



Planning &
Environment

NORTHERN BEACHES
COUNCIL




UrbanGrowth
NSW

Ingleside

***Draft Land Use
and Infrastructure
Strategy***





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Department of Planning and Environment

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Executive summary

The Department of Planning and Environment is working with the Northern Beaches Council, UrbanGrowth NSW, the local community and government agencies to prepare a plan that will create new homes and coordinate infrastructure delivery in the Ingleside Precinct.

The Precinct provides an opportunity to boost the supply of new homes in Sydney's North District in a semi-rural area with significant environmental and heritage values.

Ingleside was first identified as a potential future urban area in the mid 1960s. It is approximately 700 hectares and is located between the developed urban areas of Bayview and Elanora Heights to the east, and Ku-ring-gai Chase National Park and Garigal National Park to the north west and south west respectively. The urban areas of Terrey Hills and Duffys Forest lie to the west, between the two national parks.

The Structure Plan (**Figure 1**) details the potential urban development and conservation outcomes for the Precinct. A number of technical studies support these outcomes.

Infrastructure delivery and development sequencing

The Ingleside Precinct will provide approximately 3,400 homes that will be built as essential infrastructure is delivered. Not all areas of the Precinct are suitable for urban development due to ecological constraints, bushfire risk and infrastructure servicing. Bayview Heights and Wirreanda Valley will retain their current character and no substantial changes to planning controls are proposed.

The Precinct is geographically divided by Mona Vale Road. The land south of Mona Vale Road, referred to as South Ingleside, is likely to be developed first due to its proximity to existing infrastructure. The area north of Mona Vale Road and east of the ridgeline, referred to as North Ingleside, will require investment in new services, albeit at a greater cost and with a longer timeframe for delivery. Sydney Water has advised that the

new water reservoir and sewage pumping station required to service North Ingleside will not be constructed for at least three years after rezoning

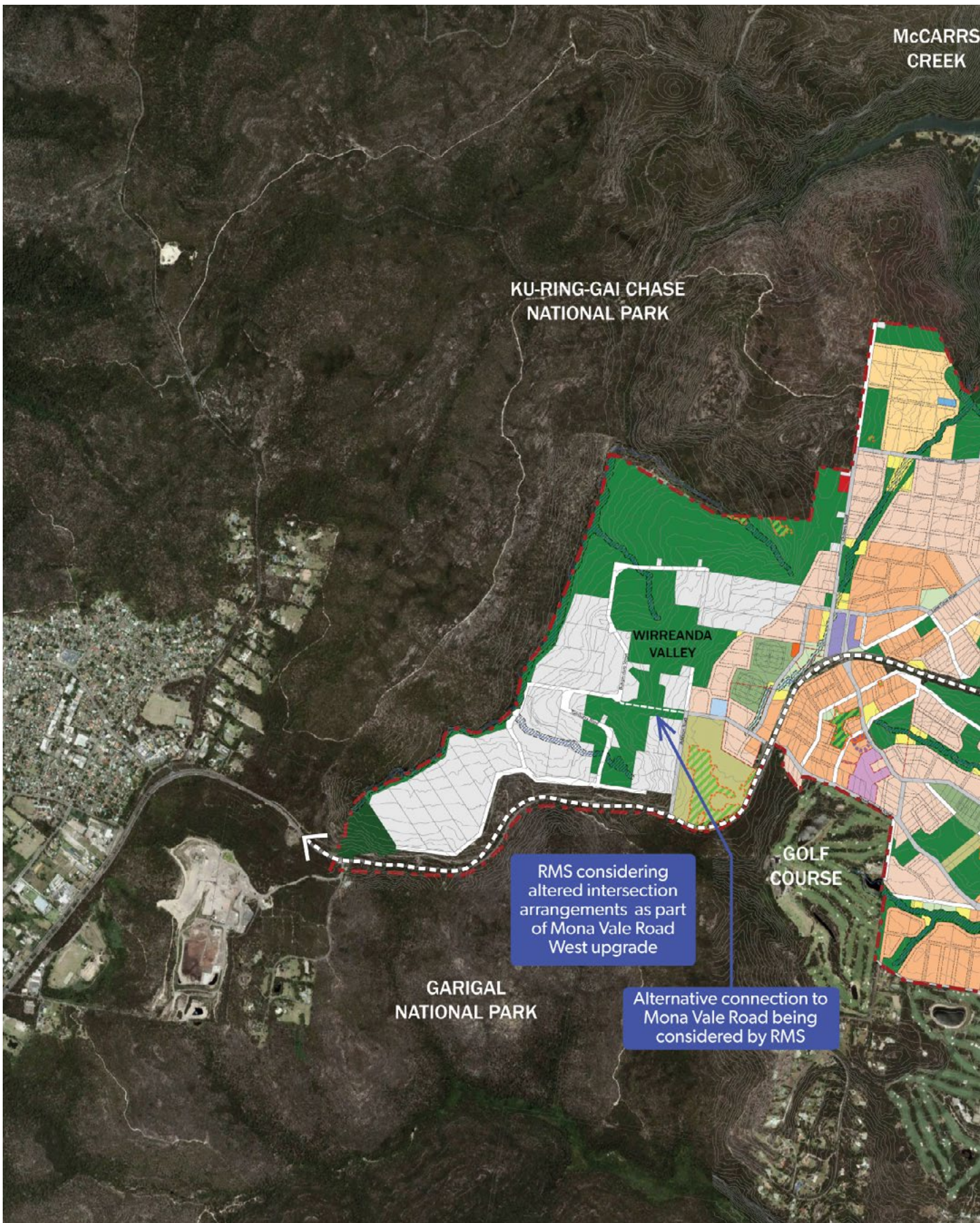
The electricity supply network has capacity to service development at Ingleside. Ausgrid has confirmed that the entire Precinct can be supplied by two new 11kV feeders from the Mona Vale Substation.

The extension of services into the Wirreanda Valley (sewer and water) and Bayview Heights (sewer only) is dependent on development capacity. It is not expected that future development in these areas will warrant the extension of services beyond South Ingleside and North Ingleside based on traditional servicing methods.

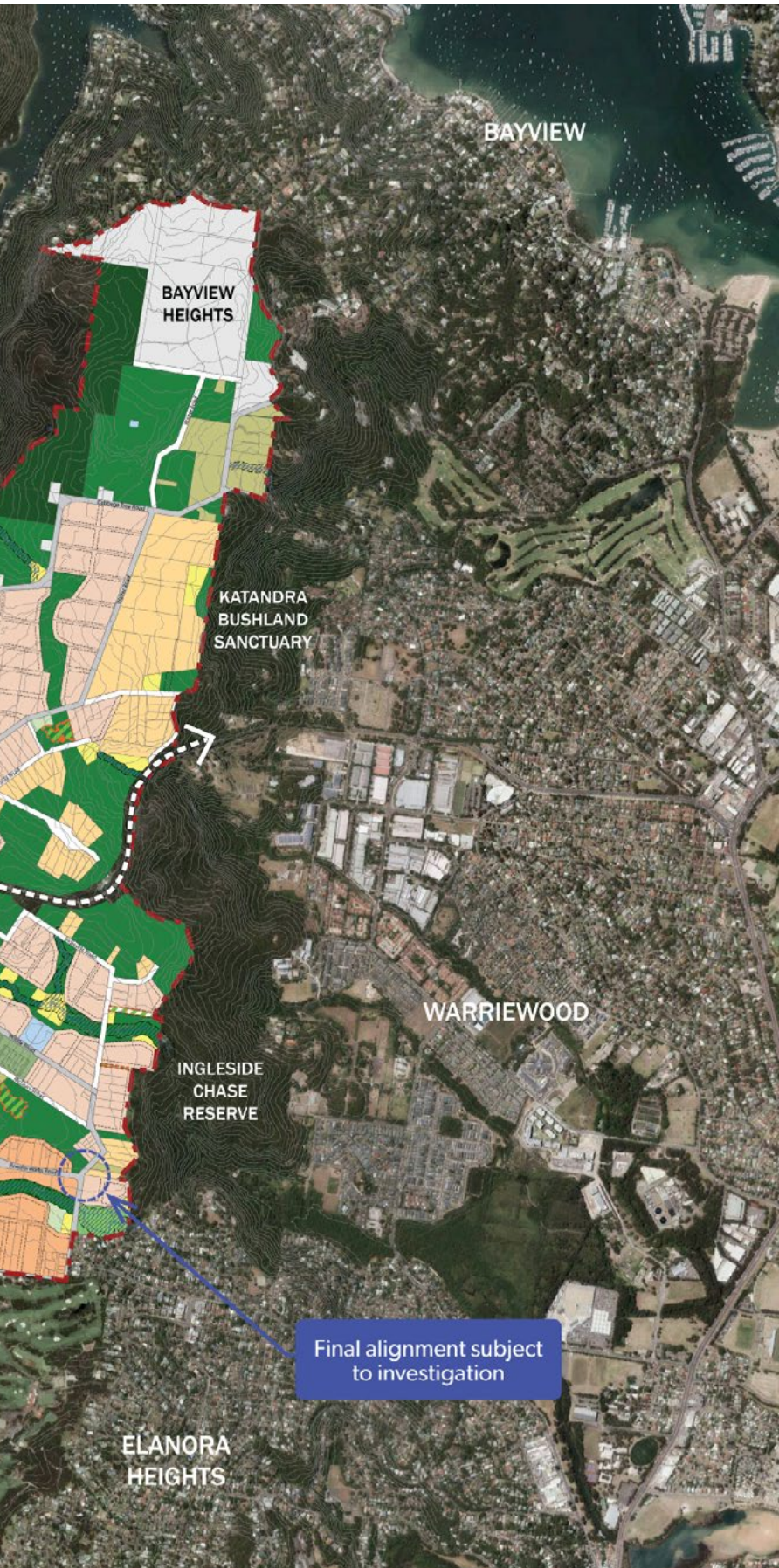
However, landowners may consider options for specific solutions that could enable development opportunities within these areas.

The timing of infrastructure provision will depend on rates of development. The housing market is subject to broader economic factors and rates of development can slow or accelerate in response to these factors.

Figure 1 Structure Plan



Ingleside Precinct Structure Plan







-  Precinct Boundary
-  Houses on Larger lots
-  Houses
-  Low Rise Apartment/
Townhouses (3 storeys)
-  Environmental Management
-  Rural
-  Parks
-  Sporting Fields
-  Environmental Conservation
-  Road within Ingleside Chase Reserve
-  National Park
-  Endangered Ecological Community
-  Neighbourhood Centre
-  Proposed School
-  Major Road
-  Proposed Mona Vale Road Alignment
-  Water Management
-  Water
-  Sewer
-  Rural Fire Service Station
-  Creek Corridor
-  Heritage Curtilage
-  Community Centre
-  Preferred Location for Neighbourhood Shops

Figure 2 Ecological corridors



Ingleside Precinct Ecological corridors



-  Precinct Boundary
-  Environmental Conservation
-  Endangered Ecological Community
-  Creek Corridor
-  Heritage Curtilage
-  Community Centre
-  Neighbourhood Centre
-  Ecological Corridor
-  Potential Fauna Crossing

Guiding elements

The following elements underpin the Structure Plan (**Figure 1**):

- create new connections within the Precinct and to adjoining places;
- create links to the surrounding areas of bushland facilitating fauna linkages (refer to **Figure 2** ecological corridors);
- identify areas of significant vegetation and communities;
- identify areas that can sustainably accommodate development;
- develop built form guidelines and controls with an underlying principle of ecologically sustainable development.

