

STRATEGIC FRAMEWORK PLAN

Mildura East Growth Area

PREPARED BY HANSEN PARTNERSHIP | AUGUST 2024



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DOCUMENT CONTROL			
VERSION	**DATE ISSUED**	**BY**	**COMMENT**
A	09.10.2023	JK	Preliminary Draft for internal council review
B	04.04.2024	JK	Exhibition Draft
C	02.08.2024	JK	Final

INTRODUCTION

Hansen Partnership has been engaged by the Rural City of Mildura to prepare a strategic framework for the future growth and development of the land identified as the Mildura East Growth Area (MEGA). Additional specialist expertise has been provided by SGS Economics and Planning and E2Designlab.

This is the third in a series of reports which have been prepared to help shape the future of this area.

The contents of this document have been informed by a wide range of influences, including background analysis and engagement with both key stakeholders and the community. Figure 1 below identifies where we are in this process.

This document provides a further level of detail to the Vision and Key Directions Report which has been adopted by Council. As such, key aspects of this report have been agreed, and the focus of the report is on how these might be implemented - providing the detail needed to ensure the 'vision' which is repeated within this Plan is given effect over time. It is however, not the 'end point', and provides only the strategic 'framework' which will inform more detailed planning for different parts of the Mildura East Growth Area, as they develop over time.

WHAT IS THE MILDURA EAST GROWTH AREA?

The Mildura East Growth Area relates to 1,050 hectares of land to the southeast of the settled extent of Mildura, encompassing the land between Mildura and the townships of Irymple and Nichols Point (see Figure 3 overleaf).

While nominally a 'farming area' as a result of its primary zoning, the land contained within the growth area is more accurately described as having a rural-residential settlement pattern, with denser development on subdivided lots along the key corridors of Eleventh Street and Fourteenth Street. While a substantial proportion of the land remains under vine, anecdotal evidence suggests only a small proportion of the vines in the area are part of larger scale farming ventures. The area has a complex and contested history. This project represents the first holistic consideration of the future development of this area

The *Mildura Housing and Settlement Strategy* (MHSS, 2014), which has informed the Mildura Planning Scheme, identified that there was a need for the future of this area to be resolved. It also identified that there may be benefit more broadly, of considering a second development 'growth' front to support a diversity of development, considering the wider 'main urban area' as shown in Figure 2. This recognises that the MEGA does not operate in isolation but sits within a cluster of settlements, which must all be considered in determining the future of this area.

It is noted that the project is also providing guidance in relation to a separate parcel of land close to the Mildura Marina on Cureton Avenue, but that land is not subject to this report. A separate Memo providing recommendations on this matter is being prepared concurrently.

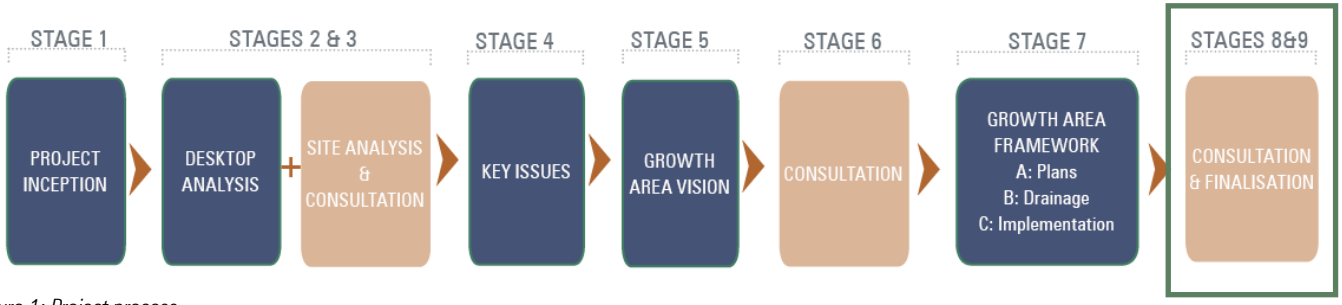


Figure 1: Project process



Figure 2: Mildura 'main urban area' (source: MHSS)

WHY IS A FRAMEWORK NEEDED?

As a result of the issues identified above and outlined in more detail in the *Vision & Key Directions Report,* the area has been subject to considerable development pressure over time and the development of a Framework Plan for the area can achieve a number of important outcomes, including:

- It will **provide clarity to landowners** within the area as to the potential timeframes for any development in the area. While this may not align with the ambitions of all landowners, it will nonetheless allow them to make their own plans with a greater understanding of what will occur in the area.
- It will **support those who do wish to pursue ongoing agricultural production** in the area in understanding where residential development is likely to occur and over what time periods, as well as infrastructure providers such as Lower Murray Water.
- It will ensure that the location and staging of development **aligns with where drainage infrastructure can be provided** in an effective and affordable manner, mitigating some barriers to development.
- It will provide a clear picture of land use and activity in the area, and **allow for the early planning of services, facilities and linkages** to ensure a well serviced and connected community in the future.
- Importantly, it will look to provide some clear guidance around how the area can develop in a more sustainable manner, particularly setting in place 'key moves' designed to **increase the amount of canopy vegetation** in the area in advance of new development, increasing climate resilience.
- It can **provide some resolution to areas which have been subject to ongoing contention**, such as the Mildura Irymple 'interface area'.

WHAT'S IN THE FRAMEWORK REPORT?

In addition to this introductory section which provides a high level overview of background and context, this document is structured around three sections.

The first section (Part A) contains the Framework Plan, which builds on the *Vision & Key Directions Report* which was adopted by Council in July 2022. It includes the overarching Vision for the area, and then a series of thematic Frameworks addressing:

- Land Use, Activity & Interfaces
- Development and Drainage
- Landscape and Environment
- Access & Movement

Each of these themes contains a brief introduction, a spatial plan and a series of objectives and strategies. Where relevant additional detail or discussion has been provided, for example, on development staging or the preferred configuration of canopy corridors.

Importantly, the document also contains Part B which provides specific direction in relation to the identified development cells and flags issues and considerations for the next, more detailed stage of planning.

Both sections are then supported by Part C which contains a Development Strategy for the area which seeks to address some of the implementation challenges that will arise as this complex and contested area evolves over time.



hansen

Mildura East Growth Area Strategic Framework Plan

Aerial Map`

Legend

- Study Area
- Main road
- Local road

Figure 3: Mildura East Growth Area Study Area

Project Ref:	xxxxx
Dwg No.:	UDD-001
Scale	20,000 @A3
Date:	00.00.00
Revision:	A

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THE CONTEXT

This area is a complex one, subject to various interventions and influences over many years. While a more in-depth discussion of these matters can be found in the associated *Background Analysis Report* and *Key Issues Report*, a brief summary of some key matters is provided here.

MILDURA HOUSING & SETTLEMENT STRATEGY

The MHSS identified a study area within which growth should be considered to the south-east of the existing urban area of Mildura. While the *Mildura Housing & Settlement Strategy* (MHSS) identified potential staging of development in MEGA (Figure 5), it was clear that this was indicative and that any staging would be guided by a future Framework Plan. No presumption should be made based on those indicative diagrams, particularly given the "very long term" designation given to some of those areas. The timing and staging of development in this area must be subject to more detailed considerations. This project is assessing the appropriate outcomes for the Mildura East Growth Area (MEGA) from a first principles basis in order to respond to current demand and strategic objectives. The 'facts and figures' in relation to the demand for land and the associated implications for the timing of development of the various 'cells' identified in the *Vision & Key Directions Report* are summarised on the following pages.

One of the key aspects raised in the MHSS in relation to this area and which has guided the development of the project brief, was the importance in considering the catchment for Stormwater Management, as well as more localised drainage conditions when determining the appropriate areas for, and staging of, growth. Importantly, the MHSS also sought to recognise that the area to the north, including Nichols Point, had a distinctly different character which should be respected and retained as any development in the area occurs (see Figure 4).

As a result of MHSS implementation, while the zoning of much of the land remained unchanged, a range of other policy changes were made. Some of these related to more permissible development within the area in recognition of its future potential as a growth area, and associated siting guidelines were developed by Council. These controls will need to be revisited as part of the implementation of this project to assess if they remain appropriate for the area.

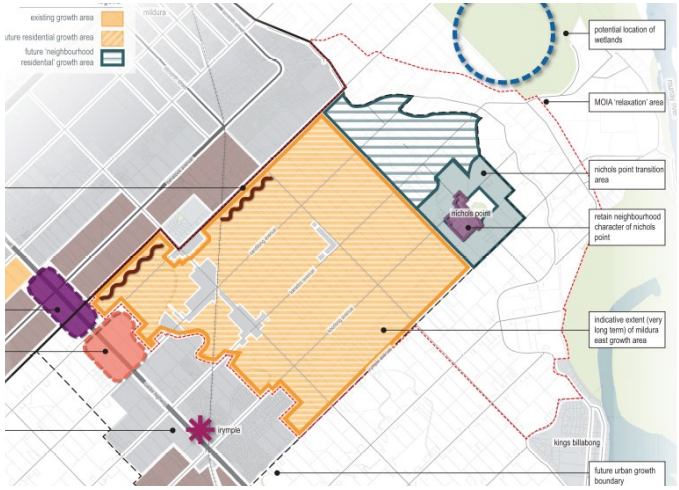


Figure 4: Mildura East Growth Area (nominal area)

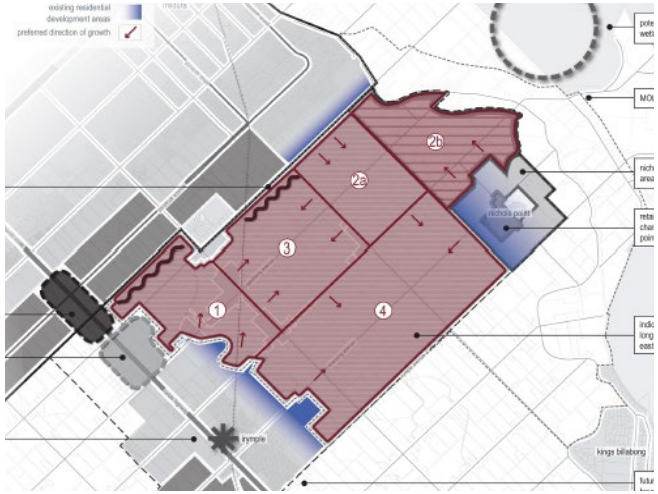


Figure 5: Mildura East Growth Area - potential staging

In addition, much of this land is located within the Mildura Older Irrigated Area, which has resulted in a Special Control Overlay being applied to the land. This is in recognition of the demand which has occurred for development within this area which is incompatible with current policy which envisages this area as purely agricultural. The Framework Plan has identified that a large central portion of MEGA (the 'non-urban' area) will not be required for development in the medium to longer, existing controls should be revisited to ensure they are compatible with agreed use of this land in the short to medium term.

'THE INTERFACE' AREA

It is of significant importance to the community of Irymple that Irymple retains a sense of individuality and separation from Mildura. Policy to deliver this 'separation' has been embedded in the Mildura Planning Scheme for about 15 years. However, much of the land in this area is identified as being "subject to further investigation" or "potential future" leading to a lack of certainty in relation to this area. The lack of integration of planning for this area with planning for Irymple (which has a separately defined study area) exacerbates this. Recent development within the area has been seen by some stakeholders as eroding this sense of separation, particularly along the Fifteenth Street corridor.

While this project only looks at land north of Fifteenth Street, the *Vision & Key Directions Report* nonetheless sought to provide some further clarity and to introduce some new ideas as to how to more effectively deliver a sense of separation between the two settlements, while also recognising the high level of access to services and facilities land within this interface area enjoys. The issues associated with this area are discussed in more detail in the MEGA *Key Issues Report*.

KEY FINDINGS: DWELLING & FLOORSPACE DEMAND

The following is a summary of work prepared in the Background stages of this project by SGS Economics and Planning, and updated in 2024 to reflect updated data available.

Recent population growth rate estimates and dwelling approvals

The ABS's Estimated Resident Population (ERP) data suggests there was generally no COVID related surge in growth in the Mildura LGA overall, compared to the years prior, with steady average annual growth rates (AAGR) of about 1 per cent in 2019-20, a decline recorded in 2020-21 and a recovery to almost half a per cent in 2021-22.

A surge of growth was however observed in the Irymple Statistical Area (SA2) that contains the East Mildura study area. In this area the ABS records average annual growth rates of over 2.5 per cent in 2019-20, down to 2.25 per cent in 2020-21 and to above 1 per cent in 2021-22.

ESTIMATED RESIDENT POPULATION (ERP) AND AVERAGE ANNUAL GROWTH RATES (AAGR) FOR SELECTED AREAS 2016-2022

	2016	2017	2018	2019	2020	2021	2022
Irymple SA2	6,945	7,044	7,178	7,322	7,510	7,679	7,765
AAGR		1.43%	1.90%	2.01%	2.57%	2.25%	1.12%
Mildura LGA	54,658	55,433	56,154	56,764	**57,335**	**56,966**	**57,216**
AAGR		1.42%	1.30%	1.09%	**1.01%**	**-0.64%**	**0.44%**

Source: ABS 31/8/2023, Regional population, 2021-22 financial year | Australian Bureau of Statistics (abs.gov.au)

Data from Council on dwelling approvals before, through and after the Covid years tells a somewhat different growth pattern to the population estimates, at least at the LGA level. The approvals data from 1/7/2019 to 30/4/23 indicates a Covid period spike across the LGA (220 in 2019/20, 395 in 2020/21, 291 in 2021/22 and 120 to end of April in 2023).

It should be noted that not all approvals are converted to dwelling completions, and some do not represent potential net additions to the housing stock if the intent is to replace an existing dwelling, Furthermore, dwelling stock can grow in parts of an LGA while population declines in other parts. Population change doesn't always therefore align with growth in approvals – though the discrepancy in the Mildura case through the Covid years (between ABS ERP and approvals data) is noticeable.

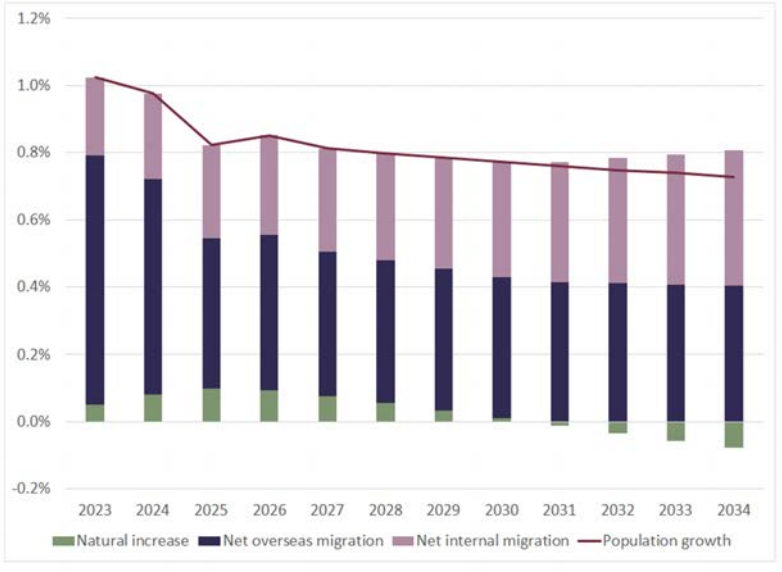
The approvals data for this period attributes 250 to 'Irymple' and 'Nichols Point', equivalent to about 67 dwellings per year. These two areas extend beyond the study area but are a comparator for what might be considered 'peak' demand (though noting that approvals across the Mildura LGA in 2022/23 were about a third of the number in 2020/21).

The extent to which non-planning factors such as wider macro factors including interest rates and development industry capacity constraints are a drag on housing supply rates and overall population growth potential – and therefore constrain recent trends-based estimates such as those prepared by the ABS – is a matter for debate. The development of scenarios is a way of accommodating a wider range of future possibilities.

Future regional Victorian growth perspective

A wider perspective on regional growth prospects is provided by the national Centre for Population. Its most recent population projections, prepared in early 2023, suggest regional Victoria is not likely to benefit from any COVID related or other impacts on an ongoing basis. The significant increase in net overseas migration post Covid flows through into average annual growth rates of around 1 per cent per year through to 2024; these dip to about 0.8 per cent per year during 2025, recover somewhat and then gradually trend down to less than 0.8 per cent per year by 2034. The drag on projected growth in the later years is attributable to negative rates of natural increase (implying more deaths than new births).

PROJECTED POPULATION GROWTH RATES BY COMPONENT IN REGIONAL VICTORIA (2023-34)



Source: Centre for Population, Projections of population changes in our capital cities and rest-of-state areas, 6 JANUARY 2023, viewed 4/3/24 https://population.gov.au/data-and-forecasts/dashboards/projections-population-changes-our-capital-cities-and-rest-state

State Government dwelling projections for Mildura

The State Government's Victoria in Future dwelling projections indicate a slowing overall Mildura LGA average annual growth rate, from just over to just below 1 per cent over the 15 year period 2021 to 2036. About 253 dwellings per year on average are expected.

In the Irymple Statistical Area (SA2) that contains the East Mildura study area and other growth areas average annual growth rates are expected to be higher, declining from 1.6 per cent to 2026 to just under 1 per cent by 2036. About 40 dwellings per year are expected between 2021 and 2036 on average.

DWELLING PROJECTIONS AND AAGR (VIF 23) FOR SELECTED AREAS AND PERIODS 2021, 2026, 2031

Dwellings (VIF23)	2021	2026	2031	2036	Change (2021-26)	Change (2021-36)	Change pa (2021-36)
Irymple SA2	3,026	3,278	3,465	3,624	252	598	40
AAGR (every 5 years)		**1.6%**	**1.1%**	**0.9%**			
AAGR (2021-2036)				1.2%			
Mildura LGA	25,371	26,690	27,950	29,160	1,319	3,789	253
AAGR (every 5 years)		**1.02%**	**0.93%**	**0.85%**			
AAGR (2021-2036)				0.93%			

Source: Victoria in Future (planning.vic.gov.au)

Generally, the pattern of growth tapering off shown in the National Centre for Population data for regional Victoria is repeated in these projections for Mildura and Irymple.

Future housing demand in Mildura East

Three different dwelling growth scenarios were prepared for the study area (base case, upside and optimistic).

The scenarios draw on small area work undertaken in 2018 by SGS Economics and Planning as an input to Council's Development Contribution Plans (DCPs), which in turn drew from the Victorian Government's Victoria in Future population and dwelling projections (at that time). The DCP work identified dwelling projections at a fine grain, small 'DCP charge' area level, for Mildura's growth areas including the Mildura East study area.

By overlaying the Mildura East study area on the DCP charge areas covered by DCP2 (which in turn is within the Irymple SA2 referred to in the tables above) an estimate of the dwellings in the existing study area, and a 'base case' projection, was able to be extracted from the DCP2 data.

According to this data the study area contributes about 35 per cent of the dwellings in the DCP2 area over the projection period. For the 'base case' the average annual growth rate for dwellings in the DCP2 area is expected to be 1.27 per cent from 2021 to 2046. The two higher growth scenarios assume progressively higher overall rates of growth in the Irymple DCP2 area (1.7 and 1.9 per cent AAGR from 2021 to 2046) and higher shares of this growth in the study area (42 and 45 per cent).

The base case scenario derived from the DCP2 data shows demand for 146 dwellings within the study area between 2021 and 2036 (or 219 from 2021 to 2046). This is equivalent to an overall AAGR of 1.44 per cent from 2021 to 2036 (reflecting steady growth, but above the 1.2 per cent AAGR projected in the wider Irymple SA2 by VIF23).

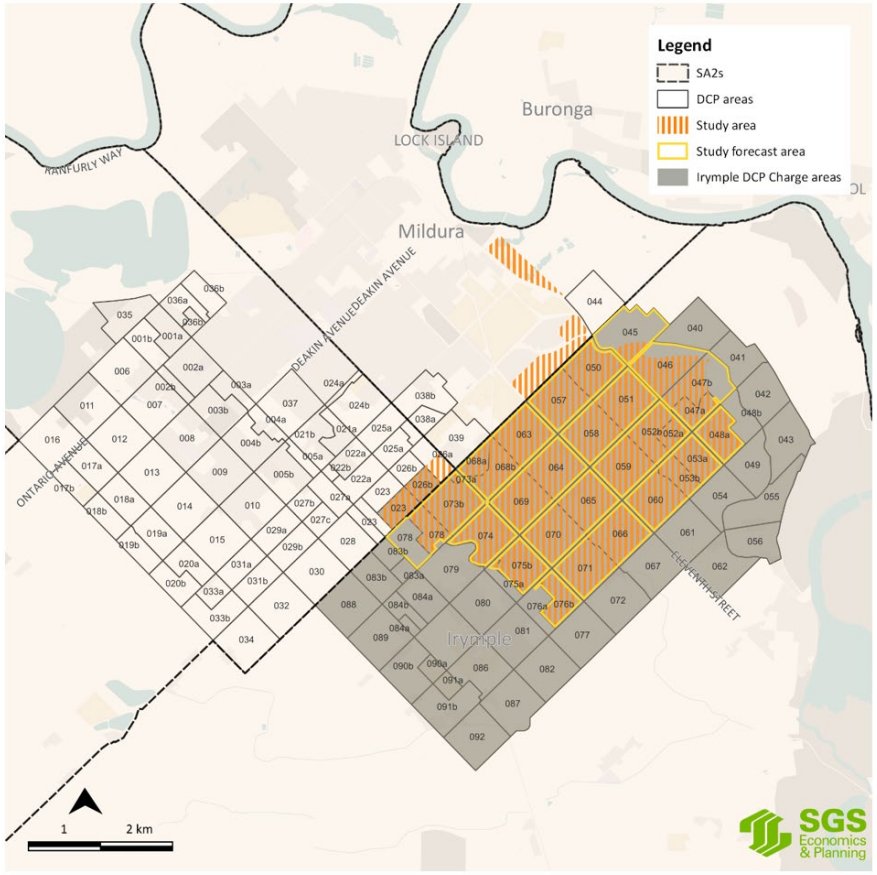
The 'upside' scenario might reflect a sustained attraction to liveable, low density living in suburban Mildura. This would see growth of 228 dwellings at a rate of 2.04 per cent each year for 2021 to 2036. The 'strong growth' scenario would see growth of 282 dwellings at 2.41 per cent each year for 2021 to 2036. The achievement of this latter scenario might require the stimulation of a major infrastructure investment such as Regional Rail passenger services.

