 600mm to be 50% transparent. Fences are to use more than one material type. Fences only constructed from treated pine or colourbond (or a combination of those two) are not acceptable.

Foreground view to include 5.0m landscape buffer zone to establish a tree canopy lining the western side of Fraser Drive, mid and low level vegetative plantings screening to rear fences and providing privacy to allotments;

Rear fences are to have a maximum height of 1.8m of which the upper 600mm must have 50% transparency and be setback 5m from the edge of the road reserve. Must use a mix of materials. No colourbond fences.



View Analysis

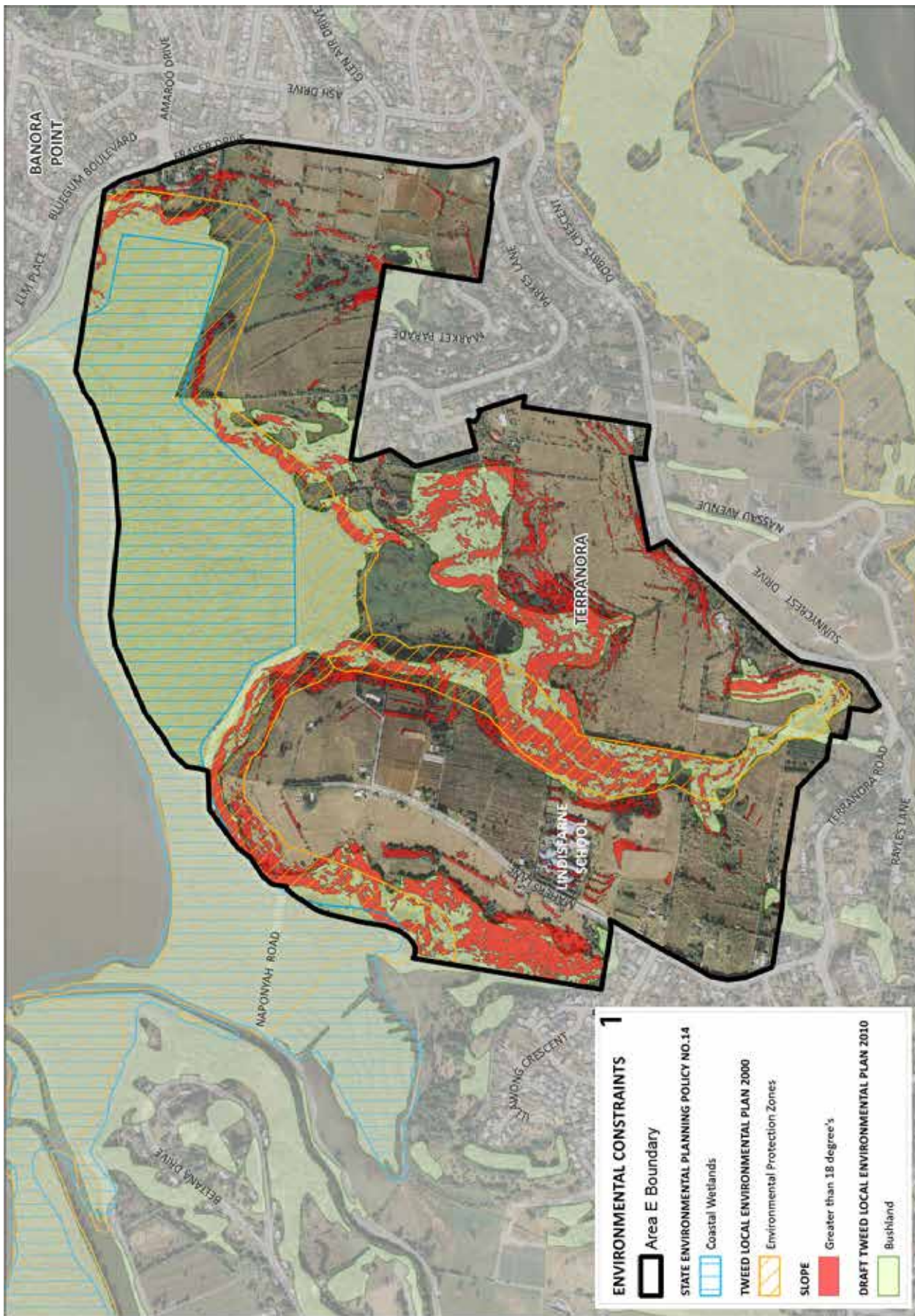


Figure 2.6 - Environmental Constraints and Slope over 18 degrees

2.5 Design Principle 3: Landforming

Vision

Maintaining the integrity, intrinsic landscape and visual character of the undulating landscape by reducing bulk earth works and site benching is the primary objective of land forming over Area E. Future development over the site should pursue the underlying approach that development should be built to sloping site conditions rather than reconfiguring the sloping site to accommodate a building.

This part is to be read in conjunction with the criteria and provisions set out within Tweed DCP Section A5 – Subdivision Manual where this plan does not make specific reference to a control covering the same matter.

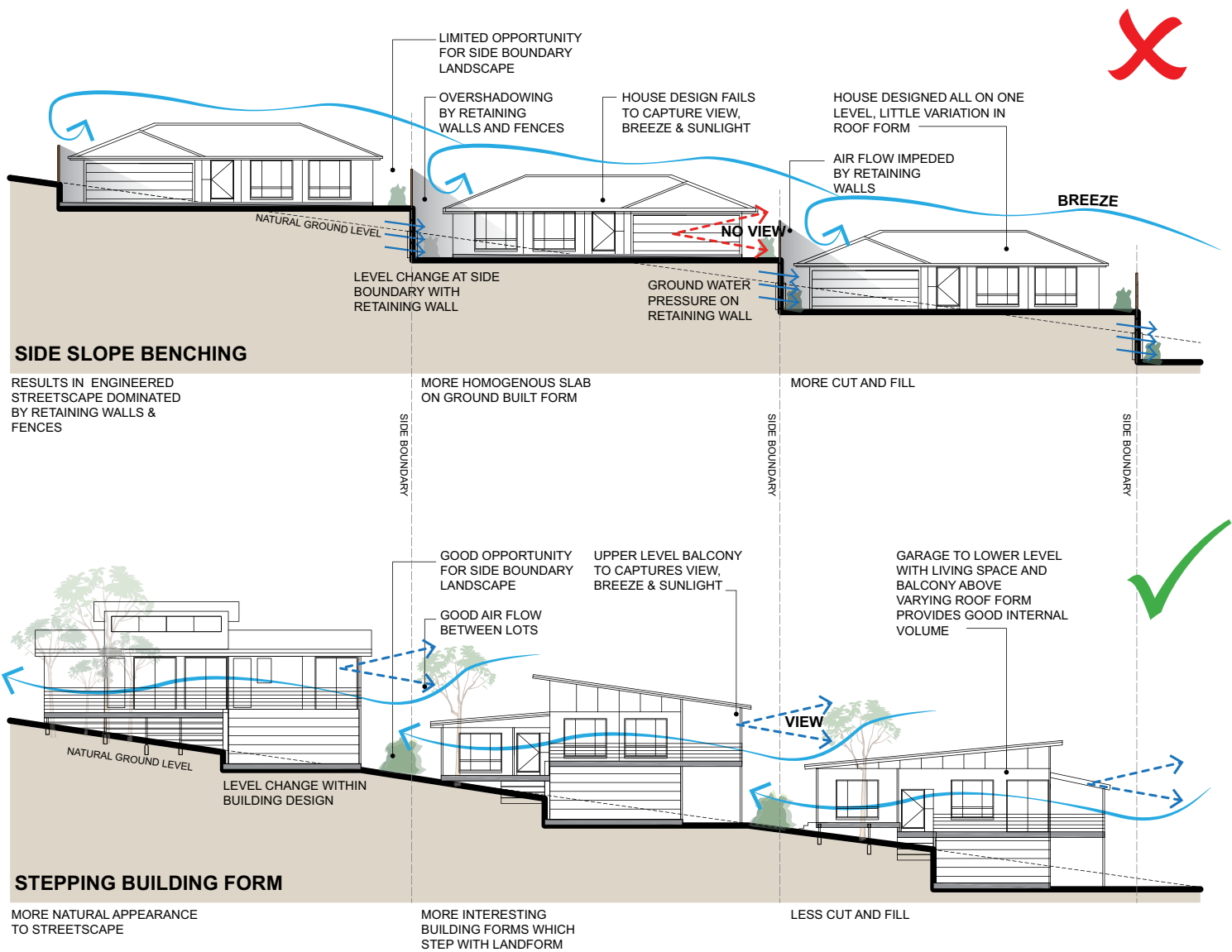
Reduce

Landforming and bulk earthworks is anticipated as part of the infrastructure provision and land subdivision of Area E. In this regard, a strong design focus must be employed to ensure built works reflect the site conditions, as opposed to excessively modifying the site to suit the built form. Changes in site elevation are to be absorbed within the built form, enabling the retention of an organic undulation of the site outside of the built form footprint. Site benching resulting in elevation changes being undertaken at the property boundary is strongly discouraged and will not be supported beyond the prescriptive provisions contained within Section A5 of the Tweed Development Control Plan - Subdivisions Manual. Site benching is not to adversely impact on the streetscape.

To best address the landforming Vision and Objectives of this Code, subdivision applications will be required to detail building envelopes on each lot demonstrating their capability to provide a compliant building design. The building envelopes provided should also identify the likely construction method needed (or methods to be avoided) in future building design and clearly articulate the lot interface levels.

As part of the overall bulk earthworks strategy there is a preference, where possible, to utilise the stone located on the site as an incorporated component of any retaining walls pursued, particularly retaining walls that are visible from public vantage points. Although it is understood that this stone would not be suitable for structural elements of retaining walls, their retention as a decorative feature further embodies current site attributes into the contemporary urban form.

26% (73 ha) of the Shire's mapped Special Use (horticulture) Class 6 land (mostly krasnozem soils) is located within Area E. The Carool soil landscape is the most important agricultural land found within the Terranora area and as such the retention of this soil to viably and actively be used in the future is to be retained. Landforming plans are to identify Class 6 soils, detail how the soils will be managed throughout the landforming process and placed post landforming in order for these soils to continue to be productive. Class 6 soils should preferably be placed within a public space to better facilitate community gardens to be pursued.



2.7 - Subdivision design is to be sympathetic to the sloping site, rather than bench the site to make flat allotments

Objectives

- *Maintaining and respecting the landform – buildings and civil works are to be designed to landform rather than landform designed to buildings and civil works;*
- *Maintain the integrity of ridge lines, valleys and natural topographic features as an important part of the locality's character;*
- *Promote subdivision, building design and structural systems which reduce the need for benching and significant cut and fill;*
- *Understand the design relationship of slope to appropriate construction types to minimise cut and fill and respond to upslope, down slope, side slope and combination slope with appropriate design consideration*
- *Adopt an overall bulk earthworks strategy that includes:*
 - *subdivision design which reduces the need for benching and significant cut and fill;*
 - *to limit modification of site levels at boundaries to maintain amenity to adjoining properties;*
 - *to ensure site modifications, retaining walls and engineered elements do not adversely impact on the streetscape character;*
 - *ensure that fencing on top of retaining walls does not adversely impact amenity of neighbouring properties or de-stabilise retaining walls;*
 - *where possible, the use of the stone found on the site should be incorporated into the retaining walls, although it is understood that this stone would not be suitable for structural elements of retaining walls.*

Development Control

Note: Any noncompliance with Council's Subdivision Manual and associated specifications must be clearly depicted on engineering plans for the development, with a report outlining the justification for any proposed variations for Council assessment.

