

Wilton Junction Ecologically Sustainable Development Report

State Environmental Planning Policy - Study Requirements

Client:
Wilton Junction Landowners Group

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Executive Summary

This Ecologically Sustainable Development report has been prepared to meet the Wilton Junction State Environmental Planning Policy study requirements as directed by the former Director General of the NSW Department of Planning and Environment (formerly the NSW Department of Planning & Infrastructure):

"Detail how ESD principles are proposed to be incorporated in the future design, construction and ongoing operation phases of the development, and outline any proposed sustainability best practice initiatives. This should also include appropriate waste management strategies to achieve Government Policy".

The vision for Wilton Junction is to deliver a sustainable, 'garden city' for the 21st century offering a high level of self-containment, both economically and socially, and integrating a modern urbanism within a unique natural and rural setting. It will be recognised for its relaxed, family lifestyle, natural landscape and high-quality service offerings. The Wilton Junction Landowners Group intends to deliver this vision by implementing a sustainability approach that balances environmental, social and economic considerations to achieve practical innovation and best practice outcomes.

Key sustainability objectives for Wilton Junction are:

- » Aiming for a self-contained community that has a strong identity and provides local employment opportunities and social services for its residents
- » Establishing an innovative Environmental Trust to protect the site's biodiversity and encourage community stewardship, participation in and access to its natural bushland and aquatic areas
- » Providing innovative water and waste services and infrastructure to maximise recycling of natural resources
- » Developing a range of affordable and flexible housing lots and types that support family needs and allow for aging in place
- » Designing an integrated transport strategy incorporating public and active transport networks and linkages to reduce reliance on private vehicles.

The development of Wilton Junction will be a complex process that will involve careful development staging and take a number of years to complete. The sustainability approach has been designed to be adaptable, meeting the needs of the development at various phases, as well as responding to changing environmental, societal and financial considerations.

Wilton Junction's sustainability approach will:

- » Provide a framework for the coordination and implementation of initiatives that deliver a balanced environment, social and economic sustainability approach
- » Involve collaboration with Wollondilly Shire Council and other key stakeholders with a comprehensive community engagement program
- » Identify initiatives that go beyond compliance with minimum government requirements
- » Be flexible in order to adjust to changing circumstances, technologies and feedback from key government and non-government organisations and the community.

1 Introduction

1.1 Background

In November 2011, the NSW Government initiated the Potential Housing Opportunities Program and invited landowners with suitably located substantial landholdings to nominate sites which might be able to deliver additional housing to address Sydney's housing supply shortfall. Walker Corporation, Governors Hill, Bradcorp and Lend Lease responded to the Program and nominated landholdings of more than 100ha in Wollondilly Shire, surrounding the Hume Highway-Picton Road intersection for consideration. This area has subsequently become known as Wilton Junction, and is the subject of this application.

Following a Wollondilly Shire Council resolution in May 2012, the four major landowners (collectively known as the Wilton Junction Landowners' Group) signed an agreement to work cooperatively with Council to prepare a high level Master Plan for Wilton Junction to deliver high quality new housing, jobs close to homes, supporting social and utilities infrastructure and services, and a range of complementary land uses.

A high level Master Plan and a Preliminary Infrastructure Requirements Report were considered by the Council on 17 December 2012, with Council resolving to give in-principle support to the proposal. Council also resolved to request that the rezoning be a state-driven process. Subsequently, the NSW Government decided to coordinate the statutory planning process, led by the Department of Planning and Infrastructure (now the Department of Planning and Environment, DP&E). The Minister for Planning and Infrastructure (now the Minister for Planning and Environment) proposed to prepare a State Environmental Planning Policy (SEPP), as per Section 24 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), which identifies that a SEPP is an Environmental Planning Instrument, and Section 37 of the EP&A Act, which relates to the making of a SEPP for State or regional significant development. This was done with a view to rezone the land through an amendment to the Wollondilly Local Environmental Plan 2011 (LEP) to facilitate the early delivery of housing and infrastructure, linked to an agreed Infrastructure, Servicing and Staging Plan.

The Department of Planning and Infrastructure issued Key Study Requirements (KSRs) to the Proponents (Walker Corporation, Bradcorp and Governors Hill) to guide the planning investigations for a new town at Wilton Junction. The KSRs set the criteria for carrying out environmental investigations across the Study Area (excluding both Bingara Gorge and the existing Wilton village which will not be affected by any proposed amendments to their current zoning and planning provisions). The investigations examine the potential for the Wilton Junction Study Area to be rezoned under a SEPP.

1.2 Purpose of the document

In order to prepare a State Environmental Planning Policy (SEPP) to support rezoning amendments to the Wollondilly Local Environmental Plan 2011, the former Department of Planning and Infrastructure (now known as the Department of Planning and Environment) has identified study requirements in consultation with relevant state agencies and the Wollondilly Shire Council. This report on the ecologically sustainable development (ESD) principles that will guide the Wilton Junction precinct, has been prepared to meet the specific Director General requirements outlined below:

"Detail how ESD principles are proposed to be incorporated in the future design, construction and ongoing operation phases of the development, and outline any proposed sustainability best practice initiatives. This should also include appropriate waste management strategies to achieve Government Policy".

The Wilton Junction precinct lands owned by Bradcorp Pty Ltd, Walker Corporation and Governors Hill and other private landowners as identified in Figure 1 – Study Area, forms the scope of landholdings to which this ecologically sustainable development strategy will apply. It incorporates information from other studies being undertaken for the rezoning process including, but not limited to:

- » Waste Management Strategy
- » Air quality and greenhouse gas emissions
- » Transport
- » Noise
- » Water quality
- » Biodiversity
- » Heritage.

1.3 Director General requirements

This report details how the development at Wilton Junction will incorporate Ecologically Sustainable Development (ESD) principles to meet the Director General Requirements (DGR's) as outlined below.

"Detail how ESD principles are proposed to be incorporated in the future design, construction and ongoing operation phases of the development, and outline any proposed sustainability best practice initiatives. This should also include appropriate waste management strategies to achieve Government Policy".

In identifying how Wilton Junction will meet these requirements we have referred to the recently revised NSW Government sustainability development principles (see Section 1.4).

ESD Principles	Wilton Junction initiatives		
	Design	Construction	Operation
Environment	Identifying and protecting key environmental lands in accordance with the NSW Government's offset principles for major projects (see Section 3.1.1)	Developing a state-of-the-art waste and integrated water management program (see Section 3.1.2)	Establishing an innovative Environmental Trust with a charter to protect and improve biodiversity resources (see Section 3.1.1) Delivery of a best-practice waste minimisation strategy (see Section 3.1.3 and the Wilton Junction Waste Management Strategy 2013)

ESD	Wilton Junction initiatives		
Economic	Providing employment lands within the Master Plan to provide localised employment (see Section 3.2.1)	Creating attractors for industry through affordable and spacious floor spaces and delivery of high-end telecommunication services (see Section 3.2.1)	Establishing a business start-up centre to support small and home-based businesses (see Section 3.2.1)
Social	Providing a vibrant mixed-use town centre and community hub with a range of commercial and social services (see Section 3.3)	Ensuring a diversity of housing typologies at various price points that support affordability and aging in place (see Section 3.3)	Providing adaptable, multi-purpose community facilities within the first stage of development (see Section 3.3)

1.4 Project vision and description

Wilton Junction is a new community cradled in a unique landscape characterised by bushland, rivers, creeks, lakes and ridges set against the backdrop of the Razorback Range. By design, the place and the lives of its people are intertwined with the bush.

The community respects the location's rich bushland setting, engages with surrounding water features and embraces sustainability.

Inclusive and welcoming of diversity, it's a place to nurture relationships, grow a family and to put down roots.

Founded on a 21st century interpretation of timeless "Garden City" principles, Wilton Junction combines the best features of our most loved country towns with the facilities, services and technologies found in Australia's most successful, edgy, and vibrant town centres.

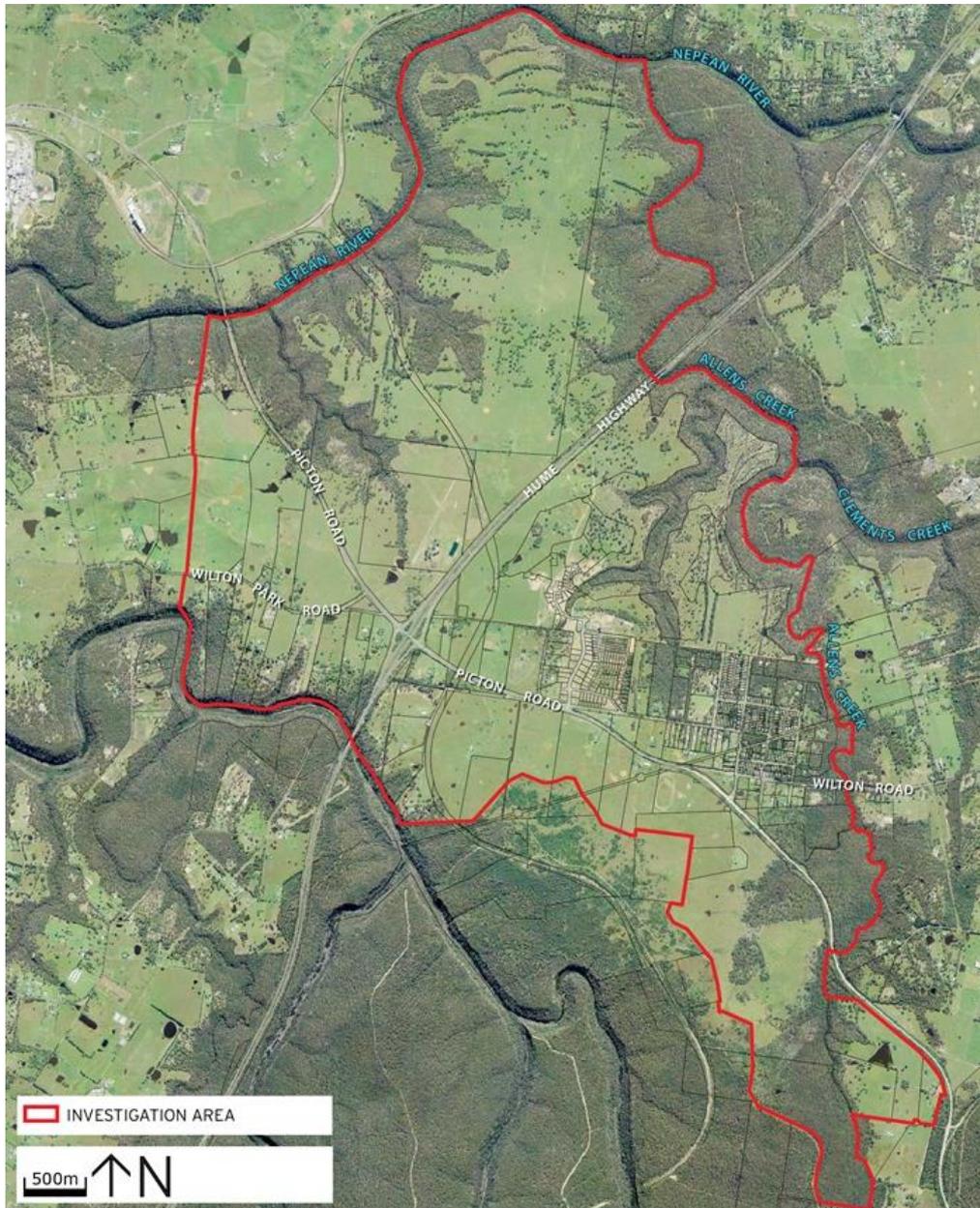
A safe place to visit – a healthy place to live – a great place to learn - a rewarding place to work – the local community takes pride in the strength of its cultural and civic life and the role of their town in Wollondilly Shire and the region.