DWELLING FORECASTS AND AVERAGE ANNUAL GROWTH RATES (AAGR) BY BASE, UPSIDE AND STRONG GROWTH SCENARIOS IN MILDURA EAST

	2016	2021	2026	2031	2036	2041	2046	Change 2021 – 2036	Change 2021 – 2046
Base case	585	610	661	711	756	793	829	146	219
AAGR		0.85%	1.60%	1.48%	1.25%	0.96%	0.87%	1.44%	1.27%
Upside	585	643	722	800	871	929	984	228	341
AAGR		1.92%	2.33%	2.09%	1.71%	1.29%	1.16%	2.04%	1.71%
Strong growth	585	655	752	849	937	1008	1076	282	421
AAGR		2.29%	2.80%	2.46%	1.98%	1.48%	1.31%	2.41%	2.00%

Source: SGS Economics & Planning 2024

STUDY AREA AND DCP CHARGE AREA BOUNDARIES



Source: SGS Economics & Planning 2021

An indication of the future distribution of dwellings (by lot size) to identify the potential 'land take' can be determined by looking at the change in lot sizes in the area. The table below shows the potential distribution of housing demand and 'land take' for each of the scenarios based on the observed share of new lots by size and the effective net densities calculated from the change in 2008-2021. It suggests that the land take (2021-46) for the base case could be in the order of 27.8 ha (net) for lots up to 8000sqm, at the range of net densities shown, or 21.9 ha (net) if the average net density was 10 lots/ha. For the strong growth scenario the land take (2021-46) rises to 53.3 ha (net) for the shown lot size split, or 42.1 ha (net) at 10 lots/ha

LOT DISTRIBUTION AND LAND TAKE BY SCENARIO IN MILDURA EAST – 2021-2046

Lot Size (sqm)	Effective net density (lots/ha)	Share for Planning	Base case (dwellings)	Land take (ha)	Upside scenario (dwellings)	Land take (ha)	Strong growth scenario (dwellings)	Land take (ha)
Up to 1000	18.4	70%	153	8.3	239	13.0	295	16.0
1000-3000	5.3	20%	44	8.3	68	12.8	84	15.9
3000-8000	2	10%	22	11.2	34	17.3	42	21.4
Total	7.8	100%	219	27.8	341	43.1	421	53.3
Total land take at 10/ha				21.9		34.1		42.1

Source: SGS Economics & Planning 2021

Future employment floorspace requirements

In the preparation of the DCPs retail, commercial and industrial area forecasts for the study area were projected by DCP charge area.

The table below shows the 'base case' demand for employment floorspace. A very modest increase in the floor space of local shops is forecast (only 34sqm over 20 years). This reflects the existing concentration of shops in the town centres outside the study area. However, the combined demand for 'local shops' and 'retail' floorspace suggests the need for an additional supermarket and associated shops. This may or may not be provided in the study area and depends on future retail planning.

Additional industrial floorspace is forecast, however, based on the assumptions for sequencing of development, this is to be concentrated near the border of the Mildura South area, to the south-west of the study area.

These estimates, particularly for local shops, could be adjusted upwards for upside and strong growth scenarios if chosen for planning purposes.

EMPLOYMENT FLOORSPACE DEMAND (SQUARE METRES) IN MILDURA EAST (BASE CASE)

	2021	2026	2031	2036	2041	2046	Change 2021-2046	AAGR 2021-2046
Local shops	9	17	24	32	38	43	34	6.7%
Retail	918	1862	2952	4144	5192	6154	5236	7.9%
Industrial	17849	19976	22264	24668	27196	29852	12003	2.1%
Office	50	173	295	402	493	572	522	10.2%

Source: SGS Economics & Planning 2021

NICHOLS POINT

While Nichols Point is nominally within the Study Area, it is noted that a separate Development Plan has been prepared and adopted by Council for the settlement and its surrounding area. This Development Plan is replicated at Figure 6. Development around the existing town centre is anticipated to be on lots of around 1800sqm, reflecting the existing character of the settlement and drainage infrastructure has been sized accordingly.

While there was feedback received from the community via engagement for MEGA in relation to some more specific matters pertaining to Nichols Point these are not addressed in detail by the Framework Plan. As an adopted Council plan which has been subject to its own consultation processes, the Vision in this document for Nichols Point merely reflects that established through that document. The area subject to the *Nichols Point Development Plan* has been 'excised' from the Study Area to avoid duplication, although the connections and relationships between MEGA and Nichols Point have been considered. More local matters can (such as the future of the old school site), and should be, addressed through more locally specific documents, such as the *Nichols Point Community Plan*.

The lots which will be available for development as a result of the adoption of the Development Plan (which allows subdivision applications to be lodged with Council) has been taken into account as part of the calculations on demand for dwellings in this area (see the MEGA Background Analysis reports).

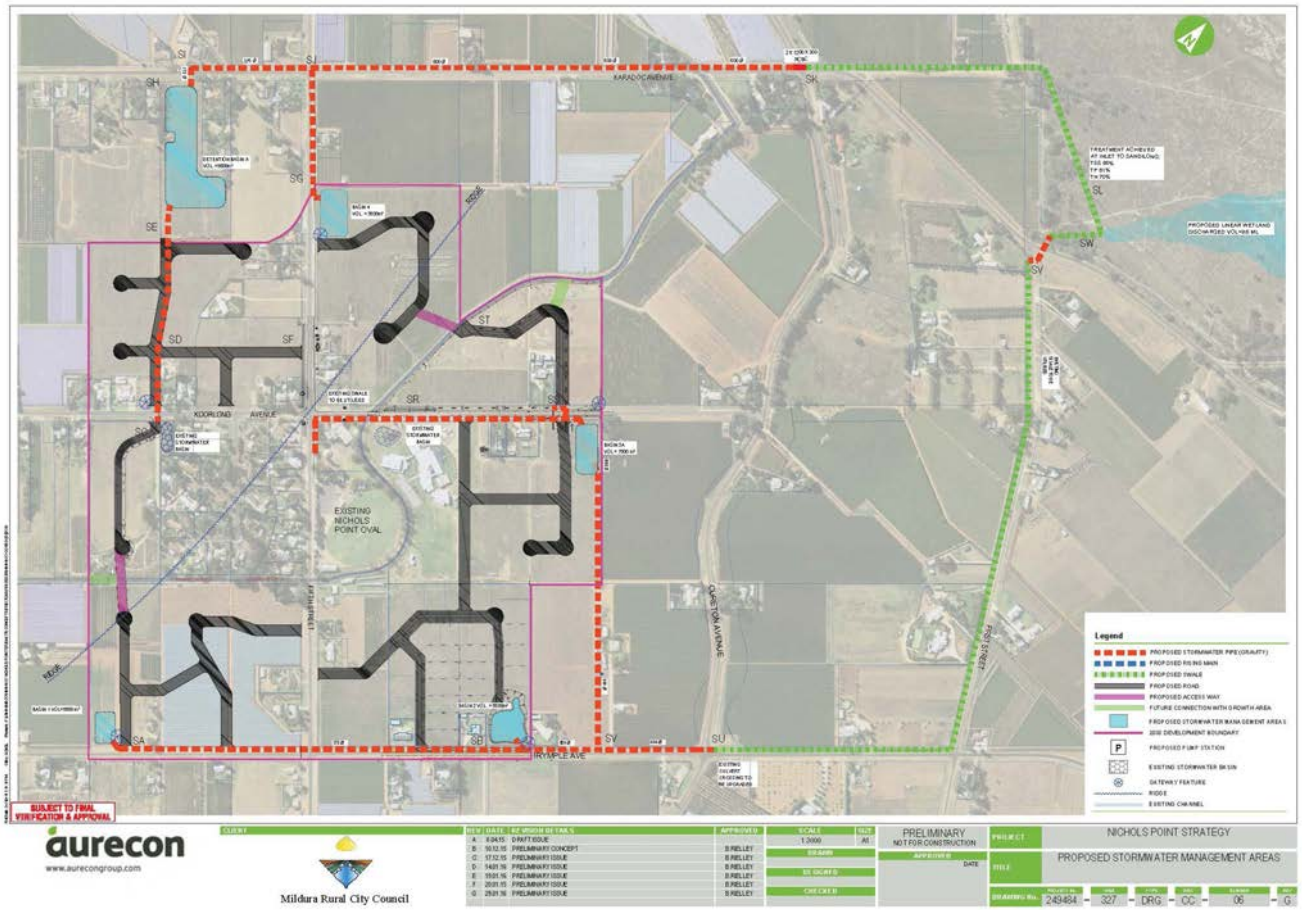


Figure 6: Nichols Point Development Plan (2021)

Figure 12 Overall Irymple Structure Plan

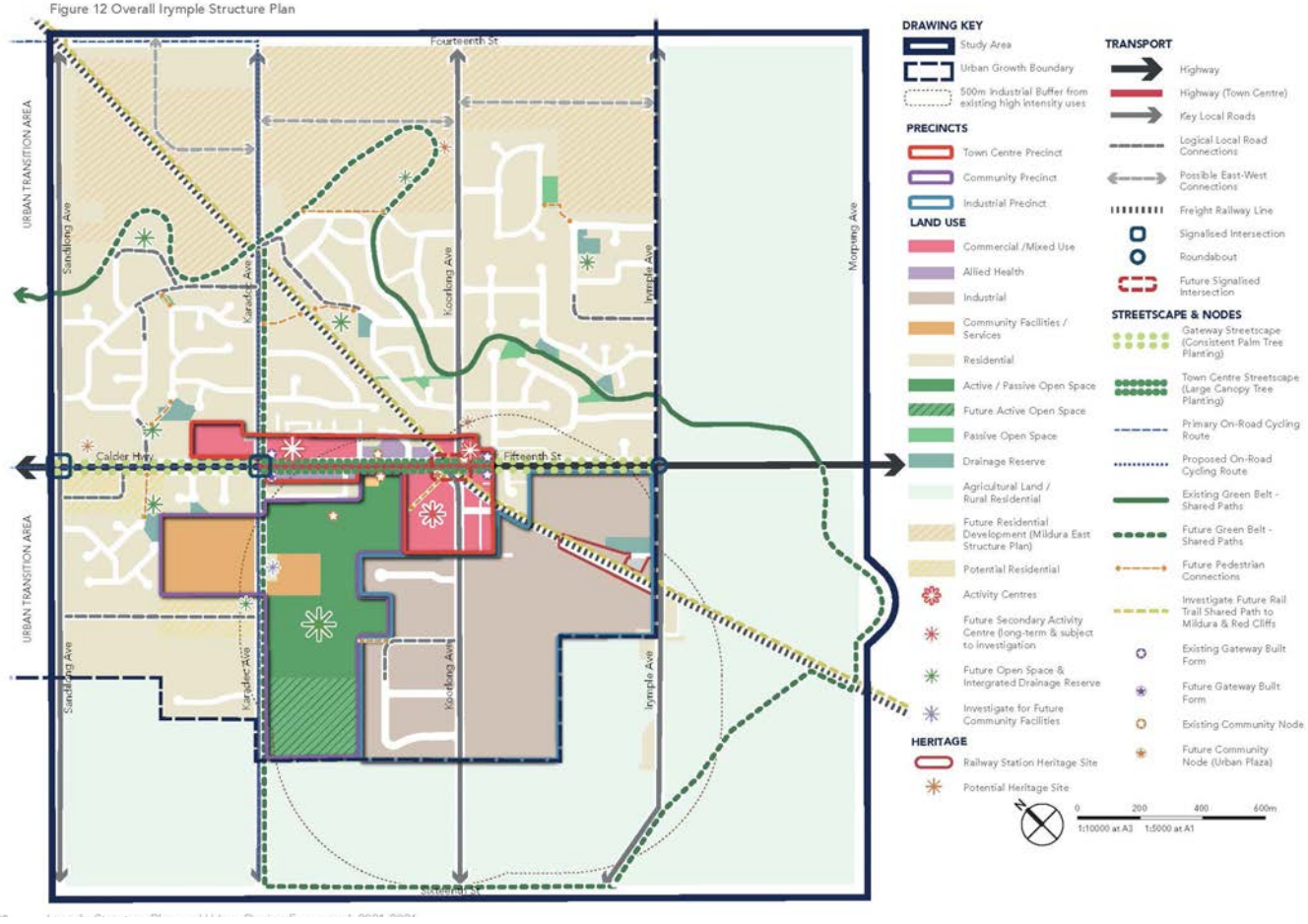


Figure 7: Irymple Structure Plan (2021)

IRYMPLE

A separate project has recently seen the completion and adoption of an updated Structure Plan for Irymple. This project established a new 'Vision' for that township and outlined a number of relevant strategies which this document has had regard to.

The *Irymple Structure Plan* considered the need for additional residential land within Irymple and concluded that, with the proposed rezoning of two 4ha lots within the existing settlement boundary, there was enough land to provide for at least 15 years supply of land for that settlement.

While there was no expansion of the existing Urban Growth Boundary identified, a number of areas to the north of the UGB were shown on plans as "future residential development".

There were also a number of other matters such as the location of local open spaces identified through that Plan have influenced this Framework Plan, as well as the associated Stormwater Management Strategy.



PART A: FRAMEWORK PLAN

THE VISION

Community and key stakeholder consultation helped shaped the Vision outlined in *Vision & Key Directions Report,* which was adopted by Council in July 2022 and which underpins this Framework Plan, the guide for development of the Growth Area. Key aspirations which informed the vision are included at Figure 8. The Vision was exhibited and feedback was sought prior to it's finalisation.

Aspirations for the future of the Growth Area centred on developing an area that is accessible and connected, promoting safe and active transport, but also includes notions of integration with the natural environment and is resilient in response to a changing climate.

The Framework Plan has also had regard to a series of Principles identified by Council at the start of this process and which can be seen in the highlight box below.

PRINCIPLES

Create diverse and vibrant new urban communities

Integrate transport and land use planning

Plan for local employment creation

Create growth corridors with high amenity and character

Protect biodiversity, waterways and cultural heritage values

Create open space networks

Plan for environmental sustainability

Stage development to ensure the efficient and orderly provision of infrastructure and services



Figure 8: Community visioning session - wordcloud

VISION STATEMENT

The Mildura East Growth Area will provide an alternative outlet for growth in Mildura's 'main urban area', ensuring that development responds to known barriers in a manner which promotes orderly development. This orderly development will support the provision of integrated and affordable delivery of infrastructure within the growth area.

Development in the precinct will improve connections between the three settlements of Mildura, Irymple and Nichols Point, and out to Kings Billabong while retaining the unique identities of each township and responding to existing patterns of development. Connections to these settlements from the growth area will be targeted to provide easy access to existing higher order activity centres for new residents.

The heart of the precinct will be retained as a non-urban area surrounded by a series of interconnected villages, which deliver a range of accommodation opportunities in areas with great access to services and facilities. The 'non-urban area' will become a focus for tourism, niche agriculture, hobby farms and projects which enhance the area's biodiversity.

Development within the Mildura East Growth Area will respond to the pressures of a changing climate in a region of extreme weather, supporting the resilience of existing and new communities and delivering a 'different' style of development, and a renewed focus on increasing canopy vegetation as part of a broader urban forest.

This focus on vegetation will see the early delivery of a series of Canopy Corridors through the precinct as well as the slow evolution of a Green Web across the proposed development cells, connecting a series of Local Nodes. These Local Nodes will be focused on integrated drainage outcomes set within local open space, all connected to a series of new linear open spaces which reflect the areas agricultural history through retained irrigation channels. The nodes, and the connections between them, will link existing and future communities and facilitate social interactions across all parts of the community.

The area's aboriginal history and broader landscape characteristics will be celebrated through public realm works within the precinct, with the area's unique mallee vegetation reinforcing a sense of place and connection to the broader landscape.

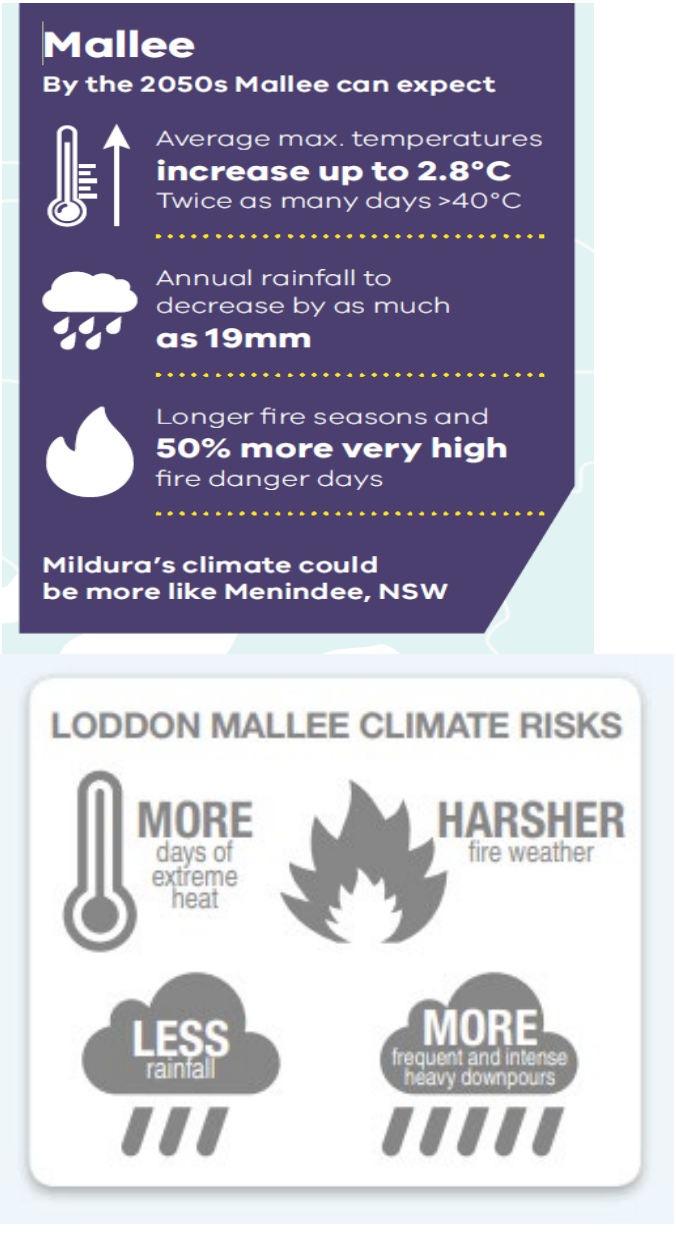
CLIMATE CHANGE RESPONSES

In alignment with the UN's sustainable development goals, the Victorian State Government's broad directions for land use planning (as articulated in, amongst others, Plan Melbourne 2017-2025 the Victoria Planning Provisions, the Precinct Structure Planning Guidelines) are to reduce greenhouse gas emissions by living locally, to create resilient communities, to plan for infrastructure that can adapt to a changing climate, and to provide safe, sustainable and productive water resources and reliable, sustainable and affordable energy services.

On 24 February 2020, Mildura Rural City Council became the 30th Local Government in Victoria, and the 94th in Australia, to declare a climate emergency. In declaring a climate emergency, Council acknowledged that Council must show leadership and work with the community to build resilience, explore adaption and mitigation measures, and to reduce carbon emissions.

Consultation held in the preparation of Council's adopted *Mildura Housing and Settlement Strategy* clearly outlined a widespread dissatisfaction with the standard of recent development within Mildura, and a desire to see development adopt a more sustainable approach.

One of the endorsed directions of the adopted *Mildura Housing and Settlement Strategy* is to improve community health and sustainability outcomes in urban areas through improved neighbourhood and building design. A focal point for improving neighbourhood and building design is responding to the 'urban heat island effect'; localised warming due to the increase in the large amounts of paved and dark coloured surfaces like roads, roofs and car parks typically delivered as a result of urban development. The sun's heat is absorbed by such dark coloured surfaces, not reflected, and causes both surface and ambient temperatures to rise. On hot summer days, typical urban areas can be several degrees hotter than their rural surrounds.



Mildura's climate is among the hottest in Victoria and significant climate change impacts are projected for the Mallee region, including increased maximum and minimum temperatures, which will exacerbate the urban heat island effect if a 'development as normal' scenario is continued.

In this context, for the health and wellbeing of future residents it is imperative that neighbourhood and building design within the Growth Area incorporates measures to reduce and mitigate the urban heat island effect.

More broadly, for the health and wellbeing of future residents and to meet the Victorian Government's broad directions for land use planning, the design of neighbourhoods and buildings within the Growth Area need to appropriately respond to both existing climatic conditions and the projected impacts of climate change.

Other impacts, such as th decrease in rainfall, which is couple with a pattern of much more extreme rainfall events has clear implications for the stormwater management approach adopted for this area.

Consistent with the Victoria Planning Authority's Precinct Structure Planning Guidelines, this Framework Plan articulates key interventions to support the climate resilience of future communities at the precinct level, as well as setting out key interventions that are best delivered as part of the subsequent development process. Some key considerations that were considered in relation to the Framework Plan included:

- Address the strategic and physical context of the location, including increased physical risks associated with climate change.
- Provide the broad planning framework for an area as well as the more detailed planning requirements for neighbourhoods and precincts, where appropriate.
- Provide for the development of sustainable and liveable urban areas in an integrated manner informed by the 17 United Nations Sustainable Development Goals as relevant.

- Protect and enhance areas of natural and cultural significance.
- Assist the development of walkable neighbourhoods.
- Facilitate the use of active and sustainable transport modes.
- Facilitate the logical and efficient provision of infrastructure.
- Facilitate the use of existing infrastructure and services.
- Encourage renewable energy generation, storage and distribution.
- Incorporate integrated water management and urban greening.

The Framework Plan also responds to relevant 'priority actions' identified through the *Lodden Mallee Climate Ready Plan* which include:

- Increase community resilience to disaster through microgrids with energy storage.
- Support climate ready planting to provide urban cooling and connect residents with community spaces.

Mildura will be significantly impacted by the changes that are already beginning to be felt as a result of greenhouse gas emissions. Planning projects, such as this Framework Plan, have a critical role to play both in supporting the development of areas which are appropriately adapted to what the climate is likely to be in the future, but also in supporting mitigation efforts.

In terms of adaptation the Framework Plan sees the following:

- Requirements for a Climate Change & Resilience Statement to be prepared as part of any Development Plan.
- A stormwater management approach that seeks to recognise and mitigate existing shortcomings of current strategies to ensure future communities are more resilient.
- Recognition that heat is likely to be the most significant impact and the integration of a number of framework elements to support urban cooling.
- Complementary opportunities to support biodiversity resilience through increased habitat provision within urban areas.

Mitigation outcomes supported by the framework plan include:

- Requirements for consideration of renewable energy and storage outcomes though development planning.
- Consideration of EV charging requirements.
- Recognition of opportunities around neighbourhood level waste management.



LAND USE, ACTIVITY & INTERFACES

Given the current and historical farming conditions of much of the land within the identified growth area, a considered approach to appropriate land use controls must inform the development of the Framework Plan. It is evident from a comparison of the identified demand (see pages 8 and 9), even with a generous lens applied, that the majority of land within this area will not be needed to accommodate growth for many decades to come. The central part of the growth area is also within its own drainage catchment and would require very significant investment in infrastructure for development, which is not possible to justify given the other land available for development. It is important therefore that a clear vision is identified for the 'non-urban' area in addition to areas proposed for more conventional urban development.

The anticipated level of demand necessitates a variety of land use controls be implemented to ensure consolidated development in appropriate areas of early stage settlement. This includes in particular, areas which have access to currently available services and facilities, and which are important in the context of future infrastructure delivery. Crucial to this staging is to ensure the long-term settlement areas have the appropriate land use controls applied, ensuring clarity of use for residents and compatibility with development prospects. Equally important is the recognition of the careful management needed in the interface area to address both the sought after sense of separation, but also responses to industrial interfaces.

Industrial zones have become a common location for a range of uses that are critical to urban areas but which can struggle to find accommodation in residential or commercial areas. Uses such as warehouses, churches and dance schools are all commonly found in this area. 'Light industrial' areas therefore can be important employment generators and can accommodate a range of services.