Variations must demonstrate an improved urban design and/or environmental outcome and how the overall objectives and design principles are met.

The following information is to be submitted with any Development Application for subdivision:

- Plans displaying compliance with the development controls outlined in the Tweed Development Control Plan Section A5 - Subdivisions Manual, including but not restricted to Part A 5.4.4 Physical Constraints, A 5.4.5 Environmental Constraints, A 5.4.6 Landforming including Table A 5-3.
- Plans and site sections that demonstrate design measures employed which minimise bulk earthworks over the site.
- Accurately represented and documented detail of all proposed site works including cut, fill, benching and retaining walls.
- Landforming plans are to detail the location, management and final placement of Class 6 Soils in order to preserve and productively utilise this soil.

1. Maintain the integrity of ridge lines, valleys and natural topographic features as an important part of the locality's character;
2. Batters and retaining walls are not permitted for the purpose of creating terraced lots, as per DCP A5;
3. Demonstrate the preservation and future productive use of Class 6 soil.

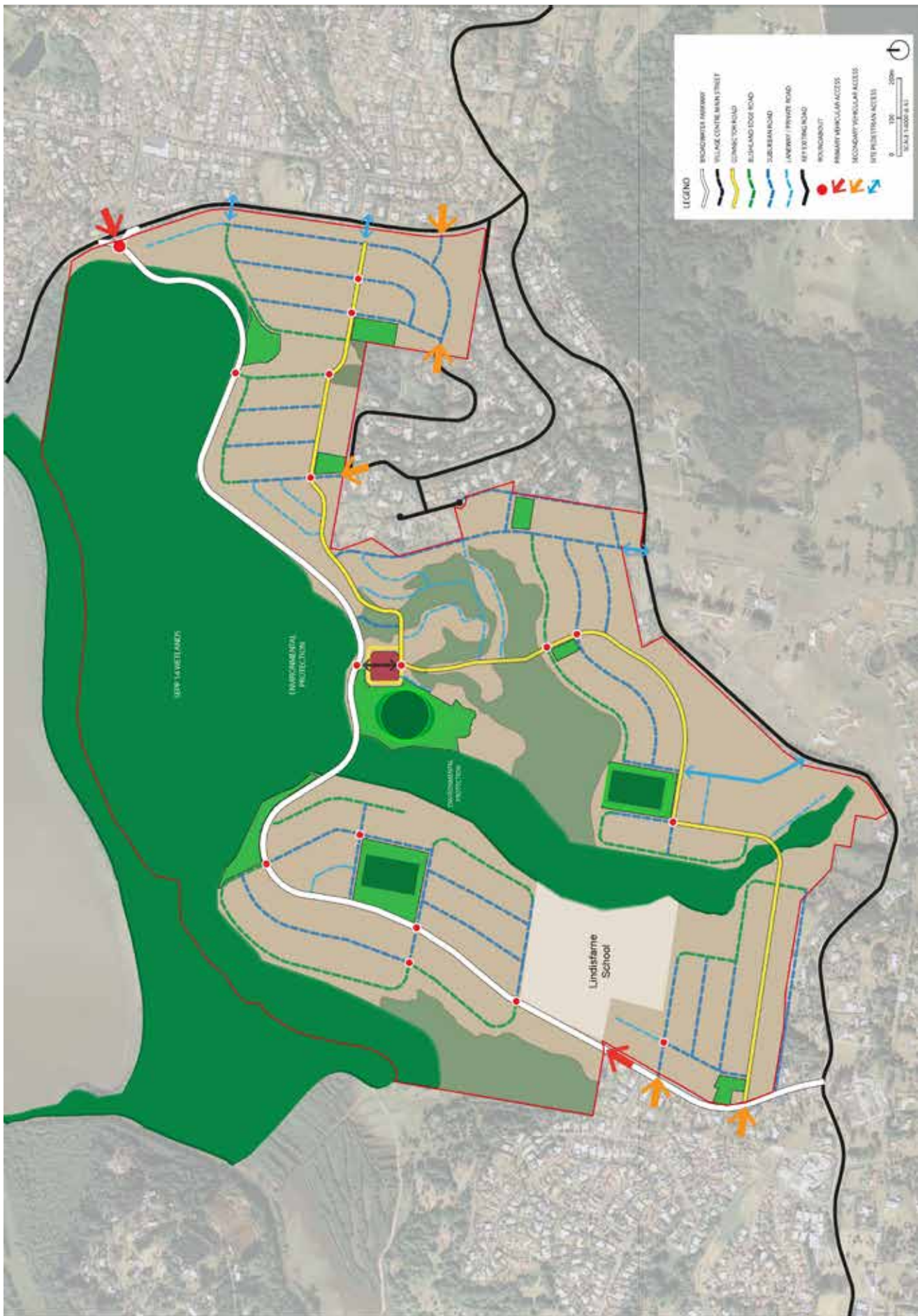


Figure 2.8 - Diagrammatic Road Network

2.6 - Design Principle 4: Road Layout, Traffic and Transport

Vision

The Broadwater Parkway is to be reinforced as the key neighbourhood connector road. Roads to generally follow the contours of the site and a north-south; east west orientation to maximise opportunity for best solar orientation. The orthogonal street pattern enhances through connections, legibility and regular shaped lots rather than curvilinear streets and cul-de-sacs. Streets which run north south are to take advantage of long views towards the Terranorra Broadwater, whilst the remaining streets are encouraged to terminate with a green or landmark vista.

Key Neighbourhood Connector - Broadwater Parkway

Broadwater Parkway is identified as the primary road for Area E, linking Mahers Lane/ Terranorra Road in the west to Fraser Drive in the east and providing the northern extent of the urban development. Located predominately within the urban zoned land, Broadwater Parkway provides a buffer between urban development and environmental land to the north, also enabling a 'green' journey through Area E. Broadwater Parkway also provides the 'spine' which each of the development precincts anchor off, and presents the logical primary public transport route for Area E.

The intended alignment of Broadwater Parkway is depicted within Figure 2.9 (a & b) of this Code. This Code acknowledges that alternative routes may be considered however, any other routes investigated by developers of Area E will need to demonstrate that the alternate route provides an improved environmental and planning outcome when compared to the structure plan alignment. *Note: Council does not support an alignment through land zoned for environmental protection unless it can be demonstrated that no other alignment can be feasibly provided.*

Broadwater Parkway and necessary connector roads are required to be constructed and dedicated for all future subdivisions within Area E, unless a traffic study is submitted to Council's satisfaction demonstrating that an alternate permanent road access can cater for the ultimate development of the area. Developer contribution credits may be available under an Area E Contribution Plan, or alternate funding agreement for Broadwater Parkway land dedication and construction. Council will utilise its best efforts to ensure the provision of Broadwater Parkway in an orderly manner.

Road Layout

Road layouts pursued must seek to work with the topography of the land, be clear and legible and provide for regular shaped lots. The primary, or long street of the block should follow the contour, whilst the secondary, or short street of the block should be perpendicular to the contour.

This part is to be read in conjunction with the criteria and provisions set out within Tweed DCP Section A5 – Subdivision Manual where this plan does not make specific reference to a control covering the same matter.



Figure 2.9(a)-Broadwater Parkway Alignment

Street legibility is to be enhanced through clear visual cues and a highly permeable layout for both vehicles, and pedestrians. A grid pattern that rationally respects the topography of the land should be pursued as the primary method of street layout. Cul-de-sacs are generally discouraged within Area E, unless they are resultant of topographical constraints, in which case, compliance with Council's Subdivision Manual must be obtained.

The road layout is to reflect and buffer urban development from environmental land and hazards by forming the boundary between urban development to environmental land, (including informal open space such as wildlife corridors and significant overland flow paths). A road layout that avoids a private interface to environmental land and green corridors will assist in ongoing maintenance, retains public access to environmental land or informal open space as well as provide high levels of amenity to pedestrians and road users.

Access points beyond Broadwater Parkway

Area E development should seek to integrate with the wider residential fabric of the locality. The creation of a logical street network that acknowledges and respects its wider context and contributes to improved connectivity and accessibility is encouraged. This Code does not enable direct vehicular access to Terranora Road outside of the current access provided by Mahers Lane.

Objectives

- *As well as providing access for vehicles, streets and roads are to be pedestrian safe and friendly environments.*
- *Integrate the principles of WSUD into street and open space design;*
- *Progressively implement the construction of Broadwater Parkway, the primary road for the Area E Urban Release Area.*
- *The design of Broadwater Parkway is to create a sense of place through a range of public domain treatments and address pedestrian movement and comfort, efficient vehicle movement, and establish a key entry statement and journey to the overall character and appearance Area E.*
- *A road layout and design that provides integration between the existing urban fabric, particularly to the East and West, for an efficient bus transport option. Suitable locations and attractive bus shelter designs should be determined to further encourage this sustainable mode of transport.*
- *A road network and layout that establishes a clear and legible configuration contributing to way finding and establishing a strong streetscape character in terms of carriage widths, verge, street trees and implementation of water sensitive urban design principles.*
- *Adequate integrated bicycle facilities (parking and on/off street routes). Particular consideration should be given to providing East-West links throughout Area E that traverse the same contour, or provide minimal transition in elevation to further encourage this healthy and sustainable form of transport.*



Figure 2.9(b) - Broadwater Parkway Alignment (Mahers Lane)

- Encourage convenient and safe pedestrian access to all facilities whether it is for work or recreational purposes via a comprehensive pedestrian network.
- Ensure that there is sufficient road capacity to support future traffic growth and that the existing intersection methods of control are adequate to accommodate future traffic levels.
- Encourage that the access between residential areas and the village centre is as direct and convenient as possible and avoids unnecessary circuitous routes.

Development Control

The following information is to be submitted with any Development Application for subdivision:

- Traffic Study

Note: As a condition of development consent, an applicant may be required to dedicate any part of a site affected by proposed roads, road widening and pedestrian pathways at no cost to Council.

The developer will be responsible for the construction of new roads to Council's standards.

The developers will be responsible for upgrading and associated traffic management measures of existing roads where the development creates a need for the upgrading or traffic management measure.

1. Any application seeking development consent prior to the construction of Broadwater Parkway, must be accompanied by a traffic study demonstrating the ability for the proposal to be accommodated by existing or alternative proposed road networks to the satisfaction of Council.
2. A Traffic Study is to be submitted with any development application should the application depart from the external connections or increase the dwelling targets specified within this Code.
3. Applicants must investigate any changes to public transport services in consultation with the local public transport provider and ensure those changes are incorporated. As part of a development application, a route suitable for a bus shall be designed for in terms of suitable pavement widths and appropriate bus stop locations.
4. Demonstrate how the road layout compliments the topography of the land through a road layout detailing the primary, or long street of the block following the contour, whilst the secondary, or short street of the block positioned perpendicular to the contour.
5. Demonstrate how the road layout is clear and legible, provides long views towards the Terranorra Broadwater, and other green or landmark vistas, and provides for regular shaped lots.
6. Ensure that a road forms the edge to the natural and environmental protection areas providing a public interface to the buffers and areas of environmental protection and avoid the rear of properties to directly back onto buffer areas and areas of environmental protection.
7. The design of Broadwater Parkway is to include a range of public domain treatments and address pedestrian movement and comfort, efficient vehicle movement, and establish a key entry statement and journey to the overall character and appearance Area E.
8. Suitable locations and attractive bus shelter designs should be determined to further encourage this sustainable mode of transport.

