NORTHERN BEACHES
COUNCIL

MINUTES

INGLESIDE COMMUNITY REFERENCE GROUP MEETING

Held in the Mona Vale Conference Room, 1 Park Street, Mona Vale

MONDAY 19 DECEMBER 2016

northernbeaches.nsw.gov.au

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ATTENDANCE:

Committee Members

Julie Hegarty	Chairperson
David James	Katandra Bushland Sanctuary (alternate for David Seymour)
David Palmer	Pittwater Natural Heritage Association
Dick Clarke	Elanora Heights Residents Association
Stephen Choularton	Bayview & Ingleside Residents Association
Linda Haefeli	Climate Action Pittwater
Chris Hornsby	Warriewood Valley Residents Association
Roberta Conroy	Bayview – Church Point Residents Association
Jacqui Marlow	Friends of Narrabeen Lagoon Catchment *(Arrived at 4.13pm)*
Ian Longbottom	Galstaun College
Anne Jeffrey	Bayview Heights Estate Owners Group
Conrad Grayson	Pittwater Resident Representative
Tess Wiseman	Garigal Deep Creek Residents Association

Technical Advisors (non-voting)

Adrian Miller	NSW DP&E (alternate for George Koshy)
Michael Cuthbert	NSW DP&E
Ian Connolly	Cox Richardson
Steve Ward	EcoLogical Australia
David Holden	Kinesis

Council Officers

David Kerr	Deputy General Manager – Planning and Community
Andrew Pigott	Executive Manager – Strategic Land Use Planning
Neil Williamson	Executive Manager – Environmental Compliance
Liza Cordoba	Manager Land Release Planning
Matthew Hansen	Manager Natural Environment and Education
Cheryl Williamson	Senior Planner – Land Release
Gordon Edgar	Executive Planner – Land Release
Sylvania Mok	Planner – Land Release
Brendan Gavin	Assistant Strategic Planner
Lindy Riese	Community Engagement Officer
Katy Christian	Principal Sustainability Officer
Annie Laing	Governance Support Officer (Minutes)

Observers

Marita Macrae	Pittwater Natural Heritage Association
David Seymour	Katandra Bushland Sanctuary
Brad Jeffrey	Bayview Heights Estate Owners Group
Joanne Tulau	Sustainability Action Group
Nadia Aivazian	Bayview Ingleside Residents Association
Ivor Davic	Wilga Wilson Residents Association
Dominic Chung	Northern Beaches Council
Michael Biddulph	Northern Beaches Council
Phillip Gray	Northern Beaches Council
Matty Mathivanar	Roads and Maritime Services
Kaye Segelov	Roads and Maritime Services
Josie Stokes	Roads and Maritime Services

Minutes of Ingleside Community Reference Group Meeting
held on Thursday 19 December 2016
in the Mona Vale Conference Room, 1 Park Street, Mona Vale
Commencing at 4:02pm

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1.0 APOLOGIES

DISCUSSION

1. The following apologies were received and a leave of absence from the Ingleside Community Reference Group Meeting was granted for:

    - Mr Stephen Smith, Wirreanda Valley Residents Association
    - Mr David Seymour, Katandra Bushland Sanctuary

2. Mr David James attended as alternate delegate on behalf of Katandra Bushland Sanctuary.

3. The Chair also noted apologies received from the following:
    - Stuart McCowan (UrbanGrowth NSW)
    - George Koshy (Department of Planning and Environment)
    - Council officers, being:

        - Mr Mark Ferguson, General Manager
        - Mr Ben Taylor, Deputy General Manager – Environment and Infrastructure
        - Mr Andrew Davies, Executive Manager – Transport and Urban
        - Mr Todd Dickinson, Executive Manager – Natural Environment and Climate Change
        - Mr Robbie Platt, Section 94 Coordinator

2.0 DECLARATIONS OF PECUNIARY / NON-PECUNIARY CONFLICTS OF INTEREST

DISCUSSION

Nil.

3.0 CONFIRMATION OF MINUTES

That the Minutes of the Ingleside Community Reference Group Meeting held on 8 December 2015, copies of which were distributed to all Reference Group Members, are hereby accepted as a true and accurate record of that meeting.

4.0 DISCUSSION TOPICS

4.1 PUBLIC EXHIBITION OF DRAFT STRUCTURE PLAN
4.2 PRESENTATION BY COX RICHARDSON – MASTER PLANNER

Mr Michael Cuthbert (DPE) introduced this item and Mr Ian Connolly (Cox Richardson Architects), presented on the development of the now released Draft Structure Plan for Ingleside and the associated Ingleside draft Land Use and Infrastructure Strategy. A copy of the powerpoint presentation given by Mr Connolly is located at **Appendix 1** to the minutes.
Mr Connolly advised that the submission period closes on 28 February 2017, after which submissions will be processed as soon as possible. Prior to this date three drop-in sessions will be scheduled, at which time landowners and interested stakeholders can meet with officers from the Department of Planning and Environment and Council.

DISCUSSION

Q: How will land owners know that they have now been placed in an environmentally sensitive area?
A: The Structure Plan shows exactly what is currently proposed for every landowner's site. The drop-in sessions are an opportunity for landowners to ask specific questions. If questions cannot be answered during these sessions, meetings may be able to bearranged with the Department of Planning and Environment or Council staff.

Q: What happens when certain lots need to be acquired by Council?
A: The Draft Structure Plan currently on exhibition does not itselt trigger land acquisitions. Once a Plan has been adopted, land acquisitions will undergo a formal process, in line with the provisions of the *Land Acquisition (Just Terms Compensation Act)* which sets out the parameters for land acquisition. In the first instance, if the property (partly or wholly) is required for a public purpose as shown on the Draft Structure Plan and will need to be acquired for that public purpose, Council will write to the property owner advising them that their property (partly or wholly) has been identified for a public purpose for which acquisition is likely in the future.

Q: What if people don't want to move? Will Council rates increase as a result of the proposed changes?
A: People don't need to sell land to developers if they don't want to. There is a possibility that Council rates will change, this is because Council rates are based on land value; land will potentially be rezoned to a medium density zone and this will increase the value of the land. Dispensation would be on a case-by-case review basis only.

Q: Are the density figures based on gross or net density?
A: The density figures are based on net density. The developable area of each site is identified, with areas such as existing roads and non-developable being excluded, and the density is calculated based on land which is able to be developed only.

Q: In considering the future of residential development in 2004, the then Pittwater Council resolved that no less than 10% of residential developments within Ingleside are to be affordable housing. Is this still the case?
A: The recently released District Plan for the Northern District, prepared by the Greater Sydney Commission, encourages 5-10% of developments to be Affordable Housing.

Q: Reference is made to water runoff being directed to the Warriewood Treatment Plant. Has research been undertaken to ensure that the Warriewood Treatment Plant can handle the run off?

A: Sydney Water has been a part of the consultation process, and has confirmed that the Warriewood Treatment Plant can accommodate the future development of Ingleside.

Q: Why isn't there more information on the sustainability measures proposed for Ingleside?
A: Sustainability measures form part of the next stage of work for Ingleside. More detail on sustainability measures will be available during the formal exhibition, including through the Development Control Plan.