Development outcomes

Table 1 shows the land use outcomes identified in the Structure Plan.

This identifies that:

- 40% of the total Precinct area is proposed for development;
- 30% of the total area is proposed for conservation; and
- 30% of the area is unlikely to change, and any development will be subject to standard development controls.

Biodiversity and conservation outcomes

The Department is seeking Biodiversity Certification for the Precinct which allows the offsetting of biodiversity impacts and removes the requirement for site-by-site threatened species analysis. A Biodiversity Certification assessment and strategy is being prepared.

Any landowners interested in biobanking their lands (which means landowners could receive funding to manage their land for conservation purposes) should contact the Department so this can be factored into the Biodiversity Certification.

Draft planning package for public exhibition

The following documents form the draft planning package:

- a Structure Plan illustrating land use outcomes (**Figure 1**);
- a Land Use and Infrastructure Strategy (this document);
- a suite of technical studies (available in volumes 1 and 2) used to inform the draft plans; and
- a proposed amendment to the *State Environmental Planning Policy (Sydney Region Growth Centres) 2006* to make Ingleside a Priority Growth Area. An amendment to the SEPP will provide interim planning controls to assist Council when assessing Development Applications prior to rezoning. This will ensure that the intended planning outcomes for Ingleside are considered during the Precinct planning process.

Feedback from landowners, Northern Beaches Council, the Ingleside Community Reference Group and state agencies will inform the final planning package.

Draft planning controls

Draft planning controls identifying new land use zones for Ingleside, including a Development Control Plan (DCP) and Section 94 Contributions Plan are being prepared.

Table 1 Land use outcomes for Ingleside Precinct

Land use outcomes for Ingleside Precinct	Area (ha)	Yield (Dwellings)
Gross site area	703	
Houses (12 to 13 dw/ha - 550m ² average) , maximum height 8.5m *	123	1,530
Houses on Larger Lots (2,000m ² min. lot size)	50	250
Low Rise Apartments/Townhouses (25 to 27 dw/ha - 300m ² average) , maximum height 10.5m *	63	1,580
Neighbourhood Centre (maximum height 11m)	1.8	36
Existing National Park	23.6	-
Environmental Conservation	192.7	-
Environmental Management	24.9	-
Sporting Fields	10.0	-
Parks	5.7	-
Private Open Space	2.0	
School	2.9	-
Water Management	10.7	-
Community Facility	0.4	-
Rural Land (no change to land use)	107.4	-
Infrastructure (water reservoir, sewer pumping station and RFS station)	2.4	
Roads (includes Mona Vale Road, Existing and Proposed Major Roads)	84.3	
Minimum Capacity – New Homes		3,396
Estimated Population		9,000

* Note: Excludes Rural Land and Environmental Management
Houses and Low Rise Apartments/Townhouses include land for local roads.
Items may not total due to rounding

1. Strategic Planning Context

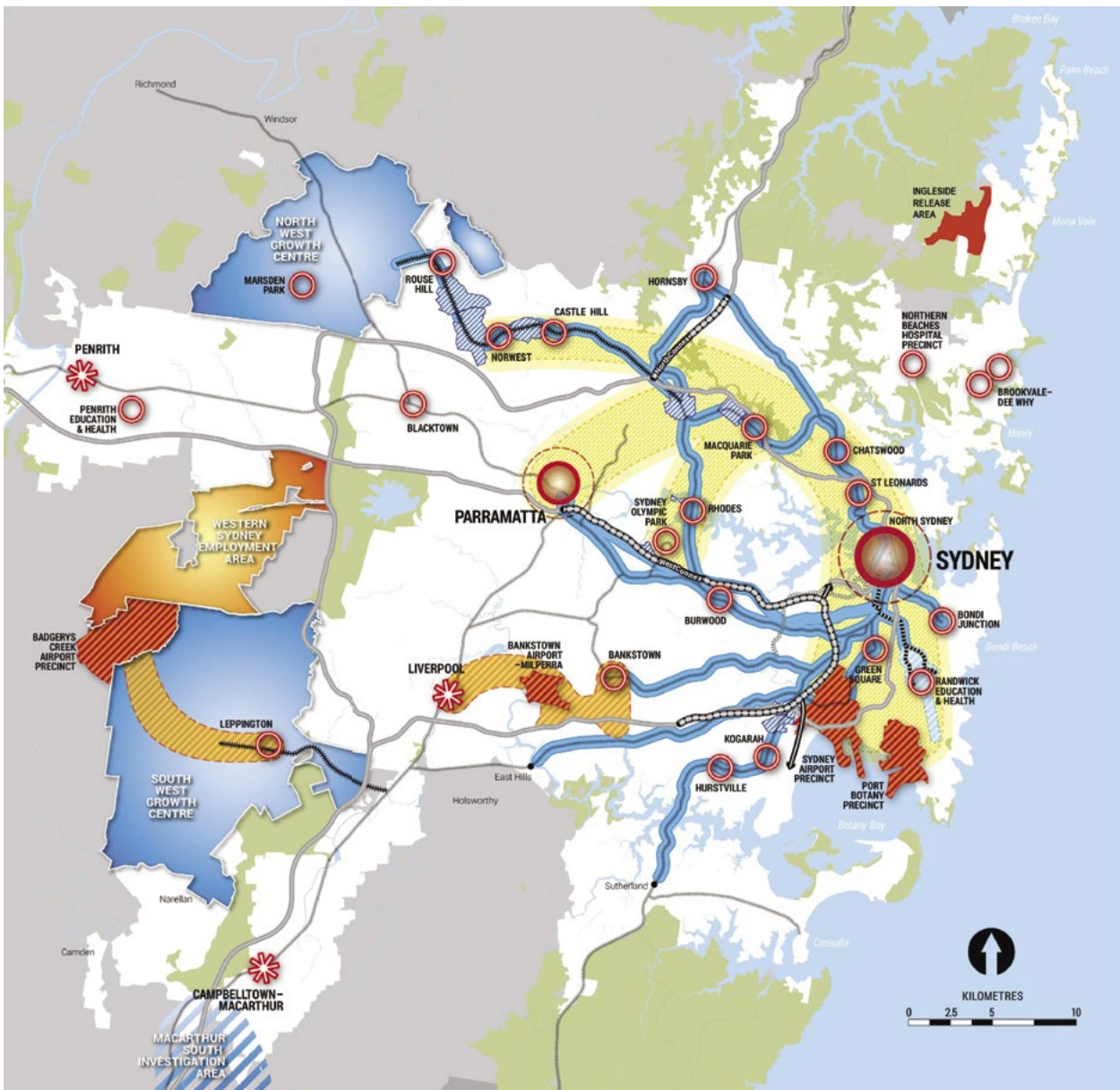


Figure 3 A Plan for Growing Sydney

Source: A Plan for Growing Sydney, 2014 (Department of Planning and Environment)

1.1 A Plan for Growing Sydney

A Plan for Growing Sydney provides a strategy to accommodate Sydney's future population growth for the next 20 years, as well as planning for employment, services and facilities, liveable communities and the natural environment. It sets directions to deliver timely and well planned greenfield Precincts and improve housing choice to suit different needs and lifestyles (Directions 2.3 and 2.4). Its key priorities are to:

- maintain a steady supply of rezoned land for development;
- coordinate and deliver enabling infrastructure to assist the conversion of zoned land into homes;
- allow for a range of housing types to be delivered to meet the needs of various household structures; and
- support the provision of new infrastructure.

The Plan also sets directions to protect our natural environment and biodiversity and to manage the impacts of development on the environment (Directions 4.1 and 4.3).

Figure 3 shows the Ingleside land release area within the context of the overall *A Plan for Growing Sydney* and its proximity to regional centres and the Sydney CBD.

A draft Structure Plan for the Ingleside Precinct was prepared in November 2014 and released for community consultation. In response to feedback, the Department made the following key changes:

- green corridors account for the impact of future conservation land on private landholders;
- new urban land with development potential has been identified thanks to additional servicing opportunities;
- new access opportunities within the Precinct and changes to the road network have been included; and
- drainage and water management mitigation measures have been refined.

The Structure Plan implements key elements of Action 2.4.1 of *A Plan for Growing Sydney*, by:

- identifying urban development in those parts of the Precinct that will have access to essential enabling infrastructure (water, sewer and electricity);
- delivering land for an additional supply of homes to meet demand from Sydney's growing population; and
- coordinating the delivery of enabling infrastructure so that public and private investment in new development is focused on those areas where new communities can grow, with access to amenities, services and critical infrastructure.

The Structure Plan also implements a key element of Action 4.1.1 of *A Plan for Growing Sydney* by protecting a network of high conservation value land by investing in green corridors, protecting native vegetation and biodiversity.

1.2. Precinct planning

In 2013 Pittwater Council (now part of Northern Beaches Council) and the Minister for Planning agreed to undertake a Precinct planning approach for Ingleside. The planning process establishes new planning controls and infrastructure delivery arrangements to enable urban development by:

- examining the existing context of the Precinct;
- identifying environmental constraints and opportunities for enhancing connectivity and places;
- exploring development opportunities and infrastructure requirements;
- responding to the legislative requirements and best practice guidelines of state and local government;
- addressing feedback received through community consultation; and
- confirming consistency of the draft planning package with relevant planning documents.

The Structure Plan is a response to the strategic planning context and inputs from the specialist studies, landowner and stakeholder consultation. Specialist investigations undertaken as part of the Precinct planning and documented in this report include:

- Social infrastructure and demographics;
- Retail and employment;
- Land capability, salinity and contamination
- Noise and vibration;
- Indigenous heritage;
- Non-Indigenous heritage;
- Biodiversity and riparian corridors;
- Bushfire risk;
- Water cycle management and flooding;
- Macro-invertebrate study;
- Sustainable design and construction;
- Infrastructure delivery plan;
- Transport and traffic; and
- Visual analysis.

A draft Indicative Layout Plan (ILP) will be prepared to support the proposal to rezone the Precinct. The Minister may recommend (or not) to the Governor to approve a proposed amendment to the Pittwater LEP 2014 via a draft State Environmental Planning Policy (SEPP). Council is responsible for implementing the plan, as it is the consent authority for development after rezoning.

In order to complement the broader consultation framework an Ingleside Community Reference Group was established. The group includes equitable representation from registered community groups, community associations and Northern Beaches residents.

An Ingleside Planning website was also established and is regularly updated to keep the community informed of the planning process.