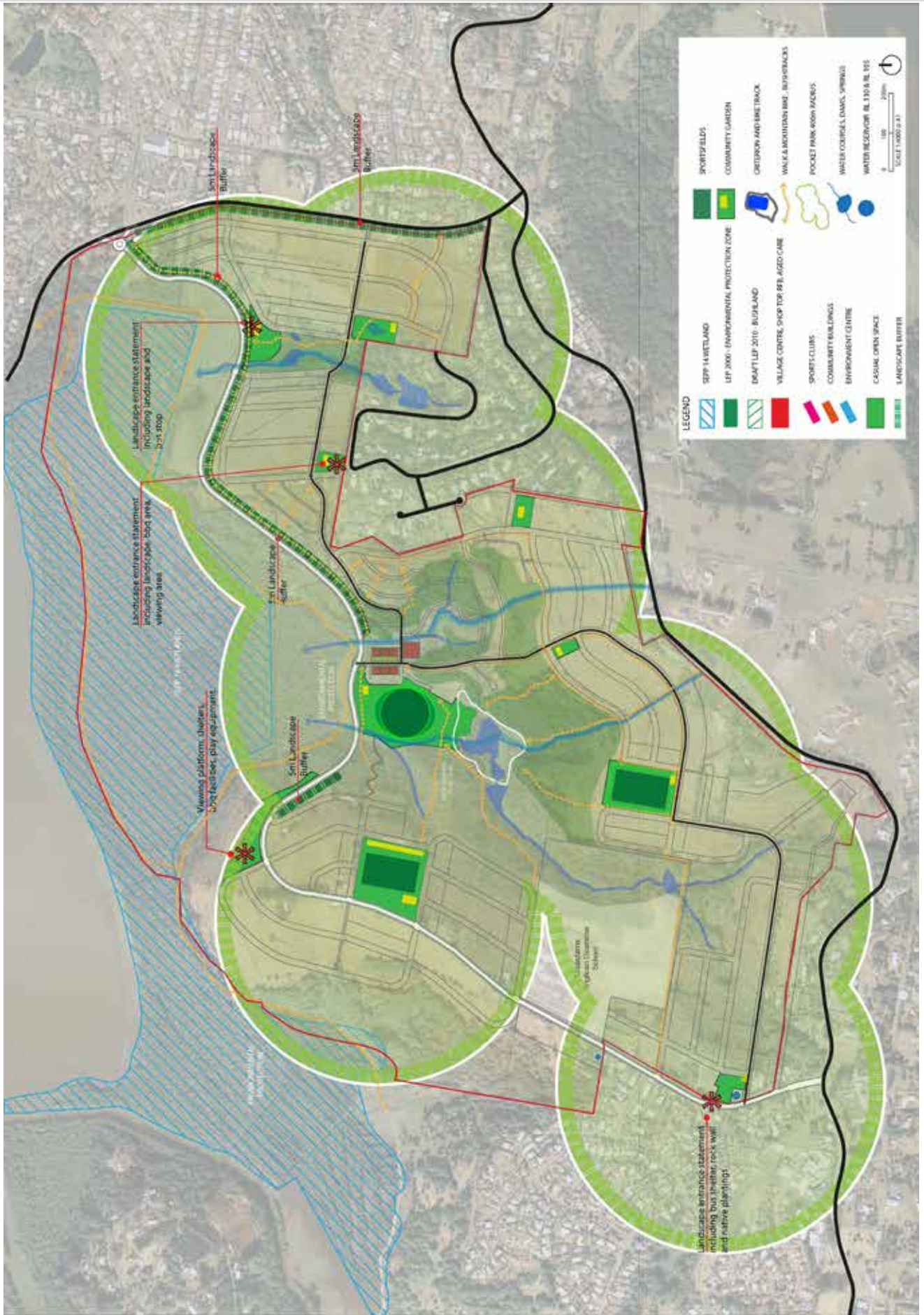


Figure 2.10 - Open Space

2.7 - Design Principle 5: Open Space

Vision

Integration of a variety of open space opportunities including mix of structured and more informal opportunities. The open space network should be created to link key destinations such as the village centre, residential precincts, structured open space, vantage points and community facilities. These could be positioned within existing drainage lines, environmental areas and bush land corridors and environmental protection areas creating ecological links integrated through the settlement. Consider alternate forms of recreation including a cycling criterion track and mountain biking trails more suited to the sloping site conditions. Also consider the integration of environmental interpretative walks within and adjoining environmental zones.

This part is to be read in conjunction with the criteria and provisions set out within Tweed DCP Section A5 – Subdivision Manual where this plan does not make specific reference to a control covering the same matter.

Integrate

The Open Space Plan detailed within Figure 2.10 displays the provision of structured open space in the following configurations:

- Approximately 4.17ha (gross) of structured open space within the Village Centre by way of one oval shaped playing field.
- 2.89ha (gross) by way of a singular full sized playing field in the central precinct (southern/southwestern area).
- 2.09ha (gross) by way of a singular full sized playing field in the western precinct.

Both structured and casual open space must integrate strongly with the built form through increased densities, building design and in the case of the village centre, variety of land uses. Tracts of open space of elevated land should be pursued to enable public retention of the sites iconic views. These larger open space areas should form part of a wider open space network, including utilising overland flow paths, green breaks and wildlife corridors as informal open space areas. Further informal landscape buffer areas having been identified along the length of Broadwater Parkway, with particular opportunity for embellishments where the Broadwater Parkway is intersected by the village main street forming a green buffer or entry statement into the village centre. With a preference for retaining overland flow paths through the village centre presents opportunity to become a feature of the village centres public domain.

Variety and Alternate Uses

The wider catchment of South Tweed Heads, Banora Point, Terranora and Bilambil currently possesses a wide variety of formalised sports and recreational activities, including facilities for rugby league, soccer, hockey and tennis.



The overriding open space and recreation strategy for Area E is to provide a diverse range of quality open spaces and recreational pursuits suited to the site conditions including the sloping conditions and proximity to large tracts of environmental protection zones. It is anticipated to allow for diversity of recreation use and flexibility to meet the changing recreation needs of future generations.

Area E is uniquely positioned to investigate and promote further diversity for active users, accordingly Council is open to applicants investigating a variety of alternative structured and casual open space uses that can be accommodated within Area E and that provide the land area required for open space, or avoid the need for a cash contribution.

Investigations into alternate forms of open space provision should seek to harness the attributes of the site. Examples of potential sport facilities include road and mountain biking facilities, walking/running trails. In keeping with the landforming principles/aims of the Code, sport facilities that embody a smaller, or, a series of smaller footprints, or not requiring a flat surface should also be considered. These may include BMX or skateboarding facilities or potentially off-leash dog parks.

Areas identified for alternate forms of open space to Council's satisfaction may not require strict compliance with the minimum dimension or grade requirements of Section A5 - Subdivision Manual of the Tweed Development Control Plan, however there would need to be exceptional circumstances demonstrated in these instances. Where compliance with Section A5 is unobtainable or would otherwise limit the ability to provide suitable alternative structured open space facilities the applicant is required to demonstrate, to Council's satisfaction, any practical measures for the on-going management of the land to be dedicated. This may require submission of a site specific management plan or trigger the need for a bond, financial (on-going maintenance) contribution, or similar.

Of note, though the possibility of joint use of vegetated areas and areas of scenic quality for recreational use may be present, open space is not the prime use and must not be considered as such. Scenic and environmental values often conflict with recreational uses that may lead to the degradation of these areas. Whilst Council encourages investigations into the delivery of alternate forms, uses and facilities for public open space and integrating the natural and built environment, it must not come at the expense of the environmental qualities of the Area E Urban Release Area.

Note: Should community members wish to explore the possibility of establishing a community garden they are encouraged to contact Council for further details. Community gardens pursued within Area E will not require the specific provision of car parking, or payment of Section 94 developer contributions.

As identified previously in this Code, the Carool soil landscape is the most important agricultural land found within the Terranora area. Community gardens in this locality will provide a linkage to the historical land-use (i.e. agriculture) whilst benefiting from the fertile red soils of the area, providing a cultural community node, education and contributing to food security.

Community gardens that are established adjacent to other community facilities contribute to the concept of a community hub, so site selection should consider proximity to existing infrastructure including toilets, parking, undercover areas and potable water. The provision of community gardening plots within these areas needs to be strengthened within plans of management within each of these open space areas.

Off-site

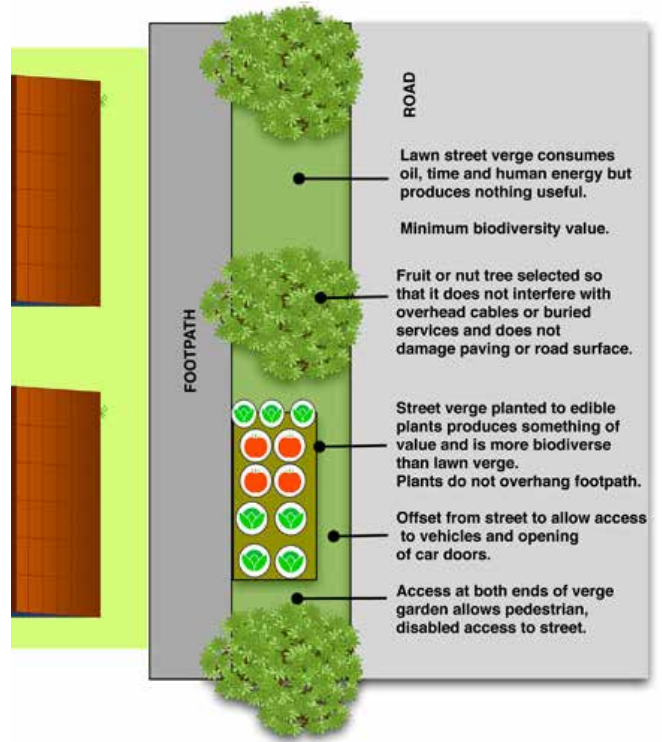
Only where Council is satisfied that structured open space cannot reasonably be provided in the format and quantum required under Section A5 will the off-site provision of open space be considered. Off-site open space will need to be provided as an equivalent rate or greater than prescribed within Section A5. Pursuing off-site open space will require the applicant to identify a site based on a needs and suitability assessment and demonstrate, to Council's satisfaction, certainty in its availability and feasibility. As a general rule, to demonstrate the availability and feasibility of any intended land, planning approvals for that use and appropriate ownership agreements will need to be in place. A Voluntary Planning Agreement will likely be required for this process.

Objectives

- *Ensure a mix of active and passive open space to service the community;*
- *To integrate road layout with open space and pedestrian / cycle paths to achieve good access, connectivity and site permeability;*
- *The primary role of the open space is to ensure that the passive and active recreation needs of the proposed community are met. However, the open space is also expected to provide visual relief to the urban environment and to be designed to contribute towards an overall identity and a new 'sense of place' for the community (responsive to the unimproved nature and vistas characteristic of the undeveloped site);*
- *The design of the individual open spaces and overall network is to facilitate use by the community. Open space should incorporate design aspects of safety, accessibility, activity (through embellishments) and utility (e.g. slope, dimensions). The network in the area should acknowledge its role in the 'bigger system' by building upon and connecting to open spaces in surrounding areas;*
- *Ensure a diverse range of quality open spaces is anticipated to allow for diversity of recreation use and flexibility to meet the changing recreation needs of future generations;*
- *Ensure the provision of a structured open space facility within the Area E Urban Release Area;*
- *Encourage the delivery of alternate forms, uses and facilities for public open space;*
- *Provide a series of well designed public open spaces that contributes to the identity, amenity and wellbeing of the community;*
- *Provide open space that is conveniently and safely accessible to users, particularly pedestrians and cyclists;*
- *Ensure green linkages are provided through the residential precincts to connect the open space system into the greater (external) network;*



Community gardens contributes to health and well-being, positive social interaction, community development, environmental education and local food security.