While the background assessments undertaken as part of this project did not identify any specific need for more 'heavy' industrial land (such as uses which might have off-site amenity impacts). However, it is noted that MEGA interfaces with two of Mildura's key industrial areas. The Irymple industrial area is located to the southeast of the settlement and is therefore unlikely to be impacted by any development in the area. There is also however a large industrial area which includes land along the Mildura Freight Link that abuts MEGA to the west. Other than where there is significant quantities of existing residential development the Framework Plan has sought to maintain the potential for a future expansion of this important industrial area across Cowra Avenue into the identified 'non-urban area' should any future industrial land use study identify a need for additional land.

The particular characteristics of the area and the likely rate at which development occurs make this area somewhat different from more traditional growth areas. As a result of these characteristics, plans for the area do not include a new activity centre or any large scale commercial facilities. Residents of new estates within the identified growth cells will instead be provided with enhanced links to existing areas of activity, supporting and enhancing those areas. Interactions between local neighbourhoods will be delivered through a considered series of local nodes, offering places to connect and move through the neighbourhoods as these develop over time. Some of these nodes may develop over time to accommodate some small scale non-residential uses such as a medical centre, child care centre or local cafes. This would be supported if there is demand and appetite for such development identified through the relevant planning processes for the development cells.

There is no existing social or community infrastructure located within the growth area, other than within the existing settlements of Irymple and Nichols Point. Nichols Point and Irymple both contain existing primary schools, and there is an existing secondary school in Irymple. Capacity (measured in 2023) does not exceed 80% in any schools but this will need to be monitored over time as the are develops.

The growth areas' projected population and uncertain growth rate, coupled with challenges in wholesale provision of significant built assets suggests that demand for new social and community infrastructure within the growth area itself, at least in the short to medium term, meaning that demand social and community services should be absorbed into and accommodated by existing social and community infrastructure within Mildura, Nichols Point and Irymple. To enable the growth areas' future communities to 'live locally', good connections to existing activity centres will need to be provided between the growth area and surrounding settlements.

The projected population and likely growth rate suggests there will be no immediate demand for new social and community infrastructure within the growth area itself. However, the Framework Plan provides direction to ensure that any cultural or community infrastructure that may be provided is located within the growth area's defined Local Nodes, along with other infrastructure and facilitates, with the aim of encouraging local activity and community interaction.



Figure 9: Land Use, Activity and Interfaces Framework



1. Nichols Point Primary School
2. Nichols Point Recreation Reserve
3. Nichols Point Town Centre
4. Irymple Town Centre (supermarket etc)
5. Henshilwood Reserve
6. Irymple Secondary College
7. Irymple Primary School
8. Henderson College
9. Irymple Green Belt
10. SuniTAFE
11. St Pauls Primary School
12. Mildura Recreation Reserve

OBJECTIVES

- To identify preferred areas for residential development
- To distinguish between areas suitable for conventional residential subdivisions and those where larger lot sizes will support a contextual response
- To provide a clear sense of identity and broader range of permissible but compatible non-residential uses for land within the centre of the precinct.
- To ensure the distinctive identity of the existing settlements is maintained.
- To reinforce residential interfaces to ensure landscape vistas are maintained and enhanced.
- To encourage a diverse range of activity across the precinct and facilitate connections between activity nodes.
- To celebrate local context to create place specific outcomes.
- To ensure that sufficient community facilities and services are provided to service new communities and that safe and amenable linkages to these are delivered.
- To foster social interactions, both formal and informal, within new and existing communities.
- To support community health and wellbeing outcomes through the creation of cool and attractive active space corridors.
- To manage interfaces to ensure that amenity and preferred activities are protected
- To ensure consideration of longer term outcomes informs development within the area.

STRATEGIES

Land use

- Support residential development as the key outcome in the majority of Mildura East Growth Area (MEGA) development cells.
- Identify an Urban Growth Boundary within the Mildura Planning Scheme which includes the identified development cells.
- Protect and celebrate the existing valued character of larger, more vegetated lots around Nichols Point by directing more 'conventional' residential development to the south of the growth area.
- Deliver a larger lot housing typology in the northern parts of the MEGA consistent with lots sizes that were identified as valued in Nichols Point (a minimum lot size of 1800sqm).
- Deliver more conventional housing densities adjoining Irymple, but ensure these areas also include a diversity of lot sizes (see highlight box).
- Identify land for rezoning to provide new opportunities for residential development within MEGA, through the identification of 'development cells' within the study area.
- Clearly identify a preferred staging program for remaining identified cells to reduce speculation.
- Identify land that is unlikely to be developed within 30 years as a 'non-urban area' to ensure that landowners within this area have clarity about uses which will be supported on their land.
- Create a new 'identity' for land between the two proposed development fronts to recognise and support a broader range of uses which respect existing agriculture and restores and enhances the areas biodiversity and tourism offer.
- Seek to increase the role the 'non-urban area' plays in tourism through both supporting related land use applications, and delivering tourism related infrastructure within and around the area.
- Recognise that land surrounded by Nichols Point, Irymple and Mildura (within which there is extensive residential development) is unlikely to serve a wholly agricultural purpose and actively consider other compatible uses allowable under the Farming Zone.
- Identify the intersection of Koolong Avenue and Eleventh Street as a preferred location for any suitable, campus style institutional uses, building on existing development.
- Monitor the rate of development in the northern and southern parts of MEGA separately in recognition of the different housing typologies provided by these areas.
- Recognise land between Sandilong and Karadoc Avenues (identified on Figure 9) as a "potential future" development cell once cells B and C are developed. Any review must be in conjunction with Lower Murray Water to ensure due consideration of impacts on rural supply systems.
- Rezone land to provide an additional pocket of light industrial land within the study area where it can contribute to a sense of 'separation' between the settlements of Irymple and Mildura.
- Allow consideration of further commercial or community uses (such as childcare and medical centres) as part of any 'local nodes' within development cells to be considered as part of any development planning for the cells.

Interfaces & buffer

- Require the closure, relocation or other relevant changes to operations of the existing concrete batching plant on Sandilong Avenue prior to any rezoning of land in Cells E, G & H for sensitive uses.
- Recognise and confirm the buffer associated with this use in updated planning controls.
- Establish strong landscape buffers at urban and non-urban interfaces, further supporting development of Mildura's urban forest.
- Avoid continuous residential development between Irymple and Mildura to retain a sense of separation.
- Establish a linear urban forest at the interface of residential and non-residential uses where it can support a meaningful sense of transition between settlements.
- Recognise the importance of streetscape works, particularly along the Fifteenth Street corridor, in establishing a distinction between the urban areas of Mildura and Irymple.

Community infrastructure

- Strengthen existing community hubs to service increased populations in preference to identifying new activity centres or community hubs.
- Ensure upgrades and needs assessments for identified recreational infrastructure across the broader urban area includes consideration of the future population of relevant parts of the MEGA who may access those facilities.
- Once more accurate neighbourhood populations are understood as part of the preparation of development plans, assess the need for any additional community services or facilities.

- Deliver a significant new open space near the intersection of Cowra and Cureton Avenues in conjunction with relevant stormwater management works. This new open space should provide a range of recreational facilities and be designed to also address the gap in open space provision in existing urban areas of Mildura East. See following chapter for more detail.
- Improve active transport connections to existing commercial centres and schools to support equitable and sustainable access.
- Establish a series of Local Nodes to encourage local activity and interaction within development cells.
- Ensure most residential development is within 400m of wetland/open space/ Local Node or linear open space.
- Combine existing and proposed wetland/stormwater management corridors and active transport corridors to form a 'Green Web' of linkages connecting key destinations, supported by small-scale infrastructure such as seating to facilitate social connections.
- Locate social and cultural assets where the web intersects and form focal points where opportunities for multiple assets combine in the one location.

Sense of place

- Increase recognition of local Aboriginal culture and connection to the land and work with local representatives to explore opportunities within the area to celebrate connections to Country and to enhance broader understanding and recognition of the areas history, including for visitors.
- Identify local points of interest and, where possible integrate these with local design outcomes and storyboards, for example, a 'plane' themed playground close to identified WW2 plane crash sites.
- Set key parameters for streetscape works to celebrate distinction between Irymple and Mildura in collaboration with Department of Transport and Planning (VicRoads).
- Identify a set of key 'themes' which celebrate local history to be integrated into local design outcomes during any development phase.



THE 'NON-URBAN' AREA

As discussed above, the intervening farming zoned land encircled by Mildura, Nichols Point, Kings Billabong and Irymple is a highly contested space. While some agricultural production continues in the area, primarily in the form of vines, much of the land in this area is vacant or under-utilised. There is continued pressure for the approval of dwellings in this area as a result of its locational advantages, and the very significant numbers of existing dwellings present challenges for ongoing agricultural use.

Nonetheless, there is a finite demand for residential use and clear policy to both minimise land use conflicts and support protect agricultural production, particularly where irrigation infrastructure is available. As such the 'non-urban area' will remain as such under the Framework Plan, but with more definitive policy and a clearer vision for use.

Uses that should be supported in the area include:

- Agricultural production as a priority, with consideration for how more niche agriculture can be supported in the area.
- Tourism uses, particularly those associated with agricultural production.
- Uses which are compatible with the landscape setting or which can benefit from existing irrigation, such as nurseries.
- Use which deliver significant biodiversity or cooling benefits such as revegetaion or carbon storage.
- Renewable energy generation / agrovoltaics.
- Campus style development of community or similar uses, such as schools or health facilities.

All uses would need to be assessed on their merits in order to ensure consideration of their contribution to enhancing the areas biodiversity and landscape character as well as ensuring any impacts on existing agricultural operations are mitigated.

Council should undertake further targeted work regarding the opportunities in this area identified with an 'economic development' focus rather than a planning focus to identity opportunities to support existing landowners in maximizing the potential for their land, having regard to the retention of the Farming Zone. This area may be suitable to consider demonstration of agrovolteic approaches (currently being tested by Agriculture Victoria under their 'energy smart farming' program with promising results).This approach has the potential to deliver increased revenue generation for landowners within this area.

The current zoning of the land is compatible with future conditions but likely requires clearer policy support to ensure it is clear that council is not anticipating broadacre agricultural uses in this area. While a range of different provisions are available under the Victoria Planning Provisions, none of these fit well with the preferred outcomes in this unique area (see Appendix Two for further details). An alternate tool is available for 'special' circumstances (the Special Use Zone) which allows council to essentially to 'tailor' the allowable use to suit the preferred future for this area. However, with clear policy, and changes to the Urban Growth Boundaries identified within the Mildura Planning Scheme, the current zone can also deliver comparable outcomes while retaining the preferred focus on productive use of the land for the coming decades.



COMMUNITY NEEDS

In planning for new growth areas, typically the community needs of the new population are assessed and new facilities required to service these new populations are identified and funded via development contributions, as well as grants and funding programs run via various levels of government. However, the Mildura East Growth Area is not a conventional growth area as it is not a 'greenfield' area as traditionally understood. Rather, it has a large existing residential population and is situated between a number of existing settlement. Its location as part of Victoria's most remote regional city must also inform the feasibility of applying traditional models of infrastructure delivery. This is reflected in the previous Strategies which have a focus on connecting new neighbourhoods to existing facilities, rather than the 'automatic' delivery of new standalone facilities.

The presence of established communities and existing social infrastructure has influenced recommendations as to the direction and staging of any new residential development. To ensure efficient use of existing community infrastructure and foster the creation of sustainable communities over time, it is logical to optimise access to this existing infrastructure for new residents by prioritising staged development most proximate to the established communities, of either Irymple or Nichols Point.

Residents of MEGA have access to the following services and facilities within a few kilometers:

EXISTING COMMUNITY INFRASTRUCTURE		
NUMBER	**NAME**	**SERVICES & FACILITIES AVAILABLE**
1	Nichols Point Primary School	Primary School (P – 6), inc school based indoor sport gymnasium
2	Nichols Point Recreation Reserve	Soccer, Football, Cricket, Rugby League
3	Nichols Point shops	General store
4	Irymple Town Centre	Supermarket, specialty stores, Medical Centre
5	Hensilwood Reserve (and surrounds)	Football, Cricket, Netball, Soccer, Bocce, Bowling, Swimming pool, indoor sports court, Kindergarten, Library.
6	Irymple Secondary College	Public Secondary School (7-12)
7	Irymple Primary School	Public Primary School (P – 6)
8	Henderson College	Private School (Adventist) (P-12)
9	Irymple Green Belt	Passive recreation, walking track
10	Sunraysia TAFE	TAFE
11	St Pauls Primary School	Private Primary School (Catholic) (P – 6)
12	Mildura Recreation Reserve	Football, Cricket, Netball, Harness Racing, Local clubs

DEVELOPMENT & INFRASTRUCTURE

Understanding the evidence behind required land supply in Mildura East (including local demand and drivers) is crucial to framing the development of the Framework Plan. Understanding the sequencing of development is fundamental to ensuring the development of a healthy urban environment. Also critical is the alignment of this development with stormwater management infrastructure, given the barrier the delivery of timely and affordable drainage infrastructure creates in Mildura's growth areas. Expectations around how stormwater will be managed as part of an Integrated Water Management approach have significantly shifted in recent years. However, Mildura's unique characteristics mean the wholesale application of principles which apply across the broader State may have unintended consequences. The geomorphology of the study area combined with local climatic context results in significant impacts from flash flooding. This risk will be exacerbated under climate change which is likely to deliver increased extreme rainfall events. Previous planning for stormwater management has not always reflected these future risks, which also influences the drainage patterns and likelihood of localised flooding across the study area. As such, a context specific Stormwater Management Strategy has been prepared to underpin this Framework Plan.

As development occurs within this area, it is also critical to consider how a diversity of housing will be delivered. This has been a key focus of updates to Victoria's Precinct Structure Planning guidelines and principles around this exist already in Mildura's planning policy. One of the ambitions in opening up the Mildura East Growth Area is to also provide a greater diversity of housing options, not just in locational terms, but also in the type of residential lots available. Larger lots continue to be highly desirable in the Mildura context and to a large extent have previously been provided within Farming zoned area, contrary to State policy intent related to the protection of agricultural land.

Development and stormwater management are closely interlinked. Drainage infrastructure is required to enable development to occur and this needs to occur in an orderly manner so that new development areas can link into existing drainage and urban areas. At the same time, there needs to be a sufficient level of development within each catchment to justify the drainage infrastructure required. There is also a need to provide flexibility, allowing development to occur within different areas and to accommodate the varying intentions, needs and timing of different landholders.

Stormwater Management & Drainage

The topography of the Mildura East Growth Area is largely defined by undulating contours which result in rainfall runoff draining in multiple directions and becoming trapped, which provides a particular challenge for designing future stormwater infrastructure.

The design of the future stormwater system primarily needs to be guided by the need to meet standard stormwater conveyance, flood mitigation and waterway protection requirements. However, the planning and design of urban stormwater systems plays an increasingly important role in supporting healthy and resilient urban landscapes and communities.

Mildura has an arid climate and already experiences relatively high temperatures and long dry periods; these are projected to become hotter and longer as a result of climate change. Accordingly, the planning and design of the growth area's urban stormwater system will play a fundamental role in improving urban cooling outcomes within the growth area and providing comfortable, shaded travel corridors and spaces for residents. Limited water availability during dry periods presents a particular challenge for sustaining vegetated urban landscapes that must be taken into consideration.



The residential subdivision provisions of Clause 56 actively encourage the design and management of stormwater management systems to contribute to cooling, local habitat improvements and provision of attractive and enjoyable spaces, while the Victoria Planning Authority's Precinct Structure Planning Guidelines support integrated water management opportunities that support climate change adaptation.

In this context, the Framework Plan seeks to ensure the delivery of a sustainable stormwater system that provides the underlying 'framework' for the integrated open space network within the growth area and which contributes significantly to the comfort, amenity and climate resilience of the future urban area. More details about stormwater management for this are can be found in the aforementioned report.

As well as new stormwater management infrastructure associated with new development, future development in MEGA must consider the presence and need to manage a significant network of existing agricultural drainage infrastructure. It is understood there is limited capacity for this infrastructure to be converted for residential purposes (other than perhaps to support horticultural irrigation) and issues around connectivity and pricing remain relevant considerations. As such, requirements to further investigate this infrastructure and to ensure the orderly retirement of surplus or obsolete infrastructure also need to be delivered as part of nay Development Plan. Opportunities to re-purpose this infrastructure if appropriate should also be considered.

Lot size and dwelling diversity

One of the key factors that influences the provision of diverse and affordable housing is the size of residential lots. Mildura is experiencing a demand for more diverse and more affordable housing that is not currently being met, while at the same time experiencing demand for larger lots within urban areas.

State level planning policy encourages residential development in new growth areas to deliver in excess of 15 dwellings per net developable hectare, in a range of configurations. In Mildura, this has resulted in standard residential subdivisions of detached dwellings set on smaller blocks of between 350-550sqm, which fail to meet the identified demand for a greater mix of lot sizes and more diverse housing typologies. For this reason, the Framework Plan has adopted and incorporated the lot size and dwelling diversity targets detailed in the adopted *Mildura Housing and Settlement Strategy*.

Those lot size and dwelling diversity targets ensure:

- That density is provided through a diversified rather than standardised approach.
- Developers have greater flexibility in relation to the majority of their land.
- That medium density housing is provided in a range of settings and suitable areas.

It is important to note that a small number of larger lots are deliberately provided within residential areas. This will provide opportunities for future adaptability and change in these areas that would not otherwise be present. Requiring a small portion of land to be dedicated to larger lots that can accommodate alternative housing models, aged care development or even appropriate non-residential uses will improve the outcomes for these neighborhood.

Lot Size and Dwelling Diversity Mix Targets

(Note: these requirements apply to any area proposed for development over 3ha in size)

- 5% of net residential area at 35 dwellings per hectare.
- 20% of net residential area at 6 dwellings per hectare.
- The remainder of the lot size mix is to be determined by the proponent in line with their reading of the market, provided the development area is planned in a way which achieves any adopted guidelines for building or neighbourhood design.

Medium density lots are to be to be provided on sites that are well located in relation to jobs, services, open space and public transport.

A variety of medium density typologies are encouraged such as terrace / townhouse development, cottage lots, shared driveway housing, cluster housing as well as retirement villages / aged care facilities.

To avoid poor examples of medium density dwellings that have previously been delivered in Mildura, stronger policy to ensure detached dwelling typologies are not shoehorned onto smaller lots may be required,

Additional sites allocated for medium density and / or sites that propose a higher density may be considered, provided that the sites are in strategic locations that satisfy the objectives and strategies of the Framework Plan.

Land Supply

Development capacity and staging

Table 5 includes relevant details relating to the 'development cells' within the Mildura East Growth Area. As is clear from the capacity inherent in these cells when compared to the demand outlined on Pages 6-9, only a few of these cells are likely to be developed in the period to 2046. These cells are:

- CELL A, north of Cowra Avenue which has previously been rezoned for general residential use.
- CELL L, which would provide for identified non-residential demand (light industrial).
- CELL D, which would provide conventional residential land, building on recent development demand.
- CELL B, which would provide a larger lot and alternative development front adjacent to existing zoned land. This cell also accommodates catalytic drainage infrastructure important to the broader area.

Figure 10 shows the proposed staging of development within the study area.

While increased residential densities are now preferred in a metropolitan context, a lesser yield has always been anticipated in regional areas. An overarching density of 15 dwellings per hectare is proposed for MEGA 'conventional' areas. This is consistent with existing policy, noting lot diversity outcomes outlined earlier.

MEGA is also unusual in a growth area context in that there are a significant number of existing dwellings on smaller lots within the development cells, and there are also larger than usual areas required for stormwater management purposes. As such, the yield calculations outlined in Table 5 have reflected both these matters, as well as 15% of the total land area for streets and additional areas of local open space prior to determining a dwelling yield.

Cell	Total land area (approx.)	Existing dwellings (on lots under 1000sqm)	Land required for drainage purposes (approx.)	Potential dwelling numbers
PHASE ONE				
A (conv.)*	29ha	2 (18 total)	1.2ha	352
B (large)	85.5ha	3 (46 total)	12.1ha (ME-RB1 & (ME-RB2)	421
D (conv.)	34ha	5 (35 total)	0ha	282
L#	20ha	-	-	-
			Total Phase One:	**1,055**
LATER STAGES				
C (large)	34ha	12 (14 total)	0ha (refer Nichols Point Basin A and 4)	191
I^	30ha	1 (7 total)	0ha	339
F	59ha	0 (0 total)	0ha	1271
E^	37ha	29 (62 total)	4.1ha (I-RB6)	474
J	26ha	3 (11 total)	2.6ha (I-RB2 part, I-RB3 part)	174
H^	46.5ha	36 (108 total)	0ha	596
G^	28ha	19 (25 total)	4.1ha (I-RB5)	299
K#	15ha	-	-	-

Table 5: Development cell capacity

It is noted that the calculations in Table 5 are very high level and more accurate calculations of dwelling yields will need to be undertaken as part of any Development Plan drafting.