In combination with this vision is to ensure Wilton Junction achieves true affordability that includes upfront housing and life-cycle costs as well as a high level of self-containment for jobs and services.

The location of Wilton Junction on the crossroads of the Hume Highway and Picton Road provides an opportunity to take advantage of this significant transport corridor to attract local employment providers. Wilton Junction is located within Wollondilly Shire Council and is approximately 80km from Sydney Central Business District, and 30km west of Wollongong. The study area includes the existing village of Wilton and the recently approved suburb of Bingara Gorge.

Moreover, Wilton Junction has the distinct advantage of a consolidated land ownership of more than 2,700ha in the control of recognised developers, with the resources and capability to expedite housing delivery, roll out enabling infrastructure, deliver social services and provide local employment.

Figure 1 Study Area



Connor Holmes

This vision will be delivered through the creation of a new town with between 11,000 and 13,000 new homes and 11,000 jobs. Residential neighbourhoods will be created around green spaces providing a range of housing choice and facilitating healthy lifestyles options for all new residents.

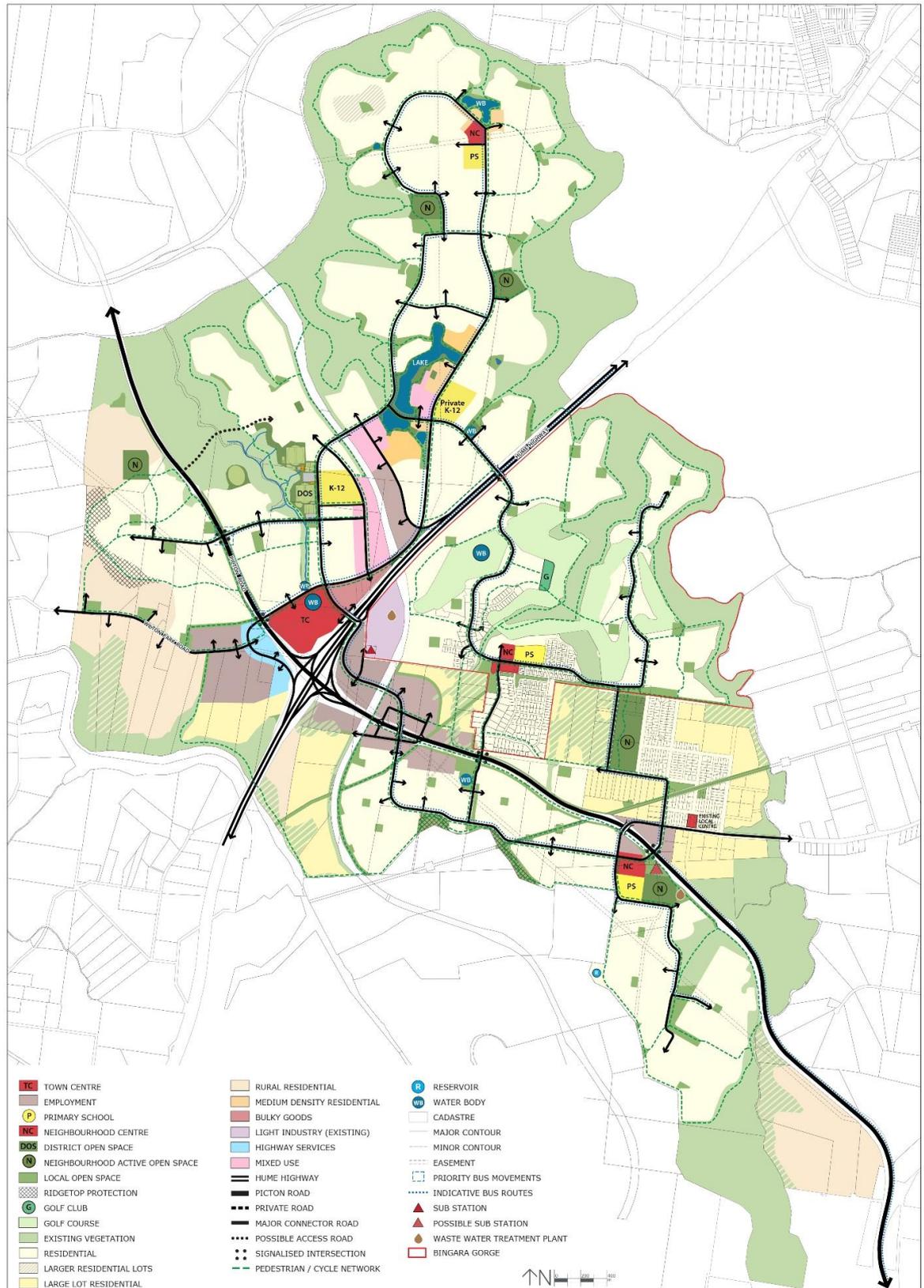
A new town, comprising of approximately 17ha, will be established within the north-west quadrant of the study area and will be surrounded by employment generating uses for business, bulky goods and light industry, comprising of approximately 120 - 130ha of land. Smaller neighbourhood centres will be created within the residential neighbourhoods to cater for convenient daily shopping choices. Community facilities and physical infrastructure will be provided facilitating the creation of a self-sustaining, economically-robust community. Existing significant environmental features and heritage items will be preserved commemorating the natural and historical setting of the study area.

The following principles have been developed to inform the design of the new community:

- » Integrating and co-locating **employment opportunities** with the proposed town centre
- » Providing a **diversity of housing** types to facilitate affordability and lifestyle choices
- » Ensuring high-quality and **accessible community facilities**
- » Taking a **whole-of-environment approach** with a focus on preserving the site's unique landscape features
- » Establishing **an Environmental Trust** with a charter to meet the NSW Government's Offset Principles for Major Projects to rehabilitate and manage approximately 614.5 ha of bushland and to conserve significant vegetation
- » Creating **vibrant and active neighbourhoods** with a connected network of streets, spaces and squares to support a strong local identity and a cohesive community
- » Delivering a **new mixed-use town centre** incorporating retail, commerce, business and light industry and three smaller neighbourhood centres.
- » Developing a **pedestrian-friendly and permeable streetscape** and providing strategic motorway and bus access to surrounding areas
- » Providing **strategic motorway and bus access** to surrounding areas, legible movement throughout the development.
- » Provision of **self-sufficient and sustainable infrastructure** to deliver essential services to residents including gas and proposed NBN access
- » Celebrating the unique natural and local heritage of the site through interpretive trails and careful preservation of significant features.

This report forms part of the studies required to be undertaken to meet the Director Generals' Key Study Requirements outlined by the Department of Planning and Infrastructure as part of the investigations for the release and rezoning of land at the junction of the Hume Highway and Picton Road through a SEPP. The study outcomes and report has also informed the development and preparation of a Master Plan for Wilton Junction (see Figure 2).

Figure 2 Wilton Junction Master Plan



Connor Holmes

1.5 Sustainability principles

The ecologically sustainable development (ESD) principles that will guide the design, construction and on-going development of the Wilton Junction Precinct, have been derived from the definition of ESD and sustainability by the NSW Government and Wollondilly Council.

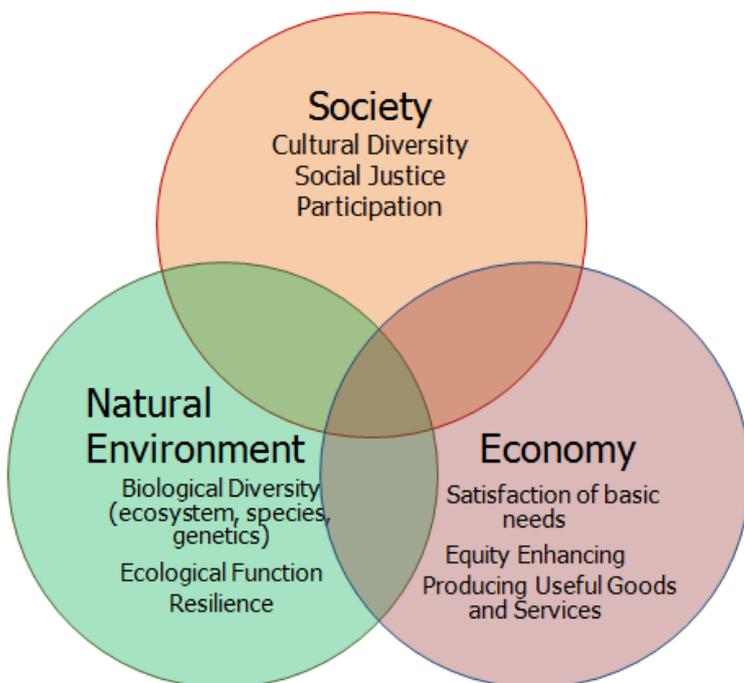
In 1992, all Governments and Territories in Australia adopted the National Strategy for Ecologically Sustainable Development (ESD). This Strategy provides a definition for ESD based on the United Nation's Report of the *World Commission on Environment and Development: Our Common Future* as:

"using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased".