Road Verge Community Garden Plots provide an active use to an otherwise under utilised part of the street. This amounts to a significant amount of land considering Area E's linear road length of some 10km.



Road Verge Community Garden Plot

- *The open space areas are designed to ensure that land is not fragmented by physical barriers preventing use by those that it intends to service, including inhibited groups such as the frail;*
- *To ensure that open space areas comprise suitable dimensions, quality of land and are unencumbered by hazards;*
- *Provide opportunity for community gardens;*

Development Control

Note: Open space is to be located, designed and embellished in accordance with the development standards of the Tweed Development Control Plan 2008 Section A5 - Subdivision Manual, including, but not limited to, Development Design Specification D14 Landscaping and Public Space.

Council may resolve to change the order of dedication for structured open space to match future development patterns and priorities. Developer contributions, land dedication, or works in kind will be applicable for development with a nexus to the provision of open space.

1. Structured open space is to be provided as detailed within Figure 2.10, specifically:
 - 4.17ha (gross) of structured open space within the Village Centre by way of one playing field.
 - 2.89ha (gross) by way of a singular full sized playing field in the central precinct (southern/southwestern area)
 - 2.09ha (gross) by way of a singular full sized playing field in the western precinct.
2. Large open space areas and smaller pocket parks as nominated on the structure plan should be a combination of active and embellished structured and casual open space including community gardens to assist in wider use by the future community. Detail design of each of these parks and open space areas including details of embellishments including lighting, paths ways, viewing platforms, park furniture, landscaping, play equipment, shelters, bbqs and picnic areas are to be lodged with applications that include open space land;
3. Subdivision design shall integrate walking and cycling paths connecting to the key open space area, residential precincts with the village centre and surrounding urban fabric. There is opportunity to include pathways through the environmental protection area to traverse the steep topography as well as provide educative interpretive environmental trails;
4. Open space areas are to be surrounded by a public interface (predominately roadways) and an adjacent ring of medium density development where row houses, terrace houses, courtyard houses, zero side setback houses, duplex, triplex and other medium density typologies are incorporated;
5. Open space and public domain plans prepared are to allocate areas for the purpose of urban agriculture and community gardens, enabling them to be pursued by interested community members;
6. In the event of a development application detailing that a structured open space requirement cannot be accommodated within the Area E release site, the applicant shall demonstrate:
 - Investigations undertaken into providing open space as detailed within this Code;
 - How the alternate proposal will properly service the needs of the release area.

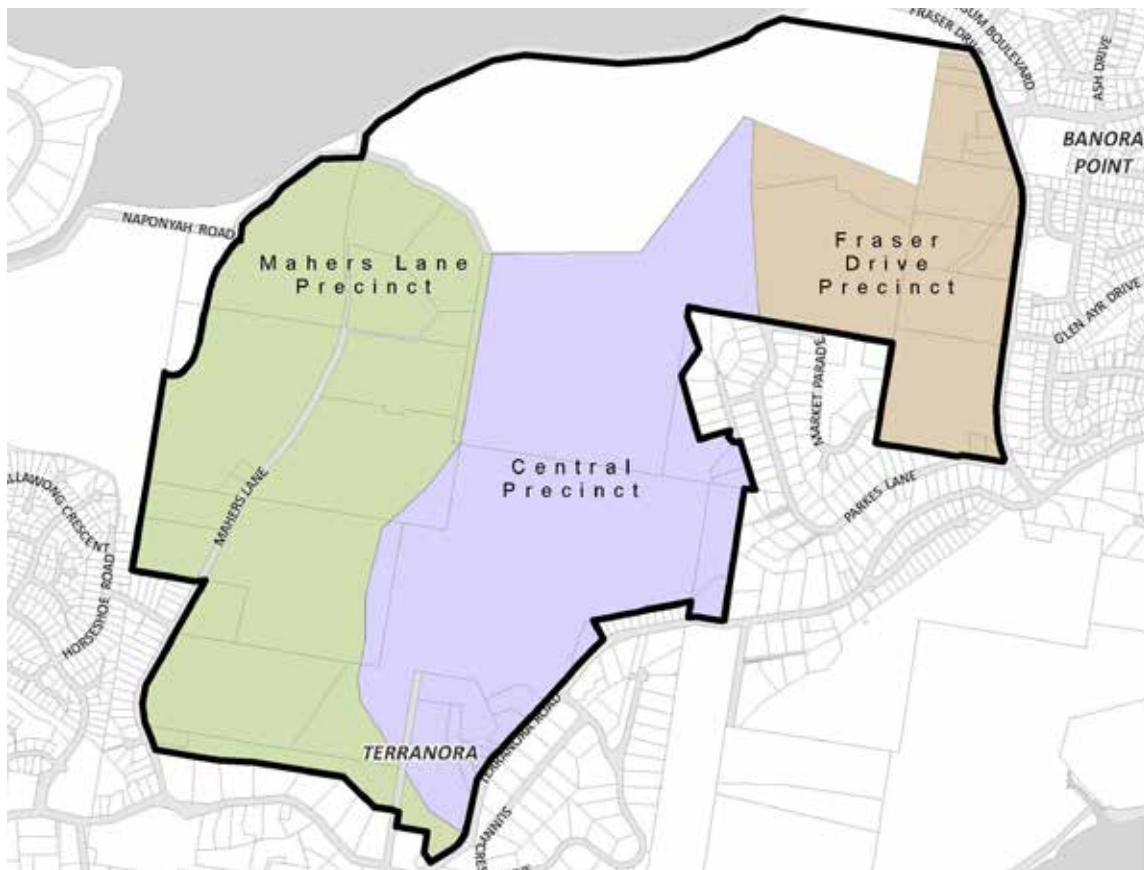


Figure 2.11 - Precinct Areas

Housing / Lot Type	Mahers Lane Precinct	Central Precinct	Fraser Drive Precinct	Total
Transitional and Large Lot Residential (Lots >800m ² or 1200m ² for Transitional)	8	60	47	115
Suburban Lot Residential (Lots between 450 – 800m ² at a general rate of 1 dwelling per 650m ² of site area)	428	265	229	922
Small Lot and Medium Density (Lots between 250 – 450m ² and medium density development at a general rate of 1 unit per 333m ² of site area)	174	58	55	287
Neighbourhood Planning Housing	0 (* but could be in lieu of some suburban lots on western facing slope)	114	32	146
Shop-Top & Village Centre Residential	0	120	0	120
Total	610	617	363	1590

Table 2.1 - Residential Density Targets

2.8 - Design Principle 6: Dwelling and Allotment Mix

Vision

Subdivision design to include a range of lot sizes accommodating a range of building typologies. Emphasis on working with the landform, thereby accommodating appropriate building types on appropriate parts of the site to reduce bulk earth works. Accommodation types should include a mix of allotment sizes, integrated and multi-unit development opportunities, topographically sensitive development, housing for aged care and shop top housing within the village centre.

Lot Sizes

A range of lot sizes is required within Area E to reflect the topography, medium density opportunities and interface/transitional areas with existing development. As displayed within Figure 2.12, lots that interface with the existing development of Market Parade and Parkes Lane are to be a larger lot size, commensurate with adjoining lots. Whilst not affecting the minimum lot size, large lot residential fronting Terranora Road are to incorporate a setback for all dwellings and ancillary structures to:

- protect and improve the capacity, efficiency and safety of Terranora Road,
- to prevent development that would detract from the visual quality and experience gained by users of Terranora Road, and to,
- prevent or reduce the potential impact of traffic noise on development adjacent to Terranora Road.

This Code also provides opportunities to incorporate small lot housing surrounding areas of public open space and other landscaped corridors. Whilst the Code identifies that small lot housing has a minimum lot size of 250m², it is acknowledged that at present the Tweed Local Environmental Plan details a minimum lot size for Torrens Title subdivision of 450m² (although smaller lots can be created through other means of subdivision). In this regard, interested landowners will need to undertake a Planning Proposal with Tweed Shire Council to amend the Tweed LEP.

Dwelling and Lot Mix

Area E shall provide a variety in housing and lot types. Housing opportunities that result in a higher density (such as row housing, small lot housing etc) should be pursued adjoining areas of open space for green/wildlife corridors or within

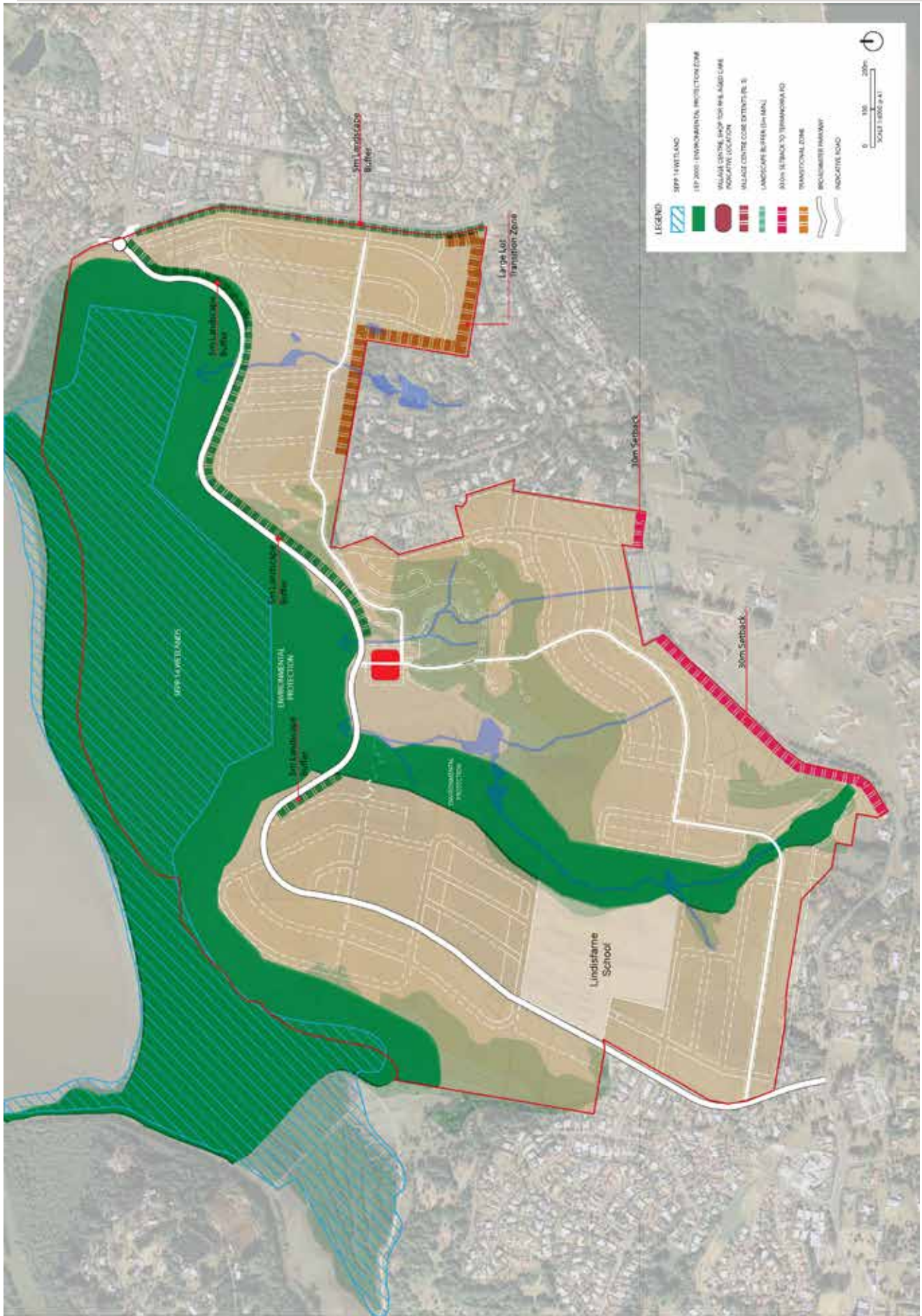


Figure 2.12- Transitional Zone and Buffers Diagram

the village centre. Opportunities outside these areas should be made for single dwelling houses on a range of lot sizes, with dual occupancy development able to be 'peppered' throughout. As discussed above, reduced dwelling densities are to be provided within Large Lot or Transitional areas. Table 2.1 provides a breakdown to the required mixture of dwelling types throughout Area E.