* *Note this land has already been rezoned*

 # Note these cells are proposed for Industrial 3 Zone, not residential development

^ *Note the order of development of these areas and timing should be reviewed in conjunction over time with activity associated with the existing concrete batching plant operation.*

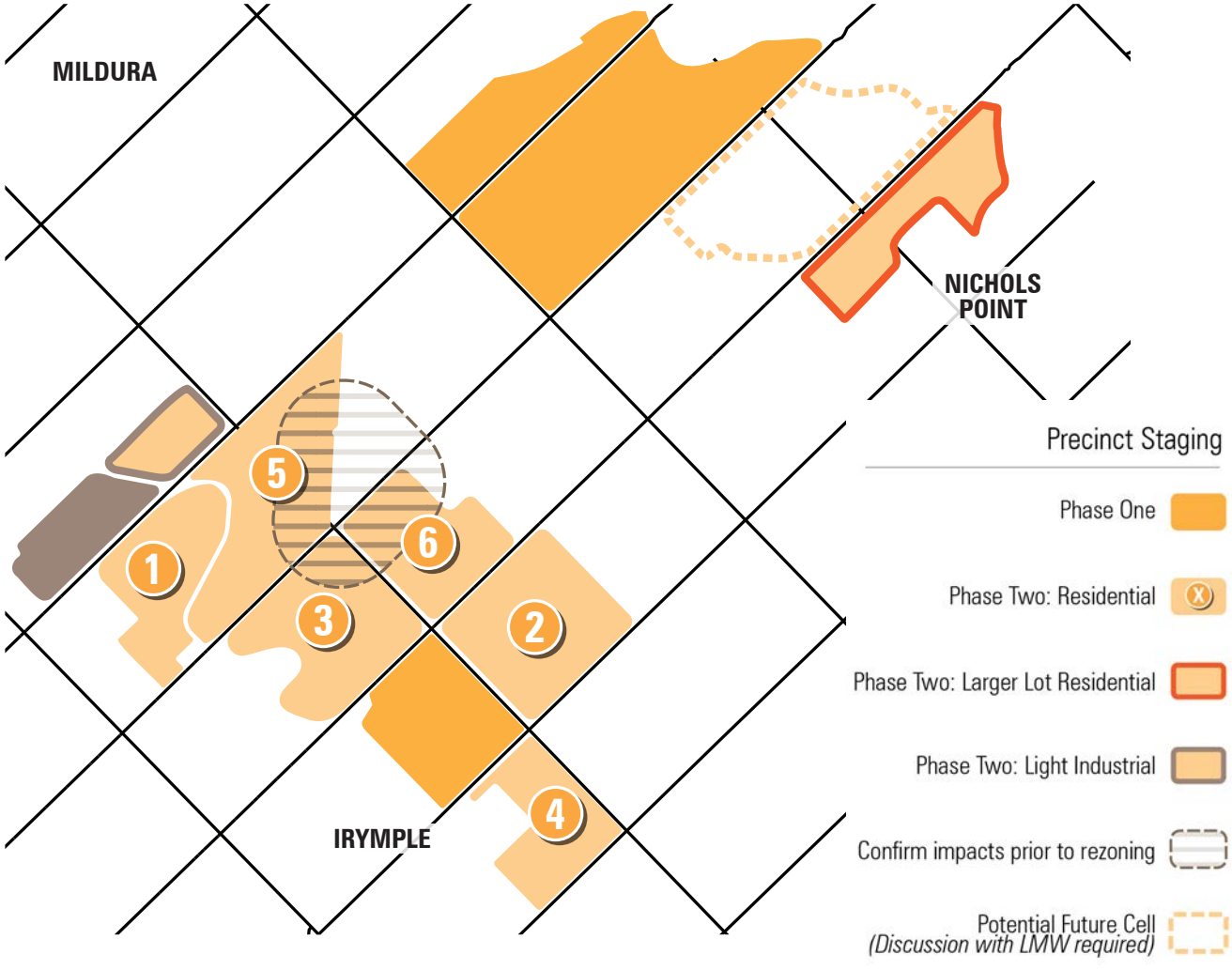


Figure 10: Development cell sequencing

Supply and demand response

As noted demand for land within the study area (based on 'upside' projections - see Pages 6-9) to 2046 is as follows:

- 'Conventional lots' (under 1000sqm) =16ha (285 dwellings)
- Larger lots (1000+sqm) = 30.1ha (174 dwellings)
- Non-residential uses = 17.8ha

While it is acknowledged proposed rezonings exceed this figure (with 634 'conventional' dwellings and 421 'larger lot' dwellings proposed), the complexities in delivering land in Mildura and bringing it to market, coupled with the potential demand within this area suggest erring on the side of generosity in terms of land supply is justified. In other words - the proposed quantum of dwellings is theoretical in nature and the figures outlined in the preceding table are considered unlikely to be delivered in full.

On this basis, the proposed capacity that would be delivered by the proposed Phase One rezonings would means that approximately 5 years of the wider urban areas total supply being delivered in the MEGA. Mildura's overarching housing supply will come from a combination of infill development plus proposed rezonings within the existing urban area of Irymple, as well as the development of existing zoned land in Nichols Point, and Mildura South.

Work undertaken by SGS has identified a trend of in the order of 35% of Mildura's housing demand being met in the Study Area currently, having regard to the larger lot 'lifestyle offer' which is unique to this area. While the proposed balance (around a third) is considered appropriate it will be important that council implements a detailed monitoring of where development is occurring across the main urban area to ensure that strategic planning objectives are being achieved. Implementation measures proposed include monitoring of growth in this area to ensure it does not exceed 30-35%% of overall growth in the 'main urban area' of Mildura, compromising objectives in relation to infill and development within the Mildura South Growth Area.

OBJECTIVES

- To ensure the development of the area occurs in an orderly fashion based on evidence based demand.
- To recognise and respond to the fragmentation of land and potential barriers to on-the-ground development.
- To support a diversity of residential development typologies.
- To support consolidated expansion of existing settlement areas rather than dispersed development.
- To deliver effective and affordable stormwater management assets.
- To recognise management of flooding and stormwater quality as the key water management concerns within this area
- To optimise opportunities to manage existing and future water needs.
- To support healthy and valued waterways and WSUD assets and to improve resilience against extreme weather events.
- To recognise the distinct characteristics of Mildura's environment in determining appropriate WSUD approaches.
- To recognise wetlands within retarding basins as the preferred stormwater treatment approach in Mildura

STRATEGIES

Development

- Rezone areas identified as Cells B and D for residential development.
- Rezone areas identified as identified Cell L to Industrial 3 Zone to respond to demand for light service industry land.
- Only rezone land within the Mildura East Growth Area beyond Phase One rezoning where there is a demonstrated demand. Staging should be fixed but the timing of any rezoning of the identified 'development cells' will be contingent on demonstrated demand.
- Establish a process for monitoring supply of land which recognises the different markets for larger lots.
- Ensure that the development of Cell C has regard to the interface with an open irrigation channel and ensure this is considered in this process.
- When rezoning of Cell C is undertaken commence discussions with Lower Murray Water regarding the potential of land identified as "Potential future larger lot development area" on Figure 9.
- Confirm a clear set of criteria for how 'demand' in the MEGA will be calculated and assessed to underpin future rezoning decisions (i.e. expected % of growth to be accommodated is identified in this document as 1/3 of demand for the broader urban area).
- Ensure that Development Plans within the different parts of MEGA are prepared in a consistent manner and contribute to meeting the Objectives of this Framework Plan.

Diversity

- Provide a mix of lot sizes to accommodate diverse housing preferences and to maintain future adaptability of subdivisions.
- Ensure that Development Plan preparation considers mechanisms to ensure that where medium density development is provided (i.e. on lots smaller than 300sqm) the typology of development is considered and fully detached dwellings are discouraged.
- Assess findings to date from the piloting of the Sustainable Subdivisions Framework to ensure integration of local issues with the higher level Framework Plan and seek to implement relevant content as part of any Development Plan drafting.
- Ensure implications for proposed infrastructure and associated roll-out are considered, having regard to the assumptions in the relevant Development Contribution Plan (see Section 3 for more detail).
- Explore levers to encourage consolidation of lots and support orderly development, including potential funding sources for catalytic infrastructure.



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Mildura East Growth Area
Strategic Framework Plan
Developement and Drainage

Legend

- Phase One Residential Area
- Future Residential Area
- Phase One Larger Lot Residential Area
- Future Larger Lot Residential Area
- Phase One Light Industrial Area
- Future Light Industrial Area
- Catchment Boundaries
- Sub-catchment Boundaries
- Surface Flow Direction
- Existing Drainage Basin
- Approved Drainage Basin
- Future Drainage Basin (approx)
- Previously Proposed Basin
- Future Stormwater Area Overflow (Approx)
- Drainage channel
- Piped Drainage Channel
- Proposed Piped Drainage Channel
- Existing Rural Network
- Existing Agricultural Irrigation Pipes
- Potential Pipe Required
- Proposed new Nicols Point Catchment Wetland
- Opportunity to maximise passive irrigation of Canopy Corridor
- Potential location of Local Nodes
- Murray River Flood Plain
- Urban Floodway Zone (UFZ)
- Non - Urban Area
- Existing GRZ land
- Local Road
- Existing or Zoned Urban Area
- Existing Open Space
- Existing Concrete Batching Plant
- Industrial Zone Buffer
- Railway Line

Figure 11: Development & Drainage Framework

Stormwater management

- Generally align the extent of development cells with catchment boundaries to facilitate affordable and orderly delivery of drainage infrastructure.
- Support the development of a new major piece of stormwater management infrastructure at the intersection of Cowra and Cureton Avenues and explore opportunities to integrate with a new parkland at this key and highly visible junction.
- Recognise the need, due to the relatively flat topography of a series of retention basins within development cells and seek to integrate these with open space and active transport networks to form a 'Green Web' through new development areas.
- Recognise the need for development in MEGA to have regard for existing constraints that exist across the broader stormwater management system in Mildura's 'main urban area' and ensure any development in this area has due regard to the implications of these constraints.
- Provide integrated stormwater management areas in identified locations, noting the actual land take of basins may vary at future functional and / or detailed design stages.
- Achieve an optimal earthworks to balance between the stormwater system requirements and integrated with surrounding urban open space to deliver Integrated Water Management objectives.
- Ensure average depths of retarding basins, and associated batters, are consistent with support for effective integration with adjoining open space areas.
- Ensure areas identified for retarding basins can deliver a range of IWM benefits including water quality treatment, biodiversity and amenity.
- Recognise that groundwater tables and salinity levels in the area are elevated and that intentional infiltration is not a preferred outcome.
- Support the use of assets such as passively irrigated street trees where the majority of stormwater directed to the asset is returned to the atmosphere through evapotranspiration.
- Apply a requirement for future development to ensure that existing flood risks are not exacerbated by directing that developers and their consultants must take into consideration downstream flood risks (to at least the retarding basins within Henshilwood Reserve) and appropriate mitigation for all events up to the Probable Maximum Flood in accordance with relevant AR&R requirements.
- Require retarding basins to provide full mitigation of the 1% annual exceedance probability storm event for the critical duration to pre-development levels (or outlet pump flow rate if lower) as well as local flood mitigation requirements and constraints.

Stormwater quality

- Ensure any new upstream retarding basins are designed as integrated wetlands.
- Continue to review and upgrade stormwater management assets at Henshilwood Reserve including the further development of wetlands.
- Design roads and streets to support passive irrigation of canopy trees and maximise opportunities to use available stormwater from adjacent roads to significantly increase runoff flows and soil moisture storage to support vegetation.
- Recognise that canopy vegetation assets (like most vegetated areas in Mildura) may still require some potable irrigation during extended dry periods and ensure programs are in place to support ongoing health of canopy vegetation.
- In larger lot residential areas, consider relatively low cost interventions such as flush kerbs draining into swales with trees planted along them.
- Respect and support existing infrastructure essential for existing and ongoing farming operations including irrigation and drainage channels.
- Require a contextually relevant IWM plan to be prepared as part of any Development Plan (a Water & Public Realm Plan). This should consider similar matters to those addressed by the PSP Guidelines 'Public Realm and Water Plan'.

LANDSCAPE & ENVIRONMENT

The study area has a mostly rural character with the majority of land developed under vine or vacant, with significant areas of residential development also present. As a result, there are few particularly notable landscape or biodiversity values that would need to be protected, although more site specific assessments as the area develops may yield further findings. However, the area's location close to the Murray River and its floodplain must be acknowledged more explicitly as part of future development and should be more meaningfully acknowledged in the delivery of new estates within the study area.

Road corridors contain the majority of canopy vegetation which provides a basis for the key directions relating to Landscape & Environment. The rate of development in this area provides an important opportunity to actively restore some of the natural values of this area, which in turn support economic development through increased tourism opportunities and also contribute to overall community health and wellbeing. The reintroduction of canopy vegetation is particularly important in response to climate change, but there are much broader opportunities to consider how the environment is addressed through the public realm and contributes to a sense of place. Delivering multi-beneficial outcomes through key interventions is an underlying principle behind many of these directions. Ensuring that appropriate aspects of the open space and other relevant land uses have a strong focus on restoring and enhancing biodiversity outcomes is a key focus of the framework.

Importantly, utilisation of existing and proposed stormwater management and transport infrastructure to bolster the open space network through canopy coverage and integrated wetlands will be key in development of this area, along with an increased focus on locally relevant and climate resilient landscape outcomes. In line with both state directions and requirements already embedded in Mildura's Planning Scheme, natural and cultural features will be incorporated into the design of streets and public open space where appropriate. The significant areas of land required to manage stormwater are viewed as an opportunity to deliver on other established directions such as improved provision of open space in the city's growth areas.

Given this regulatory and policy context, as the growth area develops over time significant opportunities exist to build upon the existing canopy vegetation within MEGA road corridors through the carefully considered, strategic reintroduction of biodiversity into the growth area, and deliver 'Greenways' – providing active transport corridor connections to key destinations with provision of landscaping, furniture and places to 'pause' in order to:

- Restore some of the areas' lost biodiversity values.
- Incorporate species that are adapted to the specific context and climate of the growth area.
- Help to create a strong sense of place, an aspect that has been missing in some recent developments.
- Reflect local Aboriginal values and provide enhanced opportunities for greater awareness of Aboriginal culture.
- To improve urban cooling, to provide shade and to provide comfortable and accessible travel corridors and spaces for residents.

All new development, particularly those at precinct scale need to embed considerations of climate change as fundamental planks of their planning. This approach is supported by recent updates to Victoria's planning schemes to introduce responding to climate change as a Purpose of the State's planning schemes. This is addressed in more detail at the beginning of this section of the report.

OBJECTIVES

- To establish net zero and climate resilient communities.
- To establish a hierarchy of green corridors (the Green Web) connecting the open space network.
- To ensure that the area contributes to urban heat reduction and to maintaining health and wellbeing through periods of extreme heat.
- To restore lost biodiversity within the precinct where practicable and support opportunities to provide habitat for local species.
- To deliver comprehensive network urban forest corridors.
- To protect the Murray River and its floodplain from the impacts on more intensive development.
- To maximize the contribution of landscape interventions to a sense of place.



Figure 12: Landscape, Environment & Open Space Framework

STRATEGIES

Green corridors

- Develop Eleventh Street, Sandilong Avenue and Koorlong Avenue as 'Canopy Corridors', with road shoulders developed as part of a broader urban forest network intended to increase liveability and support biodiversity outcomes.
- All streets containing canopy trees should use stormwater to service their watering needs to the extent practicable.
- Establish a web of green corridors in the form of highly amenable vegetated pedestrian paths connecting existing and proposed stormwater management areas and 'local nodes' to facilitate active transport and connect the open space network.
- Protect and enhance existing corridors such as the existing Irymple Green Belt.
- Ensure that appropriate design controls are incorporated at the time of any rezoning to establish high quality interfaces to any areas of public space including the green web. This should include consideration of frontages, passive surveillance, fencing and landscaping outcomes.
- Prioritise the delivery of shaded canopy as well as other ground level vegetation within edge road reserves to soften the urban–rural interface, in conjunction with identified 'edge roads'.
- Use landscape interventions to connect key recreational assets to support access from the study area.

Biodiversity

- Build on existing connections to deliver landscape corridors which contribute to biodiversity outcomes.
- Seek to deliver a minimum canopy tree coverage within the public realm and open space of 30% (excluding areas dedicated to biodiversity or native vegetation conservation).
- Bring the mallee into MEGA through mallee forest corridors, the use of indigenous understorey plantings and unsealed tracks alongside more 'urban' infrastructure.
- Ensure existing corridors such as drainage channels evolve as biodiversity links through the incorporation of generous landscape setbacks (incorporating local species) to any new development.
- Strongly support appropriate uses within the 'non-urban area' which enhance and restore the area's biodiversity or contribute to increase canopy cover within the area.
- Identify potential funding streams to support initiatives to improve biodiversity and canopy development on private land and ensure these opportunities are communicated with landowners.
- Where large canopy trees are present, ensure these are identified as part of any Development Plan and design around existing mature trees as a priority.
- Consideration could be given to the establishment of a community nursery and / or urban farm on college lease land that may be required for stormwater management (overflow areas) to support biodiversity improvements.
- Recognise the transition point in the landscape to the north formed along the irrigation channel which offers views to the river floodplain beyond Cureton Avenue.



- Explore opportunities to support biodiversity outcomes on private land in a way which is compatible with landowner aspirations.
- Consider required setbacks or other mechanisms required to deliver the identified linear forest along Cowra Avenue.
- Develop material to support community and landowner understanding as to how the 'mallee' landscape character could be integrated into landscape and streetscape works in a practical and attractive manner.

Public open space

- Establish minimum standards for the provision of open space across the Study Area to be delivered as part of any Development Plan (see highlight box)
- Establish a large neighbourhood park in the north-west corner of the growth area in conjunction with the areas major retarding basin, supported by a network of smaller local open spaces comprising a mix of encumbered and unencumbered open space.
- Ensure all stormwater management infrastructure is delivered in a manner which considers opportunities to provide multi-beneficial outcomes, improvement amenity, liveability or environmental outcomes.
- Ensure that the provision of open space within development cells considers not only the quantum of space provided relative to the population, and easily accessible facilities', but also connectivity.
- Locate all open spaces along linear corridors and active transport connections which extend beyond the boundaries of any development area.
- Recognise and consider the appropriate balance between encumbered and unencumbered land in delivering a cohesive suite of open spaces across MEGA.
- Ensure that the orientation of the street network prioritises amenity and access to open spaces (Local Nodes) within the cell by active transport.
- Encourage consideration of localised renewable energy generation and storage within cells to support net zero outcomes and improve energy security and affordability.
- Ensure that development planning integrates appropriate measures to ensure that new residential areas are designed to support environmentally sustainable development.
- Identify key components of drainage infrastructure delivery, including staging and financial considerations through the Drainage Plan and Development Plan content.



CANOPY CORRIDORS

An important aspect of the Framework Plan are the connecting corridors between the different areas of development with the study area. These are identified as a key transformational aspect in the area's evolution, and a key part of developing neighbourhoods that are resilient to the significant impact climate change is likely to have on these communities. These corridors represent a response to numerous aspects of state and local planning policy, as well as aspirations for growth areas and planning more generally.

The 'Canopy corridor' concept is made up of two parts, but the focus is on the role of these corridors in connecting pedestrian and cycle infrastructure in a climate responsive manner and in enhancing biodiversity outcomes. While an ambition to deliver canopy vegetation alongside very footpath is highlighted, a particular focus has been placed on certain corridors in recognition of the need for investment in their delivery. Focusing on key connections in the first instance should not preclude later development of additional canopy corridors. Further, the development of these corridors should not be dependent solely on funding via development contributions but should be projects for which Council actively seeks external funding to ensure they can be developed in advance of new neighbourhoods. This will support climate resilience.

Canopy corridors would have single trafficable lanes in each direction. One side of the corridors would be a more formal design response which would include a shared user path, supported by a strong canopy cover to ensure these paths are cool and amenable, to support their use even in times of significant heat. While the undergrounding of powerlines should be pursued as a priority, if this is not possible, then the shared user path should be located on the side of the corridor where there are no powerlines to support the growth of meaningful canopy.

The other side of the corridors would have a much stronger biodiversity focus, with informal mallee planting dominating the public realm, supported by an informal unsealed path, providing an alternative to the more formal shared path, supporting relaxed informal movement between areas and enhancing connections between residents and their natural environment.



Figure 13: Indicative sketch option for Canopy Corridors

STORMWATER MANAGEMENT AND OPEN SPACE INTEGRATION

Alongside the Canopy corridors, the other key 'connective' element articulated through this Framework Plan is the network of open spaces, and associated 'Green Web' of vegetated linear paths connecting these across the different development cells.

The *Mildura East Growth Area Stormwater Management Strategy* articulates a clear approach to the management of stormwater within MEGA. This includes the identification of large areas of land as required for stormwater management. These areas have been split between 'retention basins' likely to be used more frequently for the storage and eventual discharge of stormwater, and overflow areas, likely to be used much more infrequently, but nonetheless of importance in ensuring communities are protected from the impacts of flooding.

As noted previously, this is particularly important given the changing climate which will involve less, but more intensive rainfall. In addition, the specific characteristics of Mildura (for example, in relation to salinity) mean many of the 'typical' Water Sensitive Urban Design (WSUD) approaches, such as infiltration, are not preferred (other than where this is directed to passive irrigation of street trees for example). Wetlands integrated with open space, as well as passive irrigation of street trees are identified as the key aspects of WSUD that should be pursued in the area.

In responding to the size of the spatial areas required to manage stormwater, the Framework Plan adopts an approach which seeks to use the 'overflow areas' as usual open space for these new communities - be that dog walking, or just kicking a ball around. While this land is considered to 'encumbered' it is a key opportunity to create great places within these development cells which bring together and connect residents. Smaller areas of 'unencumbered' land adjoining these stormwater management areas can then be used to provide playground or other infrastructure better located outside of these overflow areas. These, along with linear green spaces, are the areas which would be funded via Public Open Space contributions required under the Mildura Planning Scheme. Ensuring that the design of retarding basins, the overflow areas and any adjoining, more formal areas of open space all work together to provide areas of high amenity which form the focal points for these new communities is a key ambition of the Framework Plan.

These integrated stormwater and open space areas form the 'Local Nodes' within cells where they exist. Open space areas without stormwater components play a similar role in cells where stormwater management areas have not been identified. This integration is key to the delivery of Integrated Water Management (IWM) outcomes within MEGA. See highlight box for a description of IWM and refer to the MEGA Stormwater Management Strategy (E2 Designlab, 2024) for further details.

INTEGRATED WATER MANAGEMENT (IWM)

Integrated water management (IWM) is a strategic and collaborative approach to managing different stages of the water cycle, aiming to generate, optimise and integrate a range of environmental, social and economic outcomes. Its importance is highlighted in relation to issues such as water security and quality assurance, affordable and effective wastewater management, the protection of urban landscapes and the integration of community values.

Organisations such as water corporations, catchment management authorities, local governments, land use planning bodies and state departments come together to develop and implement place-based IWM plans. Successful IWM not only stands to benefit water project outcomes, but also increases transparency in infrastructure investment and cost-benefit ratios. IWM may be pursued in relation to opportunities such as climate adaptation, public open space master planning, urban waterway revegetation, drainage, stormwater management and harvesting, wastewater treatment and recycled water production.

IWM is now integrated into planning policy via state level policy at Clause 19.03, as well as through particular provisions such as ResCode and 53.18 as well as Clause 56.07 which addresses subdivision retirements.

A NEW NEIGHBOURHOOD PARK FOR MILDURA

While it is anticipated that Local Nodes across the development cells in MEGA will provide local opportunities for access to open space, the Framework Plan also identifies a larger scale new parkland in the north-west corner of the study area. The Stormwater Management Strategy (which was reflected in the adopted Vision & Key Directions Report) has identified this location as a key area for stormwater management, an area in the order of 7ha, and the location of one of the largest basins in the area. Considering this strategically, the development of this area as a large parkland encompassing much of the 'overflow areas' responds to a number of issues and opportunities, among them:

- Council's open space strategy identified a gap in the provision of open space within the existing north eastern area of Mildura (Gap 4) addressing which will increase in importance as new development occurs in the area.
- The broader lack of a large scale, multipurpose area of open space within the broader eastern side of the city.
- The highly prominent location of the site and its proximity to tourism uses and routes.

Planning for this parkland should consider the following opportunities:

- The integration of areas of mallee vegetation and the use of this for easily accessible education and awareness of this ecosystem, potentially linking to tourism opportunities (i.e. through an education trail).
- The use of overflow areas for informal sporting use, dog walking and the like. It is likely some infrastructure such as fencing or signage could be considered within these overflow areas provided it was consistent with the primary purpose of the land for stormwater management.
- Provision of a larger scale nature based play area, picnic facilities EV charging facilities, public toilets, long bay car parking and other complementary facilities to support tourism development - providing a link between the 'urban' areas of Mildura and the surrounding natural environment.
- Connections between this parkland and the canopy corridors and green web which connect the varying areas of MEGA.

It is not anticipated due to the encumbered nature of much of this parkland that formal sporting facilities would be provided in this area.