Subsequently, NSW Whole of Government Sustainability Principles were published in 2006 and identified that sustainability in the NSW public sector means:

"addressing the needs of current and future generations through the integration of social justice, economic prosperity and environmental protection in ways that are transparent, accountable and fiscally responsible."

Figure 3 Representation of Ecologically Sustainable Development



Australian Government National Strategy for Ecologically Sustainable Development 2007

Under the proposed amendments to the NSW Planning System, ESD has been simplified to sustainable development. This concept is to be achieved by the integration of economic,

environmental and social considerations, having regard to present and future needs, in decision-making about planning and development.

There are now three broad but interdependent "pillars" underpinning the concept of sustainable development:

- » **Environment:** protecting threatened species and habitats, using natural resources wisely and minimising, mitigating or addressing environmental impacts;
- » **Economic:** promoting the development of the economy and the wellbeing of all communities by facilitating housing, business, employment and other forms of activity and improving productivity; and
- » **Social:** facilitating housing that meets the needs of the whole community, creating a high quality built environment that promotes the health of all communities and ensuring accessibility to services and employment opportunities.

In addition, the ESD principles outlined in the NSW *Local Government Act 1993* include:

(a) the precautionary principle—namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

In the application of the precautionary principle, public and private decisions should be guided by:

- (i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and
 - (ii) an assessment of the risk-weighted consequences of various options,
- (b) inter-generational equity—namely, that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations,
- (c) conservation of biological diversity and ecological integrity—namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,
- (d) improved valuation, pricing and incentive mechanisms—namely, that environmental factors should be included in the valuation of assets and services, such as:
- (i) polluter pays—that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,
 - (ii) the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,
 - (iii) environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems

Using the above principles as a foundation, Wollondilly Shire Council has also developed Sustainability Principles that are featured in its Community Strategic Plan 2033: Growing Your Future Together.

Wollondilly Shire Council's Adopted Environmental Principles:

Equity - Council will uphold the principles of intra-generational and intergenerational equity, or fairness in how resources are distributed within this generation and between this and future generations.

Precaution - Council will adopt the precautionary principle, which is that actions which have the potential to harm our environment should not be undertaken if the consequences are uncertain and the science inconclusive.

Regeneration - Council will work to protect and restore the earth's ecological integrity, biological diversity and natural processes.

Engagement - Council will recognise that sustainability will happen faster if local communities become champions of sustainability and are involved in the decisions affecting sustainability.

Sharing - Council will work with others to share resources and knowledge and to promote sustainability.

Social Justice Principles:

Equity – Council will strive for the fair distribution of resources with a particular emphasis on protecting those people who are considered vulnerable.

Access – Council will provide all people with opportunities to use relevant services and facilities regardless of their circumstances.

Participation – Council will encourage and provide opportunities for people to take part in decision-making processes that impact on their quality of life.

Rights – People should not be discriminated against and everyone is entitled to honesty, information and involvement.

Governance – People deserve responsible governance and fair and accountable decision-making.

Wollondilly Shire Council is also considering adopting the United Nations Environment Program's (UNEP) 'Melbourne Principles for Sustainable Cities' to guide its sustainability direction. These principles, developed in Melbourne in April 2002, are known as the UNEP Principles and are intended as a guide for cities around the world to develop sustainable solutions that are relevant to their own particular circumstances.

United Nations Environment Program (UNEP), the Ten Melbourne Principles for Sustainable Cities, 2002:

Principle 1: Provide a long-term vision for cities based on: sustainability; intergenerational, social, economic and political equity; and their individuality.

Principle 2: Achieve long-term economic and social security.

Principle 3: Recognise the intrinsic value of biodiversity and natural ecosystems, and protect and restore them.

Principle 4: Enable communities to minimise their ecological footprint.

Principle 5: Build on the characteristics of ecosystems in the development and nurturing of healthy and sustainable cities.

Principle 6: Recognise and build on the distinctive characteristics of cities, including their human and cultural values, history and natural systems.

Principle 7: Empower people and foster participation.

Principle 8: Expand and enable cooperative networks to work towards a common, sustainable future.

Principle 9: Promote sustainable production and consumption, through appropriate use of environmentally sound technologies and effective demand management.

Principle 10: Enable continual improvement, based on accountability, transparency and good governance.

The Wilton Junction Landowners Group has considered the principles outlined in this section of the report to inform its sustainability approach to the project. An assessment against these principles is provided in Section 5 of this report.

2 Wilton Junction Sustainability Commitments

The Wilton Junction Landowners Group has agreed on a number of sustainability initiatives, that build on the Melbourne Principles to guide decision making at Wilton Junction. They reflect state and local sustainability priorities and align with government policies on housing affordability, employment and environmental protection.

They are the objectives for the entire lifecycle of the development including design, construction and beyond. The Wilton Junction Sustainability Objectives will direct decision-making by all project management, sub-consultants and referral agencies in the delivery and development of the Project.

Table 1 Wilton Junction Sustainability Initiatives

Melbourne Principle	Sustainability Initiatives
1. Develop a long-term sustainability vision	<p>Wilton Junction Landowners Group commit to the following vision for Wilton Junction:</p> <ul style="list-style-type: none"> » A place where the lives of its people are intertwined with the bush; respecting the rich bushland setting and engaging with its surrounding water features. » A place to nurture relationships and grow a family; inclusive and welcoming of diversity. » A 21st century 'Garden City' which combines the best features of our most loved country towns with the facilities, services and technologies of successful, edgy and vibrant town centres. » A safe place to visit – a healthy place to live – a great place to learn – a rewarding place to work. Residents take pride in the strength of Wilton Junction's cultural and civic life and the role of their town in Wollondilly Shire and the region.
2. Achieve long-term economic and social security residents	<p>We will promote and facilitate the delivery of 11,000 new jobs and a self-sustaining social community at Wilton Junction. To achieve this:</p> <ul style="list-style-type: none"> » The Master Plan provides 125 ha of employment-generating lands including business, bulky goods and light industry » Explore opportunities for local jobs in the green economy. For example, the management and commercial reuse of green waste and biosolids both on and off-site are being investigated. » Community facilities will be provided in the town centre and within the discreet neighbourhoods. Major regional

Melbourne Principle	Sustainability Initiatives
	<p>facilities will include schools, a library, recreation centre and sporting fields.</p> <ul style="list-style-type: none"> » A comprehensive Community Development Plan will support place-making and community building. » Neighbourhoods will be designed with communal spaces and squares promoting social interaction.
<p>3. Protect and, where appropriate, restore biodiversity habitat to support river health and natural ecosystems</p>	<p>We will support and implement innovative initiatives to protect the intrinsic natural values of the site through:</p> <ul style="list-style-type: none"> » A developer-led Environmental Trust that will provide on-going resources to manage approximately 615 hectares of environmentally sensitive lands on the site. The Environmental Trust will function as an environmental education and recreation resource for the community as well as for conservation purposes. Significant in perpetuity funding from the sale of land to be held in Trust and the interest used for ongoing works. » Maintenance, and where necessary rehabilitation, to the riparian border along the Nepean River, Allens Creek and other water courses to protect river health and vegetation as part of the Environmental Trust charter. » Utilisation of the NSW Government's Offset Principles for Major Projects to identify high value bushland for protection and accompanying funding for the 'improvement and maintenance' of biodiversity values in perpetuity. The Bio-certification process will also be considered by the Wilton Junction Landowners' Group after further consultation with Council and relevant agencies. » An integrated water cycle management system that will utilise gross pollutant traps, biofiltration (rain gardens, swales and absorption trenches) to ensure that any water that runs off-site will either meet or exceed water quality standards. Seventy-six rain gardens will naturally cleanse water resources while maintaining necessary environmental flows. » Creation of lakes that will 'polish' tertiary treated effluent to deliver high quality non-potable water resources and a biodiverse aquatic habitat. » Community education about and involvement in the protection of Wilton Junction's intrinsic natural values will be a major focus of the development process.
<p>4. Minimise the community ecological footprint</p>	<p>We will support initiatives to exceed the existing NSW Government environmental guidelines for energy, water and resource efficiency. Key initiatives include:</p>

Melbourne Principle	Sustainability Initiatives
	<ul style="list-style-type: none"> » Provision of natural gas for domestic heating and cooking. » Encouragement for residential adoption of green energy, potentially through community contracts. » Recycling of treated wastewater for playing fields and parks irrigation and for light industrial water needs. » Encouragement of GreenSmart Building Certification, above BASIX compliance and other sustainable housing features, through a sustainable demonstration village and education package » Targeting waste minimisation in the construction phase including land clearing, civil works and construction such as reuse of felled trees, top soils and vegetation for mulch and as biofiltration mediums. Separate recycling facilities are proposed for the construction phase accessible only to builders to support collection of separated materials and off-cuts. » Delivery of a best-practice post-occupation domestic waste service including collection and reuse of green organics.
<p>5. Create a healthy and sustainable community that display the characteristics of ecosystems by being diverse, adaptive interconnected, resilient and regenerative</p>	<p>We will support the creation of a dynamic and diverse community, promoting social and economic self-sufficiency and adoption of new technology. Key aspects of this include:</p> <ul style="list-style-type: none"> » Providing a range of affordable housing offerings of smaller to larger lots that provide a rural transition in appropriate locations. Affordable, pre-retirement and retirement housing products will be offered. » Co-locating land for retail, commercial, business and light industrial employment with transport linkages, community services and residential provision » Creating a linked community with internal access by road, foot and cycle paths and public transport to surrounding areas » Providing early, adaptable spaces for community services and facilities e.g. a sales suite that is also a community building, education resource and potentially a cafe » Supporting home-based employment through the provision of flexible housing stock and the co-location of services and facilities. This includes advocating for the early implementation of the National Broadband Network (or equivalent technology) and providing town centre wireless hotspot access.
<p>6. Build on the distinctive</p>	<p>We will provide resources for preserving and celebrating</p>