Q: The State Government wants to include medium density housing into the Code of Complying Development. Will this be the case for Ingleside or will Development Applications be required?
A: Northern Beaches Council has made a submission to NSW Government regarding the recently exhibited Draft Medium Density Code, Council has raised concerns to the draft Code and has sought exclusions for Ingleside due to site coverage and sensitivity. At this stage, a response has not been received regarding Council's request.

Q: As the Development Control Plan is challengeable in the Land & Environment Court, what is to stop a person / landowner buying a plot of land and subdividing?
A: Minimum subdivision lot size is now stipulated as a development standard in the Pittwater Local Environmental Plan 2014 (LEP) which is a more robust document than the DCP. While the applicant is able to request the variation of the development standard via clause 4.6 of the LEP, the process and assessment involved is of a more rigorous nature than the variation of DCP controls, which are inherently more flexible.

Q: The flythrough video provided on the Department of Planning & Environment website shows people sitting at coffee shops sitting along Mona Vale Road which is a main road. Is this correct?
A: Urban design details for the commercial precinct and built form generally have not been finalised; this will form part of the preparation of the Development Control Plan. Access to the commercial centre will be located away from the main road and will benefit from sunlight coming from the north; this will encourage commercial premises to orient themselves away from Mona Vale Road.
Note: The profile shown in the video is along the northern extension of Manor Road, not Mona Vale Road].

Q: As Mona Vale Road is a busy road where cars are known to speed along, is there any discussion of having a green buffer for safety?
A: The urban design details for the built form have not been finalised and will form part of the drafting of the Development Control Plan. The speed of vehicles will be tempered by traffic lights, and setback requirements for a green buffer along the road frontage will be considered as part of the preparation of the Development Control Plan.

4.3 PRESENTATION BY STEVE WARD – ECO LOGICAL AUSTRALIA

Dr Stephen Ward, of Eco Logical Australia, addressed the meeting on this item, summarising on the findings from the recently released studies for the Riparian Corridor Assessment, Bushfire Assessment and Biodiversity Assessment. A copy of the PowerPoint presentation given by Dr Ward is located at **Appendix 2** to the minutes.

The survey findings of the Angus' Onion Orchid in the Precinct have identified that the species is more common than previously thought in the local areas, and also has been identified at sites remote from Ingleside. Further samples are being gathered at various sites across New Zealand and Australia. It is

possible that the number and geographic spread of Angus' Onion Orchid means its legislated status as an endangered species needs to be reviewed. This requires research to be completed to a standard suitable for publishing in a recognised scientific journal, which would form the basis for a submission to change the listing of the species.

DISCUSSION

Q: Does the Biodiversity Certification Strategy have a major effect on the shape and viability of the development of the land release area.
A: The Biodiversity Certification Strategy sets out where the credits will be delivered. In essence it is a collation of the information that has already been collated, including the draft Biodiversity Assessment currently available for consultation.

Q: Will any changes to the Rural Fires Act 1997 be included in the plans?
A: If the legislation changes, any changes will need to be taken into account.

Q: When the upgrades to Warriewood Valley were taking place, an Interim Development Order was introduced to prevent illegal activities occurring. Can similar protections be put in place to prevent illegal activities occurring in Ingleside?
A: The proposed amendments to SEPP (Sydney Region Growth Centres) 2006 identifies Ingleside as a Priority Growth Area; there are clauses within this SEPP which oblige Council to refuse Development Applications where they are inconsistent with the intended future development of the Ingleside precinct. This SEPP, as it will apply to the Ingleside Precinct, is currently on public exhibition until 28 February 2017.
In addition to protections afforded by the draft amendments to the SEPP, and given the extent of the work and studies completed so far, Council has a clear picture of what the current state of Ingleside is and can work with Council's Environmental Compliance Unit in the event that any offences are committed.

Q: What will happen with the threatened species in the area, for example the Eastern Pygmy Possums? Has relocation been discussed?
A: Relocation is not required by the methodology, it would be considered part of the assessment phase. There are challenges with relocation; it is not currently proposed to relocate any fauna. This would be something that could be included in submissions during the public exhibition phase.

Q: How do you encourage fauna to use the new and existing fauna crossings?
A: We cannot definitively say that the fauna crossings will be successful, however the crossings will include fencing to encourage fauna to use the new and existing crossings in preference to crossing the road directly.

Q: Do the bioretention basins have any sort of ecological effect and does the mapping take trees into account?
A: It depends on the location; there will need to be some disturbance and clearing however this could have positive outcomes because you are putting in wet areas which favour some types of biodiversity.

Q: Will the water management areas be public or private, and will Northern Beaches Council acquire them?
A: They will be in public ownership and will be identified in the future Section 94 Contributions Plan for Ingleside.

Q: The goal of water management is not have any reduction is concentration times. Has the

current Australian rainfall and run-off been taken into account to prevent downstream flooding? Should these be made larger to deal with climate change?

A: Prior experience shows that overdesign can be counterproductive and can cause a drought downstream. This suggestion can be taken on board as it is still in the process phase and the Department of Planning and Environment continues to work with consultants in this regard.

Q: The Wastewater Management report shows that the supply of water will rely on connections coming up from Mona Vale and Warriewood. How is this planned to come up through the escarpment, are there plans for clearing?

A: The pipelines for water are already available, there will also be a new water reservoir at Addison Road, and any sewerage will be tunneled under reserves to avoid clearing.

Mr Michael Cuthbert introduced Mr Matty Mathivanar from Roads and Maritime Service (RMS). Mr Mathivanar, as the RMS' Project Manager for the Mona Vale Road Upgrade, provided an update on the Eastern and Western sections. Subject to funding, construction on the Mona Vale Road (Eastern section) is expected to commence early 2018 with a targeted 30 month construction period to be completed by end of 2020. The Western section will, subject to funding, commence construction in early 2019 aimed for completion by end of 2021.

4.4 PRESENTATION BY DAVID HOLDEN - KINESIS

Mr David Holden (Kinesis) addressed the meeting on this item, and presented Kinesis' recommendations as outlined in the Ingleside Precinct Sustainability Peer Review and Strategy Analysis released by Northern Beaches Council. A copy of the PowerPoint presentation given by Mr Holden is located at **Appendix 3** to the minutes.

DISCUSSION

Q: Has the upgrade of the NatHERS tool been factored in to the projections?

A: No, BASIX applies to New South Wales and is the target which is being aimed for.

Q: NSW has put out some draft policies in response to climate change. As Ingleside is a slow growing project, are there plans to set correct targets?

A: The Council is aiming a Best Practice certification under the GreenStar Communities Rating Tool for Ingleside. One of the criteria in this rating tool requires responses to climate change, to which Council is already investigating. There will be opportunities in the future to incorporate this into the development of Ingleside to keep abreast with emerging trends and advances in technology.

The ICRG Committee noted the presence of a threatened species of frogs, and noted the need for clean water to ensure their protection. One of the panel members noted their support and appreciation for both the commissioning of, and the contents of, the Ingleside Precinct Sustainability Peer Review and Strategy Analysis document.