2. Precinct Context

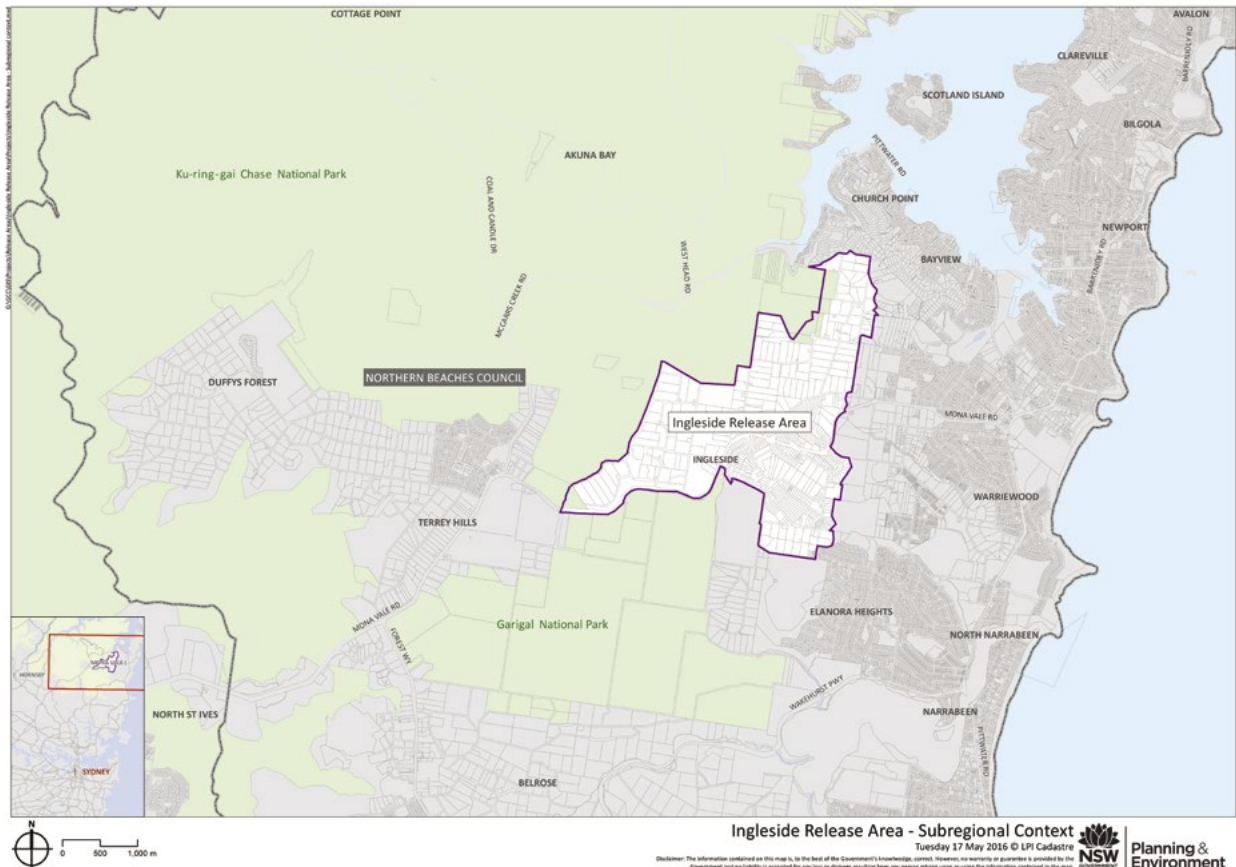
2.1 Location

Ingleside is located in the Northern Beaches Local Government Area (LGA), which is part of the North District. It is located approximately 30 kilometres north of the Sydney CBD. The Precinct is immediately surrounded by the Garigal and Ku-ring-gai Chase National Parks, the Ingleside/Warriewood Escarpment to the east and the Ingleside Chase Reserve. The Precinct lies between Terrey Hills and Mona Vale. Mona Vale Road, the main road linking the Northern Beaches to western Sydney, passes through Ingleside. A site locality plan is included as **Figure 4**.

2.2 Opportunities and constraints

Ingleside is a diverse Precinct with a number of complex existing features contributing to its overall character. These features have influenced the Structure Plan and provide both opportunities and constraints to urban development. The existing character of the Precinct includes semi-rural and bushland lots, plant nurseries, equine industry and small scale commercial agriculture. Surrounding land uses include residential areas, national parks and council reserves.

Figure 4 Locality map



2.2.1 Proposed Mona Vale Road upgrade

Mona Vale Road, a major arterial route bisecting the Precinct, is proposed to be upgraded to two lanes in both directions (**Figure 5**). This will occur in two stages:

- Mona Vale Road Upgrade East – estimated for completion in 2020.
- Mona Vale Road Upgrade West – estimated for completion in 2021.

The upgrade will improve access to the Precinct and enhance opportunities for urban development. It will improve the accessibility to public transport including future high frequency bus services along Mona Vale Road.

Importantly, the timing of development within the Ingleside precinct will be coordinated with the increased capacity to be provided by the Mona Vale Road upgrades.

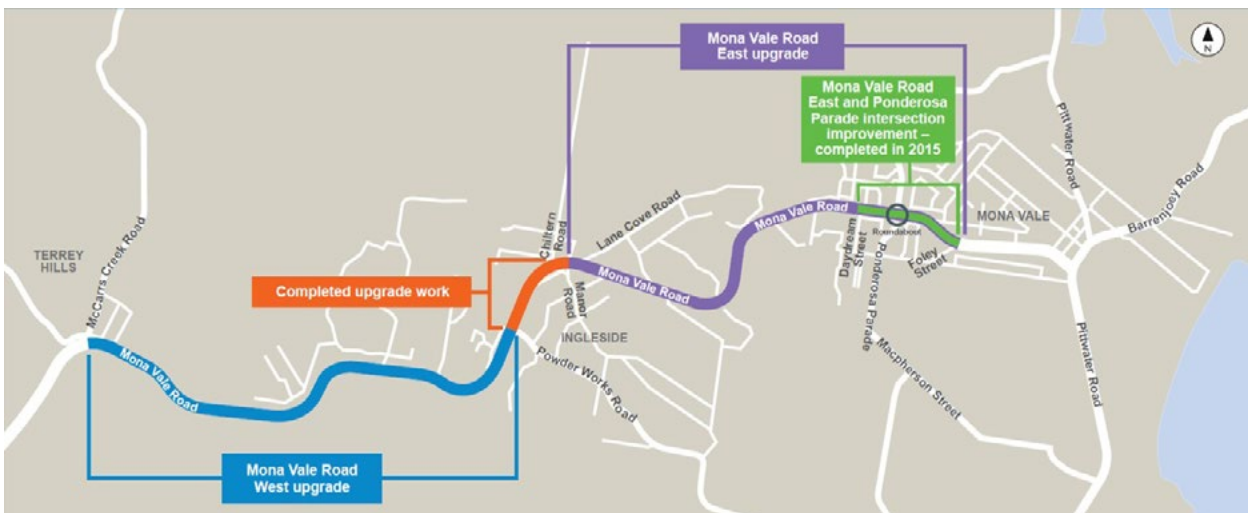
The upgrade also provides opportunities to create new fauna crossings in consultation with Roads and Maritime Services (RMS) to improve fauna connectivity across the Precinct.

2.2.2 Existing infrastructure

Urban development can only occur when properties are adequately serviced by water, sewerage and electricity. The extent of future services in Ingleside is a constraint to development in areas such as Wirreanda Valley and Bayview Heights. The staging and delivery of new infrastructure across the Precinct is outlined further in **Section 3** of this Strategy. The extent of existing servicing to the Ingleside Precinct is described below:

- Parts of the Precinct are currently serviced by water supply. South Ingleside is partly serviced by the Elanora Heights water supply zone, while parts of North Ingleside are serviced by the Minkara water supply zone.
- Parts of the Precinct currently have connections to the Sydney Water sewerage system.
- The Precinct is serviced by three existing zone substations located outside the Precinct. The Precinct contains a network of overhead power lines as well as pole mount and pad mount substations.

Figure 5 Mona Vale Road upgrade



Source: NSW Roads and Maritime Services

2.2.3 Catchments, watercourses and topography

The Ingleside Precinct has a complex system of watercourses, topography and drainage which will influence future land uses in the Precinct. A subcatchment is an area of land where the topography causes water drain into a single watercourse. The Precinct has three subcatchments:

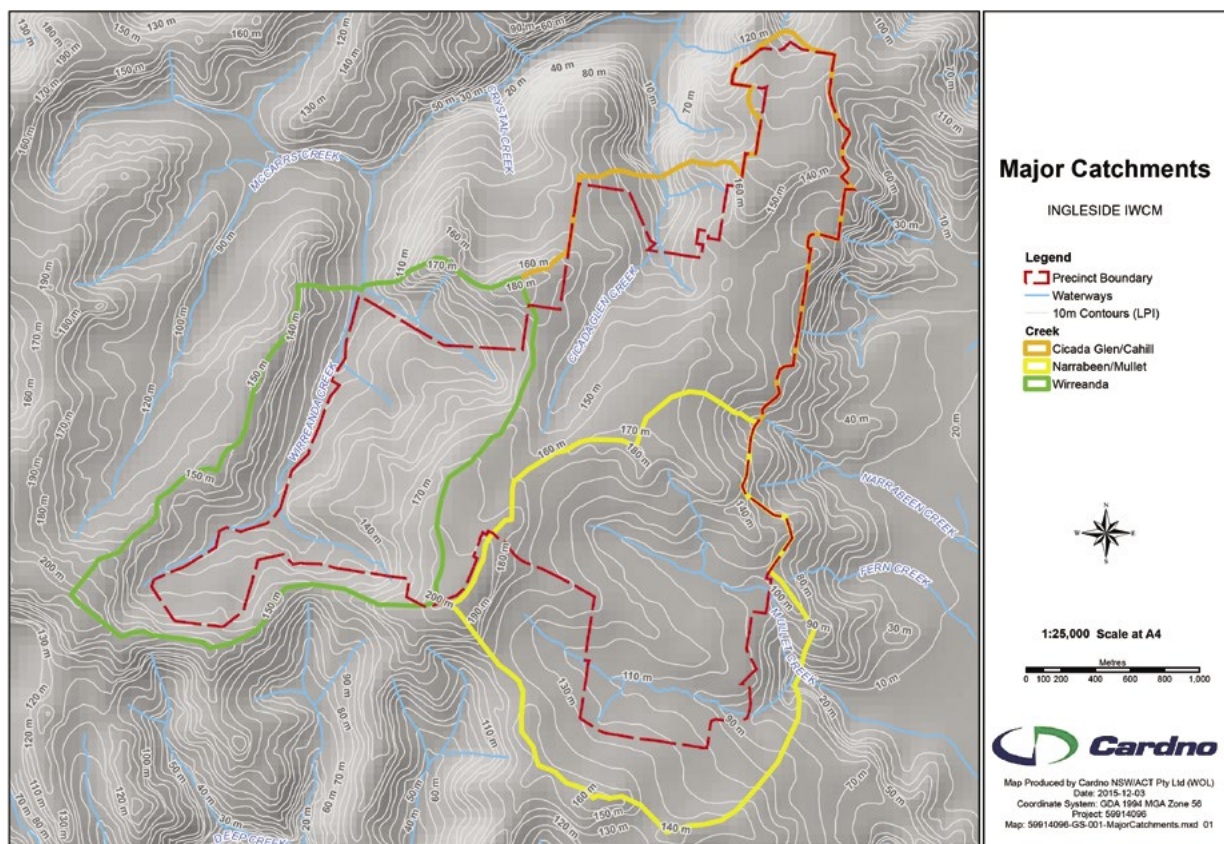
- Narrabeen/Mullet Creek subcatchment (South Ingleside);
- Cicada Glen/Cahill subcatchment (North Ingleside and Bayview Heights); and
- Wirreanda subcatchment (Wirreanda Valley).