Melbourne Principle	Sustainability Initiatives
<p>characteristics of the site, including human and cultural values, history and natural systems.</p>	<p>the significant environmental and heritage features of the site. Key principles include:</p> <ul style="list-style-type: none"> » Natural areas will not be isolated from the community but are an intrinsic aspect of Wilton Junction. While the primary role of the Environmental Trust will be biodiversity protection and improvement and cultural conservation, they will also provide an education and recreation resource for the community. » The urban environment will respect and work with its natural surroundings. » Iconic local species (flora and fauna) will be identified and promoted to reinforce a unique sense of place and identity. » Recognition and access to the Nepean River, as a major local landmark, will be a key feature of Wilton Junction. » Significant Aboriginal Heritage sites and landmarks will be protected and, where possible, celebrated within the landscape design. » Incorporation of the rural village character of Wollondilly Shire will be major element in the design of the town and neighbourhood centres.
<p>7. Empower people and foster participation</p>	<p>There is a strong commitment to early engagement with the community and encouraging active participation in the development of Wilton Junction. This characterised by:</p> <ul style="list-style-type: none"> » The concept of the Environmental Trust which embraces community participation in the management of the site's significant vegetation. » Community consultation and engagement from the earliest stages of planning including the Wilton Junction interactive website: talkwiltonjunction.com.au, community newsletter and meetings. » Preparation of a comprehensive Community Development Plan which will ensure that new residents are involved in the management and allocation of community services and facilities. » Provision of local planning district level sports and recreation facilities.
<p>8. Utilise cooperative networks to work towards a common, sustainable future</p>	<p>We commit, through the Heads of Agreement, to cooperating in order to deliver Wilton Junction's sustainability vision. Other essential partnerships in the development of the site include:</p> <ul style="list-style-type: none"> » Working collaboratively with Wollondilly Shire Council, which has indicated its support for Wilton Junction. The Wilton Junction Landowners Group has consulted

Melbourne Principle	Sustainability Initiatives
	<p>closely with Council to ensure that the sustainability initiatives incorporated into the development design and planning are in line with Council expectations and its own sustainability objectives.</p> <ul style="list-style-type: none"> » Working with Government agencies and service bodies to ensure coordinated design and efficient delivery of infrastructure services through the Infrastructure Technical Working Group. » Engaging with key stakeholders by convening the Economic Technical Working Group to develop local employment strategies. » Convening a Community Reference Group to promote inclusivity in planning processes and harnessing local knowledge. » Establishing a process of knowledge capture and transfer based on the national experience of the development team and consultants. Continuous improvement and flexibility to adapt to new technologies is a feature of the management approach.
<p>9. Promote sustainable production and consumption, through use of environmentally sound technologies and effective demand management</p>	<p>We will support the establishment of environmental, social and economic infrastructure that promotes the efficient use of resources. Key elements of this are:</p> <ul style="list-style-type: none"> » Total water cycle management: to ensure that all urban wastewater is treated on-site to a tertiary level. Once tested, water will be recycled after treatment for irrigation, light industrial purposes or for environmental flows. Stormwater will also be utilised as environmental flows following effective biofiltration through rain gardens. » Total waste management: from civil works, to construction through to occupation. The Waste Minimisation Strategy will focus on resource recovery and reuse. » Local economic and social opportunity: to reduce the need to commute to other centres. The ability of information technology to support home businesses along with flexible and affordable lot choice will be promoted.
<p>10. Enable continual improvement, based on accountability, transparency and good governance</p>	<p>We support the continuous improvement of environmental outcomes through the funding of the Wilton Junction Environmental Trust that will:</p> <ul style="list-style-type: none"> » Provide information on progress and programs to empower the local community in achieving environmental stewardship. » The Wilton Junction Landowners Group has jointly signed off on the Wilton Junction Sustainability Vision

Melbourne Principle	Sustainability Initiatives
	and Initiatives.

3 ESD Benefits of Rezoning

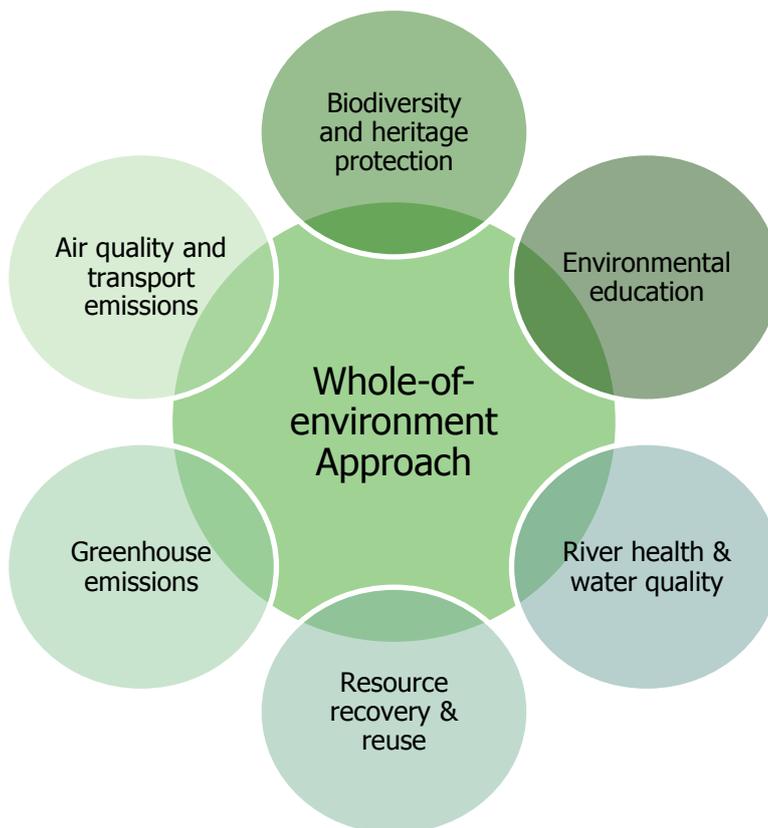
The Wilton Junction Landowners Group has identified a number of best practice sustainability initiatives that will be implemented at Wilton Junction as part of the vision of a 'garden city' for the 21st century.

Whole-of-environment approach

A fundamental aspect of developing Wilton Junction is a whole-of-environment approach that celebrates and protects the natural landscape within the study area and supports a high quality of life for residents.

The key elements of this approach include:

Figure 4 Whole-of-Environment Approach



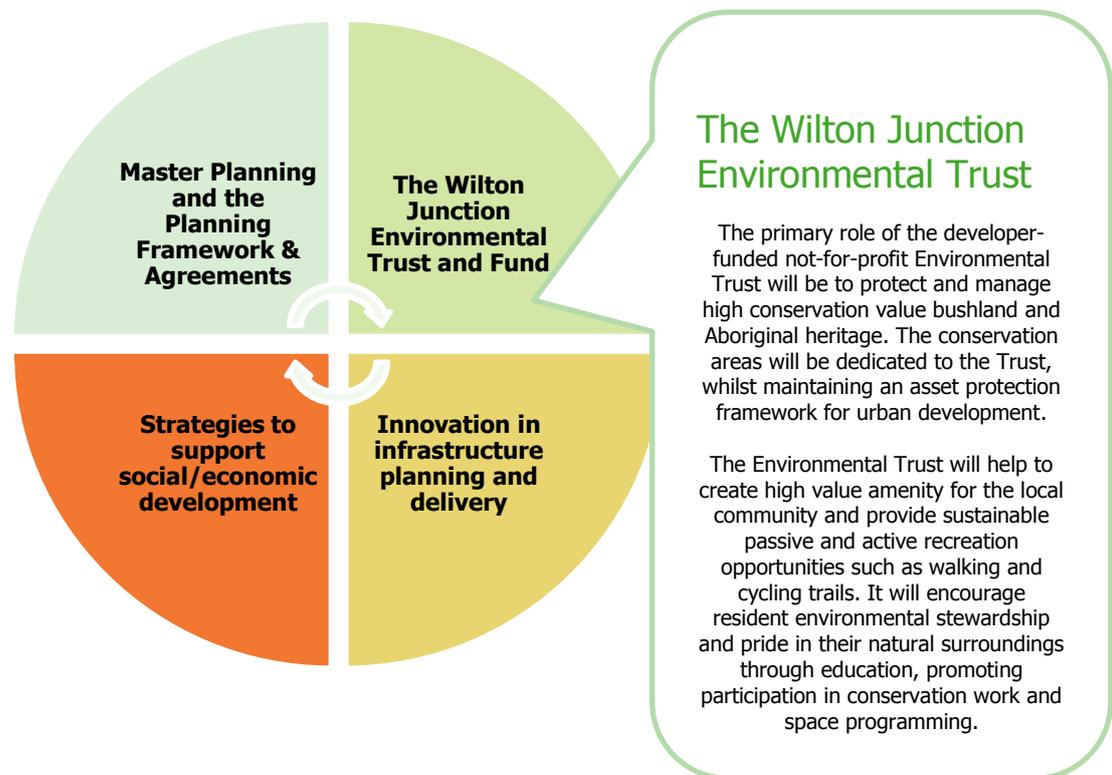
The approach acknowledges and embraces future residents' interaction with the environment. As a result, the whole-of-environment strategy has at its core three key principles:

- » Protect bio-diversity and heritage assets while ensuring sustainable access to the environment for people, build social capacity in environmental issues, and promote environmental stewardship ensuring a quality access to resources for generations to come

- » Place – deliver integrated solutions to develop a robust work and living environment that encourages quality social interaction, economic opportunity and preserves the special qualities of environment
- » People – build the social capacity of the community to access and develop local economic opportunity that make a positive contribution to environmental sustainability and foster quality social interaction and inclusivity.

These key principles for the whole-of-environment approach have been developed to ensure Wilton Junction is a sustainable town which is supported by robust master planning, management of the environmental conservation area through an Environmental Trust and Fund, implementation of innovative infrastructure planning and delivery, as well as strategies to support social and economic development.

Figure 5 Mechanism that will deliver the whole-of-environment approach



3.1 Establishment of an Environmental Trust

Wilton Junction has significant tracts of natural bushland largely along creek and drainage lines. The bushland has high ecological, visual and recreational value that is to be conserved in perpetuity under the proposed Master Plan. An Environmental Trust is to be established to protect and enhance these natural bushland areas. It will be established as a not-for-profit organisation and encourage community stewardship of land resources.

The primary role of the Trust is the protection of natural and Aboriginal heritage resources. It will manage high conservation value bushland within the Study Area whilst maintaining an asset protection framework. Uniquely, the boundaries and responsibilities of the Trust will extend to the centre line of the Nepean River providing a connection between the site’s aquatic and terrestrial environments.

Environmental management responsibilities of the Trust will include rehabilitation, where necessary, of riparian and bushland vegetation, pest and weed control and facilitating water quality monitoring programs. The Trust will allow optimisation of the urban/bushland interface through careful management of any bushfire hazard and maintenance of asset protection zones, while providing a grassland habitat.