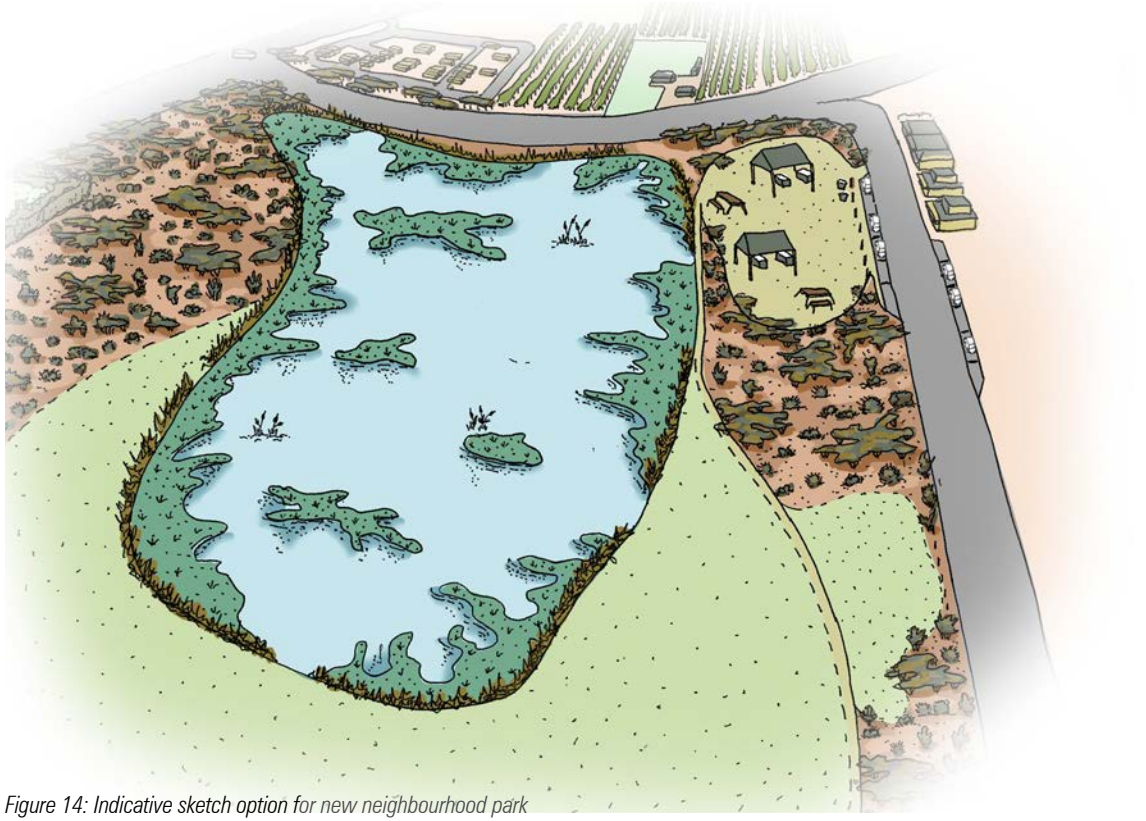


Figure 14: Indicative sketch option for new neighbourhood park

ACCESS & MOVEMENT

The Growth Area is characterized by the typical 'grid' network of streets and avenues which characterize Mildura. There is limited public transport provision, even to existing smaller settlements, and the train line that bisects the Growth Area carries only a couple of freight trains per day. In the transition of parts of Mildura East into an urban residential environment, the framework seeks to provide an approach to transport that will support the ongoing resilience of the new communities in this area.

The Framework Plan itself does not detail future local road networks within the Growth Area, instead relying on the existing gird and looking to the development plan phase of planning as the appropriate stage for those networks, guided primarily by the state level residential subdivision controls. The Framework Plan does provide some additional detail addressing matters not currently addressed by these controls but which are considered relevant in ensuring the 'future proofing' of these new neighbourhoods.

Key to the movement networks in the growth area are the proposed 'canopy corridors' and the complementary network of local 'green web' connections. Mildura, as everywhere needs to see a transition to more sustainable forms of transport. However, in the context of Mildura, the provision of cool and shaded corridors to support this movement will be absolutely critical. The importance of these corridors is emphasised further by the challenges in provision of the services and facilities required by residents in these areas, which means that ensuing safe and amendable connections to existing facilities and services is paramount.

Drainage channels, urban forest buffers and other key features of the proposed vision are all linked together to facilitate the movement of people through the various development cells, with a deliberate focus on aligning pedestrian movements with green spaces and access to shade. These connections will mean that, in addition to each neighborhood having a clear focal point to support social and community outcomes, but that these communities are then knitted together. These connections will then form a flexible web which taps into other key movement corridors such as the canopy corridors and the linear forest, providing choice in how residents move though the neighbourhoods that has not been available in past subdivisions.

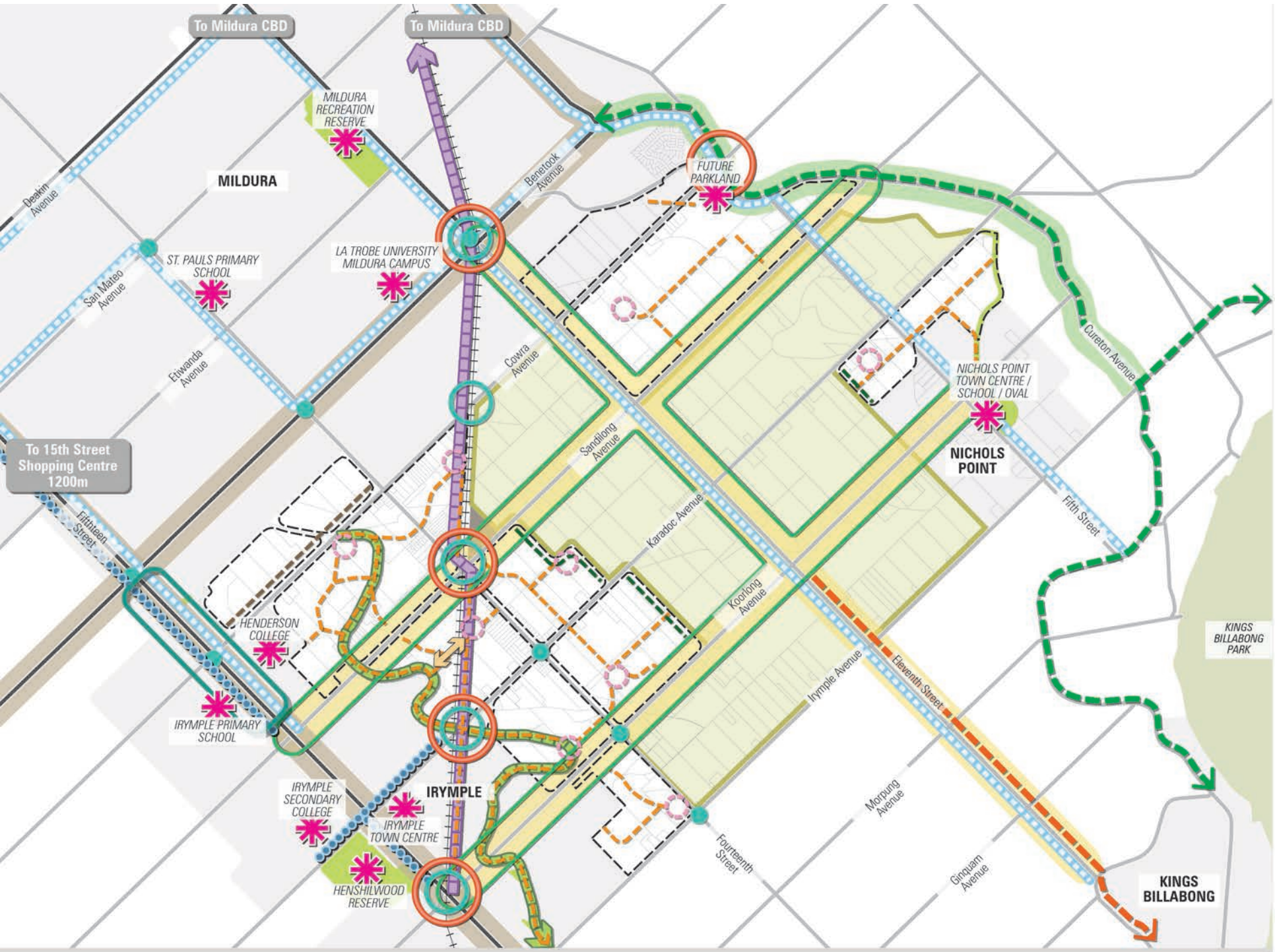
Better pedestrian and cycle connections to the Centro Shopping Centre will also be important, as will early provision of public transport to these areas. The long term potential of the rail corridor to provide a direct separated active transport link to the CBD is significant enough that it must be explored further, considering the existing and future use of this corridor.

Freight traffic will continue to remain peripheral to the Growth Area, with Fifteenth Street / Calder Highway and Benetook Avenue (the Mildura Freight Link) carrying the majority of traffic. Eleventh Street, which is a key connector to Kings Billabong and to Red Cliffs beyond will see a slowing of vehicular traffic through its evolution to one of the areas 'canopy corridors', which should support the direction of some traffic to higher order roads. Access to the proposed new light industrial area via a service road will support both movement outcomes as well as the interface along the relevant portion of Cowra Avenue,

The Framework Plan also seeks to acknowledge the changing context in terms of private vehicle, recognising that in the context of Mildura, private vehicle usage is likely to remain a key part of the transport mix, particularly in accessing employment opportunities, but that the use of electric vehicles is an inevitable part of the areas future.

Rather, consistent with the applicable objectives and strategies of Clause 18 (Transport), the Framework Plan establishes a number of key parameters that will guide the design of future local road networks at the Development Plan stage, to ensure those local networks:

- Facilitate appropriate access to social, cultural and economic opportunities.
- Improve local transport options to support 20-minute neighbourhoods.
- Promote walking, cycling and the use of public transport, in that order, and minimise car dependency.
- Incorporate electric charging facilities to support the use of low-emission vehicles.
- Facilitate an environmentally sustainable transport system that is safe and supports health and wellbeing.



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Mildura East Growth Area
Strategic Framework Plan
Access and Movement

Legend

- Key Destination
- Irymple Gateway Streetscape Treatment
- New Shared Path connection to Mildura CBD
- Review intersection configuration
- Priority corridor for Pedestrian Access Improvements
- Develop Canopy Corridor
- Proposed Linear Forest Trail
- Future Open Space
- Establish a 'Green Web' of Open Space linkages
- Investigate potential future Mid Block crossing
- Provide Service Road
- Provide Landscaped Edge Road
- Access to Kings Billabong State Park
- Access to Kings Billabong & Red Cliffs Settlements
- Principal Freight Network (PFN)
- Tourist Route
- Prepare Masterplan for Road Corridor
- Principal Bicycle Network (PBN)
- Existing Railway Crossings
- Existing Roundabout
- Ensure Pedestrian Priority in Local Road Networks
- Non - Urban Area
- Existing Open Space
- Principal Road Network (TRZ2)
- Local Road
- Existing or Zoned Urban Area
- Public Conservation and Resource Zone
- Railway Line

Figure 15: Access & Movement Framework

OBJECTIVES

- To provide for a safe transportation network for all through a clear hierarchy of road users and transport modes.
- To prioritise active modes of transportation along a series of connected active transport corridors which connect key destinations within cell and to key destinations in proximity.
- To ensure that active transport links are designed to reflect Mildura's future climatic conditions, through the integration of significant canopy vegetation.
- To improve active transport connections between key destinations.
- To provide for a universally accessible movement network that gives access to community and social infrastructure.
- To support early provision of public transport to new communities.

STRATEGIES

Active transport

- Develop Eleventh Street, Karadoc Avenue and Sandilong Avenue as 'Canopy Corridors', providing cool and safe pedestrian and bicycle links alongside road carriageways and delivering key inter-urban links.
- Continue the development of Irymple's linear forest trail in the style implemented between Koorlong and Irymple Avenues, providing an informal nature focused active transport connection through existing and future parts of Irymple.
- Prioritise the movement of pedestrians through the design of street networks within development cells including the delivery of a connected 'green web' of linear paths supported by extensive canopy plantings to create cool 'greenways' and support urban cooling.
- Improve the safety and amenity of pedestrian crossing points of freight line at Karadoc Avenue and Sandilong Avenue / Fourteenth Street.
- Seek to deliver a new shared path along the alignment of the existing freight train line, in recognition of the infrequency of use for rail purposes and the benefits of delivering a direct active transport link between the Irymple town centre and Mildura CBD.
- Explore opportunities for a mid-block crossing point on Koorlong Avenue to support pedestrian priority.
- Establish a clear, safe, continuous and amenable pedestrian connection from the south-east corner of MEGA, particularly the Cowra Avenue Canopy Corridor and Irymple linear forest to the Mildura Central shopping centre, along Fifteenth Street.
- Explore opportunities to use the proposed network of open space / active transport linkages to deliver exercise or tourism trails. In particular consider links to Kings Billabong.
- Encourage the integration of 'bike stations' throughout the area (pumps, water station etc).

Public transport

- Advocate for the early and timely expansion of bus services into new residential areas.
- Support use of existing grid network for bus services, considering use of alternating 'avenues' with identified canopy corridors.
- Ensure links between active transport corridors and the 'green web' and the location of future bus stops.
- Ensure bus stops are designed to reflect climatic conditions including shade structures, integration with canopy planting, water fountains and the potential integration of 'cool misting' technology in shelters to increase community resilience.

STRATEGIES (cont.)

Roads and vehicles

- Continue to use road treatments to discourage heavy vehicle through traffic from using roads in the area, directing heavy vehicles to the Mildura Freight Link (Benetook Avenue) and the Calder Freeway to the south.
- Recognise Cureton Avenue as a key tourism route connecting the CBD to Kings Billabong and ensure development responds accordingly by providing high quality interfaces and views from this road.
- Reconfigure Eleventh Street as a key connective corridor, with a focus on managing vehicular traffic in a manner which also supports safe and amenable pedestrian and cycle movement.
- Ensure development of the proposed light industrial cells is supported by the establishment of a service road on the western side of Cowra Avenue, coupled with the delivery of an urban forest corridor as part of any median, supporting a high quality interface to existing sensitive uses such as Henderson College (see Figure 16).
- Utilise key connections within development north of Irymple to make use of the existing street network and rail crossing points to create a connected network of local streets within development cells.
- Provide edge roads with generous canopy tree planting in development cells adjoining the 'non-urban area' to mark the interface and ensure improved surveillance of non-urban areas.
- Provide an edge road to the open irrigation channel in Cell C, with suitable safety measures in place to prevent access. If possible, this should be in the form of fencing no higher than waist height in conjunction with vegetation.
- Consider the integration of electric vehicle charging points within key corridors or at key nodes.
- Deliver a clear set of criteria to guide development of localised road networks within development cells. This should include the following:
  - Have regard to the conditions required to support a comprehensive network of street tree plantings in the projected future climate range.
  - Include design features that actively encourage informal community socialisation.
  - Utilise materials with low embodied carbon, or which incorporate recycled component.
  - Utilise materials which reduce urban heat impacts, having regard to relevant state level guidance.
  - Ensure safe crossing points for pedestrians.
  - Include physical protection for cyclists at intersections with connector streets and arterial roads.
  - Include measures on local streets to limit traffic speed to 30 km/h or lower and to limit through traffic for cars, without reducing the connectivity of the street network for pedestrians and cyclists.



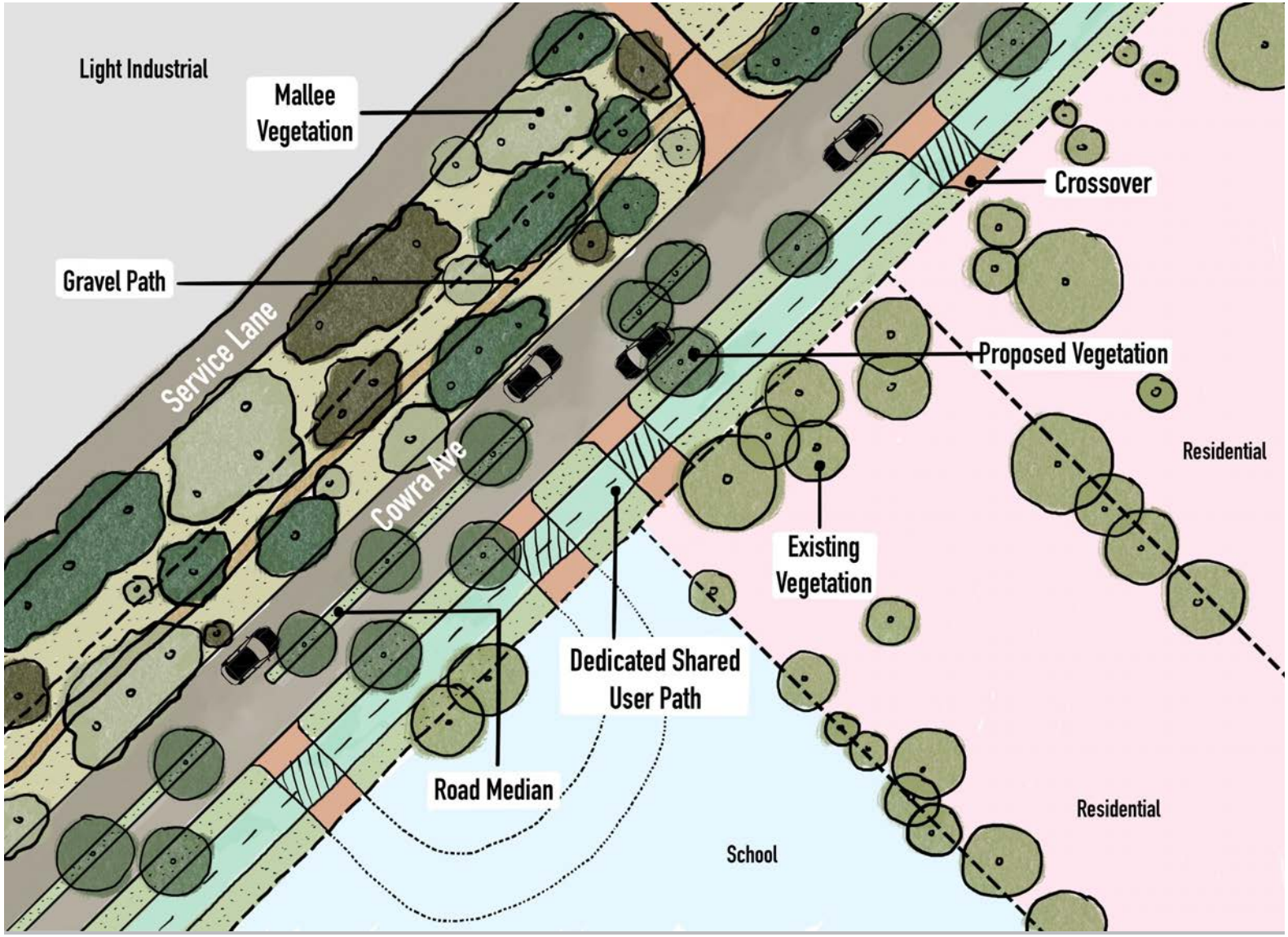








Figure 16: Indicative sketch of Cowra Avenue service road interface



PART B: DEVELOPMENT CELLS

Mildura has an established process of implementation planning for growth areas, This involves the application of the Development Plan Overlay to land at the time it is rezoned to facilitate urban development.

Under this process, land rezoned to facilitate development is required to prepare a more detailed plan which addresses matters outlined in a corresponding Development Plan Overlay. The implication of this is that landowners within the area rezoned, either independently, or via the Council, must prepare a Development Plan. This Development Plan must then be endorsed by the Council.

Previously Mildura has utilised a Development Plan Overlay that is generic and applied to many of the residential areas (see highlight box) and in fact, this overlay applies to Cell A within the MEGA.

While a similar proposition is recommended in relation to MEGA (i.e. the application of a Development Plan Overlay at the time of any rezoning) it is recommended that more site specific responses should be integrated into the relevant overlay controls. This will support the consideration and response to the varying issues which affect different cells across the growth area.

The section of the report provides the basis for the drafting of relevant overlay controls at the time of rezoning, in addition to the specific matters outlined in relation to each Cell.

A decision will need to be made regarding the preferred approach to Cell A and whether the overlay schedule which applies to that land should be updated to be consistent with the remainder of the MEGA.

Requirements for development plan (DPO1 Mildura Planning Scheme)

A development plan must include the following requirements:

- *A clearly distinguishable road hierarchy with the differences in road function reflected in the road width, design layout and road reserve treatments.*
- *A range of residential lot sizes.*
- *The lot layout, size and density.*
- *Innovative design of all proposed public open spaces incorporating pedestrian and cycle paths and linking open space networks with community facilities and local neighbourhood activity centres with the surrounding residential precinct.*
- *The means of servicing to lots including the provision of reticulated water and sewer to all residential lots.*
- *The need for open space and any other community infrastructure as considered necessary by the responsible authority.*
- *The impact of the development on any sites of flora or fauna significance, archaeological significance or significant views that may affect the land.*
- *Retention of any existing trees of value and an appropriate landscaping theme for nature strips and public open space including the use of salt tolerant plants.*
- *Identification of common trenching of compatible services.*
- *The application of water sensitive urban design principles.*
- *The comments of the owners of the land.*
- *The comments of Lower Murray Water.*

FUTURE DEVELOPMENT PLAN OVERLAYS

General requirements which should be consistent across all Development Plan Overlays should include the following:

A written statement that explains how the Development Plan meets the Objectives and Strategies of the Mildura East Growth Area Framework Plan.

A Public Realm & Water Plan which identifies and includes:

- An assessment by a suitably qualified professional that demonstrates how the key directions of the Mildura East Stormwater Management Strategy (E2 Design Lab 2023) are proposed to be implemented.
- Concept plans for any in-street WSUD treatments, and any proposed alternative water supply.
- The provision of and integration with 'Canopy Corridors' and 'Edge Road Reserves' generally in accordance with the Mildura East Growth Area Framework Plan.
- The development of appropriate landscaping themes for the public realm that includes the use of local and climate-resilient species to establish a distinct sense of place, including detail of how a distinct 'mallee' landscape character will be integrated into all proposed landscape and streetscape works in a practical and attractive manner.
- Demonstration of how future subdivision will achieve open space provision in the form of 'local nodes' and the 'green web' as outlined in the MEGA Framework Plan and associated design outcomes including:
  - Integration and identification of encumbered and unencumbered land and how this is proposed to contribute to overarching open space provision.
  - Preferred interface treatments / cross sections between proposed areas of open space and other land uses.
  - Design responses that acknowledge the specific stormwater characteristics and 'interim' use of stormwater overflow areas that may be required given local climate.
  - Walkable catchments, proposed linkages and connections, barriers to connectivity and proposed measures to overcome such barriers.
  - Proposed provision of small-scale infrastructure to facilitate social connections within the public realm.
- Sites of flora or fauna significance or archaeological or heritage significance, and details how these will be integrated into the design of the public realm or otherwise protected or celebrated.
- The location of existing canopy trees and justification by a qualified professional if any removal of canopy trees is proposed as part of any subdivision.