Objectives

- *To provide for a range of lot sizes and medium density integrated sites which will provide a broader range of housing types, sizes and housing choice for future occupants.*

Development Controls

The following information is to be submitted with any Development Application for subdivision:

- Density Projection Plan

1. Prepare a Density Projection Plan, including a breakdown on plan and ancillary schedules of differing allotment sizes including but not limited to transition lots (greater than 1,200m²), large lots (greater than 800m²), suburban blocks (450-1000m²), small lots (<450m²), courtyard house lots, zero setback lots, semi attached lots.
2. Satisfy the density yield targets identified within Table 2.1 of this Code. Where these yields can not be met, justification for the departure or variation is required. Significantly sloping land or development costs in isolation would not constitute appropriate justification. Density and yield offsets around different parts of the precinct will be considered.
3. Demonstrate the nomination (through a plan and ancillary schedule) the dwelling type and appropriate or likely structural system/s nominated to each individual lot to demonstrate the nexus between slope, allotment size and appropriate dwelling type. Note: Structural categories could include: single slab on ground, split or raft slab, hybrid slab and post and beam, post and beam construction and pole construction.
4. Allocation of transition allotments (minimum lot size of 1200m²) to interface areas where Area E adjoins existing large lot areas. These interfaces have been identified on Figure 2.12.
5. Any architectural guidelines formed as part of a subdivision application must embody the objectives and design principles and development controls within the residential section of this plan or provide suitable design based justification as to why variations from these objectives, principles and controls is sought.

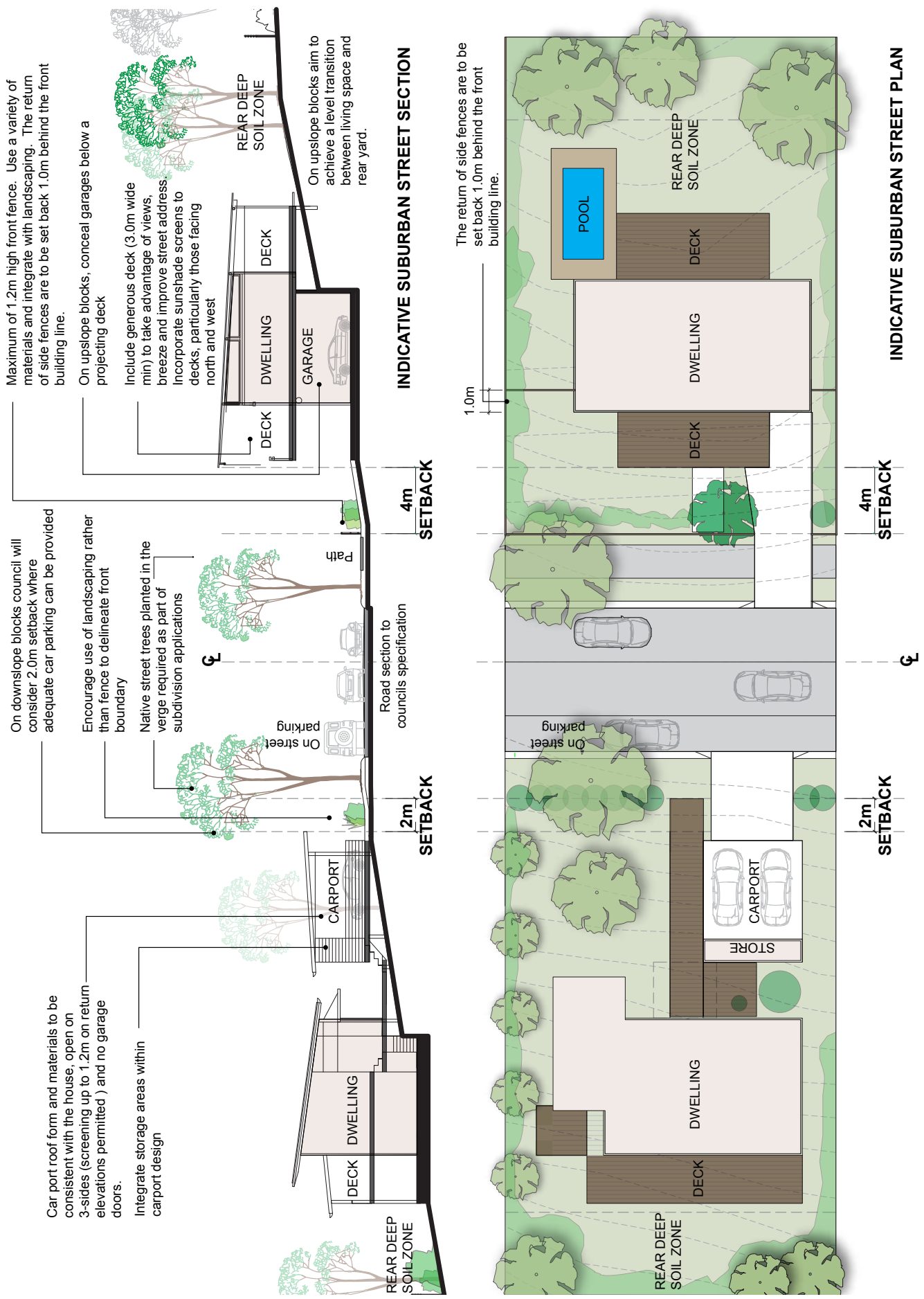


Figure 2.13 - Indicative Street Section

2.9 - Design Principle 7: Urban Design, Streetscape & Public Domain

Vision

The village centre, main street, overland flow paths and open space areas are to form the focus for public domain embellishments within Area E. The overriding strategy is to progressively implement a range of public domain and infrastructure improvements in the village centre that address the key issues of pedestrian movement and comfort, parking and efficient vehicle movement, and improvements to the overall character and appearance of the village centre and suburban areas.

Objectives

- *Public domain areas both within the village centre and residential areas are embellished to a high standard and reinforce the landscape character of the locality.*
- *Public domain areas are safe and accessible to all users.*

Development Controls

The following information is to be submitted with any Development Application for subdivision:

- Public Domain Plan.

1. Prepare a public domain plan for the open space areas, including but not limited to:
 - a sustainable landscape concept which relates to street tree plantings, drainage corridors, buffer areas, casual open space and public domain areas. Street trees are to be nominated within the street verge of every street and relate to the street pattern hierarchy. The street trees are to be positioned in a location where they are unlikely to conflict with the location of future driveways;
 - Application of Water Sensitive Urban Design Principles to the streets, casual open space and drainage corridors where possible;
 - The inclusion of street plans and sections (one for each different street typology) illustrating relationship between allotments (illustrate indicative front of buildings adjoining streets), verge and street tree plantings, street lighting, pavement, footpaths and any other embellishments;
 - Inclusion of an entry feature or gateway markers that embody the history/character of the Terranora locality;
 - Mahers Lane (South) - is to incorporate a landscaped feature combining native plants, local stone and incorporate a bus shelter including bike parking and water supply;
 - Mahers Lane (North) - is to be embellished with a viewing platform and picnic shelters with bbq facilities;
 - Broadwater Parkway (East) - is to incorporate a landscaped feature combining native plants, local stone and incorporate a bus shelter with bike parking and water supply;
 - Market Parade (Corner Park) - is to be embellished with a viewing platform and picnic shelters with bbq facilities; and
 - Display the interrelationship with the Design Principles contained within this Code.