The Environmental Trust will also have a wider charter to promote biodiversity and environmental education to the community. This will encourage the transfer of knowledge and skills in environmental care, and will support active participation in and stewardship of bushland sites within the Wilton Junction community.

The Environmental Trust will help to create a high value amenity for the local community, providing passive and active recreation opportunities that are compatible with its primary goal of bushland protection. Ensuring access to the Nepean River and providing bushland walking and cycling trails will assist in building an involved and active community that feels a sense of ownership and pride in their natural surroundings.

Operation of the Trust will be funded by means of investment of the proceeds of a proportion of all property sales made by the developers. In excess of \$25 million will be generated over the life of the development at Wilton Junction¹. There is also an opportunity for the Trust to attract funding from any recreational tourism and educational facilities that may be created from Environmental Trust initiatives. An independent board, incorporating management and technical expertise will oversee investment decisions and funds management. Community participation in Environmental Trust Committees will ensure a sense of stewardship of conservation lands in the community.

3.2 Innovative Infrastructure - Integrated Water Cycle Management

A critical consideration for the Integrated Water Cycle Management Strategy for Wilton Junction is to protect the ecological sustainability of the Nepean River and associated watercourses.

To ensure the quality of receiving waters, a comprehensive water treatment train will be implemented including on-lot, street level and subdivision/development control measures. It is an innovative and state-of-the-art water treatment and recycling process that combines technology with biological methods to ensure that the combined discharge of stormwater and recycled water meets or exceeds water quality and quantity guidelines for the Hawkesbury-Nepean.

The system has been modelled using MUSIC² and the Environmental Trust will facilitate any on-going nutrient load assessment of wastewater and stormwater throughout project planning, construction and occupation.

¹ Based on escalating land values.

² Model for Urban Stormwater Improvement Conceptualisation (MUSIC) is a modelling tool for both simple and highly complex urban stormwater systems using water sensitive urban design. It is intended to help organisations plan and design (at a conceptual level) appropriate urban stormwater management systems for their catchments.

Table 2 Wilton Junction Water Cycle Management Strategy

Treatment stage	Sustainability approach
Construction – sediment control	Erosion and sediment control measures will be implemented in accordance with Wollondilly Shire Council and NSW Government guidelines. Top soil and waste from removal of trees and shrubs on site will be reused as bunds and sediment controls.
On Lot Treatment – Stormwater	Seeking above BASIX compliance with residential water conservation and efficiency will be encouraged through: <ul style="list-style-type: none"> • Implementation of water efficient fittings and appliances • Minimisation of impervious areas through development controls • Provision of rainwater tanks that are connected to internal uses (toilet flushing, clothes washing).
Street Level Treatments - Stormwater	Controlling major point source pollutants through: <ul style="list-style-type: none"> • Placement of gross pollutant traps at all stormwater discharge points. These will provide primary level treatment to remove vegetative matter, free oils, grease and coarse sediments prior to discharge downstream (Secondary and Tertiary) treatment devices. • Liaising with Council regarding best practice street cleaning to maximise removal of particulate matter.
Subdivision/development Treatment - Stormwater	Provision of bio-retention systems to deliver secondary and tertiary treatment of stormwater. These will include: <ul style="list-style-type: none"> • Seventy-six rain gardens³ with a total area 180,900m², supplemented by a detention basin, will be positioned to capture and filter stormwater flows in order to meet nutrient targets and reduce the risk of stream erosion. • Other bioretention elements within the streetscape such as swales and filtration systems will be considered as planning and design for the site progresses.
Subdivision/ development Treatment - Wastewater	Delivery of water treatment and recycling system to provide tertiary level treatment of sewerage. The central sewerage treatment plant (STP) and any temporary STPs will be adjacent to the STP for Bingara Gorge. The water treatment and recycling system will include: <ul style="list-style-type: none"> • Construction of a Central STP to provide a high-level of tertiary treatment of sewage. Initially a temporary STP will be provided until a critical mass is achieved. • Treated effluent will be diffused through a cascade structure and then pumped to a 15ML wastewater 4ha lake for further UV irradiation and evaporation. Water quality will allow treated water to be used for secondary recreation purposes.

³ Rain gardens are garden beds with underlying layers of sand that have been specifically designed to capture and filter stormwater from hard surfaces. These filtration layers and the planted vegetation both slow the rate of stormwater entering drainage systems as well as assist in the removal of pollution, such as nitrogen and phosphorus and fertilisers.

Treatment stage	Sustainability approach
	<ul style="list-style-type: none"> Depending on water quality and requirements it will either be: <ul style="list-style-type: none"> Utilised for irrigation of playing fields, open spaces and verges and dust suppression during construction (when available) Distributed for use in light industry Pumped to the 9 Ha lake for further evaporation and UV irradiation before flowing through additional rain gardens and into the existing drainage system. The final destination of the combined water systems will be the Nepean River.

J. Wyndham Prince - Water Cycle Management Strategy Report

3.3 Planning Frameworks

3.3.1 Waste Minimisation Strategy

There is a goal for Wilton Junction to act as a model for future development by achieving a minimal 'residual' waste stream for the site. The Wilton Junction Waste Strategy will be focused on ensuring that any recyclable materials will be collected and sorted for reuse on site or recycled off-site for re-use in the wider community. It has taken in to consideration the concerns of Wollondilly Shire Council regarding the potential for illegal dumping and desire to avoid additional waste limiting the operational life of its existing waste facility (Bargo Waste Management Facility).

The main facility for recycling waste products from Wilton Junction will be the Spring Farm Advanced Resource Recovery Park and Kemps Creek Organics Processing Facility. Investigation into advanced waste technologies particularly the potential to turn waste into energy will be undertaken as part of future planning for the development.

Table 3 Wilton Junction Waste Management Strategy

Development stage	Sustainability approach	Mechanism/ Responsibility
Construction	<p>Resource recovery of organic and building materials will be maximised through:</p> <ul style="list-style-type: none"> Designing the Master Plan, street grid layout and lot orientation to minimise land clearing and civil work requirements as much as possible. Recycling vegetation and top soil for sedimentation control, biofiltration filters and landscaping works. Deconstructing remnant site materials such as fencing and outbuildings for recycling and reuse. Separating builders waste (such as brick, tile and concrete) for reuse throughout the development and recycling in the wider community. 	<p>Wilton Junction Landowners' Group Inclusion as an objective in the Subdivision DCP</p>
Occupation	Delivering a state-of-the-art waste avoidance	

Development stage	Sustainability approach	Mechanism/ Responsibility
	<p>and recycling strategy based on:</p> <ul style="list-style-type: none"> • Establishing an efficient and safe roadway design that allows for safe waste collection. • Ensuring landscape and streetscape design reduces leaf-litter and sediment from entering roadways. • Utilising street sweeping collectables through composting with garden organics or blending with STP wastes for composting and land application. • Providing a three bin system of general garbage, recyclables and organics for residential waste. Organics will include food as well as garden wastes and be converted into soil conditioner products or anaerobic digestion for energy. • Providing a bulky waste/ clean-up service with metals, timber, e-waste and cardboard recycled, minimising residuals deposited to landfill or waste-to-energy (WtE) processing. • Investigating integration of commercial mixed waste with Council's waste collection and processing contract. • Recycling separated commercial dry waste including timber, cardboard, plastic film, containers and steel to minimise residual waste going to landfill or WtE processing. • Separating out paints, oils, batteries and other chemical wastes through collections days and from mixed waste for separate treatment. 	<p>Wilton Landowners' Group to liaise with Wollondilly Shire Council to develop economically viable and practical solutions</p>

EC Sustainable Wilton Junction Waste Management Strategy

3.3.2 Climate Change Adaptation and Mitigation

The NSW Government undertook a collaborative study titled '*Climate change and its impacts on water supply and demand in Sydney*' in partnership with the Commonwealth Department of Climate Change and Energy Efficiency, the University of New South Wales and the CSIRO. The final report was released in November 2010. While there is still some uncertainty with climate change models, the report indicated that it is likely that Western Sydney will be particularly affected by increased heat waves (days over 35°) and decreased rainfall.

This report emphasises the importance of incorporating water efficiency and recycling measures as part of the development of Wilton Junction. It also highlights the need to deliver bushfire protection planning and a hazard reduction regime including maintaining asset protection zones (APZ) as a key management responsibility of the Environmental Trust.

The Environment Trust will also provide education programs to encourage builders and new residents to implement residential energy and water efficiency measures. The Trust would also

provide information on climate change and the importance of understanding the implications for Wilton Junction into the future.

There are a number of integrated sustainability measures that have been considered by the Wilton Junction Landowners Group to address climate change adaptation and to reduce greenhouse gas emissions.

