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18 November 2015

Your Ref: Greater Macarthur Strategy

Our Ref: 94/15

Mr Brendan O'Brien
Executive Director, Infrastructure, Housing and Employment
23-33 Bridge Street
Sydney NSW 2000

Dear Brendan,

RE: Greater Macarthur Preliminary Strategy – Medhurst Road Precinct, Mount Gilead

Reference is made to the Department of Planning and Environment letter dated 22 September 2015 encouraging submissions to the Preliminary Strategy and proposed amendments to the Growth Centres SEPP. We act for R E Bloom and Sons Pty Ltd Pty Ltd, owners of land described within the attached submission as the Medhurst Road Precinct.

Attached is a submission to the Strategy, which is self-explanatory.

Should you require clarification of any aspect of this correspondence please do not hesitate to contact me.

Sincerely yours,

M J BROWN
DIRECTOR
MICHAEL BROWN PLANNING STRATEGIES PTY LTD

Submission on
GREATER MACARTHUR LAND RELEASE
PRELIMINARY STRATEGY + ACTION PLAN



Land located in the Medhurst Road Precinct
(Part of the Menangle Park / Gilead Priority Precinct)

Prepared for R E Bloom and Sons Pty Ltd
(Medhurst Road Precinct landowner)

Prepared by:
Michael Brown Planning Strategies
Urban Futures Group
Saturday Studio

November 2015

MEDHURST ROAD PRECINCT

EXECUTIVE SUMMARY

This is a submission to the NSW Department of Planning and Environment in respect of future developable land and located in the proposed Menangle Park / Gilead Priority Precinct and referred to as the Medhurst Road Precinct. It provides the NSW Department of Planning and Environment with feedback on the public exhibition of the *Draft Greater Macarthur Land Release – Preliminary Strategy & Action Plan + Land use and Infrastructure Analysis*.

The Medhurst Road Precinct is a family owned farming property owned by R E Bloom and Sons Pty Ltd. The Bloom family has owned the farm since 1962 and lived on the farm since 1969. Over the years there has been a gradual change in the primary use of the land from farming to differing types of infrastructure and industry. This has included the construction of the Hume Highway directly to the west of the farm, easements through the property for two sets of overhead transmission lines, two underground gas pipelines, an underground water pipeline, a Telstra phone tower and a fibre optic cable. Refer to Figure 5. A quarry and an AGL gas plant operate on the southern part of the Medhurst Road Precinct to the north of Menangle Creek. The AGL gas plant has a lease, which expires in 2023 and the quarry has an estimated lifespan of 20 plus years.

The Bloom family has commissioned the preparation of a preliminary concept plan for the Medhurst Road Precinct. This concept plan will inform the landowner and government of the potential of the precinct as a critical connecting element at the heart of the Menangle Park / Gilead and be a valuable early contribution to the structure planning process for the Menangle Park / Gilead Priority Precinct.

The Bloom family generally support the findings and recommendations of the *Draft Greater Macarthur Land Release – Preliminary Strategy & Action Plan*, specifically the inclusion of the Medhurst Road Precinct as a key part of the proposed Menangle / Mount Gilead Urban Release Area.

However, following a review of the *Preliminary Strategy & Action Plan*, a number of key issues have been identified that require resolution, either as part of submissions review / strategy finalisation or in the forthcoming research / structure planning phase.

This submission makes the following key recommendations to the Department of Planning and Environment:

General mapping

The department amends the *Draft Greater Macarthur Land Release – Preliminary Strategy and Action Plan and Land use and Infrastructure Analysis*, to ensure that the accuracy of mapping is qualified, by clearly stating that the delineation of actual constraints and developable opportunities are at a strategic level and subject to further, more detailed study and investigation as part of future rezoning proposals.

Vegetation mapping

The department either amends the vegetation mapping, or the legend, or a combination of both. The following approach is suggested.

- i. Introduce a new (darker) red category that is defined by the retention of recognised high value vegetation and endangered ecological communities and is non-negotiable. The Georges River Regional Open Space is an example of this category and
- ii. Retain the remaining areas shown as red, but amend the legend to state – ‘Land which may be constrained and needs to demonstrate suitability for development’.

This amended approach will enable future planning proposals to address these (and other) issues in a proper and rigorous manner.