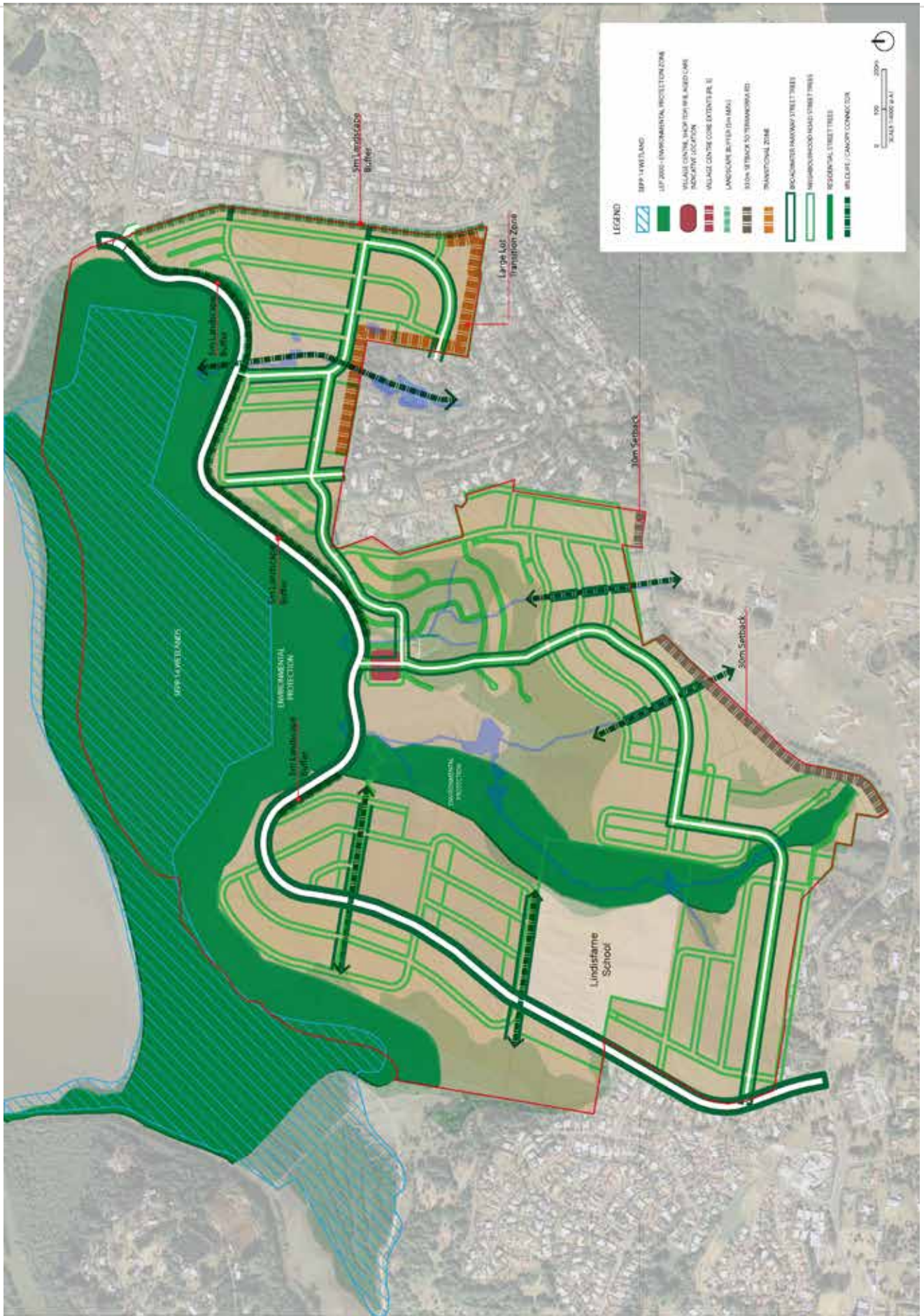


Figure 2.14- Indicative Street Tree Planting Hierarchy

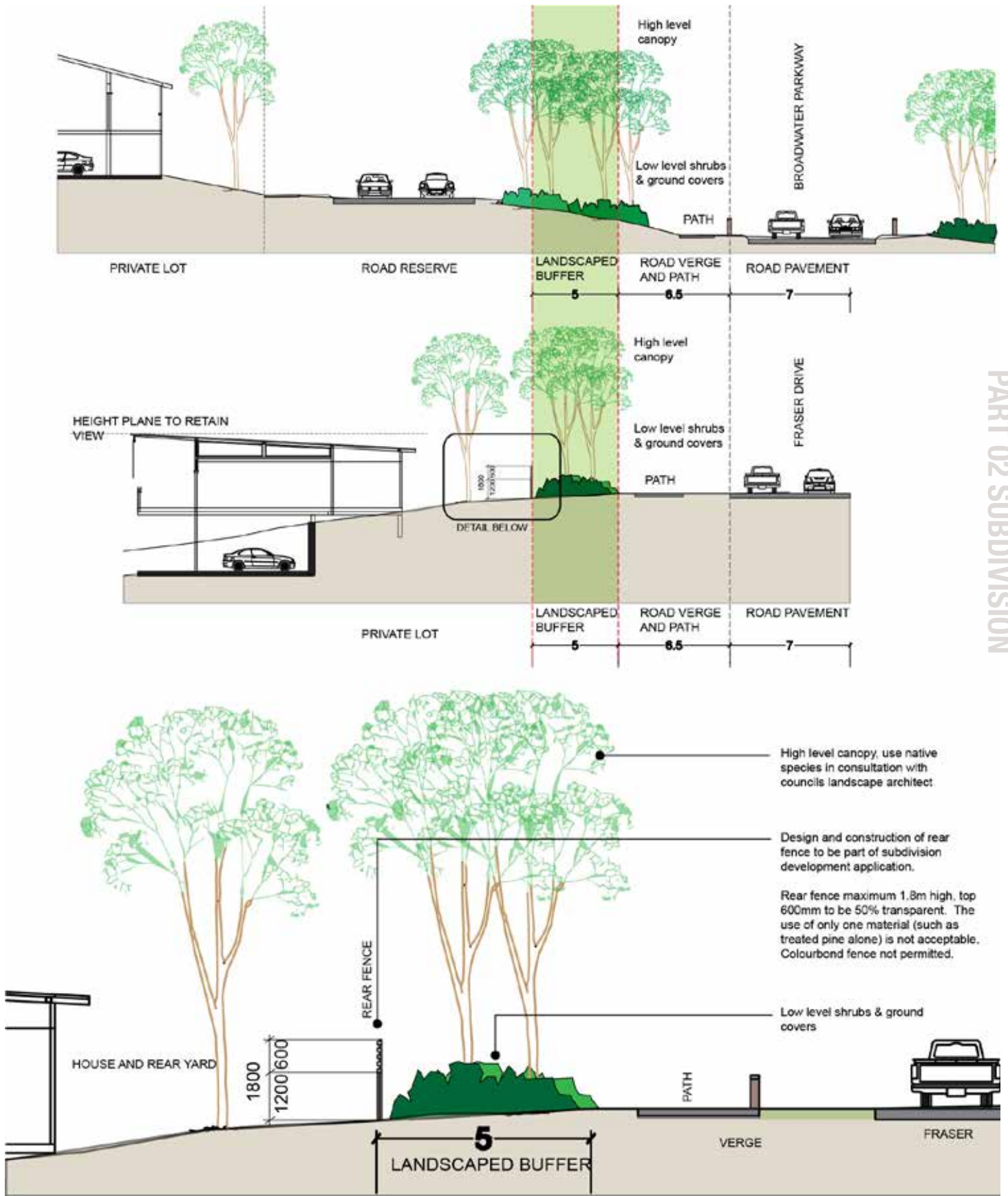
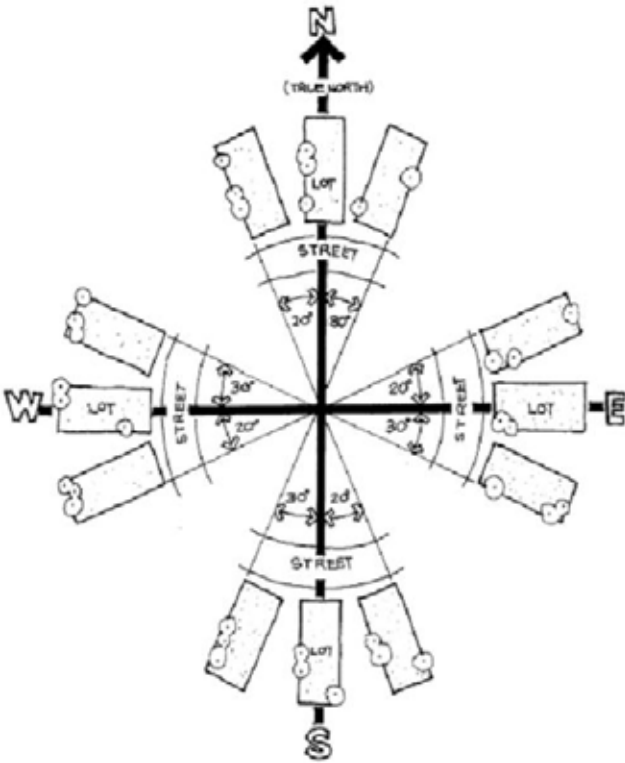
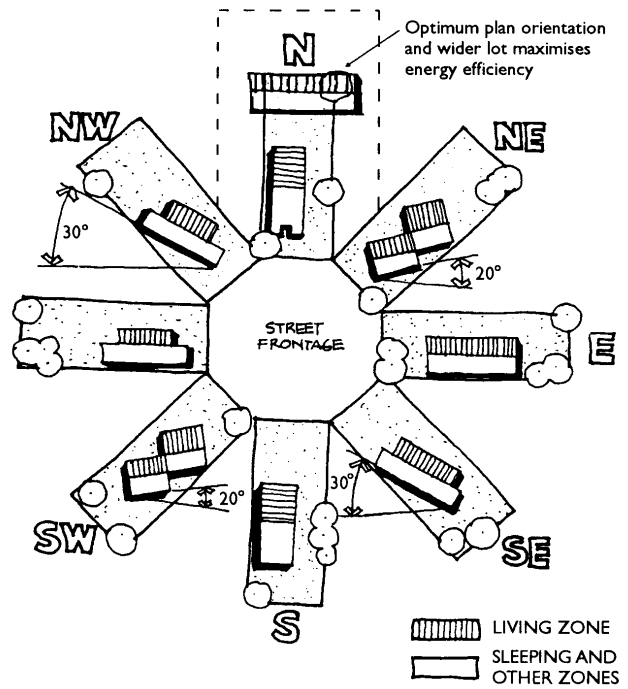


Figure 2.15- Landscape Buffers



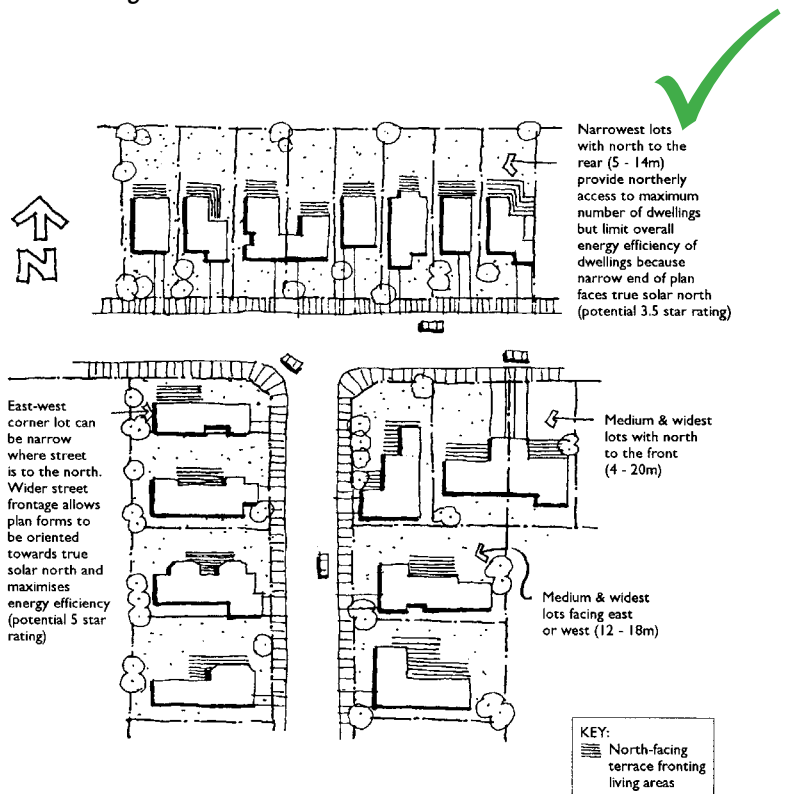
Orientation diagram from AMCORD 1995



Orientation diagram from Eurobodella Residential Design Code



Allotment layout diagram from AMCORD 1995



Allotment layout diagram from Eurobodella Residential Design Code

2.10 - Design Principle 8: Solar Orientation for Lots

Vision

The orientation of lots for good solar outcomes is one of the key considerations when designing subdivisions to maximise energy efficiency. Improved solar outcomes is enhanced through a combination of both efficient subdivision design practice, foresight as to where primary activity areas of the lot will be positioned and by a sound built form response to individual allotments.

Maximise Energy Efficiency

Subdivision design and buildings are to be responsive to the climatic conditions of the site including solar path, solar exposure / shading, prevailing breezes, appropriate materials, internal and external living area configurations. Industry practice and recognised solar orientation guidelines advocate a best range of orientation within 20 and 30 degrees of a N-S or E-W (Amcord, 1997, p275).

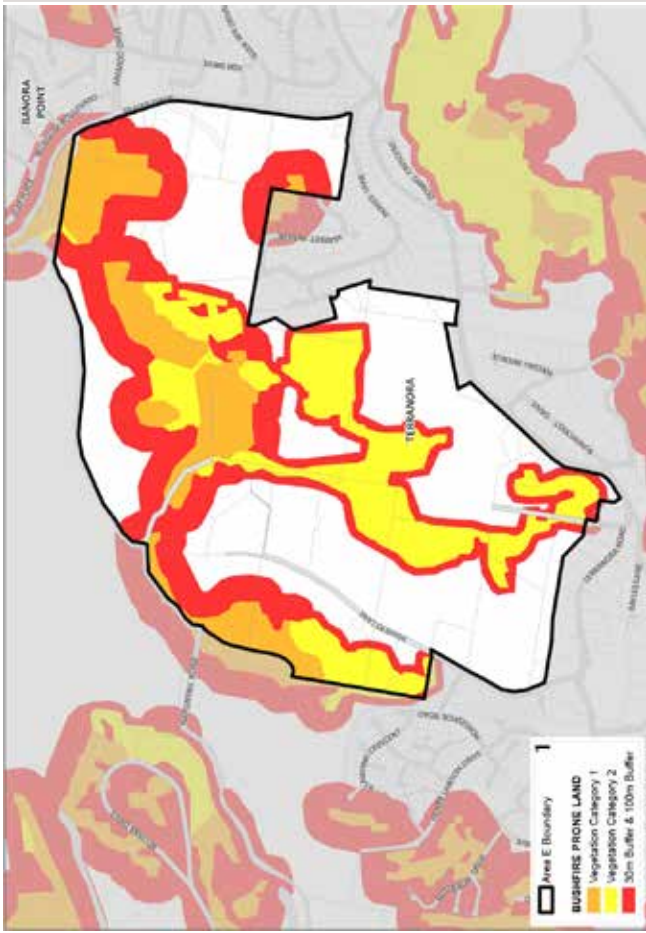
Housing lots with an east-west orientation, provide a significant opportunity for a northerly aspect over all if not the majority of lots to the rear, integrating with outdoor rooms to capture the elevated views afforded from the site. In addition, east-west lots enjoy an improved flexibility in design to achieve higher levels of solar access within and around a building. North-south lot orientation will need to have greater regard to design as greater number of lots will have reduced levels of solar access generally and more specifically to the rear of the lot (the more traditional 'backyard' configuration). Consideration will need to be given to marrying living areas and solar access whilst still achieving the various Design Principles outlined within this Code.