Table 4 Wilton Junction climate change adaptation and mitigation initiatives

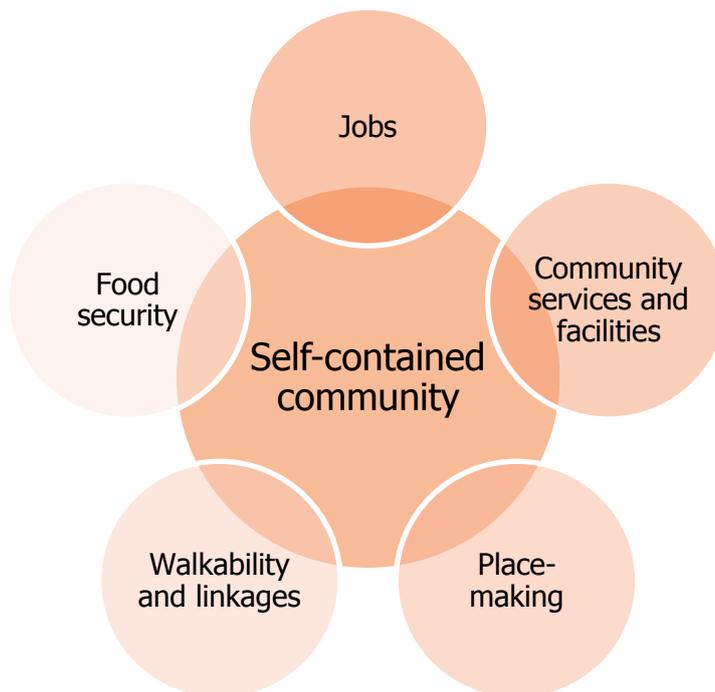
Development stage	Sustainability initiatives	Mechanism/ Responsibility
Construction	Designing the Master Plan to respond to the topography ensuring street grid layout and lot orientation minimises land clearing, earthworks and civil work requirements where possible.	Consideration of subdivision pattern Inclusion as an objective in the Subdivision Section of the DCP to be prepared by WJLG
	Ensuring lot orientation maximises passive solar design opportunities.	Consideration of subdivision pattern Inclusion as an objective in the Subdivision Section of the DCP to be prepared by WJLG
	Utilising local materials for civil and construction works to reduce energy transport costs.	Wilton Junction Landowners' Group where economically feasible
	Utilising recycled water in construction works and dust suppression.	Wilton Junction Landowners' Group will include recycled water use in Construction Management Plans where recycled water is available.
	Utilising recycled and low-embodied energy materials such as coal wash in road and footpath construction.	Wilton Junction Landowners' Group where economically feasible
	Designing stormwater and wastewater management and treatment systems to take into account potential increased storm events and drought periods.	Wilton Junction Landowners' Group propose the development of the integrated water cycle management system to facilitate better outcomes in drought and storm events.
	Installing energy efficient lighting for the public domain.	Inclusion as an objective in the Subdivision Section of the DCP to be prepared by Wilton Junction Landowners' Group
	Selecting streetscape plantings to include shading and urban cooling outcomes.	Inclusion as an objective in the Subdivision Section of the DCP to be prepared by Wilton Junction Landowners' Group
Occupation	Reducing potable water demand through the use of recycled water for parks and verges and for light industry.	Wilton Junction Landowners' Group propose an integrated water cycle management system to achieve these objectives
	Encouraging residential water and energy efficiency through:	Wilton Junction Landowners' Group will:

Development stage	Sustainability initiatives	Mechanism/ Responsibility
	<ul style="list-style-type: none"> • Efficient appliances and fixtures • Housing siting, design and landscaping (focus on passive lighting, cross ventilation and insulation) • Buildings materials selected with low embodied energy and high content recycled material • Rainwater tanks for indoor and outdoor use • Natural gas and renewable energy systems • Uptake of Green Power throughout the development. 	<p>Demonstrate sustainability principles and technology in exhibition villages.</p> <p>The Environmental Trust, with a developer-led funding arrangement, will provide education campaigns on environmental issues including resource efficiency.</p>
	<p>Encouraging reduced private vehicle use through:</p> <ul style="list-style-type: none"> • Safe and efficient pedestrian and cycle off-road networks and shared road networks • Local business synergies to decrease personal journeys to work, attracting businesses to reside in Wilton Junction and encouraging home-based employment through high speed IT connectivity • Higher car occupancy rates and reducing car ownership including utilisation of intranet car-pooling • Bus networks both internal to Wilton Junction and to key external destination sites and transport nodes. 	<p>Wilton Junction Landowners' Group have included pedestrian and cycle off-road networks in Master Planning and funding via development contributions for the site.</p>
	<p>Provision of environmental education resources including Sustainability Welcome Kit to new residents.</p>	<p>Wilton Junction Landowners' Group will provide Sustainability Welcome Kits</p>

3.4 Self-containment approach – Strategies to support to support social and economic development

A major aspect of the sustainability vision for Wilton Junction is delivering a self-contained town that provides employment and social services and facilities for residents and the wider Wollondilly community. It will not be a satellite suburb for Greater Sydney but will have its own identity and sense of place based on a strong community fabric and a town centre that is a focal point for jobs and activities.

Figure 6 Self-Containment Approach



Key elements of this approach include:

3.4.1 Economic Development and Employment Strategy

Wilton Junction's economic strategies are intended to deliver a stand-alone township that can support a significant share of residents' employment and service needs and to trade beyond its borders. The Wollondilly Community Strategic Plan (2013) identifies that currently over a quarter of Wollondilly residents live and work in the area and that, in the last census (9 August 2011), approximately 5.2% of the working population worked at home.

Job creation will necessarily be a staged process in line with the development of the town. However, the Wilton Junction Landowners Group has prioritised early provision of employment lands and identification of employment initiators in the master planning process. There is a strong commitment to take advantage of its locational advantage at the cross-roads of the Hume Highway and Picton Road to capitalise on the transport and logistics economy and attract other businesses that can benefit from access to the Sydney, Wollongong and Sydney-Canberra corridor markets. An on-going challenge in generating employment opportunity and growth in Wilton Junction is the lack of public transport infrastructure in the area as well as the low population base.

In order to respond to the challenge of creating jobs in a new development, the Wilton Junction Landowners Group is undertaking the following:

- » Early delivery of employment land with a focus on clean enterprises, light industry (particularly transport and logistics) and food and agricultural processing.
- » A focus on a mixed-use town centre promoting enterprise, with co-locational employment opportunities.
- » Connect with the existing populations at Wilton Junction and Bingara Gorge to identify employment opportunities and service gaps.
- » Creating attractors for new 'external industry' tenants to relocate at Wilton Junction through affordable and spacious floor spaces and provision of high-end telecommunication services.

- » Securing the continued roll-out and availability of the National Broadband Network (NBN) (or equivalent technology) and development of a digital enterprise capacity program.
- » Sector-specific and employment strategies with target industries with a specific focus on green, service, transport and agri-business enterprises.
- » Working with government and private industry partners to encourage catalysing employment projects such as:
 - > District medical and allied health services
 - > National distribution facilities
 - > Data centre
- » Promoting home-based employment opportunities through:
 - > Lot size and built form design/flexibility
 - > Advocating for the early delivery of high-end telecommunication services.
- » Establishing a small/home business incubation centre (could be allied with the community centre/ sales office) with access to essential resources and financial advice for business start-up.

3.4.2 Community development and place making

Social sustainability is rarely achieved through imposing a set of predetermined initiatives or programs but instead is best catalysed by providing the governance structure and resources for new residents and the existing community to collaborate and work together. An incremental process that relies on genuine engagement with stakeholders ensures that eventual strategies will better incorporate and respond to the priorities of the new community and the needs identified by local service organisations and Council. A Community Development Plan will work to develop residents and existing service organisation partnerships to create community building events and programs.

Building the foundation for a community entails early engagement from the design phase of the project. The Wilton Junction Landowners Group has already undertaken extensive consultation with local stakeholders and is committed to ongoing engagement as the development proceeds. Early discussions with Council and the existing community at Bingarra Gorge and Wilton have already identified the following priorities for community development and place making:

- » Effective integration and linkages (physical and social) between the new development and the existing township of Wilton and Bingarra Gorge.
- » Early provision of adaptable, multi-purpose community facilities from the first stage of development including co-location with recreation, retail and employment activities.
- » Co-location of a community hub (a multipurpose public gathering and activity centre) with the town centre to formally and informally address community needs. It should be designed to integrate a range of activity generating uses including community and cultural facilities, shops, transport, parks and plazas. This could also incorporate space for a business enterprise start-up/educational hub.
- » Development of a vibrant, mix-use town centre with a range of retail, entertainment, commercial and service offerings.
- » Creating well-designed public spaces for each neighbourhood that are safe, accessible and promote community interaction and ensuring residents have equitable access to essential services and community facilities.

- » Providing defined and safe pedestrian links throughout the development and supporting links with surrounding transport networks.
- » Creating a unique identifier for Wilton Junction through the connections between the natural bushland surroundings and the urban residential environment. The proposed Environmental Trust will be an important tool in encouraging a sense of place for the community based on respect and care for its natural values and landscape attributes.

Provision of high-level social infrastructure will be an essential component of delivering a sustainable town and promoting self-containment for the new community at Wilton Junction. These would include:

- » Community facilities provided by Wollondilly Council in partnership with the Wilton Junction Landowners' Group and/or service organisations including child care centres, community centres, sporting fields and parks, and a regional library.
- » Services and facilities provided by State Government such as schools, health centres and emergency services (Police, Fire and Ambulance)
- » Service and facilities provided by non-profit and private organisations including private schools and nurseries, health services and recreational facilities.

3.4.3 Sustainable Transport Strategy

The Wilton Junction Landowners Group has set the strategic target of achieving a 10% mode share for public transport. This is a challenging figure given the relatively lack of access to and use of public transport in Wollondilly Shire, largely as a result of the low density of land use and long distances to destinations. Public transport is just one aspect, however, of a broader transport strategy that seeks to reduce car dependency in future residents.

The guiding principles of the Wilton Junction Sustainable Transport Strategy are:

- » Develop a self-sufficient township maximising services and jobs to reduce trip numbers and length.
- » Accommodate and provide work-from-home opportunities.
- » Integrate land uses to limit trip generation and vehicle movements, including providing higher density development at transport nodes and along bus routes.
- » Develop an urban form and land uses that support non-vehicle travel modes (such as walkable neighbourhoods that are compact and contain a range of essential services).
- » Design pathways and roads to be safe and efficient active and public transport networks.
- » Early delivery of public transport services and infrastructure to establish and reinforce sustainable transport habits.
- » Ensure multi-modal integration with accessible bus routes, and stops connected to the cycling and pedestrian network.

3.4.4 Local food production

Agriculture and associated industries have traditionally been significantly represented in Wollondilly Shire. While much of Wilton Junction is currently zoned rural lands however, agricultural capability statement suggests the Class 3 and 4 nature of land is not viable for significant agricultural productions. However, the proposed township will be surrounded by agricultural and rural lands. Encouraging and supporting viable agricultural industries in the region is a high-level goal for Wollondilly Shire Council (see Community Strategic Plan 2033) and is an objective that the Wilton

Junction Landowners' Group is embracing as part of its overall economic development strategy. By promoting agribusiness opportunities within Wilton Junction, and providing improved freight and logistics infrastructure, Wilton Junction can ensure local agricultural products can efficiently reach markets including overseas via Port Kembla. As such, Wilton Junction is likely to increase the viability of agricultural production within the hinterland of the new town.

Wilton Junction also provides a significant opportunity to ensure residents have equitable access to healthy, local foods. Awareness of the importance of healthy and sustainable food production and food security is growing as obesity levels rise and the energy and water costs of growing and transporting conventional food is better understood.