The subcatchments, watercourses and topography in the Ingleside Precinct are shown in **Figure 6**.

Smaller tributaries of local creeks as well as those that serve as the headwaters of larger creeks include Mullet and Narrabeen Creeks. The watercourses within the site serve as partial corridors linking Ku-ring-gai Chase National Park to the west and north, Garrigal National Park to the south, and the Warriewood Escarpment and Narrabeen Lagoon to the east.

Within or immediately adjacent to the Precinct are 20 watercourse reaches. Nine are in a degraded condition, and five are in moderate condition. Only two are in or near intact condition. The remaining four reaches were not assessed due to access limitations. There are opportunities to protect watercourses and other areas of environmental value through appropriate zoning controls and by identifying land for a public purpose.

Figure 6 Subcatchments, watercourses and topography drainage



2.2.4 Biodiversity

The Structure Plan provides wildlife corridors to connect areas of high biodiversity value. This also means large portions of vegetation will be conserved. Approximately 351 hectares of native vegetation has been identified in the Precinct with the remaining land being classified as either 'exotic' or 'cleared'. Of this:

- Approximately 300 hectares is in relatively good condition and weed invasion is mainly confined to tracks, edges, and small isolated areas of disturbance.
- Approximately 37 hectares is weedy with reduced plant species diversity and moderate to heavy weed presence.
- Approximately 14 hectares is fragmented, isolated patches of remnant canopy trees.

Two Endangered Ecological Communities, Duffys Forest and Coastal Upland Swamp, are located within the Precinct. Additionally, two threatened plant species have been identified as occurring in the Ingleside Precinct: *Grevillea caleyi* and *Microtis angusii*.

Grevillea caleyi is conserved within the Duffys Forest vegetation community within the Baha'i temple's land.

Microtis angusii (Angus' Onion Orchid) which is listed as Endangered under both the *Threatened Species Conservation Act 1995* (TSC Act) and the *Commonwealth Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) was recorded in the Precinct. Subsequent field surveys and genetic analysis to determine the extent of Angus' Onion Orchid in the Precinct are discussed in **Section 3** of this report. This work has significantly contributed to the scientific understanding of the *Microtis* group of orchids in Australia.

A number of threatened fauna species (listed under TSC Act and some species are listed the EPBC Act) are predicted to occur in the Precinct.

Two threatened frogs, Giant Burrowing Frog and Red-crowned Toadlet, are considered likely to occur due to the presence of suitable habitat and recent records in the Katandra Bushland Sanctuary and Ingleside Chase Reserve to the east. Eastern Pygmy Possum is known to occur with known records in habitat to the north of Powderworks Road. The Koala, Rosenberg's Goanna and Southern Brown Bandicoot are considered as potentially occurring, particularly in areas of habitat within or well connected to Ku-ring-gai Chase National Park. Breeding habitat for Southern Myotis may potentially occur near drainage lines, and the species has been recorded in the Ingleside Chase Reserve to the east. While there is potential foraging habitat for Regent Honeyeater, the site is not likely to be a significant foraging resource during its migration.

Ingleside's complex biodiversity provides opportunities to preserve good quality vegetation, establish wildlife corridors and provide fauna crossings over Mona Vale Road in consultation with RMS. These features are discussed in **Section 3** of this report.

2.2.5 Bushfire risk and surrounding national parks

The potential urban footprint of the Ingleside Precinct is influenced by bushfire risks. Despite risks to some areas, the Precinct is capable of accommodating future subdivision and urban development, provided appropriate bushfire protection measures are implemented.

3. Land Use and Infrastructure Strategy

3.1 Vision, objectives and planning principles

The vision for the Precinct is to create a sustainable development that meets the needs of a well-connected and diverse community, supported by local facilities and infrastructure.

The proposed Structure Plan was informed by six objectives:

1. integrate planning measures and enable environmentally, economically and socially sustainable development;
2. link vegetation communities/fauna habitat with adjoining national parks and reserves;
3. create a diverse housing mix that caters to a range of household types;
4. improve connections to services, facilities, amenities and open space;
5. create an urban identity that respects and capitalises on the natural features of the Precinct; and
6. create a new neighbourhood centre.

3.1.1 Public domain and the natural environment

A public domain framework of streets and open space will create a connected network linking places within the Precinct and adjoining areas.

This strong neighbourhood structure focuses on a local centre and social hubs such as schools. Residential neighbourhoods also have parks within walking distance of most homes.

Local and neighbourhood parks take advantage of and retain the key environmental features of the Precinct, including high points, views to surrounding areas, creeks and areas of existing vegetation.

Wildlife corridors, which connect areas of high biodiversity value with each other and other large areas of habitat outside of the Precinct, are protected to achieve ecological connectivity.

Riparian corridor controls have been applied to watercourses in accordance with DPI Water guidelines which use the Strahler stream classification methodology, with all streams identified in the Precinct as being either a first or second order watercourse.

Areas of high biodiversity value are protected within the riparian corridor or through wildlife corridors, mostly through environmental conservation or environmental management areas.

Areas of Aboriginal cultural heritage importance are also largely protected within the conservation areas and open space network.

3.1.2 Transport and access

A hierarchy of roads ensures efficient movement of vehicles and pedestrians around the Precinct, minimises conflicts between through and local traffic and residential amenity, and provides direct access to the planned neighbourhood centre, schools and open space, as well as local and regional roads.

Bus routes will link key centres, transport hubs, schools, employment opportunities and residential areas. Bus stops will be improved as part of the Mona Vale Road upgrade and subsequently bus services will be increased, including a bus service every five minutes in peak hour.

The proposed road network uses existing road and boundary alignments where possible to facilitate development, integrate land uses and recognise historical property boundaries while seeking to maintain consistency with local and regional transport strategies.

The street and open space networks respond to the site's historic landscape context, topography, regional and local views, existing watercourses and vegetation.

The layout promotes walking and cycling with convenient and safe connections throughout the local area and to open space and activity centres. Cycle routes are proposed along all collector roads, and there are opportunities to provide recreational paths along riparian corridors.

Local streets will be located next to the open space and riparian corridors to provide activity and surveillance and to take advantage of the amenity these areas will provide.

3.1.3 Land use

A mix of housing types and sizes will create housing choice for buyers and renters, providing for a diverse community.

Housing density and form responds to environmental constraints, including topography, riparian corridors and vistas to heritage elements.

A variety of housing choices will be available within the low density residential areas. Small lot, attached and semi-detached housing will be located around activity nodes and public transport routes. Larger lots adjoin areas of heritage and environmental importance.

Low rise apartments/townhouses are proposed close to the neighbourhood centre on Manor Road, Lane Cove Road and Powderworks Road close to a public transport hub.

Low rise apartments/townhouses are also proposed at the less visually prominent location of Wilga Wilson, close to local shops at Elanora Heights and transport routes.

The neighbourhood centre will provide local shops and services for the future residents of Ingleside.

The Structure Plan proposes a number of open space areas and environmental conservation areas to protect wildlife corridors. Some of these areas will be acquired by Council.

3.2 Affordable housing

The Department of Planning and Environment and Council are committed to the providing affordable housing within the Ingleside Precinct to support the anticipated increase in the number of key workers required over the next 30 years. The draft North District Plan has mandated a target of 5% – 10% of floorspace for affordable housing. Key workers include teachers, police officers and hospital staff. The proximity of housing to essential services and key worker jobs helps to attract the necessary number and calibre of key workers to the area. Investigations into methods for delivering affordable housing are continuing. Further work

will determine the amount of affordable housing that can be accommodated within Ingleside Precinct. The findings of this work will be made available during the statutory public exhibition.

3.3 Development sequencing and infrastructure delivery

The Department has consulted with Sydney Water, Ausgrid and Jemena to determine existing infrastructure capacity either in the Precinct or close by that could be augmented to allow development to occur.

The Infrastructure Delivery Plan prepared by Cardno identifies the infrastructure required to enable the development of the Precinct such as water supply, sewerage, electricity, gas, and telecommunications.

Not all parts of the Precinct will have access to services at the same time. Infrastructure will progressively be provided to different parts of the Precinct based on cost-effective delivery and the rate of demand from new home construction.

Existing land uses in the Precinct are supported by existing infrastructure services and privately-owned on-site disposal services. Parts of South Ingleside and North Ingleside currently have potable water. A number of properties rely on on-site rainwater tanks. The majority of the Precinct is not connected to the Sydney Water sewerage network and existing land uses rely on privately owned and operated on-site disposal systems.

It is likely that South Ingleside will be developed first, followed by North Ingleside due to the need for Sydney Water to construct a new potable water reservoir and sewage pumping station to service North Ingleside. Sydney Water has advised that the new water reservoir and sewage pumping station will not be constructed for at least three years after the rezoning of the Precinct.

North Ingleside and South Ingleside can be serviced by Sydney Water with sewerage, including the area north of Cicada Glen Road. No land use changes are currently being considered for the remaining areas (Wirreanda Valley and Bayview Heights). The extension of services into these areas requires development capacity to be great enough to justify the cost of infrastructure provision that will be borne by Sydney Water.

As such, these areas are unlikely to accommodate the required development yields to allow for servicing.

SMEC investigated the potential for on-site sewerage in Wirreanda Valley and Bayview Heights. The investigation found that traditional on-site treatment was not viable due to constraints in these areas including soil chemistry (particularly phosphorous loading) and soil depths.

The Precinct is currently serviced via a combination of three existing zone substations outside the Precinct. Ausgrid has confirmed that the entire Precinct can be supplied by the Mona Vale Zone substation, via the installation of two new 11kV feeders leading into the Precinct. The provision of electrical infrastructure to North and South Ingleside is similar in terms of delivery and is not considered to be a significant differentiator between the two areas.

The provision of gas services through the Precinct will be subject to a commercial assessment by Jemena.

Changes to the Australian Government policy, *Telecommunications Infrastructure in New Developments* (December 2014) will result in the provision of fibre throughout the Precinct being subject to competition between potential providers. While preferable, the provision of fibre to the premises is not essential infrastructure required to substantiate a rezoning.

3.3.1 Funding of regional and local infrastructure

A Section 94 Contributions Plan will enable Council to levy contributions on development within the Precinct. Council will use this funding to deliver essential infrastructure required by the Precinct. This will typically include:

- certain local road infrastructure and creek crossings and the necessary land to build them;
- drainage infrastructure including detention basins, parts of riparian corridors used to convey stormwater, new drainage channels and the necessary land to build them;
- open space including new parks, sporting fields and the necessary land to build them; and

- land for community purposes (although the construction of these facilities cannot be delivered from Section 94 Contributions and Council needs to find alternative funding for these).