5.0 GENERAL BUSINESS

Mr Andrew Pigott, Executive Manager Strategic Land Use Planning strongly encouraged the Reference Group Members and observers to read the material provided on the website and to make a submission. Mr Pigott also reminded the group that there will be drop in sessions planned for January and February next year.

Mr Michael Cuthbert, Department of Planning and Environment thanked the Reference Group for being willing to meet at a busy time of year.

6.0 NEXT MEETING

The next meeting date of the Ingleside Community Reference Group is to be advised.

The meeting concluded at 6.11pm

APPENDIX 1

NSW Planning & Environment

Ingleside draft Land Use and Infrastructure Strategy

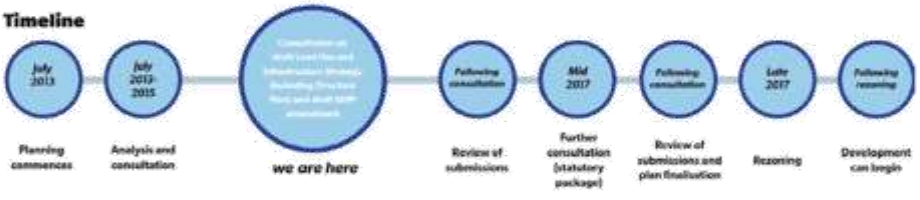
Ingleside Community Reference Group briefing

Ian Connolly, Cox Richardson – Master planners
19 December 2016

We are consulting on

- The draft Land Use and Infrastructure Strategy
- The Structure Plan
- The technical studies
- A draft amendment to the *State Environmental Planning Policy (Sydney Region Growth Centres 2006)*

Timeline



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Development of the plan

Draft Structure Plan | Structure Plan | Formal controls

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Community workshops November/December 2014

Planning & Environment

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Conservation, ecology and bushfire

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Community

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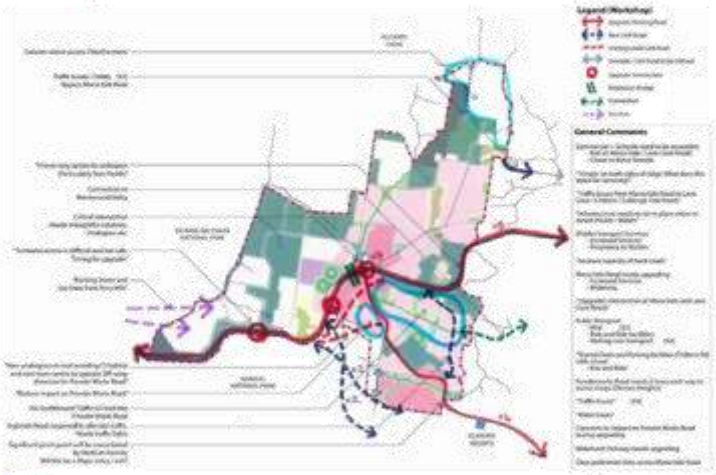
Transport and infrastructure



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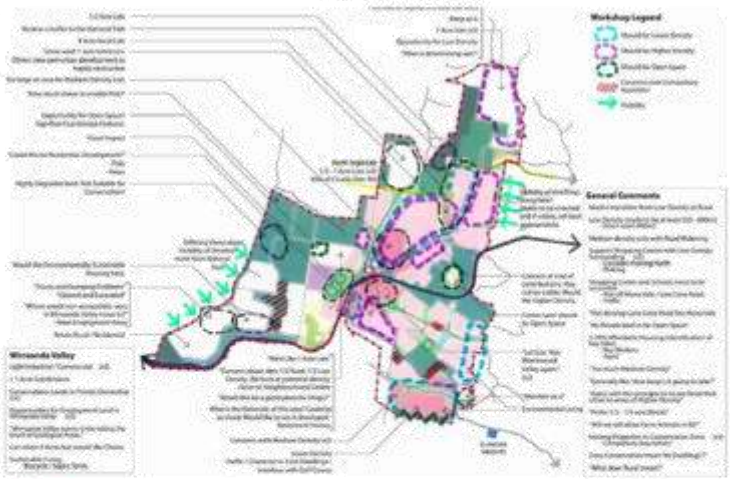
Land use and density



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Site specific concerns

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The draft Strategy

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Ingleside announcement video

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Structure Plan

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Creating a sustainable community

- **Greater housing choice and availability**
  - 3,400 new homes for about 9,000 people
  - A range of housing types
- **Open space and community facilities**
  - A neighbourhood centre and two community centres
  - 15ha of playing fields and parkland, walking and cycling paths
- **Environmental conservation and heritage**
  - Ecological corridors for fauna movement
  - Conservation of many areas of indigenous and non-indigenous significance, including endangered ecological communities

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Land use outcomes

Residential development		**33%**
Townhouses/low rise apartments	7%	
Houses	17%	
Houses on larger lots	9%	
Green space		**33%**
National parks, land proposed for conservation, parks, sports fields		
Environmental management		**4%**
Includes Baha'i Temple		
Rural land (no change)		**15%**
Other		**15%**
Major roads, school, neighbourhood and community centres, other infrastructure		

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Technical studies

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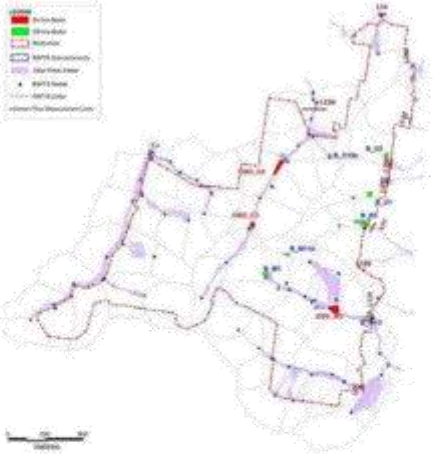
Flooding and water cycle management



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Endangered ecological communities

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Ecological corridors

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Green space and conservation land

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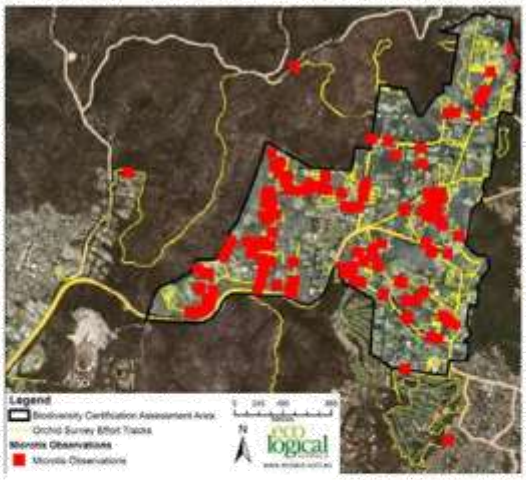
Orchids