The **Heart Foundation** has commissioned a resource - *Food Sensitive Planning and Urban Design: A conceptual framework for achieving a sustainable and just food system*⁴. It identifies how food can be integrated into urban land use and development. The key elements of this framework will be considered in the design and development of Wilton Junction including:

- » Encouraging urban agriculture, productive community gardens and identifying appropriate locations for productive street trees.
- » Providing information, skills and resource to the community to support growing food at home.
- » Celebrating and growing a local food culture and economy including providing the space for a local farmers market and supporting Wollondilly Harvest Experience and Wollondilly Farmgate.

3.5 Affordability

Wilton Junction will create a sustainable, affordable community to meet Sydney's growing housing supply shortfall. With only three major landowners, who are prepared to work together to design a high quality master plan and supply integrated services and infrastructure for the development, significant operational efficiencies can be delivered. The ownership structure and Heads of Agreement also ensure a more streamlined planning and decision-making process. These advantages will assist the landowners and developers to bring much-needed affordable housing product to the Sydney market.

Housing:

Wilton Junction will provide a wide range of lot sizes from medium density within the town centre and along transport corridors to rural residential in more peripheral locations. Distinct neighbourhoods will ensure that all lots have access to essential services and facilities.

While there will be a focus on family housing, there will also be a push to allow aging in place, including provision of retirement living products and aged care accommodation (over-time). There will also be encouragement of flexible finance options and adaptable design to support a range of affordable products and lifestyle needs.

A key to housing affordability is minimising lifetime costs of service provision and maintenance through encouraging sustainable design criteria. This includes passive solar access, cross-ventilation, insulation and natural lighting to reduce operational energy costs.

Infrastructure:

The Wilton Junction Landowners Group will prepare coordinated service plans and explore opportunities to share facilities costs with Federal, State and local government and infrastructure agencies. Infrastructure costs will also be minimised through ensuring that infrastructure is sized

⁴ www.heartfoundation.org.au/driving-change/current-campaigns/local-campaigns/Documents/HF-FSPUDFULL-LRFINAL_weboptimisedversion.pdf

for timely use, but phased in according to development staging and needs. Design of infrastructure will also recognise long-term maintenance and operational implications, including the potential implications of climate change.

4 Implementing sustainability initiatives

Sustainability initiatives are identified which, when implemented, will meet the project vision and principles. Initiatives reflect interrelated social, environmental and economic sustainability criteria and respond to the United Nations Environment Program's (UNEP) 'Melbourne Principles for Sustainable Cities' (see Chapter 2: Wilton Junction Sustainability Commitments) and other identified ESD principles.

Initiatives have been identified for each stage of the project: planning and design, construction and occupation. Careful analysis and consultation with the project team and external stakeholders will ensure that any sustainability initiatives implementation will meet the required benchmark of being practical, affordable and backed by programs that facilitate on-going community education and stewardship.

Each benchmarking principle has been described in more detail as follows:

Practical – all sustainability initiatives will meet the desired sustainability outcomes, are deliverable by the project team, are proven and are measurable.

Affordable – each sustainability initiative has been assessed to ensure that it does not compromise the commercial viability of the project, that it provides value for money and importantly does not jeopardise housing affordability.

On-going community education and stewardship – the Environmental Trust's charter will meet the NSW Government's offset principles for major projects and ensure on-going community education regarding a wide range of sustainability issues to encourage environmental stewardship.

A further Sustainability Strategy will be developed at development assessment stage to guide the implementation of sustainability initiatives.

5 Ecologically Sustainable Development Assessment

The Wilton Junction proposal and the ESD commitments have been assessed in terms of the sustainability principles as described under the NSW Local Government Act, Wollondilly Shire Council and UNEP Principles. The environmental and social justice principles include:

- » Long-term vision - Provide a long-term vision for settlement based on: sustainability; intergenerational, social, economic and political equity;
- » Intra-generational and intergenerational equity - fairness in how resources are distributed within this generation and between this and future generations;
- » Precaution - actions which have the potential to harm our environment should not be undertaken if the consequences are uncertain and the science inconclusive;
- » Regeneration, bio-diversity and ecological diversity - working to protect and restore the earth's ecological integrity, biological diversity and natural processes. The conservation of biological diversity and ecological integrity should be a fundamental consideration;
- » Resource efficiency and innovative technology – Enabling communities to minimise their ecological footprint. Promoting sustainable production and consumption, through appropriate use of environmentally sound technologies and effective demand management;
- » Economic and Social Security - achieve long-term economic and social security;
- » Improved valuation, pricing and incentive mechanisms— that environmental factors should be included in the valuation of assets and services;
- » Engagement - the recognition that sustainability will happen faster if local communities become champions of sustainability and are involved in the decisions affecting sustainability. Empower people and foster participation;
- » Sharing - working with others to share resources and knowledge and to promote sustainability;
- » Equity – Striving for the fair distribution of resources with a particular emphasis on protecting those people who are considered vulnerable;
- » Access – Providing all people with opportunities to use relevant services and facilities regardless of their circumstances;
- » Participation – Encouraging and providing opportunities for people to take part in decision making processes that impact on their quality of life. Expand and enable cooperative networks to work towards a common, sustainable future;
- » Rights – People should not be discriminated against and everyone is entitled to honesty, information and involvement;
- » Governance – People deserve responsible governance and fair and accountable decision-making. Enable continual improvement, based on accountability, transparency and good governance.

A table outlining the achievements of the proposal's whole-of-environment approach in terms of meeting the principles is provided below.

Table 5 Balancing bio-diversity, heritage and the need for housing and employment

Whole-of-Environment Objectives	Whole-of-environment Mechanisms	ESD Principles Achieved
<p>Protect</p> <p>Meet the “improve and maintain” principles of environmental conservation and provide an economically sustainable management model</p> <p>Ensure the protection of Aboriginal heritage</p> <p>Protect assets from bushfire threat</p>	<p>Master planning and planning: delivers approximately 615 ha, including major rivers and creeks, to be preserved in perpetuity with the Wilton Junction Proponents providing 475 ha</p> <p>avoids urban development of key Aboriginal and non-indigenous heritage conservation areas</p> <p>Environmental Trust will: deliver in perpetuity funding to rehabilitate and manage conservation lands meeting the <i>NSW Biodiversity Offset for Major Project</i> principles</p> <p>provide a management and protection framework for Aboriginal heritage</p> <p>manage Asset Protection Zones to minimise bushfire threat and promote habitat for grassland dwelling fauna</p> <p>Innovative Infrastructure will: ensure the stormwater and sewage effluent treatment train provides habitat and resources for native biota and maintains quality environmental flows (described in water cycle management below)</p> <p>provides a reticulated water system for fire fighting efforts</p>	<p>Regeneration, bio-diversity and ecological diversity</p> <p>Inter-generational equity</p> <p>Improved valuation, pricing and incentive mechanisms</p> <p>Equity</p> <p>Resource efficiency & Regeneration, bio-diversity and ecological diversity</p> <p>Regeneration, bio-diversity and ecological diversity</p> <p>Resource efficiency</p>
<p>Place</p> <p>Celebrate and create sustainable access to natural assets</p> <p>Celebrate key indigenous and non-indigenous heritage items</p>	<p>Environmental Trust will: promote sustainable use of conservation lands through walking and cycling trails and leisure uses of the Nepean River</p> <p>explore and develop opportunities to highlight Aboriginal heritage while ensuring its protection</p> <p>Master Planning and Planning provides quality connections between the urban environment and natural assets</p>	<p>Access</p> <p>Engagement & Rights</p> <p>Access</p>
<p>People</p> <p>Promote healthy lifestyles and highly accessible leisure opportunities</p> <p>Enhance community sustainability capacity and environmental stewardship</p> <p>Encourage indigenous participation</p>	<p>The Environmental Trust will: develop place programming to encourage people to participate in the sustainable leisure opportunities</p> <p>develop programs to encourage resident participation in the care and management of conservation lands</p> <p>Employment Strategy/Environmental Trust will: build on consultation already conducted with Aboriginal groups, to celebrate</p>	<p>Access & Participation</p> <p>Engagement</p>

Whole-of-Environment Objectives	Whole-of-environment Mechanisms	ESD Principles Achieved
Providing affordable housing and co-locating employment opportunities	<p>Aboriginal heritage providing a platform for potential indigenous tourism ventures</p> <p>Master Planning and Economic Strategy: has avoided over 93.4% of 'good to moderate' bio-diversity resources but will provide affordable housing for approximately 35,000 people. By including a full range of employment land – town centre, industrial, bulky goods and so forth – ensure the co-location of residential, employment goods and services to minimise the need for commuting.</p>	<p>Rights & Engagement</p> <p>Intra and Inter-generational equity</p>

Table 6 Waste, waste water and stormwater ESD assessment

Whole-of-Environment Objectives	Whole-of-environment Mechanisms	ESD Principles Achieved
<p>Protect</p> <p>Ensure environmental flows are maintained and not adversely impacted by urbanisation</p> <p>Minimise erosion</p> <p>Ensure the water quality of environmental flows</p> <p>Conserve water resources</p> <p>Minimise waste generation</p> <p>Add to the habitat resources available to biota</p> <p>Minimise waste generation</p>	<p>Innovative infrastructure will:</p> <p>deliver environmental flows with water quality meeting pollutant loading rates in the Draft MUSIC Guidelines (SCA, 2010)</p> <p>treated water resources are used for the watering of playing fields and other open spaces to conserve water resources</p> <p>spreader water technology minimises rapid urban runoff that promotes erosion</p> <p>features such as the rain gardens and the tertiary treatment lakes provide habitat for biota</p> <p>investigate potential of bio-solids from sewerage treatment for "off-site" waste to energy</p> <p>provide a best practice management where all organic material is co-mingled (food and green waste) for composting processes to return to natural cycles in addition to dry recyclables processing</p> <p>Master planning and planning</p> <p>include DCP provisions to minimise impervious urban surfaces to minimise run-off</p>	<p>Resource efficiency and innovative technology & regeneration, bio-diversity and ecological diversity</p> <p>Resource efficiency</p> <p>Resource efficiency and technological innovation</p> <p>Regeneration, bio-diversity and ecological diversity</p> <p>Resource efficiency & technological innovation</p> <p>Resource efficiency & technological innovation</p> <p>Regeneration, bio-diversity and ecological diversity</p>
<p>Place</p> <p>Provide a scenic focal point for the township</p> <p>Provide a quality urban landscape</p>	<p>Master planning and planning</p> <p>utilises the lake as a focal point for aquatic leisure uses and adjacent mixed use development fosters social interaction</p>	<p>Access & Participation</p>