A Special Infrastructure Contribution will be used to fund regional infrastructure, affordable housing and biodiversity offsets.

3.4 Transport and traffic

A Transport and Traffic Assessment by AECOM assessed all modes of transport including walking, cycling, public transport and passenger vehicles. The study summarises the additional transport infrastructure and public transport service improvements required to facilitate development.

Traffic modelling informed the road classification, road capacity and intersection performance upgrades of the existing and future road network.

An upgraded road network will support the future land uses envisaged for the Precinct:

- Upgrading Mona Vale Road to two lanes in each direction will enhance the corridor as the major strategic route in the region and encourage a greater proportion of through traffic to use this route. This will help to reduce the traffic impacts of development on the road network by providing an alternative route for traffic currently using Powderworks Road or Lane Cove Road. Increased traffic is expected on roads within Ingleside as a result of the proposed development and background traffic growth.
- Powderworks Road currently accommodates a portion of regional east-west through traffic, particularly as it is the fastest route for residents of North Narrabeen and Narrabeen to access the west. With the development of Ingleside, measures to dissuade through traffic from using Powderworks Road should inform the development of the South Ingleside local road network. Through traffic will be encouraged to use the upgraded Mona Vale Road. Potential options for mitigating the traffic impacts along Powderworks Road include:
 1. traffic calming along Powderworks Road (within the Ingleside Precinct);
 2. redirecting the collector road corridor to make it more circuitous;

3. closing Powderworks Road to through traffic in favour of Manor Road and Wattle Street as the primary collector route in South Ingleside.
- The nature of Powderworks Road through Ingleside should be similar to Powderworks Road through Elanora Heights, with lower traffic speeds and traffic calming infrastructure. It is intended to provide local access through South Ingleside, rather than act as a route for through traffic.
 - Intersection upgrades include the intersections of Mona Vale Road/Pittwater Road and Powderworks Road/Garden Street. These are detailed in the Transport and Traffic Assessment.
 - The intersection of Manor Road and Mona Vale Road will also need to be upgraded with the extension of Manor Road to the north to create a new main street to the proposed neighbourhood centre.

3.5 Noise and vibration assessment

A Noise and Vibration Assessment prepared by AECOM assessed the proposed Mona Vale Road upgrade on the existing and future residents of Ingleside. Road traffic noise levels were predicted for 2036 and road traffic noise contours were mapped over the draft Plan.

The road traffic noise levels are likely to exceed the criteria presented in the *State Environmental Planning Policy (Infrastructure) 2007* (Infrastructure SEPP) by up to 10 dB(A), where the proposed low and medium density residential areas are close to Mona Vale Road and to a lesser extent Lane Cove and Powderworks Roads. Where this occurs it is likely that noise mitigation measures will need to be considered in the preparation of the Development Control Plan for the Ingleside Precinct.

3.6 Social infrastructure and employment

3.6.1 Demographics and social infrastructure

Compared with other areas of Sydney, Ingleside has a relatively high proportion of high school aged children with older parents and a high proportion of households comprising couples with children. Median incomes sit above the average. It is anticipated that market demand for urban development will increase in the Precinct as a result of the release.

The Demographic and Social Infrastructure Assessment prepared by Elton Consulting identified that the following community facilities and open space would be required within the Precinct once it is fully developed:

- moderately sized multi-purpose community centres in both North Ingleside and South Ingleside;
- one primary school;
- local medical centre/s;
- three or four privately operated childcare centres; and
- around 15.7 hectares of open space including playing fields, local walking and cycling paths, and local parks distributed throughout the Precinct.

3.6.2 Employment and retail demand

There is an undersupply of retail land in the region, as well as growing demand for retail and commercial uses.

The Retail and Employment Demand study prepared by SGS Economics and Planning indicates there is sufficient retail demand to warrant 2,000 square metres of retail floorspace within the proposed neighbourhood centre at the corner of Chiltern Road and Mona Vale Road in North Ingleside. It is envisaged that shop-top housing will be provided within the mixed use area. A site area of 4,600 square metres will be required to accommodate the retail floorspace and parking for 67 cars.

In terms of employment demand generated by future residents of the Ingleside Precinct, there would be 700 population driven jobs (excluding retail) generated by the incoming population.

3.7 Landscape visual assessment

Richard Lamb & Associates (RLA) has assessed the visual character, visual resources, and constraints and opportunities.

RLA worked with the principal urban and landscape design consultants, Cox Richardson and Place Design, in formulating the principles that underpin the Structure Plan.

Five character areas have been defined on the Visual Character Areas Key Map (**Figure 7**) and provide a basis for recommendations on future residential development. The key attributes for each character area and its opportunities for residential development have been identified as follows:

Area 1: Highly constrained by its high intrinsic natural and visual landscape quality, seclusion, poor access and steep terrain. The Structure Plan maintains the existing character with large rural lots and significant areas for environmental conservation.

Area 2: Least constrained by external visibility, existing landscape quality and character. The higher capacity for housing including low-rise apartments, townhouse, commercial and community uses is reflected in appropriate land uses in the Structure Plan.

Area 3: Constrained by high visual quality scenic natural landscapes with isolated rural areas, Area 3 forms a buffer to the national park to the north west, the character of which will be protected by the land uses in the Structure Plan.

Area 4: Visually prominent from the east in parts, because of steep topography, vegetation and impact of existing isolated residences, the area is an important interface with the Warriewood Escarpment, the character of which will be protected by environmental conservation land use in the Structure Plan.

Area 5: Semi-suburban and commercial in character with low overall visibility from outside, the area is of lower constraint for residential and associated uses. The mix of land uses proposed in the Structure Plan is compatible with retaining the low external visibility of Area 5 and appropriate character.

3.8 Biodiversity, bushfire, conservation and heritage outcomes

3.8.1 Biodiversity Certification

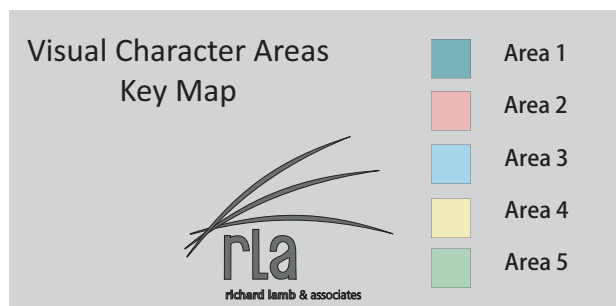
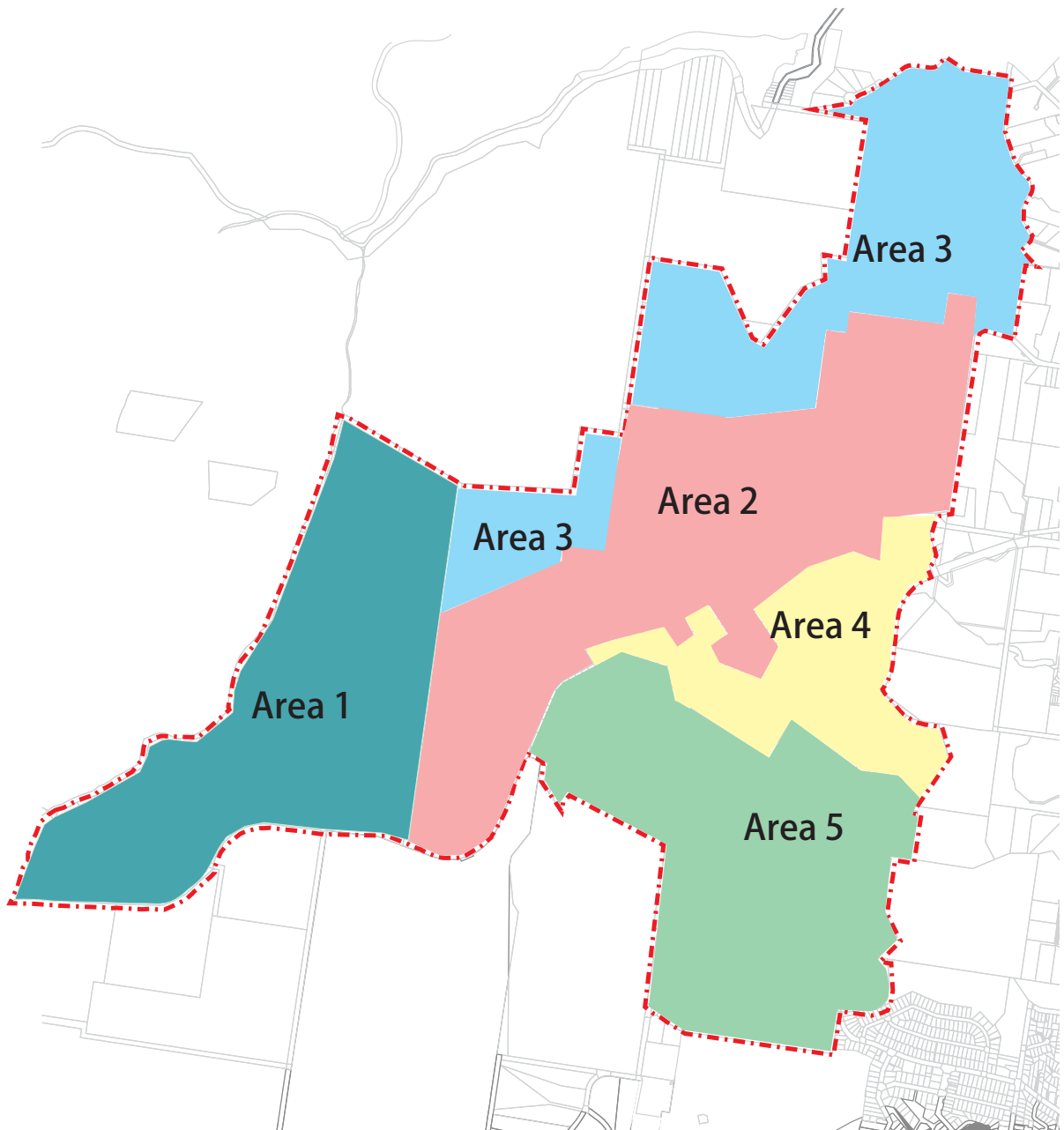
The Department and Council are pursuing Biodiversity Certification for the Precinct, which needs to be conferred by the NSW Minister for the Environment. Biodiversity Certification under the *NSW Threatened Species Conservation Act 1995* addresses biodiversity issues in parallel with the rezoning process. This means that in most cases landowners, Councils and developers will no longer need to undertake a threatened species assessment during the development application process on land that is 'certified'. Certification has been put into practice already in Sydney's North West and South West Priority Growth Areas.

A Biodiversity Certification application will include a Biodiversity Certification Strategy that details the conservation measures to improve or maintain biodiversity values in accordance with the Biodiversity Certification Assessment Methodology. The Biodiversity Certification Strategy will be supported by a Biodiversity Assessment Report. These documents will be placed on public exhibition.

About 40% of the Precinct area is proposed for development. A further 30% is proposed for conservation, and 30% will be 'retained' which means that future development proposals in these areas would need to consider and assess impacts on biodiversity. A small area (0.35 hectares) of Coastal Upland Swamp will be affected by development.