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Bushfire management

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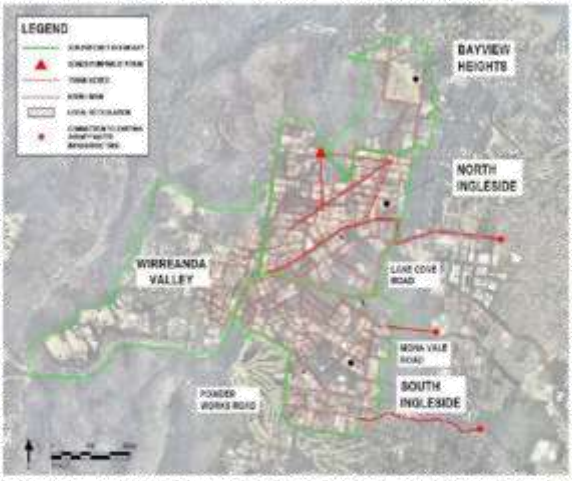
Servicing strategy - sewerage



Ingleside Wastewater Servicing Strategy (Cardno: Draft Infrastructure Delivery Plan)

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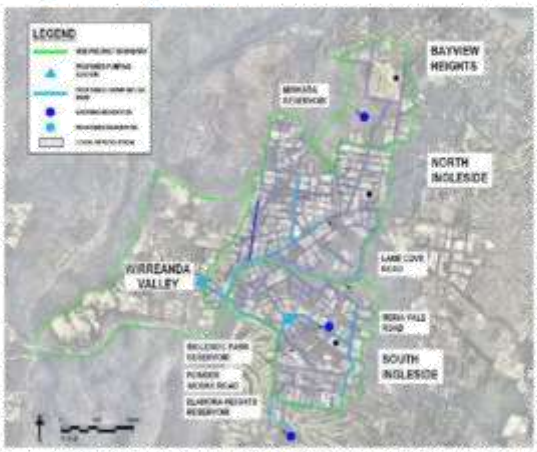
Servicing strategy - potable water



Ingleside Potable Water Servicing Strategy (Cardno: Draft Infrastructure Delivery Plan)

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Road hierarchy

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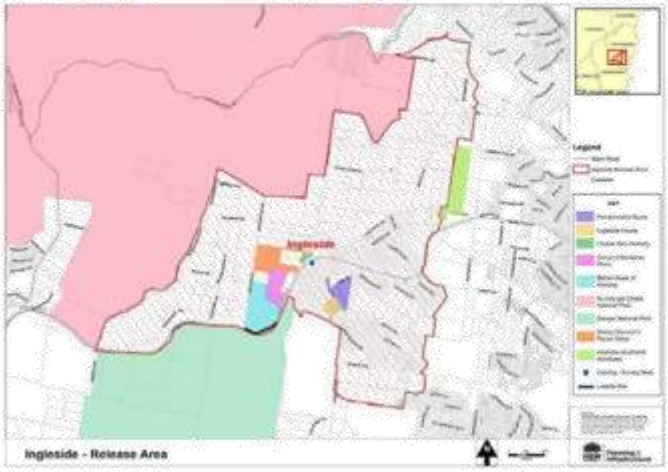
Non-indigenous heritage



Statutory Heritage Listed Items (SHL Heritage: Ingleside Precinct Non- Indigenous Heritage Assessment

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Residential density and housing types

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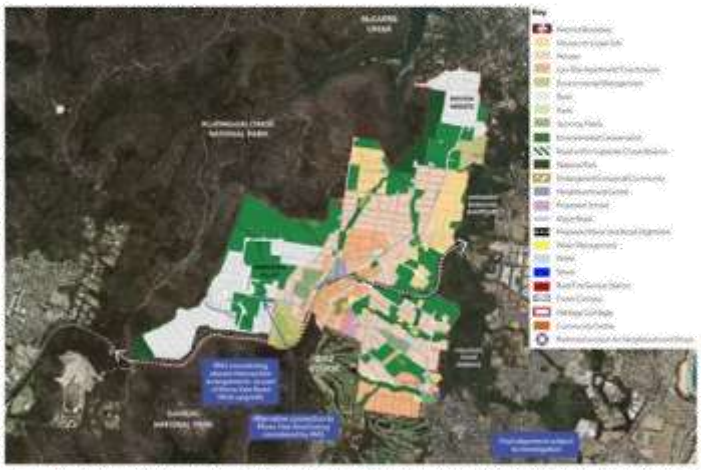
Structure Plan



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Further information

- Department of Planning and Environment
  - reports and studies - www.planning.nsw.gov.au/ingleside
  - printed copies - Level 22, 320 Pitt Street, Sydney
  - phone inquiries - 1300 305 695
- Northern Beaches Council
  - Full display at the Mona Vale Customer Service Centre
  - Consultation material is also available at Mona Vale, Avalon,
    Dee Why and Manly libraries
- Drop-in sessions will run during February 2017
- Displays and submissions end on 28 February 2017

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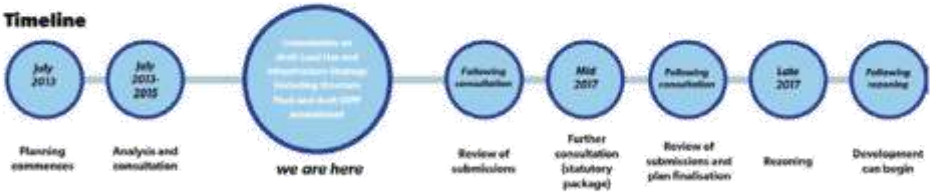
Next steps after this consultation

- We will review submissions and finalise the plans
- We will exhibit a formal rezoning proposal, including a Biodiversity Certification application
- Once rezoned, development can commence as infrastructure becomes available



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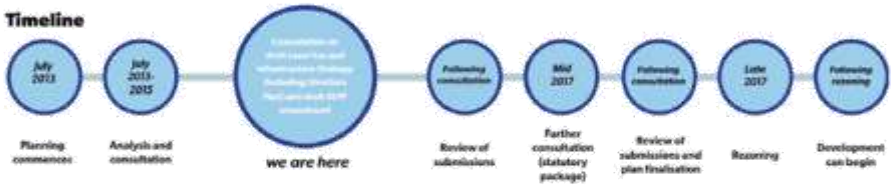
Have your say