Objectives

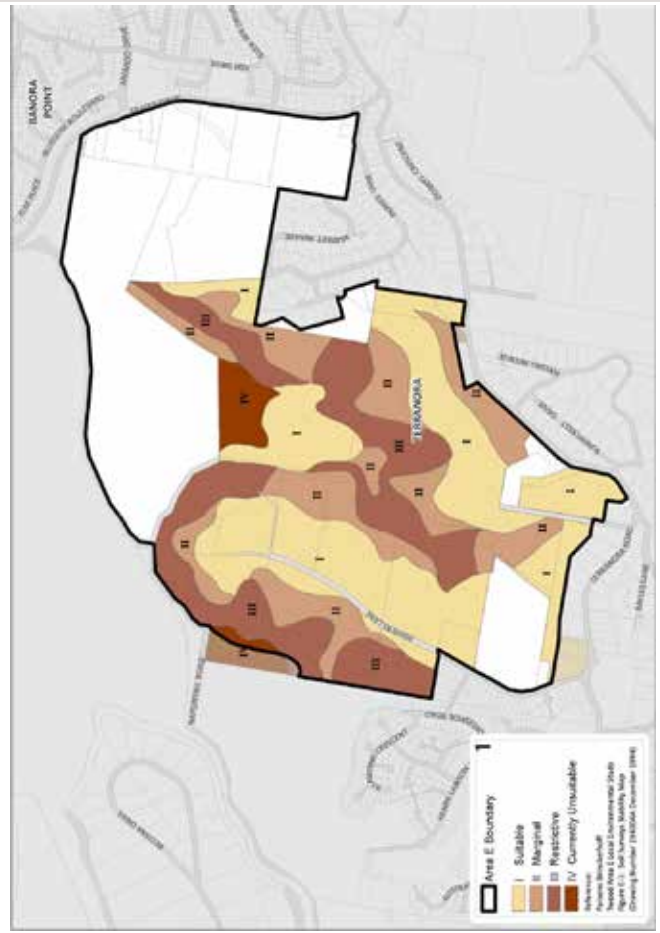
- *Encourage subdivision design which maximises opportunity for good solar orientation and access to prevailing breezes in terms of street layout and lot configuration;*
- *Encourage buildings which respond to the natural environment and climatic condition of the location;*

Development Controls

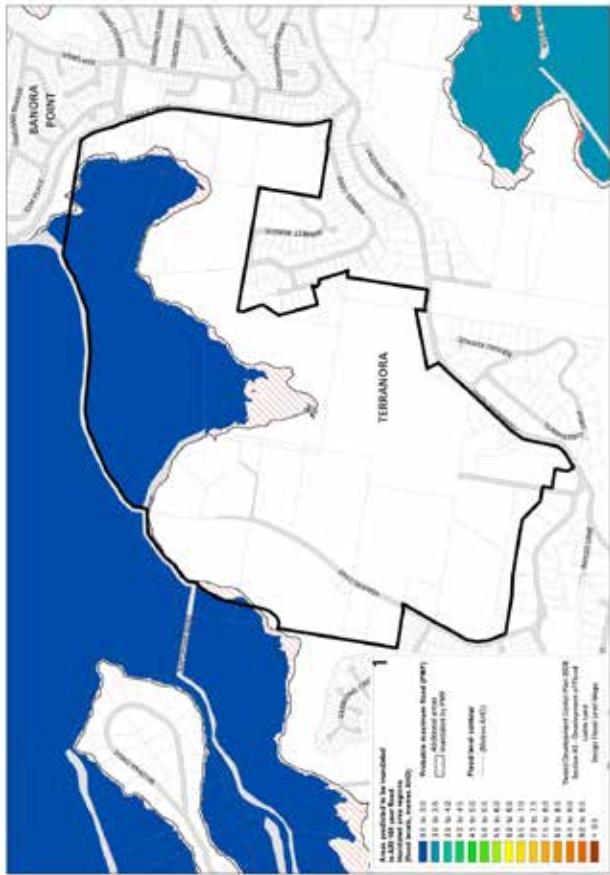
1. Demonstrate by way of diagrams and or plans how 75% of all new lots (80% aspirational) to meet the AMCORD optimum solar orientation guidelines of being oriented between 20-30 degrees of N/S or E/W; or demonstration that a resultant built form or building envelope on the lots can be sited within these orientation paramters.
2. Any subdivision development application shall avoid cul-de-sacs and road alignments which result in irregular shaped lots. The inclusion of cul-de-sacs may be considered in topographically constrained areas.



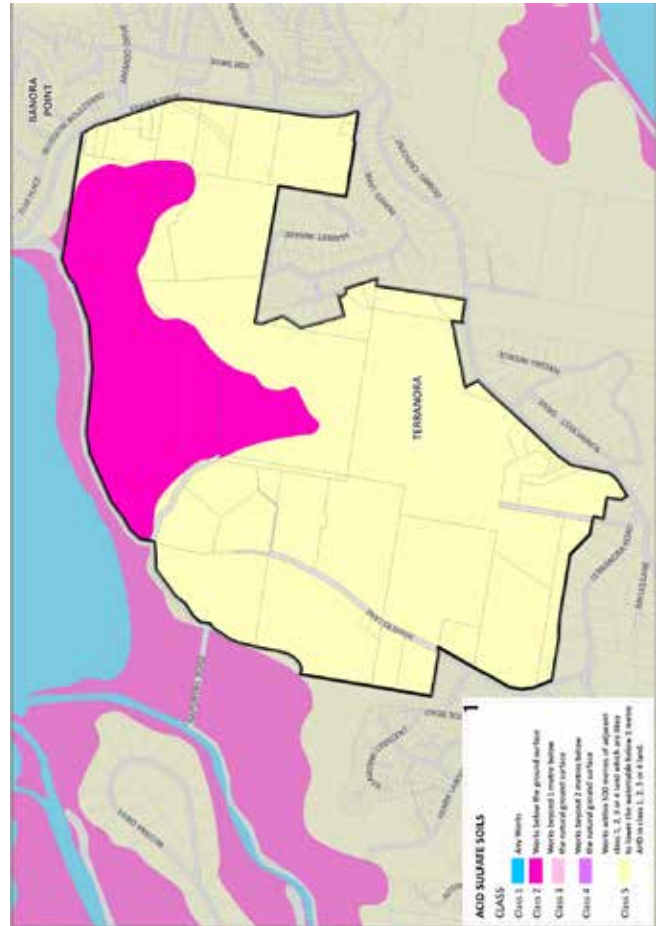
Bushfire Prone



Soil Stability



Flooding



Acid Sulfate Soils

Figure 2.16 - Constraints

2.11 - Design Principle 9: Hazards and Resilience

Vision

Appropriate design consideration and planning for the various site constraints including flooding, storm water runoff, land slip, acid sulfate soils and other hazards is imperative to ensure future resilience.

Objectives

- *Ensure that development is appropriately designed to accommodate for potential climate change impacts.*
- *Ensure that any soil contamination is identified and suitably mitigated prior to the development of Area E.*
- *Provide only suitable development and landuses within land identified as affected by a Probable Maximum Flood.*
- *Minimise the disturbance of acid sulfate soils.*
- *Provide a subdivision layout that responds to and manages bushfire hazards.*
- *Incorporate design elements and urban buffers, such as lot size and orientation, perimeter roads or overland drainage reserves, to enable the maintenance of existing vegetation and provide adequate separation of residential landuses from any hazard.*
- *Ensure areas identified as 'currently unsuitable' are excluded from development for urban purposes or other purposes that are sensitive to soil stability.*

Development Controls

The following information is to be submitted with any Development Application for subdivision:

- Detail of all site investigations (including underground and site boring) to provide adequate information to prepare designs and assess construction methods.
- Detail of all necessary geotechnical investigation and analysis to ensure that the subdivision and all works associated with the subdivision are stable and will not be subject to subsidence, landslip, mass movement or significant erosion in the short and long term.
- A Site Audit Statement (SAS) certifying the land is suitable for the proposed use. The SAS is to be prepared by an Environmental Protection Agency Accredited Contaminated Site Auditor under the provisions of the Contaminated Land Management Act, whom is to be engaged to oversee the contamination investigation and any necessary remediation of the site.

This part is to be read in conjunction with the criteria and provisions set out within Tweed DCP Section A3 – Development of Flood Liable Landl where this Code does not make specific reference or controls.

1. Required Asset Protection Zones must not be provided on public land (with the exception of roads) and are to be incorporated within development allotments.