Overall 50% of the native vegetation in 'good' condition is proposed to be conserved, 22% is within the development footprint, and the remainder is within rural lots where any subsequent development will be subject to standard assessment protocols.

Figure 7 Visual Character Areas



3.8.2 Wildlife corridors

A network of wildlife corridors will link adjoining national park and council reserves. Fauna crossings are proposed by RMS for the Mona Vale Road upgrade which will align with proposed wildlife corridors in the Precinct. These include culverts, rope crossings and a fauna overpass. A fauna connectivity strategy will examine opportunities to align crossings with the proposed ecological corridors.

The eastern boundary of the Precinct adjoins a series of reserves owned by Northern Beaches Council (Minkara Reserve and Ingleside Chase Reserve) and the Department of Primary Industries-Lands (Katandra Bushland Sanctuary). Connectivity consists of intact patches of vegetation interspersed with cleared and scattered vegetation. Connectivity between the east and north and east and western conservation areas are fragmented due to clearing, urban development and roads.

3.8.3 Proposed Mona Vale Road fauna crossings

The proposed fauna crossings will be constructed at the same time as the road upgrades:

- *Mona Vale Road East* - RMS proposes widening the existing culvert between the Katandra Wildlife Sanctuary and Ingleside Chase Reserve to improve fauna connectivity across Mona Vale Road East. The exact number and design of crossings will be determined by RMS with advice from biodiversity specialists during development of the concept design.
- *Mona Vale Road West* - The proposed road upgrade to Mona Vale Road West would provide a fauna connection between the Ku-ring-gai Chase National Park and Garigal National Park at several locations. RMS is investigating a fauna overpass and other options to facilitate movement within the project area. The proposed location for the fauna overpass is to the east of Kimbriki Road and the underpasses would be distributed along the length of the project. The exact number of crossings will be determined by RMS during the development of the concept design and will be exhibited with the environmental assessment.

3.8.4 Angus' Onion Orchid surveys

Field studies and genetic testing determined the numbers and distribution of Angus' Onion Orchid in the Precinct. Eco Logical Australia completed

field surveys in September and October 2015, when the plant was flowering, as this is the only time it can be easily found. The surveys were conducted in the Precinct and adjoining national parks.

Genetic testing by the Royal Botanical Gardens and the University of NSW confirmed which species had been observed during field studies. The results indicate that:

- Angus' Onion Orchid was recorded in significantly higher numbers than expected and we now know of four times as many plants than have been previously recorded.
- Angus' Onion Orchid was recorded in disturbed areas like road verges and near drainage channels.
- A closely related, but more common and widespread Orchid species (*Microtis unifolia*), was identified visually from the field surveys. However, genetic testing showed that all of the samples visually identified as *M. unifolia* in the field are actually *M. angusii*.

While more work is underway to confirm these results, Angus' Onion Orchid may be more common and widespread than first thought and its listing as 'endangered' on the *NSW Threatened Species Conservation Act 1995* may need to be revised.

Additional samples of putative *M. unifolia* were collected from Blackheath, Wentworth Falls and the Armidale region, and were also genetically tested. The samples came back from the genetic testing as matching *M. angusii*. This means that *M. angusii* is much more widely distributed than previously thought.

The Structure Plan takes a precautionary approach to the protection of Angus' Onion Orchid. The majority of Angus' Onion Orchid have been conserved through the Structure Plan.

3.8.5 Watercourses, tributaries and riparian corridors

The Structure Plan identifies riparian protection areas along Wirreanda, Cicada Glen, Mullet and Narrabeen Creeks. While there are no significant riparian constraints to the proposed rezoning of the Precinct, it is important to protect and enhance these watercourses through appropriate vegetative treatment to prevent any increase in adverse environmental impacts on the adjoining sensitive environments as urban development intensifies within the Precinct.

3.8.6 Bushfire risk management

A bushfire study undertaken for the Ingleside Precinct by Eco Logical Australia demonstrates that the Precinct is capable of accommodating future subdivision and land development with the appropriate bushfire protection methods. The study made a number of recommendations for the Precinct including the application of Asset Protection Zones, adequate access, water supply for fire fighting, the safe installation of utilities, and building construction standards for future dwellings.

3.8.7 Indigenous heritage values

Archaeological field surveys and an Indigenous Heritage Assessment was undertaken within the Precinct by Kelleher Nightingale.

The study was carried out in consultation with nine local Aboriginal stakeholder groups and individuals registered on the project. Registered stakeholders participated in the field surveys and site recordings and provided information on the significance of Aboriginal sites and the Precinct. Twenty five Aboriginal sites were identified, all of high Aboriginal cultural heritage value.

The majority of recorded Aboriginal sites (15 or 60%) are situated either within land proposed for environmental conservation (52%) or national park (8%). The remaining sites are proposed to be conserved:

- Four sites (16%) were situated in potential future development areas including two in proposed Low Rise Apartments/Townhouse land use areas and two in the Houses land use areas. These sites may be able to be accommodated in future development proposals and conserved through informed and sympathetic detailed design. These sites include rock engravings and grinding groove sites and are of high archaeological and cultural significance. The planning process should highlight these sites as worthy of conservation.
- Six sites (24%) were situated in the proposed Mona Vale Road corridor. These sites would be taken into consideration as part of the road upgrade project (Mona Vale Road Upgrade East and West) and may be able to be conserved within future road detailed design.

3.8.8 Non-Indigenous heritage values

A non-Indigenous Heritage Assessment was undertaken by GML Heritage.

Where development is proposed within identified heritage curtilage or view corridors, further assessment and design resolution will ensure that heritage values are not adversely impacted.

The Structure Plan will:

- retain and ensure ongoing use of the Bah'ai Temple and continued ownership by the Bah'ai faith;
- use the curtilage of Ingleside House for a primary school, with the house retained as a private residence;
- allow low density residential development partially within the curtilage of the Powder Works Ruins site, subject to the approval requirements of the *Heritage Act 1977*. The majority of the heritage curtilage of the Powder Works ruins site is proposed to be conserved in a conservation area;
- identify the Cicada Glen Nursery as open space; and
- locate residential development near the Monterey Pines and the trees of Waratah Farm to avoid these items.

A Heritage Interpretation Strategy has identified places and locations likely to be suitable for heritage interpretation as the Precinct develops. It also identifies locations that provide opportunities for connections with the Precinct's rich cultural past as well as meeting the requirements of Green Star Communities.

3.9 Flooding, water cycle management and sustainability

A Water Cycle Management Strategy was prepared by Cardno.

3.9.1 Water Cycle Management Strategy

Flooding assessment

Flood modelling determined the impacts of development in the Precinct. Development generally increases stormwater flows in developed areas due to the changes in land use.

Flood detention basins have been designed to accommodate stormwater flows to existing levels, provide peak stormwater flow control, and avoid adverse impacts on stormwater flows and flood behaviours within and downstream of the Precinct.

Water cycle management

To meet environmental flow and groundwater targets across the Precinct at a sub-catchment level, (set at +/-5% for environmental flows and +/-10% for groundwater) mitigation measures will include rainwater harvesting on a lot scale using rainwater tanks, bioretention basins, stormwater harvesting for re-use and gross pollutant traps which treat run-off. These measures will achieve the proposed water quality and water quantity targets and contribute to the overall sustainability outcomes for the Precinct.

Rainwater harvesting is proposed for:

- lot scale reuse for residential/mixed use development for toilet flushing, laundry, hot water and external use; and
- re-use for commercial development (school and community centre) for toilet flushing and external uses.

The adopted tank sizes for rainwater harvesting are shown in **Table 2**.

Table 2 Proposed Rainwater Harvesting

Proposed Land Use	Tank size
Houses	10kL/dwelling
Low Rise Apartments/ Townhouses	6kL/dwelling
Neighbourhood Centre	6kL/dwelling
Houses on Large Lots	12kL/dwelling
Proposed School	150kL/ha land area
Community Centre	150kL/ha land area

Proposed bioretention (raingardens, which filter stormwater runoff through densely planted vegetation) includes:

- 200m² bioretention in Wirreanda Creek catchment
- 14,000m² bioretention in Cicada Glen Creek catchment
- 25,000m² bioretention in Narrabeen/Mullet Creek catchment.

All detention basins will act as retention ponds.

A stormwater harvesting scheme is proposed to irrigate the sports field in Narrabeen/Mullet Creek catchment.

3.9.2 Aquatic macro-invertebrate study

Aquatic macro-invertebrates are an indicator of creek health, as they respond to changes in water quality and aquatic and riparian habitat. An aquatic macro-invertebrates study was undertaken across the precinct in Spring 2014 by Cardno. The study characterises the aquatic macro-invertebrates, aquatic habitat and water quality within a number of creeks within the McCarrs Creek catchment that may be affected by the development of the Ingleside Precinct. The results suggest that most measures of water quality were within relevant guidelines, and, when measures were outside of guidelines, they were only marginally so.

3.10 Land capability, salinity, slope and contamination

In order to determine the potential for land contamination, salinity, slope and other constraints in the Precinct, a Preliminary Site Assessment was conducted by SMEC.

The slope risk analysis classed the Precinct as moderate, which does not meet the tolerable risk to future development. Recommendations to reduce this risk to tolerable levels include scaling the slope, installing rock bolts and considering development location. It is recommended that a slope stability assessment be undertaken for any future development.

The assessment identifies salinity characteristics as good, indicating reasonable water quality and non-saline groundwater conditions. The limited soil samples collected and analysed for salinity also indicate a 'non-saline' classification for soils.

No soil sample exceeded the adopted site assessment criteria; however, due to the limited nature of investigations, potential remains for contamination to be present. Potential sources of contamination include:

- the use of uncontrolled fill material and quarry activities;
- commercial and industrial facilities;
- small farm holdings, market gardens and nurseries;
- hazardous materials within existing buildings and site structures;
- septic effluent systems; and
- potential dumping of waste in unoccupied lands.

Acid sulfate soils are not considered to present a risk within the Precinct, given the mapped soils and elevation of the area.

3.10.1 On-site effluent management capability

An On-site Effluent Subdivision Assessment was undertaken by SMEC to determine the capacity and constraints associated with on-site treatment of residential effluent within Wirreanda Valley and Bayview Heights.

The assessment found a number of significant constraints to subdivision in these areas, including slope limitations and soil depths. In particular, phosphorus loading is already an issue and may not have any capacity to improve the effluent prior to leaving the site. These constraints currently limit the use of conventional effluent management practices.

The assessment noted that, collectively, landowners within Wirreanda Valley and Bayview Heights may consider options for alternate or centralised solutions aimed towards the selection of a suitable site specific system that minimises the areas considered not suitable for conventional effluent management practises.

3.11 Development outcomes

Technical studies have been prepared to inform the land uses and infrastructure across the Ingleside Precinct. **Figure 1** shows the Structure Plan for the Precinct. **Table 4** summarises land use outcomes for the Precinct.

Preliminary investigations have identified that the precinct may be able to deliver housing and development that is above and beyond the current building sustainability benchmarks in NSW. The land use and infrastructure strategy positions Ingleside to be an exemplar of sustainable precinct planning and development in NSW.