You can make submissions by visiting our website:

www.planning.nsw.gov.au/ingleside



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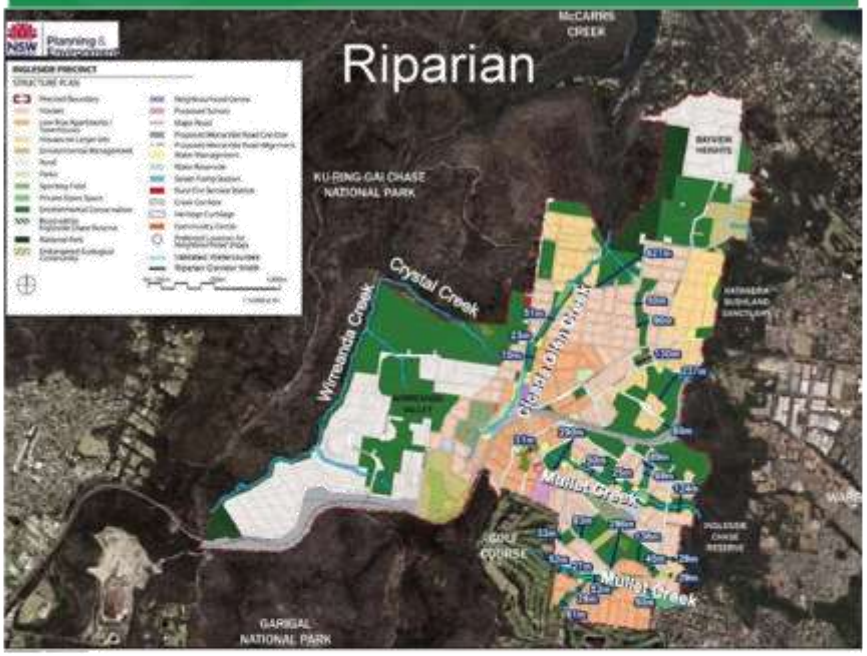
APPENDIX 2

Ingleside – Riparian, Bushfire and Ecology Results

Dr Steven Ward

eco logical AUSTRALIA



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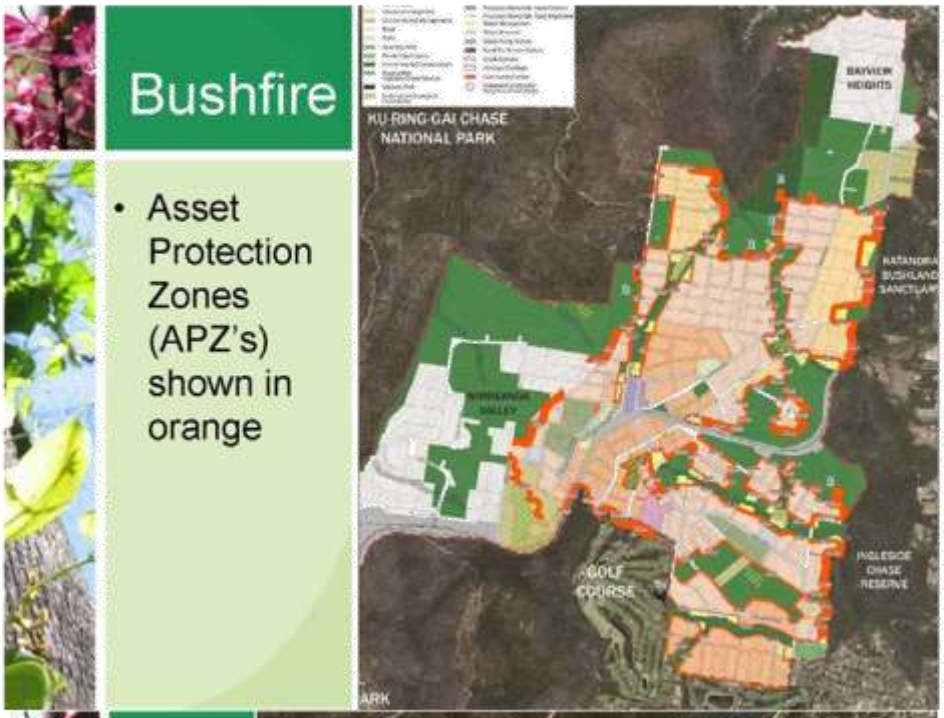
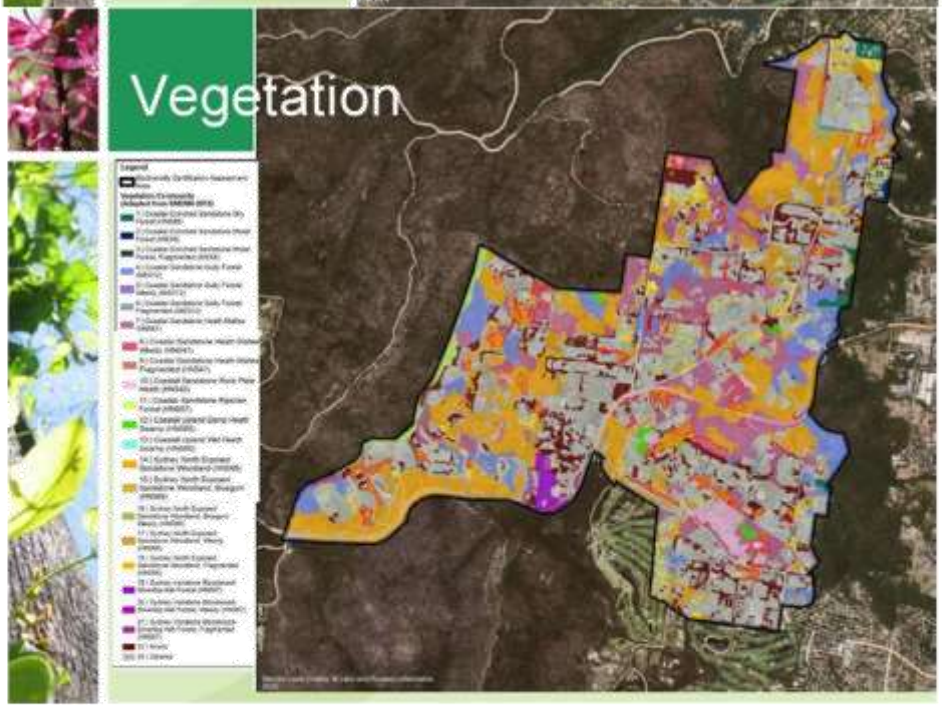

Bushfire
• Asset Protection Zones (APZ's) shown in orange
KU-RING-GAI CHASE NATIONAL PARK
BAYVIEW HEIGHTS
GOLF COURSE
INGLESIDE CHASE RESERVE