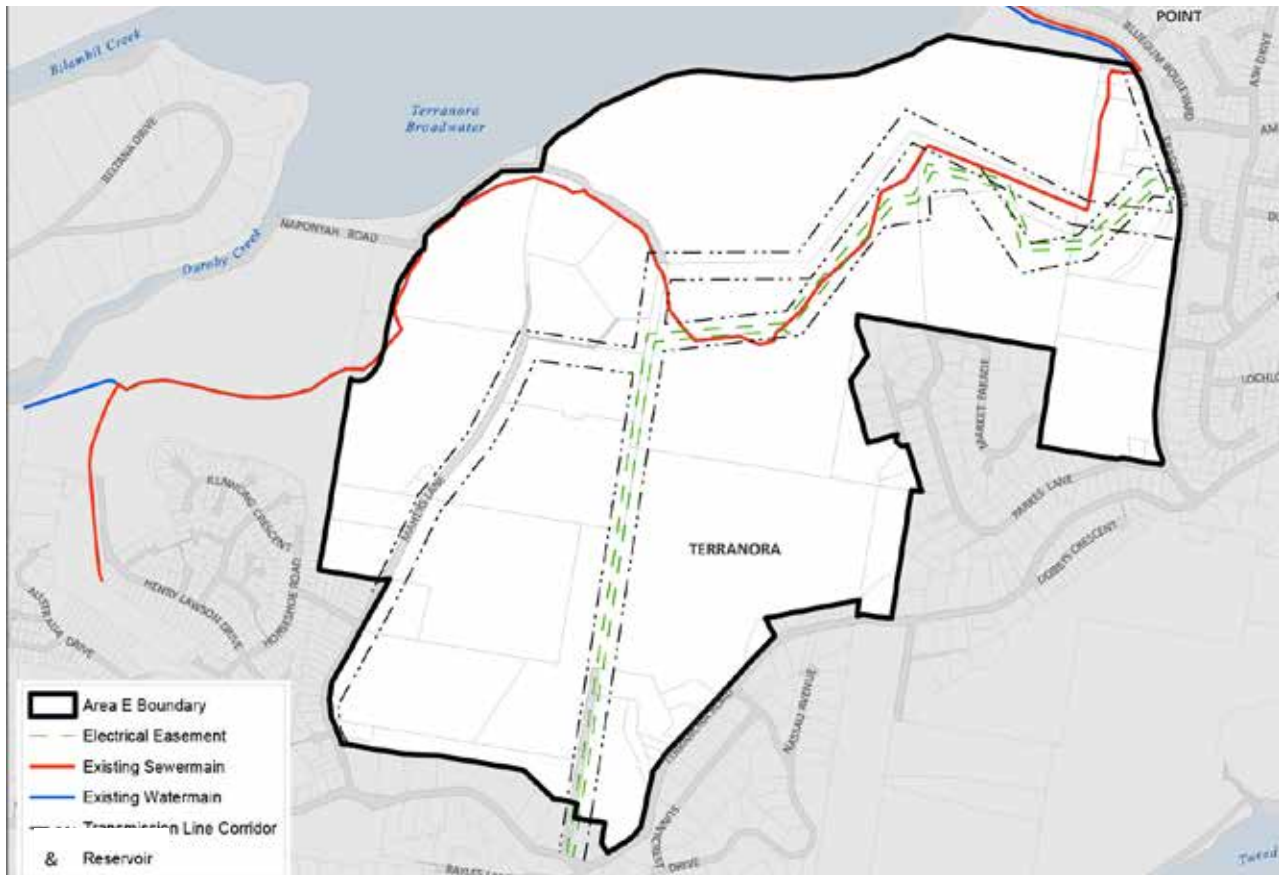


Figure 2.17 - Existing Infrastructure

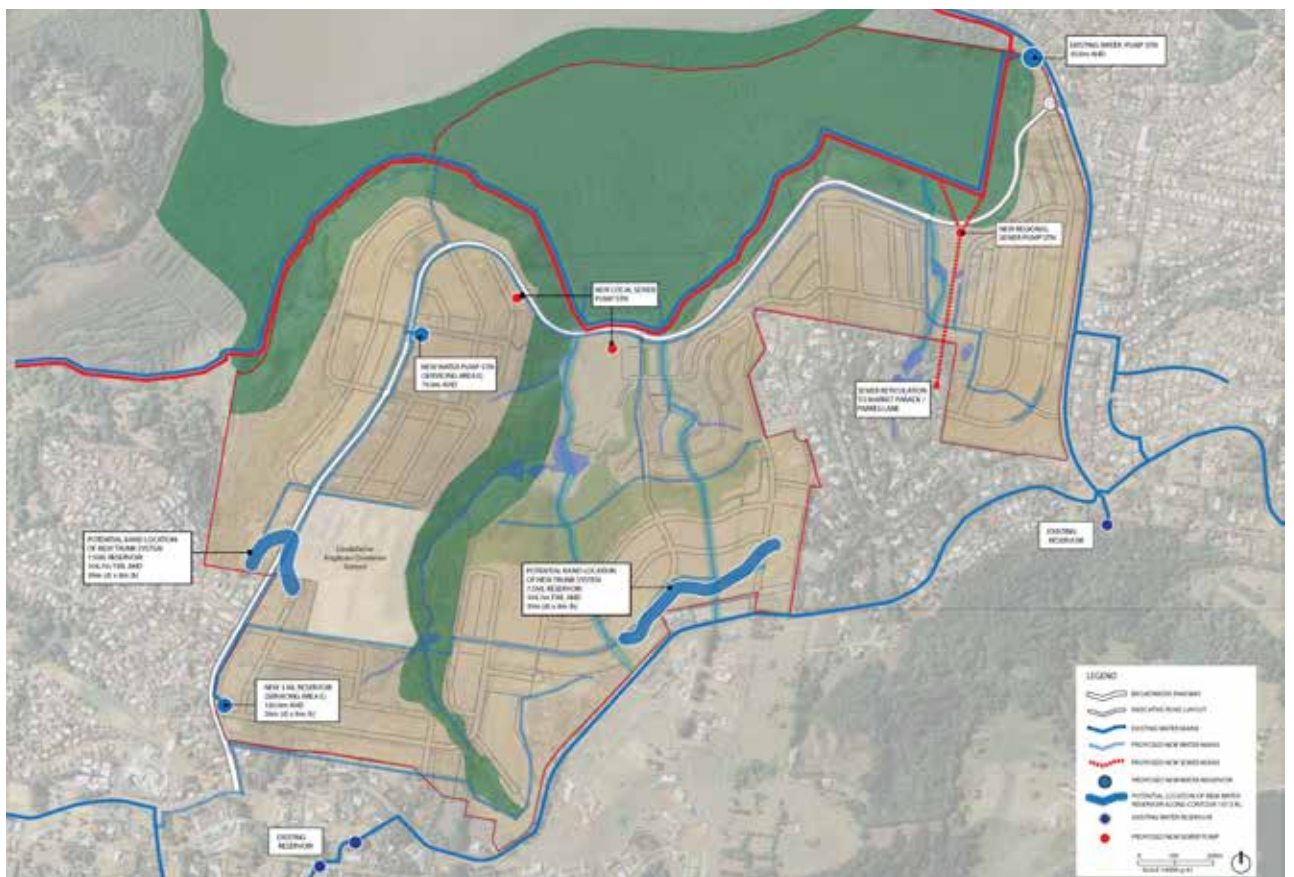


Figure 2.18 - Area E Conceptual Water and Sewer Reticulation Strategy

2.12 - Design Principle 10: Infrastructure

Vision

Progressively implement the design and construction of essential services for Area E and ensure coordinated and efficient delivery.

Water

Funding for the water supply strategy for Area E was not included in the current Development Servicing Plan and is not included in Local Government Act, Section 64 charges for subdivisions. Accordingly development of the water supply assets must be funded or provided by the developer. No land can be developed until suitable water supply is provided.

The strategy adopted in the LES still stands as the preferred option being, a 3ML reservoir located at the highest possible point (not below 125m AHD) adjoining Mahers Lane with a supply main from the existing trunk main along the northern edge of the development area via a pump station located near the northern end of Mahers Lane. Water from this reservoir would serve parts of Area E below RL 105m AHD.

The site needs to have a top water level of approximately RL 130m AHD and a base level of about RL 123.5m AHD. An area of approximately 40m by 60m in the south-west corner of Lot 1 DP 216360 presents Council's current preferred location.

The area above 105m AHD will be serviced by Rayles Lane – Large Reservoir. The reticulation system developed across Area E would require to include suitable distribution mains including a significant main in the proposed Broadwater Parkway.

An alternate strategy that would permit development to begin at the eastern end of Area E is to provide a reservoir adjacent to the existing Chambers Reservoir.

Figure 2.18 also identifies a second reservoir site located further north on Mahers Lane. This reservoir is required for the development of the water supply trunk conveyancing system to provide more storage in the North Tumbulgum section of the system.

Investigations to date have identified a site with a top water level of RL 104.7m AHD in the Mahers Lane area as Council's preferred option, namely the north-east corner of Lot 1 DP706332, however, as acknowledged within Figure 2.18, a 'band' of potential sites is identified. The essential criteria for the site is that the site be approximately 50m by 50m with the base level able to be established at approximately RL 97.5m AHD.

Note: For further information on water and sewer infrastructure, interested parties are encouraged to contact Council's Water Unit.

As the construction of this reservoir and associated trunk mains is a part of the trunk conveyancing system, it will be included in the next revision of the Water Supply Development Servicing Plan and hence will be funded by contributions levied under Section 64 of the Local Government Act.

Wastewater

A sewerage strategy for Area E was developed in the Banora Point Sewerage Strategy Study (September 1999). This strategy provides for a new regional sewer pump station to be constructed within Area E. Flow from the Terranora Village sub-regional pump station (SPS3033) will be intercepted and re-pumped through a new 375 diameter sewer rising main (SRM) direct to the Banora Point Wastewater Treatment Plant, unloading the existing SPS3018 Fraser Drive. Recent analysis has shown that:

- The estimated inflow to SPS3018 has increased over that anticipated when the 1999 Strategy was prepared.
- The disused 150 diameter SRM was placed in service some years ago to reduce the effect of the additional load.
- The existing SPS3018 is performing below the estimated peak wet weather flow.
- SPS3018 cannot be satisfactorily upgraded to adequately cope with the estimated interim inflow on the existing site.
- The corridor expected to contain the new 375 diameter SRM already has two active mains and it is considered that no additional mains should be constructed in that corridor other than the proposed 375 diameter main.

Accordingly, further investigation of staging options is required to determine a suitable interim strategy to enable development to proceed.

Stormwater

Each development precinct must establish a lawful point of discharge in accordance with DCP Section A5 – Subdivision Manual. This may require acquisition of easements over downstream private land. The acquisition by Council of key conveyance paths within Lot 227 is included in the Area E Section 94 Developer Contribution Plan. The design of stormwater drainage systems must take into consideration the applicable tailwater levels. If downstream conveyance paths (i.e. open drains) cannot be maintained in perpetuity due to environmental constraints, the drainage design must assume loss of cross sectional capacity and therefore a more conservative tailwater level.

Electricity

In addition to Council's standard Subdivision Manual provisions regarding provision of electricity, Essential Energy requires the provision of a 66kV powerline corridor through Area E, connecting the Terranora and Tweed Heads South substations. Development will

need to be mindful of Essential Energy's requirements and consultation with Essential Energy is encouraged. Provision should be made for the 66kV powerline to be provided underground throughout Area E.

Telecommunications

In accordance with the Federal Government's National Broadband Network (NBN) initiatives, a fibre ready, pit and pipe network (including trenching, design and third party certification) to NBN CO's Specifications, to allow for the installation of Fibre To The Home (FTTH) broadband services is to be provided throughout Area E.

Objectives

- *Progressively implement the design and construction of essential services for Area E and ensure coordinated and efficient delivery.*
- *Convey external catchment flows safely through the site;*
- *Preserve existing catchment boundaries and utilise existing water courses and gully lines for conveyance where practical and environmentally sustainable;*
- *Provision of minor and major stormwater collection and conveyance systems for the development land;*
- *Provision of stormwater quality control devices to meet Council's stormwater quality objectives in accordance with Development Design Specification D7 – Stormwater Quality;*
- *Provision of stormwater detention / retention devices and level spreaders to ensure that stormwater discharge from the development does not create significant adverse impacts on receiving water bodies, wetlands and environmental land.*

Development Controls

The following information is to be submitted with any Development Application for subdivision:

- Water Servicing Plan
- Sewer Servicing Plan
- Stormwater Management Plan
- Erosion and Sediment Control Plan (ESCP)

1. Any proposal must comply with the Demand Management Strategy adopted by Council employing minimum sized rainwater tanks and connected roof areas as well as reduced infiltration gravity sewers and other measures to reduce demand on water supply and load on wastewater systems.
2. Land affected by potential water infrastructure, as depicted in Figure 2.18, shall not be used for any other purpose than for water supply infrastructure unless Council specifically determines that the land is no longer required for that purpose.
3. Demonstrate the location of a fibre ready, pit and pipe network (including trenching, design and third party certification) to NBN CO's Specifications, to allow for the installation of Fibre To The Home (FTTH) broadband services.
4. Demonstrate the presence of a lawful point of discharge.

This part is to be read in conjunction with the criteria and provisions set out within Tweed DCP Section A5 – Subdivision Manual where this plan does not make specific reference or controls.