3.12 Built form guidelines

Consistent with the objective of delivering a range of housing types and choices, the following maximum heights have been developed consistent with the visual assessment carried out in developing the Structure Plan (**Table 3**).

Table 3 Built form guidelines

Housing Types	Density	Height
Rural	Existing	N/A
Low Density Residential	12 - 13 dw/ha	8.5m
Medium Density Residential	25 - 27 dw/ha	10.5m
Houses on Larger lots	2000m ²	N/A
Other		
Neighbourhood Centre	N/A	11m
School (Adjacent to Ingleside House)	N/A	8.5m

3.13 Future Actions

The next phase of the project is the exhibition of the statutory planning package which will include the Development Control Plan (DCP).

The DCP will outline details of the statutory controls which will include:

- The method in which the affordable rental housing target will be delivered, such as payment methods or works in kind.
- Urban design controls and principles which will provide examples of best practice design in relation to; streetscape, road widths, interface with the natural environment and treatment of the public domain.
- Description of the density controls in relation to low-rise medium density housing products in conjunction with the Department's 'missing middle' Medium Density Design Guide.
- Implementation of the increased BASIX targets, including examples of water and energy innovations.
- Future proof provisions for emerging responses such as electric vehicle re-charging infrastructure and carbon reduction technology including light-emitting diode street lighting.

Low density residential benchmark



Medium density residential benchmark



Neighbourhood centre



Table 4 Land Use Outcomes

Urban Structure	Outcomes
Residential areas	A mix of housing types on a range of lot sizes including single dwellings, townhouses, terrace style houses and low scale flat buildings. The ultimate development of the Precinct will allow for a potential yield of 3,400 dwellings.
Activity Centres	One mixed-use centre with capacity for a minimum of 2,000m ² of retail floor space in North Ingleside.
Road network	<p>The Structure Plan identifies a road network hierarchy to support the future land uses. This includes Mona Vale Road and a number of existing internal roads such as Powderworks Road, Chiltern Road and Lane Cove Road.</p> <p>The proposed transport network broadly follows the existing road network while maintaining consistency with local and regional transport strategies and maximising land use and transport integration. Mona Vale Road is expected to accommodate the majority of through traffic movements and provide access to the strategic road network, while the remainder of the roads within the Precinct will predominantly cater for local traffic.</p>
Public transport	The road network provides opportunities for bus routes to directly access the surrounding higher order road network as well as key destinations within the Precinct such as the proposed neighbourhood centre.
Utility infrastructure	Ultimate development of the Precinct is reliant on the delivery of water, sewerage and electricity.
Open space network and social infrastructure	<p>Approximately 15.7 hectares of open space will be required across the Precinct to meet the needs of future residents, comprised of six multi-purpose playing fields and a number of passive parks, sports courts and linear open space along the creek corridors to provide walking and cycling trails and recreation opportunities.</p> <p>A moderately sized multi-purpose community centre will also be provided in North Ingleside and a similar sized community centre in South Ingleside, to be owned and managed by Northern Beaches Council .</p>
Education facilities	One primary school is proposed to be provided in the Precinct.
Pedestrian and cycleway network	Pedestrian paths and cycleways within the open space network and riparian corridors are proposed. Road designs will provide for on-road cycle lanes and off-road pedestrian/shared paths.
Protection of the environment/water cycle management and flooding	Riparian corridors and areas of significant environmental values will be protected through appropriate land uses that are compatible with the natural and environmental character of the Precinct. Corridors will be appropriately treated to prevent any increase in adverse environmental impacts. Relevant stormwater management provisions are proposed in consideration of the 1 in 100 year flood level.
Biodiversity	The Ingleside Precinct is proposed for biocertification under the <i>Threatened Species Conservation Act 1995</i> . The Biodiversity Certification Assessment and Biodiversity Certification Strategy are currently being prepared. Should any matters of National Environmental Significance be triggered under the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i> , then it is the responsibility of the proponent to refer the application to the Australian Government at the Development Application stage.
Heritage	Indigenous and non-indigenous heritage assessment findings have been incorporated into the Structure Plan.

Appendix A

Strategic and Statutory Frameworks

State and regional planning strategies

1. NSW State Priorities

The NSW State Priorities set 30 priorities for NSW, including 12 Premier's Priorities. The planning for Ingleside Precinct relates to the following priorities:

- **Premier's priority: faster housing approvals.** By seeking biodiversity certification, most development will be able to occur without any additional biodiversity assessment at development assessment stage.
- **Premier's priority: building infrastructure.** The Northern Beaches Rapid Transit project will benefit the future residents of Ingleside.
- **State priority: increasing housing supply across NSW.** The Ingleside Precinct will make available new land for housing in the North District of Sydney.

2. A Plan for Growing Sydney

A Plan for Growing Sydney provides a strategy to accommodate Sydney's future population growth for the next 20 years, as well as planning for employment, services and facilities, liveable communities and the natural environment. It sets directions to deliver timely and well planned greenfield Precincts and housing and improve housing choice to suit different needs and lifestyles (Directions 2.3 and 2.4).

The Plan aims to:

- maintain a steady supply of rezoned land for development;
- support the provision of new infrastructure;
- coordinate and deliver enabling infrastructure to assist the conversion of zoned land into homes; and
- allow for a range of housing types to be delivered to meet the needs of various household structures.

North District (formerly North Subregion)

A Plan for Growing Sydney provides a number of priorities for the North District including:

- A competitive economy;
- Accelerate housing supply, choice and affordability and build great places to live; and
- Protect the natural environment and promote its sustainability and resilience.

A Plan for Growing Sydney also establishes priorities for strategic centres:

- Global Sydney (including North Sydney CBD);
- Brookvale-Dee Why;
- Chatswood;
- Northern Beaches Hospital Precinct;
- Hornsby;
- Macquarie Park; and
- St Leonards.

3. Mona Vale to Macquarie Park Corridor Strategy (September 2009)

The Mona Vale to Macquarie Park Corridor Strategy has been developed by RMS to provide "an overview of the road transport system from Mona Vale, on Sydney's Northern Beaches, to De Burghs Bridge at Macquarie Park". The Strategy aims to address road safety, transport efficiency and asset maintenance issues while setting a 25-year framework to manage the corridor.

The Strategy highlights the following issues relevant to Ingleside Precinct:

- congestion and delays occurring on Mona Vale Road caused by the high volume of heavy vehicles using the route and capacity issues at the intersection of Mona Vale Road and Ponderosa Parade;
- the interface between Mona Vale Road and urban areas, which could potentially result in modal conflict as the level of associated infrastructure increases;
- the potential for an additional point of access from Ingleside to Mona Vale Road due to traffic generated by the Ingleside development;

- creating a Mona Vale Road cycleway and pedestrian facilities into any future development at Ingleside.

4. Northern Beaches Transport Action Plan

The Northern Beaches Transport Action Plan includes the Northern Beaches Hospital development, a public transport interchange at Mona Vale, widening of the Narrabeen Bridge to three lanes in each direction and the introduction of Bus Rapid Transit (BRT) on Pittwater Road within the next five years. Longer-term planned infrastructure projects include the upgrade of Mona Vale Road to two lanes in each direction through Ingleside, the upgrade of Wakehurst Parkway and further bus network improvements along major corridors.

5. Shaping our Future (SHOROC)

Shaping Our Future sets out the regional direction and strategy to 2031 and was created by SHOROC (Shore Regional Organisation of Councils). It is the core overall strategy for the region and identifies critical issues and infrastructure improvements while seeking to maintain and enhance liveability and sustainability with consideration of a projected population increase of 30,000 to 2031. The SHOROC region covers the Northern Beaches and Mosman local government areas. The principles underpinning *Shaping Our Future* include:

- maintaining and enhancing quality of life, wellbeing, the high proportion of jobs close to home and access to social services, recreation, infrastructure and transport;
- increasing engagement, involvement and connectedness of community members and development of social capital;
- seeking to improve housing choice in response to demographic changes such as the availability of affordable housing for a diversity of households, including key workers;
- creating more sustainable communities with more appropriate management of the region's water, energy, waste and natural resources including greater residential and business conservation and re-use and investigation of the viability of providing water, energy and waste recycling services within the region; and
- maintaining the biodiversity and quality of bushland and waterways.

The document identifies major infrastructure requirements, including:

- the Mona Vale Road upgrade;
- rapid bus routes along Pittwater Road;
- improved connectivity to the future Northern Beaches Hospital; and
- an urban centre at Ingleside.

Key areas for development have been identified enabling SHOROC Councils to meet NSW Government growth targets for housing and jobs:

- Dee Why/Brookvale (as a major centre for housing and jobs);
- Frenchs Forest (as a new specialised centre for housing, jobs and health);
- Terrey Hills (as an area for jobs); and
- Warriewood/Ingleside (as a new centre for housing and jobs).

Proposed upgrades to bus infrastructure and services along Mona Vale Road and elsewhere in the area will benefit residents of Ingleside by providing considerably improved access to public transport and will act to encourage people away from the private car.

Statutory Planning Framework

1. NSW Environmental Planning and Assessment Act 1979

The NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) and the NSW *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation) provide the statutory planning context for environmental assessment and approval in NSW.

2. Section 94 Local Contributions Plan

Section 94 of the EP&A Act provides for a council to prepare and implement a plan to capture payment to fund the provision of local services required by a development.

3. NSW Threatened Species Conservation Act 1995

The NSW *Threatened Species Conservation Act 1995* (TSC Act) identifies and protects threatened and endangered species, populations and ecological communities. The objectives of the Act include:

- conserving biological diversity and promoting ecologically sustainable development;
- preventing the extinction and promoting the recovery of threatened species, populations and ecological communities; and
- protecting critical habitats.

The Department is seeking to biocertify the Precinct under the TSC Act. A Biodiversity Certification Assessment and Biodiversity Certification Strategy is currently being prepared.

4. Environment Protection and Biodiversity Conservation Act 1999

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) protects matters of National Environmental Significance.

Coastal Upland Swamp has been identified in the Ingleside Precinct and is listed as an Endangered Ecological Community under the EPBC Act. The majority of this vegetation community will be conserved in the Precinct. Should any matters of National Environmental Significance be triggered under the EPBC Act then it is the responsibility of the proponent to refer the application to the Australian Government at the Development Application stage.

5. Pittwater Local Environmental Plan 2014

Under the *Pittwater Local Environmental Plan 2014* (Pittwater LEP 2014) the Precinct is primarily zoned RU2 Rural Landscape.

Once the Precinct Plan and potential associated SEPP amendments are adopted, the planning controls in the Precinct Plan will come into force and amend Pittwater LEP 2014 and the land will be rezoned.

The Department will amend Pittwater LEP 2014 via a draft State Environmental Planning Policy (SEPP) to instigate new planning controls for the Ingleside Precinct.

6. Water Management Act 2000

The *Water Management Act 2000* (WM Act) provides for the sustainable and integrated management of water resources of the State. Objectives of the Act relevant to the Precinct include:

- applying the principles of ecologically sustainable development;

- protecting, enhancing and restoring water sources, their associated ecosystems, ecological processes and biological diversity and their water quality;
- classifying watercourses;
- fostering the sustainable and efficient use of water; and
- integrating the management of water sources with the management of other aspects of the environment, including land, native vegetation and fauna.