Vegetation

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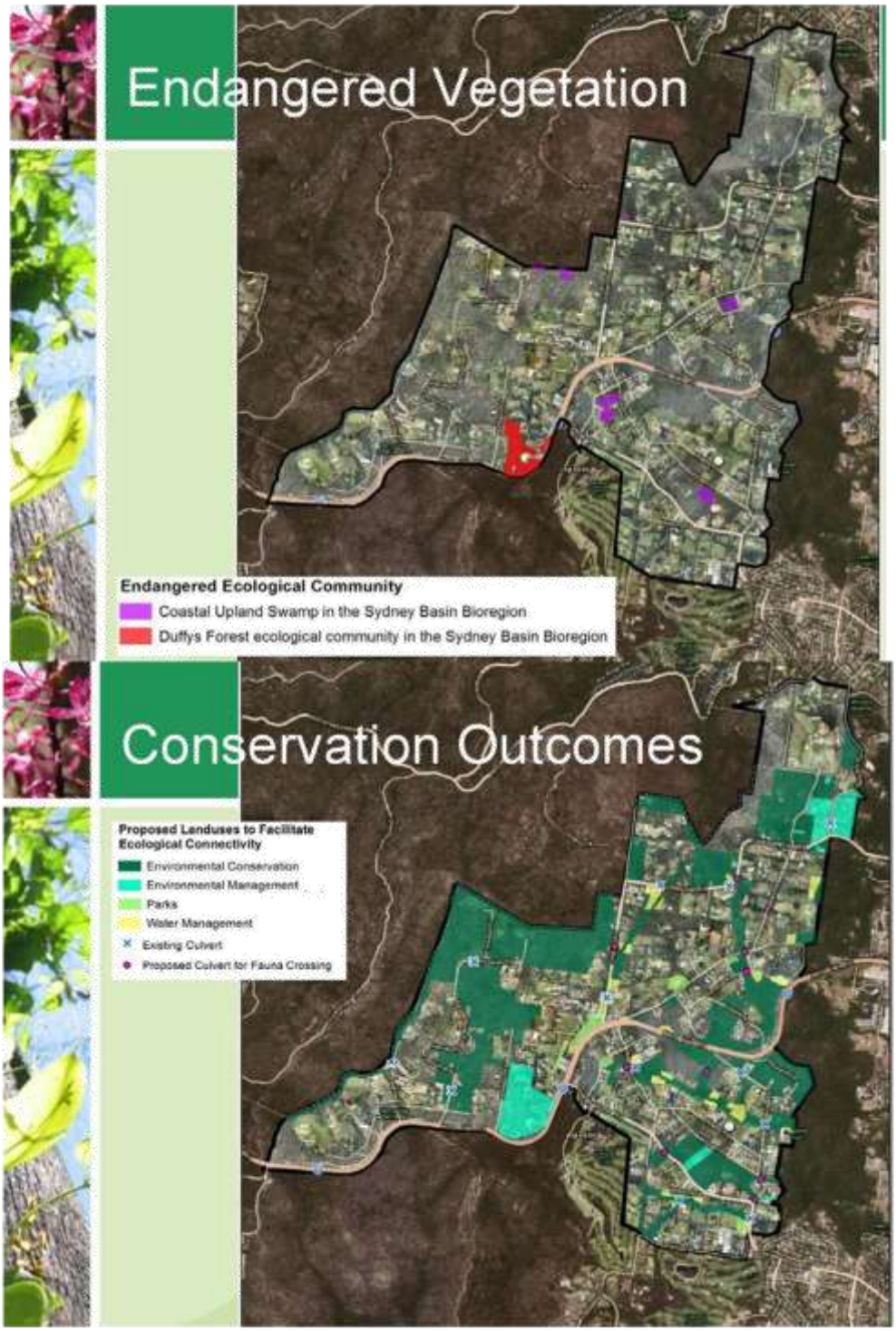
Endangered Vegetation
Endangered Ecological Community
Coastal Upland Swamp in the Sydney Basin Bioregion
Duffys Forest ecological community in the Sydney Basin Bioregion
Conservation Outcomes
Proposed Landuses to Facilitate Ecological Connectivity
Environmental Conservation
Environmental Management
Parks
Water Management
Existing Culvert
Proposed Culvert for Fauna Crossing

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Angus Onion Orchid Update

- Submission made to NSW and Commonwealth scientific committees
- Samples gathered
  - NSW, Vic, Qld, WA, NZ
- Genetic analysis
- Publish results in scientific journal
- Inform scientific committees of outcome

Biodiversity Certification Next Steps

1. Negotiate with potential offset providers
2. Prepare
   - Biodiversity Assessment Report
   - Biodiversity Certification Strategy
3. Seek Approval
   - Minister for the Environment
   - Public exhibition

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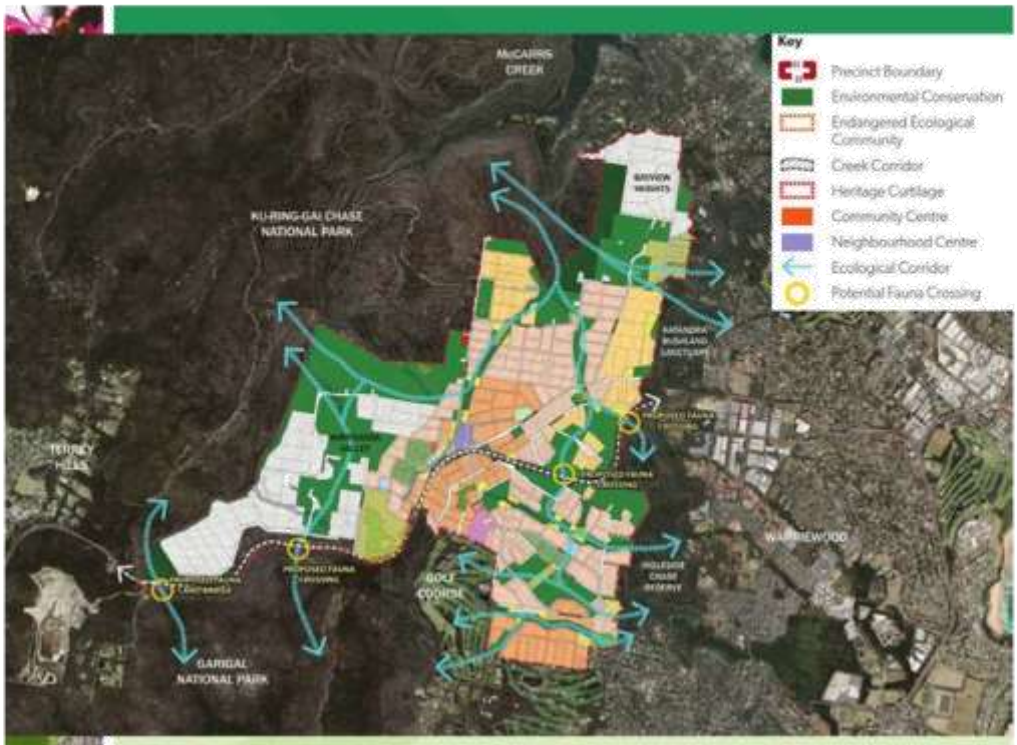

Questions

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APPENDIX 3

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Northern Beaches Council

Ingleside Sustainability

WHAT ARE WE TRYING TO ACHIEVE?

- Address challenges & constraints
- Deliver improved cost of living outcomes
- Deliver best practice sustainable development
- Optimise regional infrastructure investment
- Ingleside registered as Green Star Communities project

- Deliver a **world class development outcome**

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OUR BRIEF – PEER REVIEW

1. **Review of existing technical studies & master plan (Structure Plan)**

2. **Precinct analysis (PRECINX) across:**
   - Water and sewer
   - Energy, peak demand and greenhouse gas emissions
   - Transport
   - Affordability
   - Costs & benefits of improved environmental performance

3. **Recommendations for discussion**

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TECHNICAL STUDY REVIEW

1. *On Site Effluent Assessment for Subdivision* by SMEC
2. *Preliminary Land Capability Geotechnical Assessment Report* by SMEC
3. *Transport and Traffic Assessment* by AECOM
4. *Draft Infrastructure Delivery Plan* by Cardno (traditional servicing)

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PRECINX

MASTERPLAN METRICS | ANALYSIS | TANGIBLE INSIGHTS

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3 KEY RECOMMENDATIONS

1. Investigate **recycled water** as alternate servicing
2. Pursue Higher **BASIX Targets**
3. Identify **public and active transport links** and designs
4. Investigate additional infrastructure solutions including **LED street lighting** and planning for **electric vehicles**

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RECYCLED WATER

WHAT ARE WE TRYING TO ACHIEVE?