Whole-of-Environment Objectives	Whole-of-environment Mechanisms	ESD Principles Achieved
	Innovative infrastructure – the near 150,000m ² of rain gardens add to the habitat diversity and quality of the landscape	Regeneration, bio-diversity and ecological diversity
<p>People</p> <p>Build community capacity to minimise the production waste outputs</p> <p>Ensure social behaviour does not undermine environmental systems</p> <p>Provide recreational activities</p> <p>Provide social and economic opportunities</p>	<p>Environmental Trust will:</p> <p>provide educational programs optimising waste minimisation strategies</p> <p>raise awareness of the integrated water management system to encourage behaviour that optimises outcomes</p> <p>Innovative infrastructure - The 9ha lake will be of sufficient water quality to allow secondary contact.</p> <p>Master Planning - The lakeside mixed use precinct provides social interaction and economic opportunities</p>	<p>Engagement</p> <p>Engagement</p> <p>Access</p> <p>Economic and social security</p>

Table 7 Air Quality, Transport and Minimising Greenhouse Gas Emission to achieve the Whole-of-Environment Approach

Whole-of-Environment Objectives	Whole-of-environment Mechanisms	ESD Principles Achieved
<p>Protect</p> <p>Minimise greenhouse gas emissions</p> <p>Minimise emissions from vehicles to minimise adverse air quality</p>	<p>Infrastructure and Planning Framework</p> <p>provision of gas for heating and hot water reducing emissions compared to standard electricity appliances or systems⁵</p> <p>advocate for the early introduction of the high speed telecommunications to capitalise on work-from-home opportunities reducing commuting</p> <p>Transport Strategy</p> <p>make provision for public transport to encourage sustainable transport practices and linking in with rail services</p> <p>Employment Strategy</p> <p>deliver a high level of employment self-containment minimising commuting</p> <p>Master planning and planning will:</p> <p>develop a quality cycling and pedestrian network and promote connectivity between land uses</p> <p>facilitates efficient traffic movement that minimise vehicular movement inefficiencies</p>	<p>Resource efficiency and technological innovation</p> <p>Economic and social security</p> <p>Resource efficiency</p> <p>Economic and social security</p> <p>Resource efficiency</p> <p>Access</p>

⁵ There are some highly efficient electricity run systems such as heat pump hot water

Whole-of-Environment Objectives	Whole-of-environment Mechanisms	ESD Principles Achieved
	<p>maximise lots oriented to deliver quality solar access to homes to increase the benefits of solar mass in retaining warmth in winter</p> <p>incorporate features in the DCP to encourage sustainable home design (e.g. window shading mechanisms, cross-flow ventilation) suitable for the climate</p> <p>provide a green innovation demonstration village to promote adoption of sustainable home design and features</p>	<p>Resource efficiency</p> <p>Resource efficiency</p> <p>Engagement & resource efficiency</p>
<p>Place</p> <p>Provide a walkable and cycle-friendly town centre environment</p> <p>Provide local employment opportunities to avoid commuter traffic</p> <p>Minimise unnecessary emissions from traffic</p> <p>Promoting work at home opportunities and local small/medium enterprise</p> <p>Provide local leisure and entertainment opportunities</p> <p>Provide a high level of social infrastructure</p> <p>Support local food production</p>	<p>Master planning and Planning will:</p> <p>deliver an urban form and land uses that support non-vehicle travel modes (such as walkable neighbourhoods that are compact and contain a range of essential services)</p> <p>co-locate employment and residential land uses to promote non-vehicular transport</p> <p>deliver lot size and built form design/flexibility to accommodate work-from-home/small enterprise arrangements</p> <p>utilise integrated water management strategy lake features to form a focal point for leisure and entertainment</p> <p>Environmental Trust will:</p> <p>utilise conservation lands to deliver sustainable recreation opportunities</p> <p>Employment Strategy will:</p> <p>develop partnerships with key agricultural research organisations to further develop agri-business, promoting local food production in the region and protect the surrounding rural character</p>	<p>Access</p> <p>Resource efficiency</p> <p>Economic and social security</p> <p>Economic and social security & resource efficiency</p> <p>Economic and social security</p> <p>Access</p> <p>Economic and social security</p>
<p>People</p> <p>Increase resident awareness of emissions reduction strategies</p> <p>Provide access high quality services to serve Wilton Junction residents and the wider Wollondilly region</p> <p>Increase people's capacity to start and manage local business opportunities</p> <p>Build capacity of people to access or develop local employment opportunities</p>	<p>Master Planning and Planning Frameworks will:</p> <p>provide an energy and water efficient display home village that highlights the benefits to promote adoption of Green Smart Certification</p> <p>deliver a range of affordable employment lands to encourage local enterprise</p> <p>The Environmental Trust will provide on-going educational campaigns to encourage resident to reduce emissions and encouraging Green Smart Building Certification</p>	<p>Engagement</p> <p>Economic and social security</p> <p>Engagement</p>

Whole-of-Environment Objectives	Whole-of-environment Mechanisms	ESD Principles Achieved
	<p>Social infrastructure and employment strategies will encourage high level provision of local services for both residents of Wilton Junction and increase access local services for the entire Wollondilly region</p> <p>Employment Strategy will: deliver a business start-up program/small business incubation hub through building quality partnerships</p>	<p>Access & Economic and social security</p> <p>Economic and social security</p>

5.1 Assessment against the Wollondilly Shire Community Plan

A summary of how Wilton Junction new town proposal is consistent with the Wollondilly Shire Community Plan is provided below.

Table 8 Consistency with Wollondilly Shire Community Plan

Strategy	Comment
Community	
CO1: Community Building, Well-being and Identity	A range of community services and facilities including community centres, libraries, child care centres, schools and health centres will be provided to strengthen the capacity, well-being and cultural identity of the new community.
CO2: Working with Others	Detailed conversations will be had with local agencies and service providers to deliver community programs, services and facilities at detailed Development Application stage.
CO3: Social Planning	An assessment and analysis of the required social infrastructure has been undertaken by Elton Consulting in the <i>Social Infrastructure Assessment Report</i> .
CO4: Engagement and Communication	An extensive community engagement program has been implemented during the design phase of the preferred Master Plan to listen to and respond to the needs and concerns of the local community.
Environment	
EN1: Biodiversity Resilience	The establishment of the Environmental Trust will facilitate the protection and conservation of biodiversity and natural resources, including areas of natural bushland, the riparian corridors and existing waterways.

Strategy	Comment
EN2: Growth Management	The Water and Wastewater Strategies promote the sustainable use of water resources and the recycling and re-use of water through a filtration process utilising the proposed lake system.
EN3: Development Assessment	Additional provisions need to be included within both the Wollondilly LEP and the Wollondilly DCP to regulate the future development of Wilton Junction.
EN4: Environmental Responsibility	The education and promotion of the relevant legislative environmental responsibilities will be included within the remit of the Environmental Trust.
EN5: Auditing, Monitoring and Enforcement	The entering of a Voluntary Planning Agreement between the Proponents and the state will enable the outcomes to be monitored
EN6: Waste Management	The proposed Waste Management Strategy seeks to convert waste materials into resources and minimise the amount of materials being placed into landfill. This Strategy will benefit the environment by reusing and recycling materials at the first instance.
EN7: Sustainable Living	A Community Development Plan will be developed to facilitate community building events and programs for existing and future residents and existing and future service organisations.
Economy	
EC1: Economic Development	A major aspect of the sustainability vision for Wilton Junction is aiming for a self-contained town that provides employment and social services and facilities for residents and the wider Wollondilly community. To achieve this, the provision of employment lands is a priority.
EC2: Planning for and Supporting Business	Wollondilly's economic base will be strengthened and diversified through the creation of 120-130 ha of employment and retail lands offering many businesses an opportunity to locate to Wilton Junction.
EC3: Manage Growth	The creation of a diverse range of permissible uses within the employment lands will encourage and enable the management of growth to cater for the needs of the current and future population of the Wollondilly LGA.
EC4: Managing Development and Land Use	One of the key principles behind the proposed rezoning is to provide a sustainable community where people can live, socialise and work. The

Strategy	Comment
	proposed rezoning would be developed in stages that will facilitate a steady rate of construction so that both residential and employment-generating lands are developed concurrently and systematically to create a fully functional new town.
EC5: Protect Natural Resources	Significant natural bushland and Aboriginal and non-indigenous heritage sites, items and relics will be preserved and protected in the preferred Master Plan with an appropriate Bio-diversity Protection Overlay in planning instruments.
Infrastructure	
IN1: Maintain Road Network	<p>The existing road network, located within and surrounding the Study Area, will for the most part be upgraded and improved to accommodate the proposed increase in use by private cars, public transport (buses) and freight. Roads and intersections which will be improved include:</p> <ul style="list-style-type: none"> ▪ Hume Highway and Picton Road interchange; ▪ Picton Road will become 2 laneways in each direction; and ▪ New grade separated crossing at Almond Street and Jinderra Lane. <p>These works will improve road safety and transport choices for the future residents of Wilton Junction.</p>
IN2: Manage Road Network	
IN3: Provision of Facilities	<p>The proposal seeks to provide:</p> <ul style="list-style-type: none"> ▪ 30 ha of active open space; ▪ 33 ha of passive open space; ▪ 10 ha of district open space; ▪ District community hub with a multi-purpose community centre and library in the town centre; ▪ An aquatic/gym/indoor sports centre near the town centre, school or lake; and ▪ 2 x community centres in the neighbourhood centres. <p>These facilities will meet the recreation needs of the community.</p>
IN4: Emergency Management	<p>Consultation has been undertaken with the following agencies to gain an understanding of their future requirements to ensure that Wilton Junction is equipped for any future emergency:</p> <ul style="list-style-type: none"> ▪ South Western Sydney Local Health District

Strategy	Comment
	<p>regarding the establishment of an Integrated Primary and Community Care Centre;</p> <ul style="list-style-type: none"> ▪ Police Property Group regarding a police station; ▪ Ambulance Service of NSW regarding an ambulance station; ▪ Fire and Rescue; ▪ State Emergency Services; and ▪ Rural Fire Services.

The Wilton Junction new town will feature a strong whole-of-environment approach to meet ecological sustainable Development principles and deliver a strong participatory and social justice framework. The Wilton Junction Landowners' Group commits to refining sustainability strategies as part of further planning work and at development assessment stage. It will also work with Council to ensure strategies link with Council's integrated reporting mechanisms.



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