An Access & Movement Plan which includes or identifies:

- Provision of a local road network generally in accordance with the preferred outcomes identified in the MEGA Framework Plan. The local road network should:
  - Provide for the protection and incorporation of existing healthy and safe canopy trees whenever possible.
  - Include design features and infrastructure elements that actively encourage community connectivity and interaction.
  - Ensures connectivity between adjoining subdivisions with a focus on pedestrian and cycle connectivity over vehicular connectivity.
  - Include measures on local streets to limit traffic speed to 30 km/h or lower and to limit through traffic for cars, without reducing the connectivity of the street network for pedestrians and cyclists.
- Provision of a bicycle and pedestrian network plan which should:
  - Delineate between sealed and unsealed surfaces, as well as recreation and commuter routes and locations of rest nodes).
  - Deliver the precinct wide pedestrian and cycle connections in accordance with the MEGA Framework Plan.

- Provide safe pedestrian and cycle crossings on all roads at regular intervals appropriate to the function of the road, including physical protection for cyclists at intersections with connector streets and arterial roads.

- Demonstrate how future subdivision will integrate electric vehicle charging points.
- Where necessary Development Plans and associated subdivision plans should also include:
  - Road cross sections compatible with the future provision of bus services.
  - Details of proposed road treatments to discourage heavy through traffic.
  - Identifies required upgrades to existing intersections.
  - Responses to specific issues or ambitions outlined in relation to specific development cell with int eh MEGA Framework Plan.

A Servicing & Infrastructure Plan which includes or identifies:

- The means of servicing of all future lots.
- The provision, staging and timing of infrastructure, including stormwater drainage works.
- If required, the identification of interim and ultimate drainage works to support staged development of the Development Plan area.
- The identification of land that may be affected by or required for the provision of infrastructure works.
- The provision, staging and timing of road works internal and external to the Development Plan area consistent with any relevant traffic report or assessment.
- The provision of public open space (including landscaping) and land for any proposed community facilities.
- Subdivision Design Guidelines that support:
  - The undergrounding of existing and proposed overhead powerlines to provide for canopy tree planting within the public realm.
  - The identification of common trenching of compatible services.
  - The provision of street and path lighting powered by renewable energy, such as solar PV.





- The re-use of on-site materials, the use of recycled materials, the use of material which reduce urban heat impacts and the use of low carbon materials.
- Design measures which support the integration of green infrastructure within any subdivision.
- Design measures which support effective integration of above ground utilities (such as electricity substations, kiosk and sewer pumps) with the surrounding neighbourhood and landscape and to minimise impact on amenity.

- The provision of neighbourhood scale renewable energy generation, neighbourhood scale battery storage and virtual power plants for excess renewable energy or green energy power purchasing agreements, if proposed.
- Identification of appropriate resource recovery infrastructure.
- Identification of proposed potable water infrastructure and any measure proposed to support recycle water.
- Proposed approach to the transition of existing rural infrastructure including correspondence from Lower Murray Water confirming approval of proposed approach.

A Development & Density Plan which identifies:

- Any proposed staging of subdivisions within the development plan area.
- Proposed approach to the delivery of lot diversity requirements contained within the Framework Plan.
- A table that identifies the net developable residential area, the number of lots and dwellings proposed, the average lot size as well as the overall density achieved.
- Demonstration of how existing residential properties, not intended to be redeveloped as part of any future subdivision are being integrated in a manner which meets the objectives of the MEGA Framework Plan.

A Climate Change & Resilience Statement that applies to the entire Development Plan area and articulates:

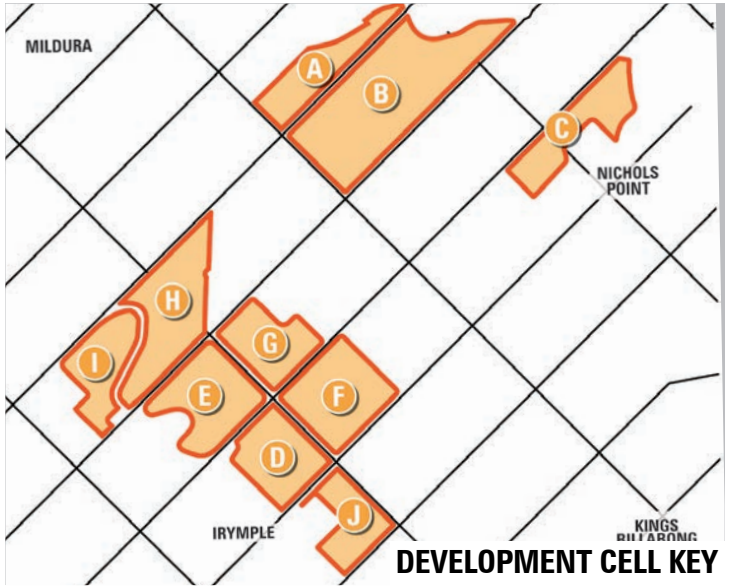
- How future subdivision will achieve the minimum canopy cover set out in the Mildura East Growth Area Framework Plan.
- Measures proposed to minimise the use and consumption of reticulated recycled water and to maximise the use of alternative water sources for public and private use, including the passive irrigation of canopy trees and open space utilising stormwater.
- Measures proposed to maximise the provision and use of renewable energy and storage technologies.
- Measures proposed to ensure the orientation and layout of development minimises fossil fuel energy use and maximises the use of daylight and solar energy.

- Any additional interventions to respond to the risks associated with climate change.
- Proposed materials and finishes intended to reduce the urban heat impact.

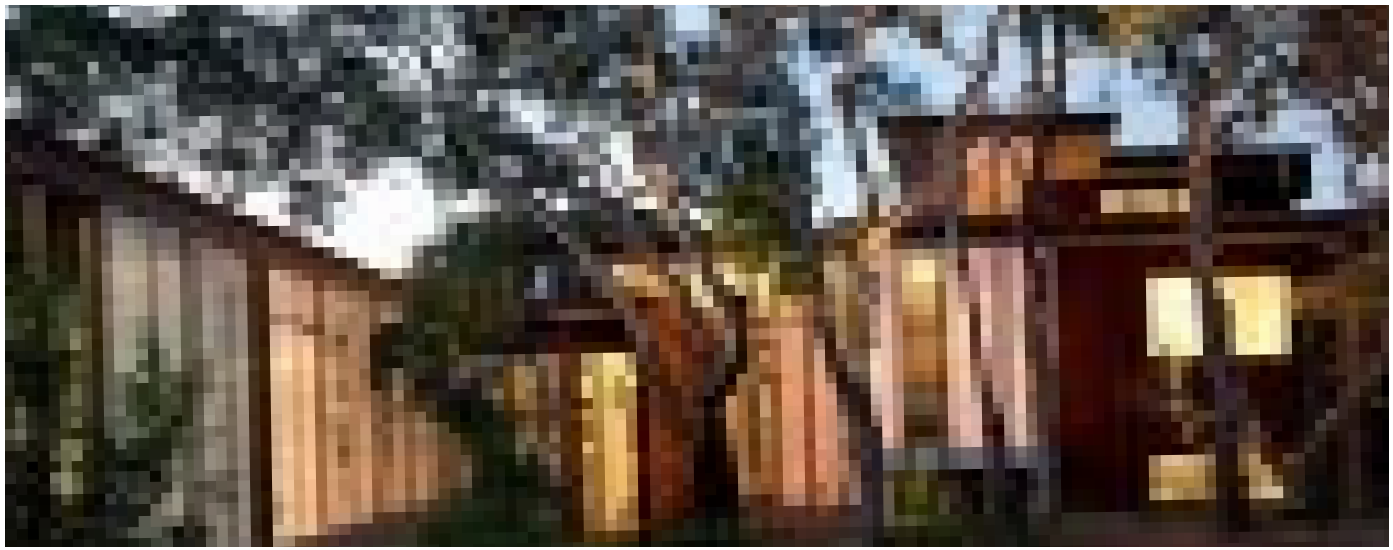
If non-residential uses are proposed within any development plan, the need for:

- An analysis of supply and demand to identify the need for proposed non-residential use, having regard for existing services and facilities.
- Demonstration that the location of the proposed non-residential use is consistent with the objectives of this Framework Plan.

The preparation of design guidelines for housing to be developed within the cells to ensure that they respond to the objectives of this Framework Plan in relation to the delivery of climate resilient housing, such as through the use of materials that minimise heat absorption and mitigate the urban heat island effect.



DEVELOPMENT CELL KEY



DEVELOPMENT CELL A

Land Area: 29ha

Existing Lots: 19

Existing dwellings: 12

Stormwater land take: 1.2ha

Potential dwellings: 352

Potential population: 844 *(based on 2021 household size for Mildura of 2.4)*

DEVELOPMENT PLAN COMPONENTS

Development Cell A should contain:

- A diversity of lots in accordance with the MEGA Framework Plan.
- A 'local node' of open space associated with stormwater management.
- Connections from the established Mildura East neighbourhood through to the proposed Neighbourhood Park.

KEY CONSIDERATIONS

Any future Development Plan prepared for the area identified as Cell A will need to consider:

- The relationship of the precinct to the Murray River floodplain.
- Any impacts on the Etiwanda wetlands through increased run off.
- Any impacts on or upgrades required to the intersection of Cowra and Cureton Avenues and Fifth Street and Cureton Avenue.
- The interface and connections to Cell B, including a safe pedestrian crossing point to the proposed Neighbourhood Park.
- The need for any setback or buffers to existing industrial land uses south of Eleventh Street.
- Appropriate interfaces to the Eleventh Avenue Canopy Corridor (e.g. minimal crossovers, appropriate landscaping guidelines).



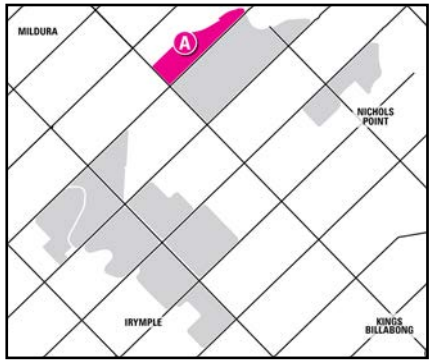


Figure 17: Development Cell A

DEVELOPMENT CELL B

Land Area: 85.6ha

Existing Lots: 53

Existing dwellings: 46

Stormwater land take: 12.1ha

Potential dwellings: 421

Potential population: 1,010 *(based on 2021 household size for Mildura of 2.4)*

DEVELOPMENT PLAN COMPONENTS

Development Cell B should contain:

- Lots with a minimum size of 1600sqm to reflect existing lot sizes associated with Nichols Point and content of the MHSS.
- A new neighbourhood park associated with the large drainage basin at the intersection of Cureton and Cowra Avenues.
- Two 'local nodes' comprising public open space and potential community facilities adjacent to and integrated with open space associated with stormwater management.
- Appropriate interfaces to the Sandilong and Eleventh Avenue Canopy Corridors (e.g. minimal crossovers, appropriate landscaping guidelines).
- A 'green web' of linear open space connecting areas of open space and the Eleventh and Sandilong Avenue canopy corridors.

KEY CONSIDERATIONS

Any future Development Plan prepared for the area identified as Cell B will need to consider:

- The relationship of the precinct to the Murray River floodplain.
- Any impacts on the Etiwanda wetlands through increased run off.
- Any impacts on or upgrades required to the intersection of Cowra and Cureton Avenues and Fifth Street and Cureton Avenue.
- The interface and connections to Cell A.
- The integration of existing residences in or close to areas identified for stormwater management.
- Opportunities to integrate community or small scale commercial facilities adjacent to parkland.
- Opportunities to integrate tourism uses (such as playground, BBQs cafes, information or local history displays) in association with the development of a neighbourhood park.
- Integration of clusters of existing residential development along Cowra and Sandilong Avenues.
- The need for any setback or buffers to existing industrial land uses south of Eleventh Street.



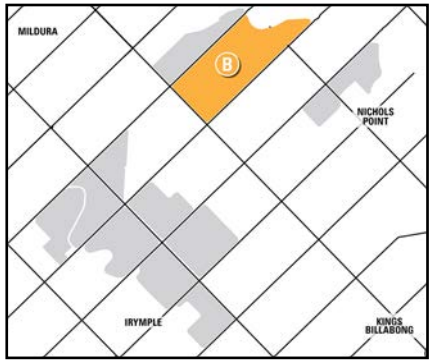


Figure 18: Development Cell B

DEVELOPMENT CELL C



Land Area: 34ha



Existing Lots: 24



Existing dwellings: 14



Stormwater land take: 0ha *(noting stormwater management area already acquired by council)*



Potential dwellings: 191



Potential population: 485 *(based on 2021 household size for Mildura of 2.4)*

DEVELOPMENT PLAN COMPONENTS

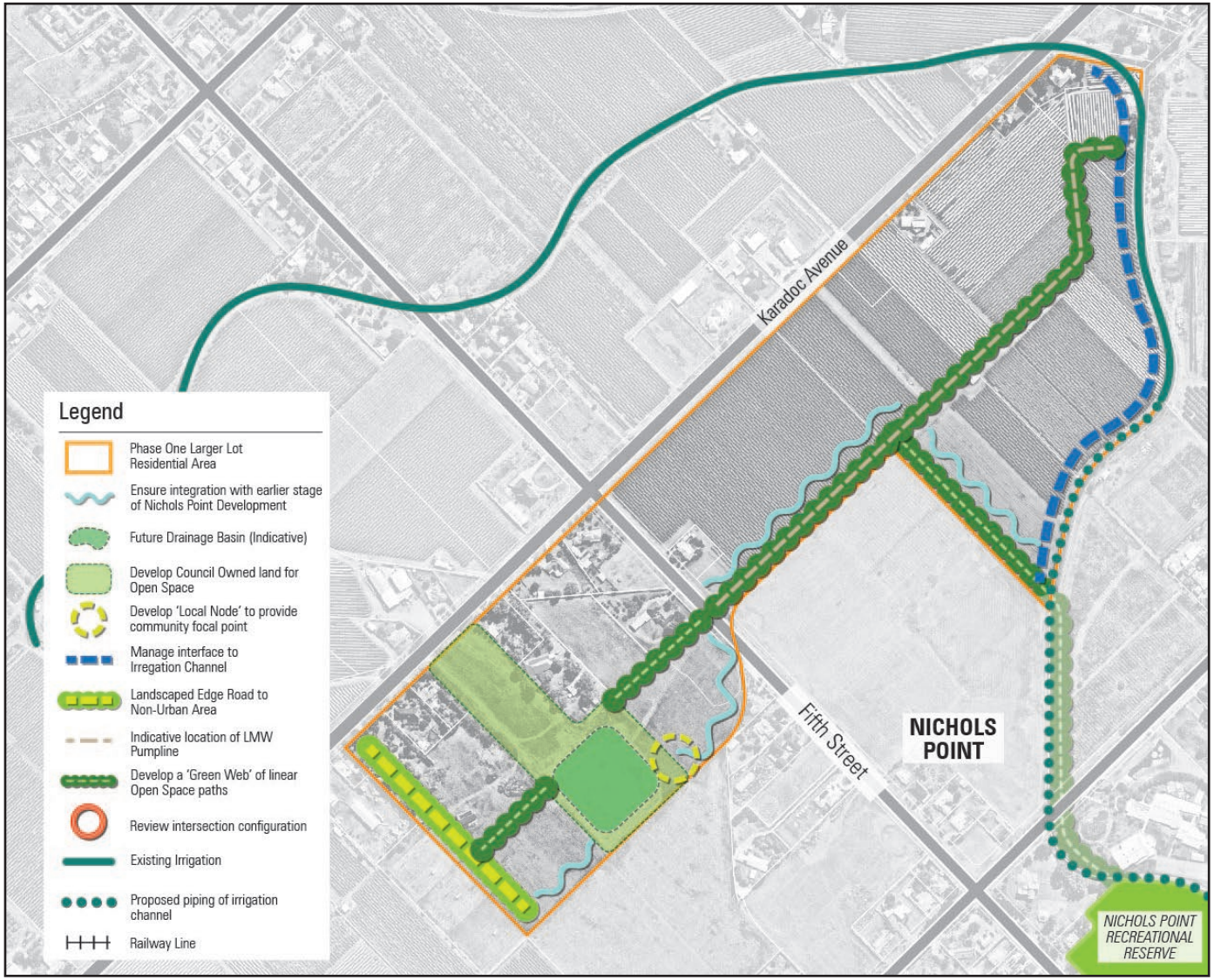
Development Cell C should contain:

- Lots with a minimum size of 1600sqm to reflect existing lot sizes associated with Nichols Point and content of the MHSS.
- A 'local node' comprising public open space adjacent to and integrated with open space associated with stormwater management.
- Appropriate interfaces to the 'non-urban area' (e.g. provision of edge road, appropriate landscaping guidelines).
- Appropriate interfaces including potential edge road and landscaping treatment to the irrigation channel.
- A 'green web' of linear open space connecting areas of open space and the Nichols Point recreation reserve.

KEY CONSIDERATIONS

Any future Development Plan prepared for the area identified as Cell C will need to consider:

- The relationship of the precinct to the Murray River floodplain.
- Appropriate interfaces to the existing irrigation channel to ensure community safety.
- Appropriate access and management of LMW pumpline through the cell.
- The relationship and interfaces with zoned but not yet developed residential areas in Nichols Point.
- Opportunities to use the proposed 'green web' of linear open spaces to manage areas of potential conflict.
- Any need for expansion of the proposed retarding basins identified in the Nichols Point Development Plan to accommodate increased runoff.



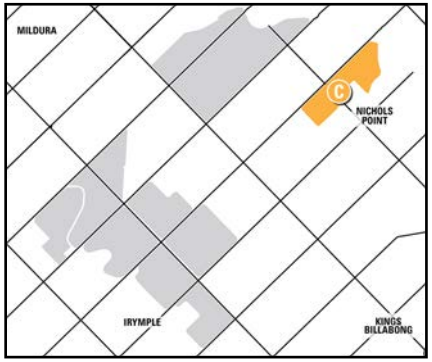


Figure 19: Development Cell C

DEVELOPMENT CELL D

Land Area: 34ha

Existing Lots: 34

Existing dwellings: 30

Stormwater land take: 0ha

Potential dwellings: 282

Potential population: 676 *(based on 2021 household size for Mildura of 2.4)*

DEVELOPMENT PLAN COMPONENTS

Development Cell D should contain:

- A diversity of lots in accordance with the MEGA Framework Plan.
- A 'local node' comprising public open space and potential community facilities adjacent to and integrated with open space associated with stormwater management and the existing linear forest path.
- Appropriate interfaces to the Koorlong Avenue Canopy Corridor (e.g. minimal crossovers, appropriate landscaping guidelines).
- A 'green web' of linear open space connecting areas of open space, the Koorlong Avenue canopy corridor and linear forest path.
- Protection of existing canopy vegetation and delivery of the linear urban forest including appropriate interfaces.

KEY CONSIDERATIONS

Any future Development Plan prepared for the area identified as Cell D will need to consider:

- Any impacts on or upgrades required to the intersection of Koorlong Avenue and Fifteenth Street.
- The integration of existing residences in or close to areas identified for stormwater management.
- Opportunities to integrate community or small scale commercial facilities adjacent to parkland.
- Retention of existing clusters of canopy vegetation.
- The potential for additional parkland and integration with recent subdivision to the south.



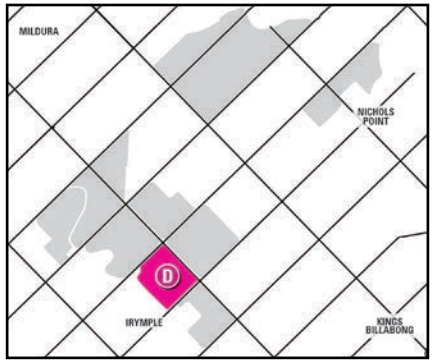


Figure 20: Development Cell D

DEVELOPMENT CELL E

Land Area: 37ha

Existing Lots: 75

Existing dwellings: 62

Stormwater land take: 4.1ha

Potential dwellings: 474

Potential population: 1,137 *(based on 2021 household size for Mildura of 2.4)*

DEVELOPMENT PLAN COMPONENTS

Development Cell E should contain:

- A diversity of lots in accordance with the MEGA Framework Plan
- A 'local node' comprising public open space and potential community facilities adjacent to and integrated with open space associated with stormwater management to the north of the train line
- Appropriate interfaces to the Sandilong Avenue Canopy Corridor (e.g. minimal crossovers, appropriate landscaping guidelines).
- Integration of a 'shared path' along the northern side of the freight train line into a 'green web' of linear green spaces
- Appropriate interfaces to the linear urban forest (e.g. minimal crossovers, appropriate landscaping guidelines, passive surveillance).