Address two key issues for the precinct:

1. **Stormwater requirements** for flooding and water quality means that homes will be required to install significant rainwater tanks (large capital cost).

2. **Sewer infrastructure** is not currently proposed for two precincts. Given the sensitive receiving waters there are concerns with ATUs.

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WATER MANAGEMENT REQUIREMENTS

In order to meet the targets for groundwater and environmental flows at a sub-catchment level:

- Rainwater tanks:

Typology	Requirements
Low Density	10,000 per lot used for I,T,L and HW
Medium Density	6,000 per lot used for I,T,L and HW
Mixed Use	6,000 per lot used for I,T,L and HW
Environmental Living	10,000 per lot used for I,T,L and HW
School	150 kL/ha used for I + T
Community Centre	150 kL/ha used for I + T

(note – typical BASIX home requires a 1,000 to 3,000 L rainwater tank)

- Bio-retention & stormwater for irrigation of sports fields

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MARKET SOUNDING (PRELIMINARY)

- 2 parties (public and private water utilities) where approached.
- Both were interested in providing alternative water servicing.
- Clarity on water and sewage infrastructure is critical.
- Responds to highly fractured ownership.
- Economic and environmental benefits.

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LINK TO DISTRICT PLAN (GSC)

- Draft North District Plan (Nov 2016):

5.8.2 Energy and water

Making more efficient use of energy and water is a cost effective way to reduce carbon emissions, reduce pressure on waterways and ecosystem, and reduce costs to State and local governments. Steps to reduce greenhouse gas emissions will rely on action taken at the local and district scale, as well as national and international efforts. Monitoring the use of energy and water can help guide and support targeted measures to make the North District more efficient and sustainable.

Adopting a place-based approach and identifying Collaboration Areas enables us to plan for improved environmental performance. This could also improve the ability to:

- renew and replace inefficient infrastructure (greening the infrastructure grey-grid)
- organise utilities, car parking, amenities, open space, urban green cover and public spaces
- apply and further develop successful approaches from other areas of Greater Sydney.

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HOW WOULD IT WORK?

- **WICA licence** to provide Ingleside with drinking water, waste water and recycled water to all precincts.
- **Trunk Infrastructure** - Understand drinking water augmentation requirements at the boundary.
- **Preference for pressure sewer** (flexibility with staging and reduce environmental impact in receiving waters).
- **Utility capital funding + financial contribution scheme**.
- **Other services** - Potential to expand to energy and telecommunications.

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ALTERNATIVE = ATUs

- **Biological treatment**, membrane filters, chemical disinfectants are required to lower the nutrient content to a level acceptable for areas with phosphorous constraints.
- **Further investigation** will be required regarding the likely impact of disinfectants on local ecology and creek system
- **Lot by lot assessment** will be required to accurately determine the minimum application area
- **Costs** - $17,000 to $28,000 per lot, plus $300 per year in maintenance (equivalent to total infrastructure costs of servicing Wirreanda Valley & Bayview Estate).

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IMPLEMENTATION OPTIONS

ATU

- Land zoning (minimum lot sizes) to facilitate ATUs

Recycled Water

- Request for Information to test the market
- Establish performance requirements for Ingleside
- Establish a mechanism for financial contribution

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BASIX

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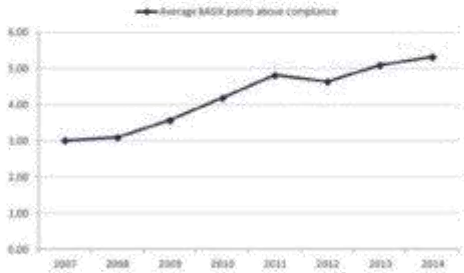
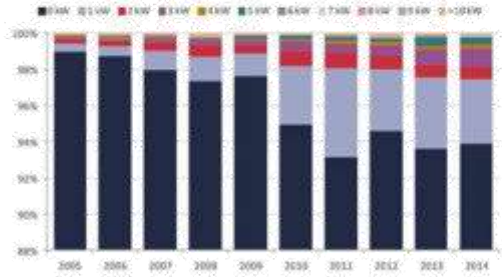
WHAT CAN BE ACHIEVED?

- Existing Sydney Metropolitan average consumption = BASIX 20
- Sydney has seen an increasing trend in over-compliance, particularly in BASIX Energy outcomes

AVERAGE BASIX ENERGY POINTS ABOVE COMPLIANCE SINCE 2007



SOLAR INSTALLATIONS LISTED ON BASIX CERTIFICATES



RECENT ANNOUNCEMENTS

- Minor BASIX Energy target increases (+5 points)
- Effective July 2017.
- "Explore opportunities to further increase the BASIX targets, particularly with councils in high-growth areas".

NSW Planning & Environment

RE: Increase in BASIX energy targets

The NSW Government has announced that the BASIX energy targets will increase beginning in July 2017. This is in line with the Government's aim to be a national leader in energy efficiency and in tackling climate change.

Existing homes in NSW use around 17% of the total state's energy consumption and we expect around 1.8 million new homes to be built across NSW over the next 40 years. The NSW Government's A Draft Plan to Save NSW Energy and Money recognises that residential energy efficiency is one of the easiest ways to save energy and save money through lower utility bills.

Typically, the energy targets for houses and low-rise units will increase by 10 per cent, and by 5 per cent for mid and high-rise units.

The settings for thermal comfort heating and cooling will also change, in line with the proposal in the 2013-14 BASIX Target Review.

These changes were announced in A Draft Plan to Save NSW Energy and Money, which was released by the Minister for the Environment in October 2016.

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WHAT CAN BE ACHIEVED?

- Tested on 4 building typologies
- Reviewed by the Department of Planning

INGLESIDE BUILDING TYPOLOGIES TESTED IN BASIX

	Large detached	Medium detached	Attached	Apartment
Lot area (m2)	1250 to 6,000	450 - 650	150 - 250	1,500
Dwellings (number)	1	1	1	30
Storeys (number)	1	2	2	3
GFA (m2)	315	255	135	50 to 90 m2
Bedrooms (number)	5	4	3	1 to 2 bedroom
Car Spaces (number)	2	2	2	55
Roof Area (m2)	280	230	120	1,200
Pool / Size (kL)	Yes (54)	No	No	No

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RECOMMENDATION

Increase BASIX Energy Targets:

- **Single dwellings** - BASIX Energy 60 (+20 points)
- **Apartments** - BASIX Energy 45 (+10 points)

Note -

BASIX Water 50 will be achieved due to the rainwater tank and reuse requirements necessary to achieve the targets in the Water Cycle Study.

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RECOMMENDATION

How

- Locally specific BASIX targets (BASIX 60 for Energy and Water).
- BASIX can be varied just for Ingleside.
- Improved NatHERS, LED lighting, Solar PV and/or solar hot water.