The WM Act replaced a number of other Acts including the *Rivers and Foreshores Improvement Act 1948*.

Precinct planning has addressed the requirements of the Act and the categorisation and management of riparian corridors is reflected in the draft Plan. The new Strahler methodology for riparian corridors adopted in June 2012 has been applied to the planning for the Precinct.

7. Rural Fires Act 1997

The *Rural Fires Act 1997* (RF Act) seeks to prevent, mitigate and suppress bushfires and protect life and property from bushfire.

Under Section 100B of the RF Act, approval is required from the NSW Rural Fire Service for development on bushfire prone land. Approval is subject to the development's compliance with standards regarding setbacks, provision of water supply and other matters necessary to protect persons, property or the environment from bushfire danger.

Precinct planning has addressed the aims of the Act and the management of potential bushfires by the identification of appropriate Asset Protection Zones for the Precinct. Further assessment of development on bushfire prone land will be required at development application stage to ensure compliance with the requirements of Section 100B of the RF Act.

8. Heritage Act 1977

The *Heritage Act 1977* includes provisions to identify and protect items of environmental heritage. The Act controls development of, or in the vicinity of, a State heritage item. The State Heritage Register, established under Section 22, lists items which have been assessed as being of State significance. There are no listed State Significant heritage items within the Precinct.

9. State Environmental Planning Policy (Infrastructure) 2007 (Infrastructure SEPP)

The Infrastructure SEPP aims to establish clear rules in relation to the permissibility of various infrastructure types (including roads, rail, water and sewer, electricity, schools and health facilities). The Infrastructure SEPP specifies whether certain types of infrastructure are permissible with or without consent in the various zones identified in the *Standard Instrument (Local Environmental Plans) Order 2006*. The provisions of the Infrastructure SEPP have been considered in the preparation of the Precinct Plan.

10. State Environmental Planning Policy 19 – Bushland in Urban Areas

SEPP 19 aims to protect and preserve bushland within urban areas. Planning for the Precinct involves the conservation and enhancement of areas of bushland that are of high value relative to other vegetation within the Precinct. Future development will be managed in accordance with SEPP 19.

11. State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004

BASIX reduces water and energy consumption in homes across NSW. These environmental outcomes also provide a long term financial saving for the homeowner – and a valuable contribution to the sustainable future of our communities.

This SEPP aims to ensure consistency in the implementation of the BASIX scheme throughout the State by overriding provisions of other environmental planning instruments and development control plans that would otherwise add to, subtract from or modify any obligations arising under the BASIX scheme.

12. State Environmental Planning Policy 55 – Remediation of Land

SEPP 55 aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment. It specifically requires consideration of contamination when rezoning land and in determining development applications.

When rezoning land the planning authority must consider whether the land is contaminated and consider whether the land is suitable in its contaminated state or is satisfied that the land will be remediated before the land is used for that purpose.

Managing Land Contamination – Planning Guidelines (Department of Urban Affairs and Planning and Environment Protection Authority 1998) provides guidance on the level of assessment that is required to satisfy clause 6, for large rezonings as follows:

Rezonings that cover a large area... usually describe proposed land uses very generally both in type and location. This makes it difficult for a planning authority to be satisfied that every part of the land is suitable for the proposed use(s) in terms of contamination at the rezoning stage. In these cases, the rezoning should be allowed to proceed, provided measures are in place to ensure that the potential for contamination and the suitability of the land for any proposed use are assessed once detailed proposals are made.

Based on this, the requirements of SEPP 55 have been considered during precinct planning and will be further addressed during the development assessment process.

A Preliminary Land Capability, Salinity and Contamination Assessment identifies the need for further investigations required as part of future development applications together with additional work during the construction phase. Specific investigations could include:

- Detailed environmental investigation (comprising subsurface sampling and laboratory testing) in the nominated areas of environmental concern, primarily in those areas which lie within the proposed “development footprint” would quantify the level of contamination (if any) and delineate contaminated areas in order to facilitate the preparation of remediation action plans.
- Additional hazardous building material assessments should be undertaken of all buildings in the subject area that are to be demolished/renovated.
- Additional investigation should be undertaken in development areas which are to be excavated deeper than three metres or into rock at shallower depth, where direct sampling and testing of salinity has not been carried out.
- Groundwater bores should be installed well in advance of construction and monitoring/sampling/analysis before, during and after construction to monitor and assess changes in groundwater quality, electrical conductivity and level as a result of the development. The bores would be strategically located on a catchment basis near creek lines.
- Detailed geotechnical investigations on a stage-by-stage basis should be used to determine pavement thickness designs and lot classifications.

Appendix B

Community and Agency Consultation

1. Introduction

There are 336 different landowners within the Ingleside Precinct. One third of the Precinct is in NSW Government ownership with the remaining two-thirds in private ownership. The focus of consultation with landowners has been to provide information about the Precinct planning process as well as to engage and inform landowners during Precinct planning, exhibition and rezoning. Consultation with landowners and the broader community has been conducted through:

- dedicated Ingleside website (www.inglesideplanning.com.au);
- community information sessions;
- discussion papers;
- Ingleside Community Reference Group meetings;
- two workshops;
- community newsletters;
- specialist technical studies;
- Department's Community Information telephone and email service;
- community noticeboards;
- newspaper advertisements;
- public exhibition material; and
- individual meetings as requested.

A revised community engagement and communications plan was endorsed in July 2015. **Table 5** outlines the consultation activities.

Table 5 List of consultation activities

Activity/Event	Purpose	Target audience
31 July 2013 – Release letter sent out	To inform landowners of the release of land and the commencement of the planning process.	Landowners and stakeholders.
24 & 27 August 2013 – Information sessions	To explain the precinct planning process, introduce the planning team and respond to general questions.	Council, UrbanGrowth NSW, landowners.
September 2013 – Ingleside Community Reference Group – Community members selected	Reference Group – community members selected.	Community and interest groups.
October 2013 – Appointment of consultants to undertake studies		Consultants.
November 2013 – Commencement of studies		
November 2013 – E-newsletter edition 1	To provide precinct planning update.	Landowners and other interested groups and individuals interested in the planning of Ingleside.
December 2013 – E-newsletter edition 2	To provide precinct planning update.	Landowners and other interested groups and individuals interested in the planning of Ingleside.

Table 5 List of consultation activities (cont'd)

Activity/Event	Purpose	Target audience
February 2014 – E-newsletter edition 3	To provide information about up-coming workshops.	Landowners and other interested groups and individuals interested in the planning of Ingleside.
1, 4 & 10 March 2014 – Enquiry by Design workshops	To gather feedback from the community to help guide master planning for the Ingleside release area.	Landowners.
8 October 2014 – Ingleside Community Reference Group Meeting	To update the Ingleside Community Reference Group on Mona Vale Road upgrade, presentation by RMS.	Council, NSW Roads and Maritime Services.
18 November 2014 – Ingleside Community Reference Group Meeting	To update the Ingleside Community Reference Group on the draft Structure Plan for Ingleside.	Council, Ingleside Community Reference Group.
27 and 29 November 2014 and 3 December 2014 –Community Planning 2nd Round Workshops	To update the Pittwater Community on the draft Structure Plan for Ingleside and seek community feedback on the draft Structure Plan.	Council, Ingleside Community Reference Group, Pittwater Community.
4 March 2015 - Ingleside Community Reference Group Meeting	To update the Ingleside Reference Group on the outcomes of the recent community workshops and address concerns by the group regarding sustainability.	Council, Ingleside Community Reference Group, Pittwater Community.
May 2015 – E-newsletter edition 4	To provide precinct planning update following the 2014 workshops.	Landowners and other interested groups and individuals interested in the planning of Ingleside.
June 2015 – E-newsletter edition 5	To provide information about the planning program and key milestones in relation to the Angus' Onion Orchid surveys.	Landowners and other interested groups and individuals interested in the planning of Ingleside.
1 July 2015 – Ingleside Community Reference Group Meeting	To update the Ingleside Community Reference Group on the planning program and key milestones for Ingleside, particularly in relation to Angus' Onion Orchid surveys, the traffic assessment, infrastructure delivery plan and on-site sewage capability.	Council, Ingleside Community Reference Group, Pittwater Community.
8 December – Ingleside Community Reference Group Meeting	To update the Ingleside Community Reference Group on the planning program and to report back on findings of the orchid surveys and genetic testing.	Council, Ingleside Community Reference Group, Pittwater Community.
December 2015 – E-newsletter edition 6	To update Ingleside Community Reference Group on the planning program and to report back on findings of the orchid surveys and genetic testing.	Landowners and other interested groups and individuals interested in the planning of Ingleside.

2. Community workshops

Two rounds of community workshops provided an opportunity for stakeholders to be involved in the precinct planning process. Details on the workshops are provided below.

Enquiry by Design Workshops

Enquiry by Design Workshops were held on 1 March, 4 March, and 10 March, 2014. Approximately 162 landowners attended the workshops. Each workshop provided a collaborative forum for a range of stakeholders to contribute to the future planning of the area.

The workshops included a mix of large and small group activities and allowed for informal interaction between landholders and the project team.

Draft Structure Plan Workshops

The draft Structure Plan workshops were held on 27 November, 19 November and 3 December 2014. Approximately 206 landowners attended. The workshop activities comprised group discussions, question and answer sessions, discussion around the vision for Ingleside, a mapping Ingleside activity and feedback from community members.

Information provided at these workshops was published on the Ingleside Planning website and used to weigh up the merits of key land uses and locations.

A summary of this feedback is provided on the Ingleside website and documented in Ingleside Design Workshops Outcomes Report, December 2014, prepared by Elton Consulting.

3. Community newsletters

The focus of the newsletters has been to keep the community informed about precinct planning. Five newsletters have been sent to landowners within the Precinct, as follows:

- Community update 1 – November 2013
- Community update 2 – December 2013
- Community update 3 – February 2014
- Community update 4 – May 2015
- Community update 5 – June 2015
- Community update 6 – December 2015

4. State agency and stakeholder consultation

The Department, Council and UrbanGrowth NSW have been partners throughout the precinct planning process, representing State and local government interests.

State agency input to precinct planning is essential to achieving consistency with relevant legislation and the effective coordination of infrastructure and services provision. As the responsibilities of agencies are often interrelated, the Department has facilitated and coordinated agency input. Agencies have also reviewed various technical studies that address their areas of responsibility (refer to **Table 6**), and provided input to the development of the draft Plan.

Table 6 Key issues for State and local government agencies

Issue	Agency
Mona Vale Road upgrade	NSW Roads and Maritime Services, Transport for NSW
Land use, open space, heritage, water cycle management, social infrastructure and traffic issues	Northern Beaches Council
Delivery of water supply and sewerage services	Sydney Water
Electricity services	Ausgrid
Biodiversity Certification and Aboriginal cultural heritage	Office of Environment and Heritage
Riparian corridor protection	Department of Primary Industries - Water
Bushfire Risk	Rural Fire Service
Schools	Department of Education
Crown lands and land claims	Department of Primary Industries



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