KEY CONSIDERATIONS

Any future Development Plan prepared for the area identified as Cell E will need to consider:

- An assessment of the appropriate buffer associated with the concrete batching plant at the time of rezoning and appropriate design or land use responses.
- Any impacts on the intersection of Sandilong Avenue, Fourteenth Street and the freight line.
- Opportunities to integrate community or small scale commercial facilities adjacent to parkland and to transition existing drainage reserve into usable public open space
- Integration of clusters of existing residences along Sandilong Avenues and Fourteenth Street
- Protection of existing canopy vegetation and delivery of the linear urban forest
- Appropriate configurations of pedestrian crossing points at the intersection of the freight line, linear forest path and Karadoc and Sandilong Avenues.
- The optimal configuration and delivery of a shared path along railway line, connecting Fifteenth Street to the Mildura CBD
- Connections with and to the proposed stormwater management area / open space provided to the north of the new subdivision at Heaft Drive
- Opportunities to connect this open space to the proposed 'local node' north of the train line via a new mid block pedestrian rail crossing



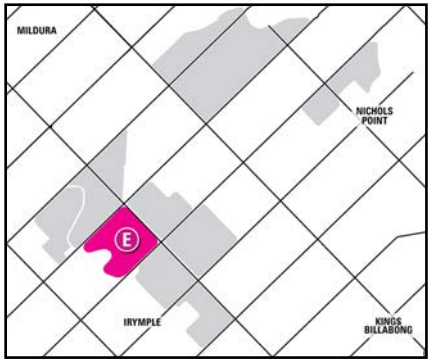


Figure 21: Development Cell E

DEVELOPMENT CELL F

Land Area: 59ha

Existing Lots: 28

Existing dwellings: 24

Stormwater land take: 0ha

Potential dwellings: 1271

Potential population: 3,050 *(based on 2021 household size for Mildura of 2.4)*

DEVELOPMENT PLAN COMPONENTS

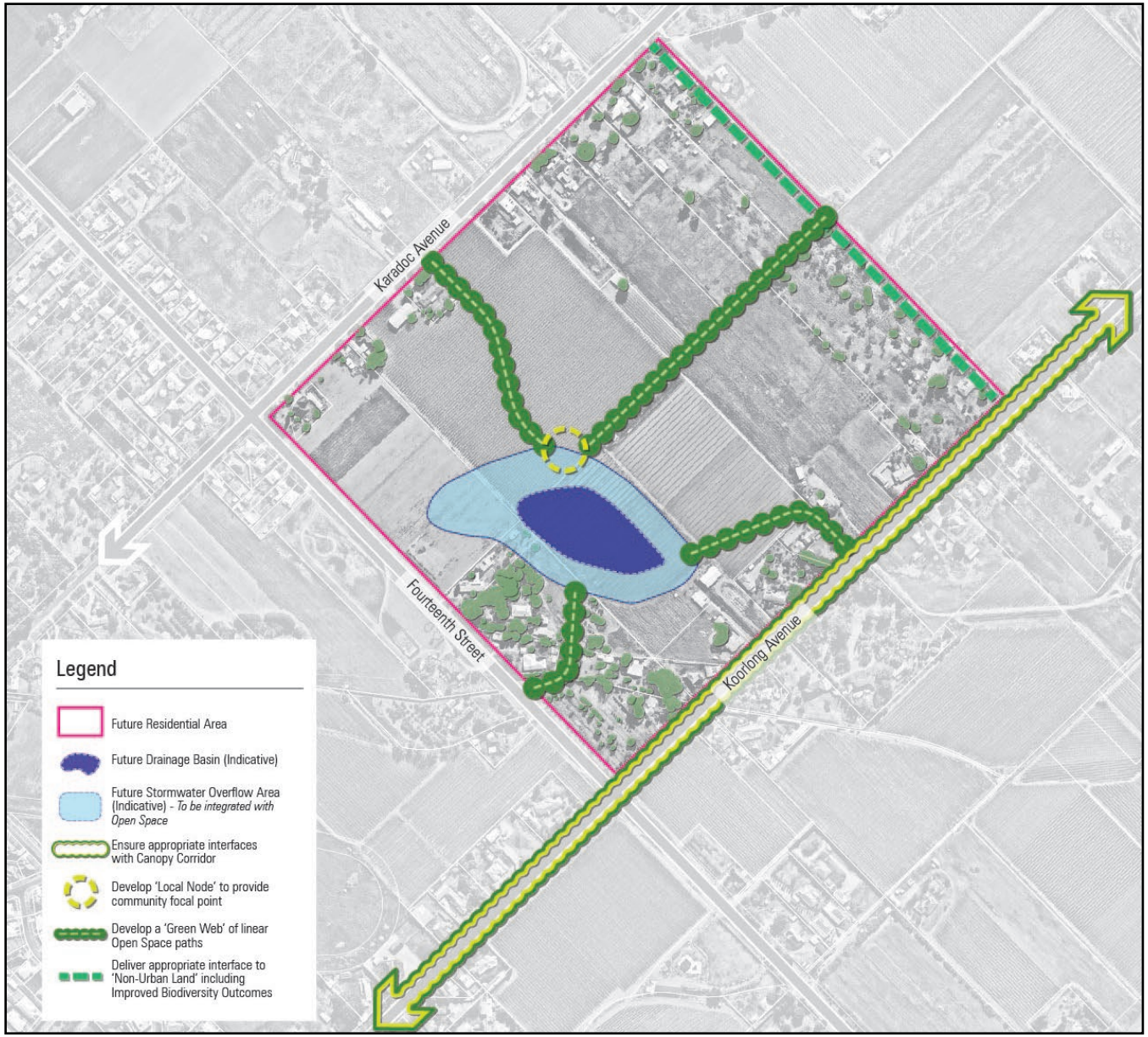
Development Cell F should contain:

- A diversity of lots in accordance with the MEGA Framework Plan.
- A 'local node' comprising public open space and potential community facilities adjacent to and integrated with open space associate with stormwater management.
- Appropriate interface to the Koolong Avenue Canopy Corridor (e.g. minimal crossovers, appropriate landscaping guidelines).
- A 'green web' of linear open space connecting areas of open space and the Koolong and Sandilong Avenue canopy corridors.
- Appropriate interfaces to the 'non-urban area' (e.g. provision of edge road, appropriate landscaping guidelines).

KEY CONSIDERATIONS

Any future Development Plan prepared for the area identified as Cell F will need to consider:

- Opportunities to integrate community or small scale commercial facilities adjacent to parkland.
- Protection of existing canopy vegetation.



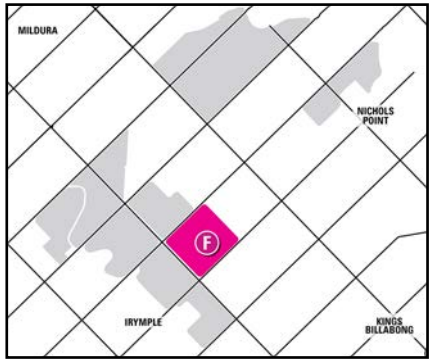


Figure 22: Development Cell F

DEVELOPMENT CELL G

Land Area: 28ha

Existing Lots: 28

Existing dwellings: 25

Stormwater land take: 4.1ha

Potential dwellings: 299

Potential population: 717 *(based on 2021 household size for Mildura of 2.4)*

DEVELOPMENT PLAN COMPONENTS

Development Cell G should contain:

- A diversity of lots in accordance with the MEGA Framework Plan.
- A 'local node' comprising public open space and potential community facilities adjacent to and integrated with open space associate with stormwater management.
- Appropriate interfaces to the Sandilong Avenue Canopy Corridor (e.g. minimal crossovers, appropriate landscaping guidelines).
- A 'green web' of linear open space connecting areas of open space and the Sandilong Avenue canopy corridor.
- Appropriate interfaces to the 'non-urban area' (e.g. provision of edge road, appropriate landscaping guidelines).

KEY CONSIDERATIONS

Any future Development Plan prepared for the area identified as Cell G will need to consider:

- An assessment of the appropriate buffer associated with the concrete batching plant at the time of rezoning and appropriate design or land use responses.
- Any impacts on or upgrades required to the intersection of Sandilong Avenue, Fourteenth Street and the freight line.
- Opportunities to integrate community or small scale commercial facilities adjacent to parkland.
- Integration of clusters of existing residential development along Karadoc Avenue and Fourteenth Street.



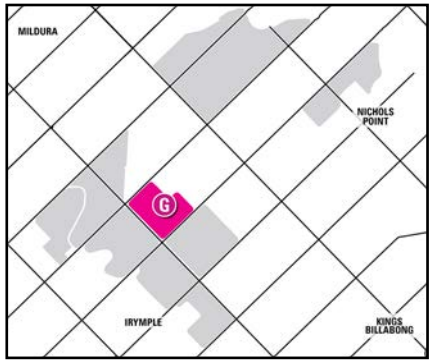


Figure 23: Development Cell G

DEVELOPMENT CELL H

Land Area: 46.5ha

Existing Lots: 110

Existing dwellings: 108

Stormwater land take: 0ha

Potential dwellings: 596

Potential population: 1430 *(based on 2021 household size for Mildura of 2.4)*

DEVELOPMENT PLAN COMPONENTS

Development Cell H should contain:

- A diversity of lots in accordance with the MEGA Framework Plan.
- A 'local node' comprising public open space and potential community facilities.
- Appropriate interfaces to the Sandilong Avenue Canopy Corridor (e.g. minimal crossovers, appropriate landscaping guidelines).
- Integration of a 'shared path' along the southern side of the freight train line into a 'green web' of linear green spaces and provision of appropriate interfaces to support active and passive surveillance (e.g. edge road).
- Appropriate interfaces to the linear urban forest (e.g. minimal crossovers, appropriate landscaping guidelines, passive surveillance).

KEY CONSIDERATIONS

Any future Development Plan prepared for the area identified as Cell H will need to consider:

- An assessment of the appropriate buffer associated with the concrete batching plant at the time of rezoning and appropriate design or land use responses.
- Any impacts on or upgrades required to the intersection of Sandilong Avenue, Fourteenth Street and the freight line.
- Opportunities to integrate community or small scale commercial facilities adjacent to parkland.
- Integration of clusters of existing residential development along Cowra and Sandilong Avenues and Fourteenth Street.
- Protection of existing canopy vegetation and delivery of the linear urban forest.
- The optimal configuration and delivery of a shared path along railway line, connecting Fifteenth Street to the Mildura CBD.



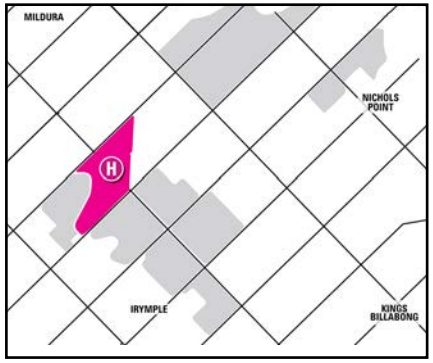


Figure 24: Development Cell H

DEVELOPMENT CELL I

Land Area: 30ha

Existing Lots: 12

Existing dwellings: 17

Stormwater land take: 0ha

Potential dwellings: 339

Potential population: 813 *(based on 2021 household size for Mildura of 2.4)*

DEVELOPMENT PLAN COMPONENTS

Development Cell I should contain:

- A diversity of lots in accordance with the MEGA Framework Plan.
- A 'local node' comprising public open space and potential community facilities adjacent to and integrated with the linear urban forest path.
- Appropriate interfaces to the Sandilong Avenue Canopy Corridors (e.g. minimal crossovers, appropriate landscaping guidelines).
- A 'green web' of linear open space connecting areas of open space and the Sandilong Avenue canopy corridor and urban forest proposed along Cowra Avenue.
- Appropriate interfaces to the linear urban forest (e.g. minimal crossovers, appropriate landscaping guidelines, passive surveillance).

KEY CONSIDERATIONS

Any future Development Plan prepared for the area identified as Cell I will need to consider:

- Opportunities to integrate community or small scale commercial facilities adjacent to parkland.
- Integration with and connections to Henderson College to the south.
- The status of Special Use zoned land adjoining Henderson College considering future community needs.
- Protection of existing canopy vegetation and delivery of the linear urban forest.
- The outcome of investigations into existing proposed retarding basins near Henderson College and the need for integration of these into stormwater management or spatial layout considerations.



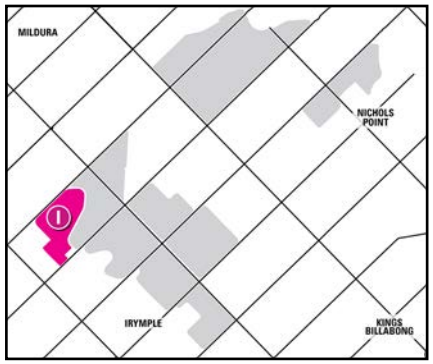


Figure 25: Development Cell I

DEVELOPMENT CELL J

Land Area: 26ha

Existing Lots: 11

Existing dwellings: 10

Stormwater land take: 2.6ha

Potential dwellings: 174

Potential population: 420 *(based on 2021 household size for Mildura of 2.4)*

DEVELOPMENT PLAN COMPONENTS

Development Cell J should contain:

- A diversity of lots in accordance with the MEGA Framework Plan.
- A 'local node' comprising public open space and potential community facilities adjacent to and integrated with open space associated with stormwater management, ideally with frontage to Irymple Avenue.
- Appropriate interfaces to the Koorlong Avenue Canopy Corridor (e.g. minimal crossovers, appropriate landscaping guidelines).
- A 'green web' of linear open space connecting areas of open space, the Koorlong Avenue canopy corridor and linear forest path.
- Protection of existing canopy vegetation and delivery of the linear urban forest including appropriate interfaces.

KEY CONSIDERATIONS

Any future Development Plan prepared for the area identified as Cell J will need to consider:

- The integration of existing residences in or close to areas identified for stormwater management.
- Integration with existing subdivisions to the south and west and opportunities to create pedestrian linkages.
- Opportunities to integrate community or small scale commercial facilities adjacent to parkland.
- Retention of existing clusters of canopy vegetation.

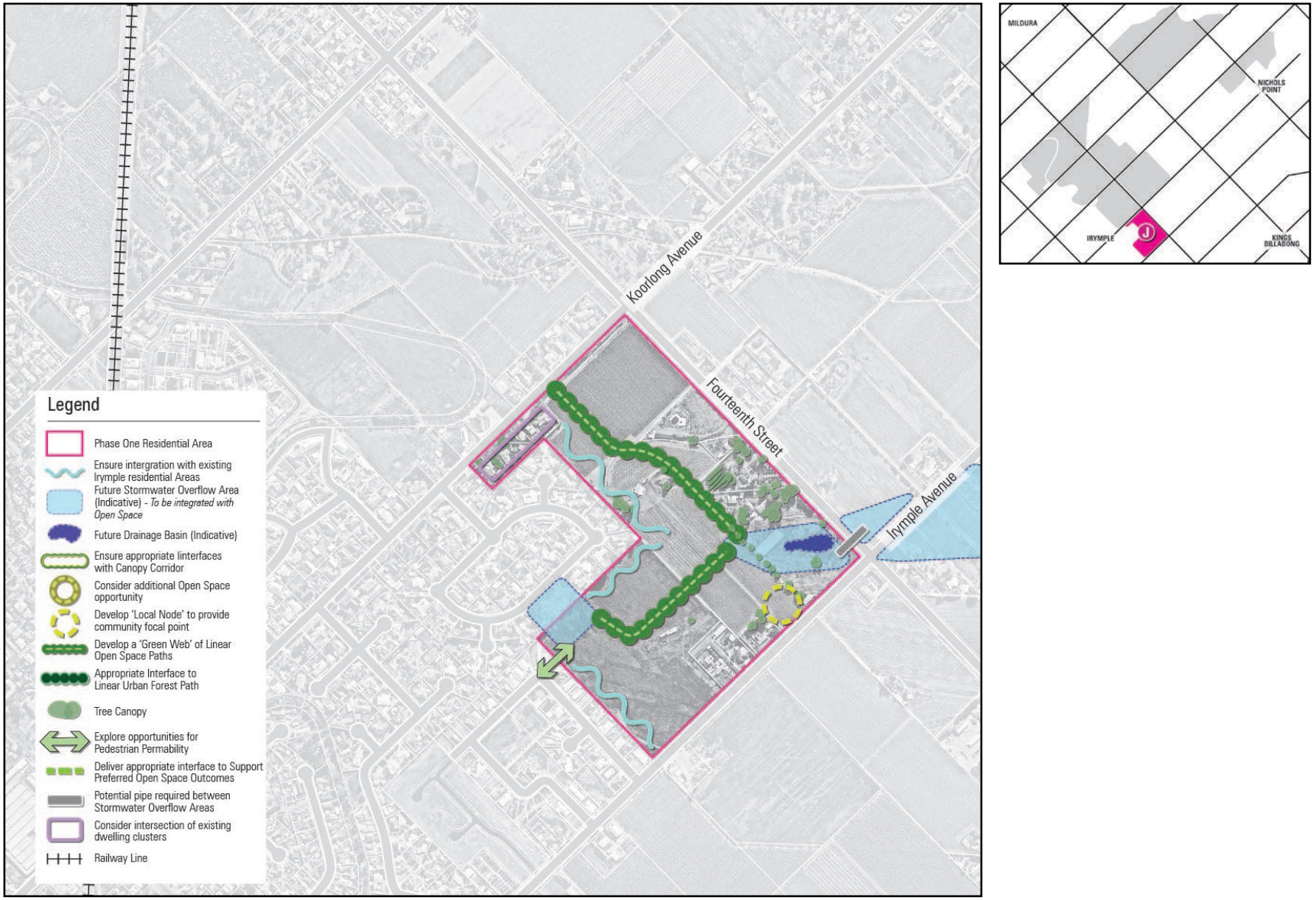


Figure 26: Development Cell J



PART C: DEVELOPMENT STRATEGY

IMPLEMENTATION

LAND USE TRANSITION

The unique characteristics of Mildura, and notably, the extensive and varied development that has occurred within nominal 'farming' areas, in conjunction with a very fragmented lot pattern, create particular challenges in the transitioning of land from one use to another. The Mildura East Growth Area is certainly not a typical greenfield growth area and controls and strategies to support the areas transition need to acknowledge this.

Existing residential development

In particular, the land proposed for future urban development not only needs to transition from a nominally 'rural' nature to an urban one, but also development of new estates within the growth area needs to 'work around' a large number of existing residential dwellings, including some on residentially zoned land. Ensuring that, as Development Plans are prepared, there is an understanding and an awareness of which existing dwellings within each Cell are likely to remain 'as is' and require a design response to integrate, and which are likely to be demolished and the land incorporated into any new subdivision will be critical to a practical and deliverable plan. Where residences are likely to be retained then design responses need to be embedded which recognise these and respond appropriately. Importantly, while challenging in terms of the apportionment of costs, the needs of these existing residents should also form part of any consideration of required services and facilities associated with identified development cells as part of more detailed planning phases.

The MOIA

MEGA sits within the Mildura Older Irrigation Areas, a large area around the City which has historically had access to a pumped irrigation system that has long supported agriculture in the area. Protecting agriculture in this area has been very important given the otherwise limited access to water for agriculture across the region, and has underpinned the areas historically strong agricultural role. However, continued and extensive development of dwellings within these areas has significantly compromised agricultural production in these areas, particularly in proximity to main settlements. Stronger controls to prevent the development of dwellings in the MOIA were introduced by the State and include an Incorporated Document, which have more recently been implemented via a Specific Controls Overlay (SCO).

The MEGA area in particular was subject to very significant development pressure due to its location between four settlements, and the agricultural role of this area has reduced, with a stronger focus on agricultural activity linked to complementary uses. When Mildura East was identified as a potential growth area, controls were adjusted to provide some additional flexibility and to ensure that any approvals didn't further complicate the coordinated development of this area. Now that the parts of the MEGA which will be developed in the short to medium term are better understood, it is important that these existing controls are adjusted to reflect the outcomes articulated through the Framework Plan.

Currently the controls within the Incorporated Document apply to all Farming zoned areas under the SCO. This Framework Plan identifies that some of this land (the 'non-urban area') will not be required for development in the medium term. As a result, an important step in implementation will be the updating of 'Map 1' within the Incorporated Document so that the extent of the 'Mildura East Growth Area' reflect those Cells identified for future development in this document, rather that the entirety of the study area.

Industrial Interfaces

Separating MEGA from Mildura City's residential areas is both the Benetook Avenue Freight Route and Mildura's main industrial area. Previous ad-hoc decisions have led to a number of outcomes which are generally avoided. This includes the concrete batching plant which is surrounded by housing, and which will need to be carefully considered through any future planning for MEGA and also direct abuttals between industrial and residential properties. Recent changes to the EPA Act have essentially 'raised the bar' in relation to the management of offsite impacts and have introduced the concept of General Environmental Duty into legislation.

The MEGA project offers the opportunity to improve some of these outcomes. If possible, council should seek to work with owners of the batching plant to either identify a less constrained longer term site for operations or to better understand opportunities to mitigate offsite impacts on adjoining residences, noting that many of the areas which

form part of development cells under MEGA sit 'behind' existing dwellings on residentially zoned land.

Managing development pressure in the 'non-urban area'

There is anticipated to remain considerable pressure for development in the 'non-urban area', at least in the shorter term while the intent of the proposed framework is bedded down. As such, there will be a need to carefully monitor development applications in this area to ensure they remain compatible with the vision established by this document. In a practical sense, this management should include changes to the Incorporated Document and associated policy which provided flexibility regarding the approval of dwellings where future urban growth was anticipated noted earlier.

Irrigation channels

Another defining feature of the area are the irrigation channels which form part of the irrigation infrastructure associated with the MOIA.

Previous policy has sought to utilise these corridors to establish a series of 'blueways' through future urban areas. A number of practical barriers have been identified to this, including water efficiency programs and risk management. Many older irrigation channels have been removed and in some cases, such as the Irymple linear forest, have been transitioned to public open space.

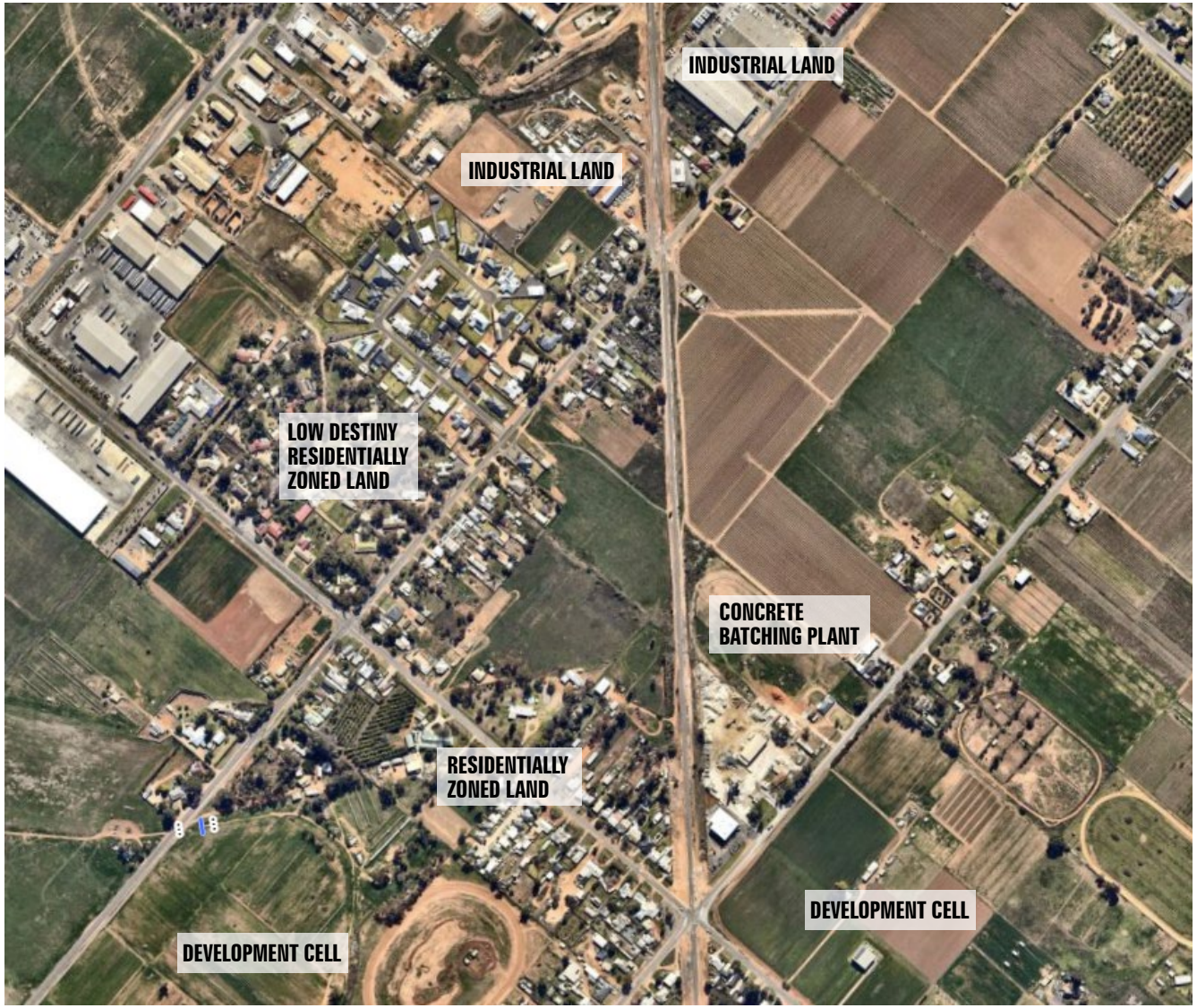


Figure 27: Current industrial / residential land use interfaces

Funding has been gained for the piping of the existing channel which currently runs through Nichols Point to the extent of zoned land. Cell C has an interface with the irrigation channel to the north. Interfaces with this channels should be carefully considered with a focus on ensuring a long terms future as a key open space corridor.