Cost

- Marginal capital cost of $5,000 to $7,000 per dwelling (excluding water requirements)

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OUTCOMES

- **40% reduction** in greenhouse gas emissions
- **20% reduction** in peak electricity demand
- **7-star NatHERS** (expected)
- **35% reduction** in water demand
- Save household approximately **$800 per year** (on average)

Significant contribution towards **Green Star Community Rating** (7-10 points in total)

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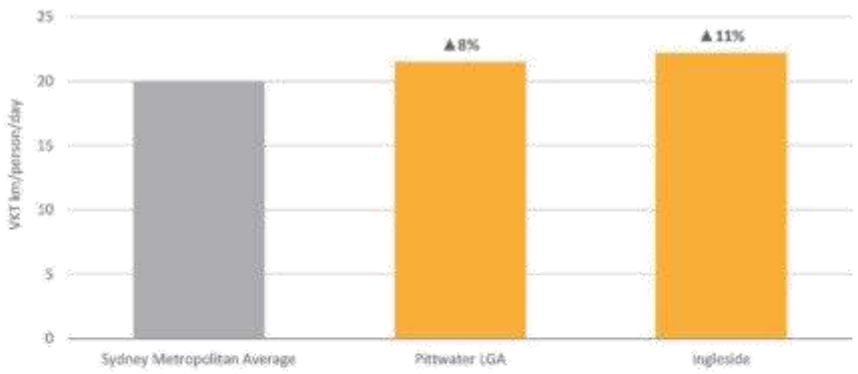
TRANSPORT

TRANSPORT LINKS

Car Use



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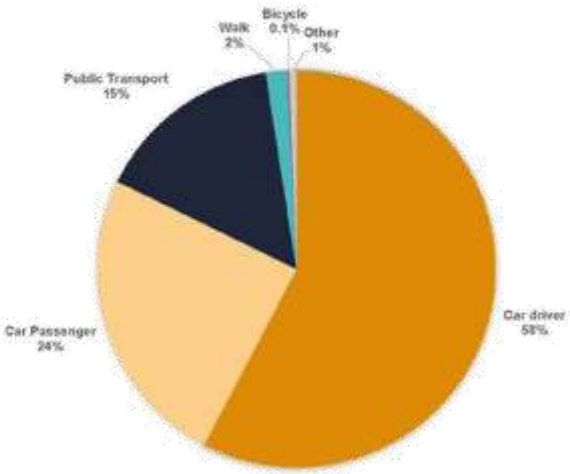
TRANSPORT LINKS

Expected household travel patterns at Ingleside



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TRANSPORT LINKS

Why Electric Vehicles?

A resident at Ingleside who switches to an electric vehicle will save approximately **$4,500 per year** in fuel costs.

Recommendation = EV ready homes
Charge points in all dwellings

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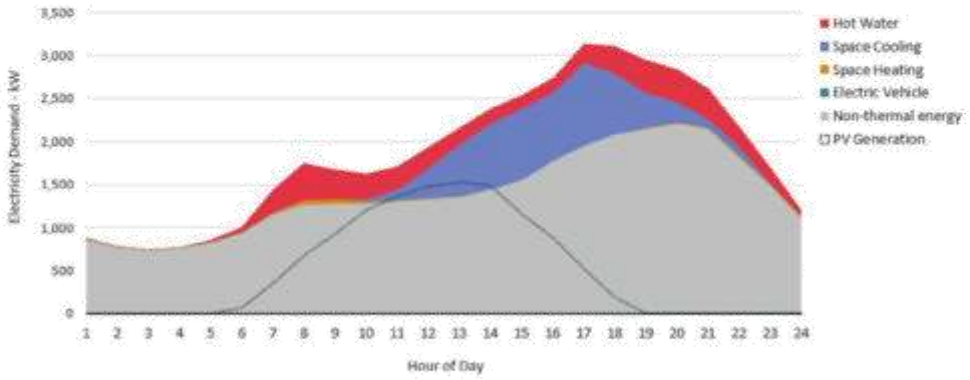
TRANSPORT LINKS

Planning for Electric Vehicles

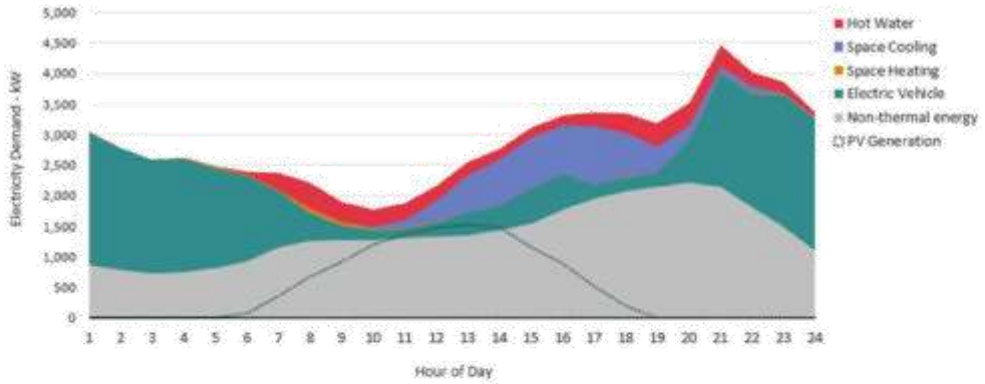
Summer Average



TRANSPORT LINKS

Planning for Electric Vehicles

Summer Average



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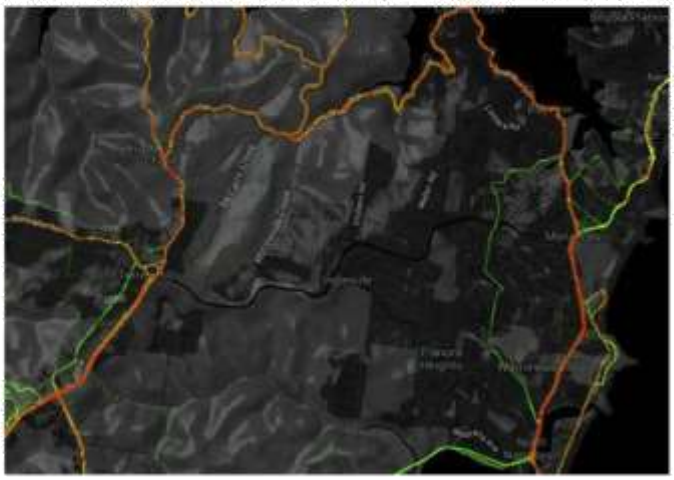
TRANSPORT LINKS

Cycling + Active Transport

+

Link to public transport

Cycling heat map of cyclists (labs.strava.com).
Red shows roads of high use, green shows roads of low use.



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OVERALL OUTCOMES

When compared to current compliance requirements:

- **40% reduction** in greenhouse gas emissions
- **20% reduction** in peak electricity demand
- **35% reduction** in water demand
- Save household approx **$800 per year** in energy & water costs
- Save household approx **$4,500 per year** in transport costs

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