While it is presumed that the first stage of development is likely to occur with the irrigation channels remaining in their current format, Development Plans will need to consider both a piped outcome (where access for maintenance) and a longer-term outcome where the channels are eventually decommissioned. Regardless the outcomes, the retention of the corridors associated with these irrigation channel as public space should be prioritised. The paths these channels take through urban areas is one of the key 'structural' and placed based signals of the area's history and as such, should be prioritised for retention through any planning processes. As such, treatment such as edge roads, for example, with landscaping outcome on the 'channel' side would be beneficial, supporting a long term transition of the corridor to an community open space asset, even if they remain as a functioning irrigation channel in the short to medium term.

An additional Cell has been identified for potential future 'larger lot' development (see Figure 9). Once development in Cell C has commenced, discussions with Lower Murray Water should occur to establish the current funding status for any works associated with the channel.



Figure 28: Existing irrigation channel - Development Cell C boundary

Stormwater management system

The delivery of stormwater management across this area is very complex. For full details, please see the Mildura East Stormwater Management Strategy. The complexity is created by the underlying geological and environmental conditions, the increasingly intense and infrequent patterns of rainfall the area will experience, and the integration of the system within this area with existing drainage systems.

As shown in Figure 11, the area proposed for future development falls within a number of different catchments / sub catchments. Ensuring that key stormwater management assets are identified and established either prior to or concurrently with development is critical to the sustainable development of this area.

This document identifies the location of the retention basins required to manage stormwater in this area, as well as associated 'overflow' areas. While the extent and configuration of the land required as shown on the Framework Plan maps should be considered 'indicative' the locations within the system are not (i.e. they represent the lowest points within the relevant sub-catchments and delivering stormwater management in other areas would be much more costly) and as such, these areas should be prioritised for acquisition to avoid creating significant issues in the management of stormwater.

The relationship of the stormwater management system between different cells is outlined in the Stormwater Management Strategy.

The staging of Cell development outlined on Page 29 is linked to the connections required to support the strategy. Phase One development include key infrastructure. In the Irymple catchment staging anticipates Cell I which has direct connection into the Mildura South catchment can follow, with Cell F and E feeding into the Irymple system via Cell D. Subsequent stages include Cell J which can feed directly into the Irymple system and then Cells H and G which connect via Cell E.

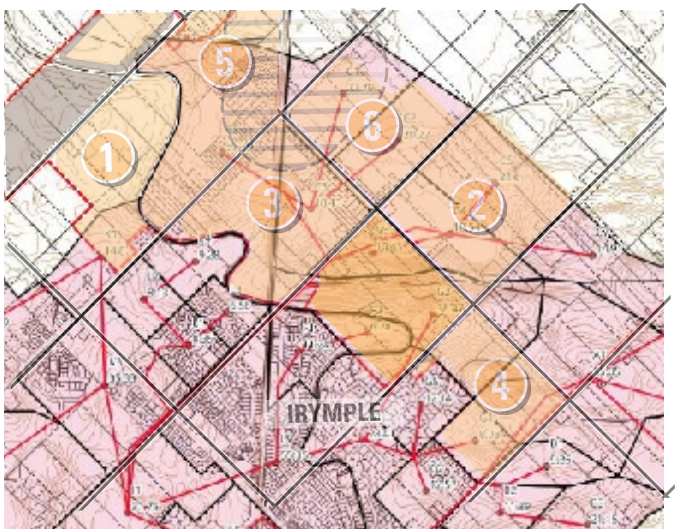


Figure 29: Stormwater system and development staging

It is noted however, that there are significant actions required outside the immediate study area to support long term sustainable management of stormwater in this growth area which are outlined in more detail in the Strategy.

Summary of Implications:

- Development Plan controls should address the need to manage the integration of existing residential development.
- Controls related to the MOIA will need to be reviewed to ensure they are consistent with the Framework Plan outcomes, in particular adjustments to Map 1.
- Planning for land adjoining irrigation channels should consider a longer term outcome as an open space occurred while responding to immediate safety concerns.
- Land for retention basins and associated overflow areas should be confirmed to ensure the land is set aside for such purpose in advance of any development in the area.
- Adjustments to controls or zoning of land fronting Benetook Avenue could be considered if Cells L and K are rezoned to Industrial 3.

DEVELOPMENT CONTRIBUTIONS

The Mildura East Growth Area Strategic Framework Plan proposes new directions for the future development of the area. It identifies precincts for housing, employment and commercial development, plus open space and significant areas for water retention to manage drainage – which respond to the context of new urban development on low lying land but also potential climate related flood risks. Future development will occur in an area currently used for rural living and irrigated agriculture where ownership and subdivision patterns are highly fragmented.

Development Contribution Plan 2 (DCP 2), one of three, currently covers the whole of this large area (boundaries for the DCPs shown in the figure below). It anticipated incremental but gradual development. The new plan proposes significantly modified 'contours' for development and provides the basis for greatly updated thinking about future infrastructure needs, including the challenge of introducing new water management and drainage infrastructure alongside the retiring of established irrigation infrastructure.

Given this significant change to planning directions a new Development Contribution Plan will need to be prepared. It may supersede the existing plan and generate a need for transitional arrangements.

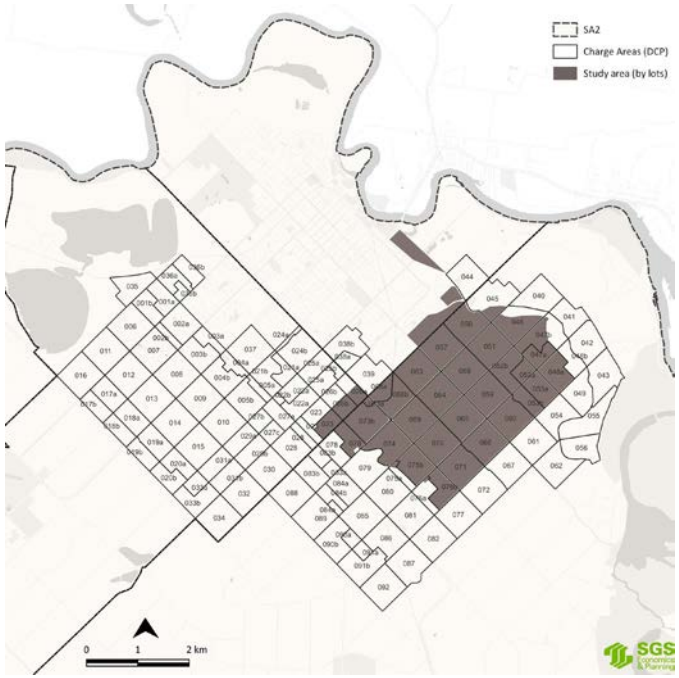


Figure 30: Development Contribution spatial units

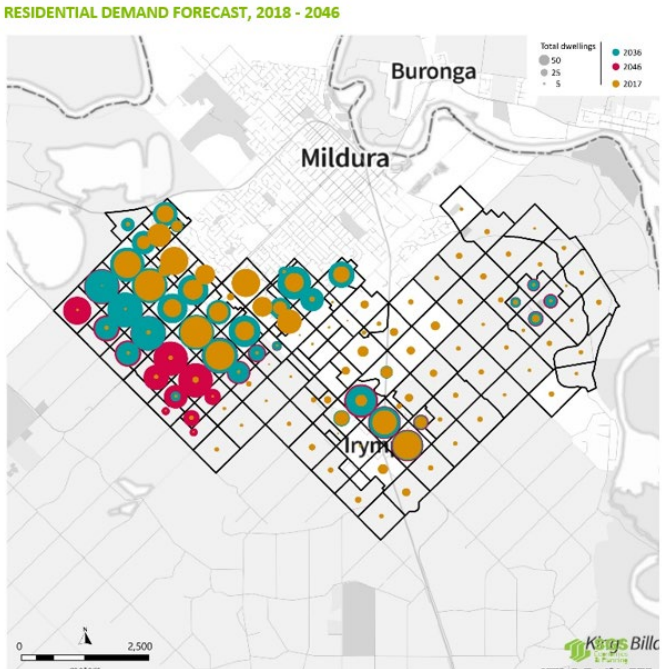


Figure 31: Anticipated contributions - existing Development Contribution Plan

A New DCP

The purpose of the DCP is to ensure that the cost of providing new infrastructure is shared between development across the Mildura East area and the wider community on a fair and reasonable basis.

Fairness requires that costs be apportioned according to share of usage of the required infrastructure. The cost apportionment methodology relies on the nexus principle. A use or development is deemed to have a nexus with an infrastructure item if the occupants of, or visitors to, the site in question are likely to make use of the infrastructure in question. Costs are apportioned according to projected share of infrastructure usage.

A DCP calculates what each development or 'demand' unit should pay towards provision of an infrastructure item. Generally this is the total cost of the infrastructure item divided by total demand units within its usage catchment including existing development, if this is expected to continue as part of the new plan. Where necessary, an allowance for other or external usage of the infrastructure (from outside the main catchment area) is factored into the calculation in order to ensure users are charged fairly. Similar allowances may also be made for development that may occur beyond the time horizon of the Plan.

In addition, a DCP may apportion costs for new infrastructure located outside of East Mildura but which is projected to be used by East Mildura residents and businesses. This could include libraries, cultural facilities and regional level community facilities.

The new DCP would include a 'PSP' level development and infrastructure plan responding to the Strategic Framework Plan with detail on the following.

Future development yields by precinct	Future development yields by precinct. For example: • Residential (number of dwellings) • Major Retail (square metres of leasable floorspace) • Local Shop (square metres of leasable floorspace) • Office (square metres of leasable floorspace) • Industrial (square metres of leasable floorspace).
A development sequencing plan	With the anticipated timing of development by precinct by yearly increments.
Infrastructure items to be funded	Including: Development Infrastructure • Drainage basins and works (including the cost of retiring irrigation infrastructure) • Additional areas of open space (if not covered by other tools in the Planning Scheme, such as Clause 53.01) • Road and traffic works • Shared paths • Sites for community infrastructure • Community Infrastructure (such as libraries, community halls, neighbourhood houses, senior citizens' centres, public toilets, aquatic centres etc)
Project timing and delivery	This would be based on Infrastructure provision 'triggers' which represents the threshold yields at which each of the infrastructure items will be required.
Development Contribution Charging Rates	This would outline the method of calculating the contribution rates and the development contribution rates for different development types .
Procedural Matters	This would address liability for development contributions, methods and timing of payments, and funds administration.

Issues

A number of key issues are likely to be encountered in devising and implementing a new DCP. These include:

- **Financing early infrastructure.** The nature of the required drainage infrastructure serving an extensive catchment means that significant up-front expenditure is likely to be required. Receipts from development contributions will be collected over many years and there is significant risk regarding whether cash flows will materialise as anticipated. First mover developers are unlikely to cover these significant up-front financing costs and Council is unlikely to borrow for such significant infrastructure, given the somewhat uncertain incidence and timing of future receipts. This mismatch between the incidence of significant costs and receipts represents a major barrier to enabling development. Council should advocate to state government for a concessional financing facility or arrangement which would be 'paid back' over a period through development contribution receipts. Council could also investigate the Commonwealth's facility for addressing such infrastructure blockages to housing development, administered by NHFIC.
- **Extra costs for retired irrigation infrastructure.** As mentioned above, new drainage infrastructure will be required as old irrigation infrastructure is retired. This will not only require careful planning but will add to the costs. The costs of both new and retiring infrastructure are the realistic development infrastructure costs which new development should contribute to funding via development contributions. This is one of the reasons why the up-front infrastructure cost burden is likely to be particularly significant. Cost planning for infrastructure should include new drainage and retiring irrigation works. Alternately, Council could support LMW in exploring grant funding of concessional financing to support costs of retiring obsolete infrastructure in expediting housing development.
- **Drainage reserves and drainage works will benefit wider Mildura with unfunded cost implications.** Reserves for ponds and infrastructure for drainage to be provided throughout Mildura East will be calibrated to a scale that addresses the wider surface flow and drainage requirements of the developing township, including 'future proofing' for high rainfall events. Not all costs therefore can reasonably be recouped from development at Mildura East; existing and future development elsewhere will benefit. The apportionment principles demand that Mildura East development only therefore 'pay' for its share of the cost. The 'unfunded' cost component (the share benefiting existing and future development elsewhere) will need to be funded from other sources. Council is unlikely to be able to fully meet this cost. It may need to seek a grant from state government including any that might relate to climate adaptation and building community resilience.
- **Future large drainage reserves will be undevelopable and need to be subject to equitable public acquisition.** Some owners of otherwise developable land may be required to host large drainage reserves to enable development on neighbouring land and land further afield. Similarly, land required for public open space and community facilities will be unevenly distributed across the East Mildura development area. A 'land equalisation formula' will be required to deal with this. This would likely allow for acquisition of reserved land based on its developed value (the same as sites for future housing), not its existing rural value. This will add significantly to the cost base.
- **Partial retirement of DCP 2.** Introduction of a new DCP may mean that parts of the current DCP covering East Mildura may become obsolete. This raises the issue of Council returning funds from previous collections for infrastructure projects which will no longer proceed. The extent to which such returns will be necessary, if at all, will only be clear once an infrastructure project list for new East Mildura development strategy is resolved and compared with existing infrastructure programming.

Implications

Given the significant change in development settings the Mildura East Growth Area Strategic Framework Plan suggests, a new Development Contribution Plan should be prepared. It would supersede the existing plan and generate a need for transitional arrangements. It would contain a spatial and physical plan and include:

- Future development yields by precinct
- A development sequencing plan
- The cost of Infrastructure items to be funded including for new drainage and retiring irrigation works
- Project timing and delivery
- Development Contribution Charging Rates
- Procedural Matters.

Council should advocate to state government for a concessional financing facility or arrangement to finance early drainage infrastructure, which would be 'paid back' over a period through development contribution receipts.

Council should seek a grant or other external funding for the 'unfunded' cost component of infrastructure, that is the share benefitting existing and future development outside of the Mildura East area.



IMPLEMENTATION ACTIONS SUMMARY

The nature of existing development and controls within the Mildura East Growth Area makes implementation reasonably complex. In particular the relationship between infrastructure costings and the introduction of new policy and controls in relation to the growth area needs to be carefully managed to ensure that Council is able to protect key areas of land and to ensure appropriate contributions to infrastructure are sought from developers with the growth area. There is additional work that is required to bed these, and other aspects of implementation, down which is identified on the Identified Action table on the following pages.

Figure 31 provides an overview of how work, both current and future will 'fit together' to implement the Framework Plan.

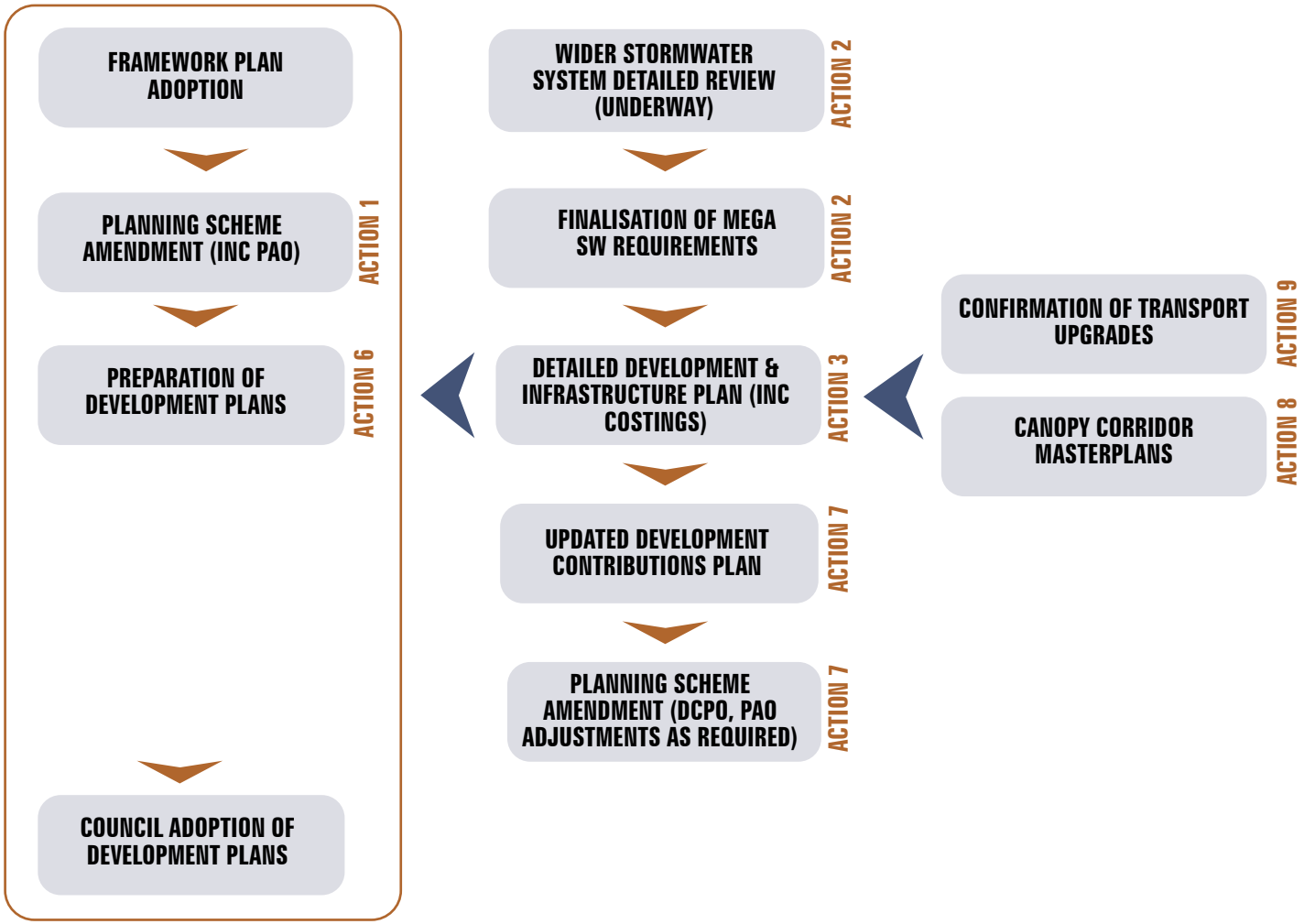


Figure 32: Implementation steps

#	IDENTIFIED ACTION	RESPONSIBILITY	TIMING
1	Prepare an amendment to the Mildura Planning Scheme to: • Introduce relevant policy to the Mildura Planning Scheme, including adjustments to relevant growth boundaries. • Rezone land in Cell B to Neighbourhood Residential Zone with a schedule identifying a minimum lot size of 1600sqm, and apply a Development Plan Overlay to the land. • Rezone land in Cell D to General Residential Zone and apply a Development Plan Overlay to the land. • Rezone land in Cell L to the Industrial 3 Zone and apply a Development Plan Overlay to the land. • Adjust the extent of areas covered by the MOIA Incorporated Document (Map 1) to reflect the improved clarity as to which parts of the study area will transition to urban land use. • Replace the existing ESO applied to the concrete batching plant on Sandilong Avenue with the BAO. • Introduce Public Acquisition Overlays to identify key areas of land required for the provision of infrastructure (particularly at the time of rezoning.	MRCC (Strategic Planning)	Short (immediately following adoption)
2	Undertake more detailed stormwater management modelling across relevant catchments to ensure system capacity beyond the MEGA (see MEGA Stormwater Management Strategy for further details) and update documentation of requirements for each stormwater management area as needed.	MRCC (Engineering)	Short
3	Prepare a Development and Infrastructure Plan to a similar level to that required for Precinct Structure Plan to inform updates to development contributions (Action 7)	MRCC (Strategic Planning)	Short
4	Establish a comprehensive monitoring system for approvals and development within the MEGA to ensure a 'real time' understanding of the rate of development within the area.	MRCC (Building Approvals & Strategic Planning)	Medium
5	Liaise with current owners and operators of the concrete batching plant to understand their long term aspirations for the land	MRCC (Strategic Planning)	Medium
6	Commence work with landowners in Cells B, D and L to prepare Development Plans in line with the recommendations contained in Part B of this report and any other requirements of the Development Plan Overlays referenced above	MRCC (Strategic Planning)	Short

Timing identified above has the following meaning: SHORT (immediate, within the next 12 months) MEDIUM (2-5 years) LONG (over 5 years)

#	IDENTIFIED ACTION	RESPONSIBILITY	TIMING
7	Undertake a review of the current DCP affecting this area, undertake any further detailed work required to support any update to the existing Development Contribution Plan Overlay and adjust as per recommendations.	MRCC (Strategic Planning)	Medium
8	Commence a masterplanning process for the canopy corridors along Sandilong Avenue, Koorlong Avenue and Eleventh Street	MRCC (Open Space & Strategic Planning)	Short
9	Confirm any required upgrades to key intersections or road corridors arising from the review of Eleventh Street, Cureton Avenue and the preparation of the Phase One Development Plans.	MRCC (Engineering & Strategic Planning)	Short- Medium
10	Continue to deliver the linear urban forest on existing publicly zoned and through MEGA.	MRCC (Open Space)	Ongoing
11	Commence engagement with the Mildura East, Nichols Point and Irymple communities to understand aspirations for any new neighbourhood park to be provided within Cell B, in advance of a masterplanning process for this facility	MRCC (Strategic Planning & Open Space)	Short
12	Seek funding (including via climate change adaptation programs) to begin planning and implementation of a major program of canopy planting along the Sandilong Avenue, Koorlong Avenue and Eleventh Street	MRCC (Strategic Planning & Open Space) in collaboration with CMA	Short
13	Continue discussions with the Department of Transport & Planning (DTP) to deliver a shared use path along the alignment of the rail corridor connecting Irymple via MEGA to the Mildura CBD.	MRCC (Strategic Planning)	Medium
14	Provide a copy of the MEGA Framework Plan to bus operators and DTP to support advocacy for the early identification and integration of bus services to new communities	MRCC (Strategic Planning)	Short
15	Prepare a set of guidelines for landscaping across the MEGA area focused on 'better biodiversity', providing practical examples of how local species can be integrated into residential landscapes	MRCC (Open Space) in collaboration with CMA	Medium
16	Prepare more detailed guidelines for the delivery of local nodes to support consistent quality in the design and integration of open space and stormwater management areas within MEGA	MRCC (Strategic Planning & Engineering)	Short
17	Prepare a brief for streetscape works along the Fifteenth Street corridor to support the sense of a 'break' between the settlements of Mildura and Irymple along this key corridor	MRCC (Strategic Planning)	Medium
18	Undertake further investigations to establish key heritage assets (both built and cultural) within the area in advance of any Development Plan to ensure appropriate integration.	MRCC (Strategic Planning & Community)	Short

#	IDENTIFIED ACTION	RESPONSIBILITY	TIMING
19	Continue advocacy to state govt support a more practical approach to development contributions to support council in providing appropriate levels of infrastructure to new communities without undue financial impost	MRCC (Strategic Planning)	Ongoing
20	Review identified intersections to consider way of improving pedestrian safety and priority.	MRCC (Strategic Planning & Engineering)	Medium
21	Undertake a targeted investigation into measures (outside of planning) which could be taken to support ongoing productive use of agricultural areas in close proximity to Mildura's main urban area, including the 'non-urban' area in Mildura East.	MRCC (Economic Development)	Medium