Coal Seam Gas (CSG) operations

The department amends the CSG section and mapping of the *Draft Greater Macarthur Land Release - Strategy and Action Plan* to:

- a. update the CSG well mapping within the Medhurst Road Precinct to illustrate and differentiate between operational and non operational CSG wells;
- b. require that AGL provide an updated schedule of operational and non operational CSG wells and an updated schedule of Plug and Abandon (P&A) strategy and schedule for operational and non operational CSG wells;
- c. clarify that CSG wells and the Rosalind Park Gas Plant are separate entities and operations and that as a light industry, the gas plant complies with local planning regulations and should not preclude urban development;
- d. remove the reference to the 200m separation distance proposed around (operational and non operational) CSG wells and the associated pre-conditions relating to *coal seam gas wells have been closed and sealed, the Rosalind Park Gas Plant has finalised its operation; and the Appin East and Appin West (Tower) gas/ power stations have finalised their operations.*
- e. Transfer the process of determining separation distances from CSG wells as part of the proposed structure planning process that will lead to the production of an *Indicative Layout Plan* for the Menangle Park / Mount Gilead Priority Precinct, as part of the integrated rezoning pathway.

Future transport connections

The department amends the Structure Plan mapping in the *Draft Greater Macarthur Land Release Strategy* to show a new road / bridge link over Menangle Creek that connect the Gilead Precinct with the Medhurst Road Precinct and Menangle Road.

Better green connections

The department amends and improve the Structure Plan mapping in the *Draft Greater Macarthur Land Release Strategy* to create 'Landscape Frameworks' for both the Mount Gilead / Menangle and Wilton Priority Precincts, that illustrates key strategic green and environmental corridors and spaces that complement the development of urban precincts.

1. Introduction

This is a submission to the NSW Department of Planning and Environment in respect of future developable land located in the proposed Menangle Park / Gilead Priority Precinct.

This land is referred to as the 'Medhurst Road Precinct' in this submission and its extent is illustrated in the aerial photograph in Figure 1. It comprises of land owned by R E Bloom and Sons Pty Ltd and BHP.



Figure 1 – Aerial image illustrating the extent of the Medhurst Road Precinct.

In October 2015, the Medhurst Road Precinct landowner, RE Bloom + Sons Pty Ltd, commissioned *Urban Futures | Saturday Studio | Michael Brown Planning Strategies* to prepare both:

- a) a submission to government to the *Draft Greater Macarthur Land Release – Preliminary Strategy & Action Plan* and
- b) a preliminary concept master plan for the RE Bloom + Sons Pty Ltd land that forms the majority of the Medhurst Road Precinct.

The purpose of this submission is to provide the NSW Department of Planning and Environment with feedback on the public exhibition of the *Draft Greater Macarthur Land Release – Preliminary Strategy & Action Plan + Land use and Infrastructure Analysis*.

This preparation of the preliminary concept plan has commenced and will be used to inform the landowner and government of the potential of the Medhurst Road Precinct as a critical connecting element at the heart of the Menangle Park / Gilead Priority Precinct. As such, the preliminary concept plan to be prepared for the Medhurst Road Precinct will be a valuable early contribution to the structure planning process for the Menangle Park / Gilead Priority Precinct.

2. Draft Greater Macarthur Land Release

Draft Preliminary Strategy & Action Plan + Land use and Infrastructure Analysis

In September 2015, NSW Government released the *Draft Greater Macarthur Land Release – Preliminary Strategy & Action Plan + Land use and Infrastructure Analysis* for public exhibition.

These investigations into the potential of Greater Macarthur identified land that is suitable for urban development, the infrastructure required to support growth, and how Greater Macarthur would be connected to jobs and other services in other parts of metropolitan Sydney.

Priority Growth Areas (Menangle Park / Mount Gilead and Wilton)

To increase capacity and housing supply, the preliminary strategy identifies immediate opportunities to deliver up to 35,000 homes in Menangle Park / Mount Gilead and in a new town at Wilton.

Maximising these opportunities requires a coordinated approach to land use planning and infrastructure delivery. The preliminary strategy states that the vision for Greater Macarthur is to be implemented by:

- *Identifying Menangle Park, Mount Gilead and Wilton as Priority Growth Areas by including them in the State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (the Growth Centres SEPP);*
- *Investigating declaring Menangle Park, Mount Gilead and Wilton as Special Infrastructure Contribution Areas to coordinate the funding and delivery of infrastructure that is necessary to support growth; and*
- *Continuing to work closely with Wollondilly Shire Council, Campbelltown City Council, and across NSW Government agencies to facilitate outcomes that deliver new communities with homes, jobs, infrastructure and services while protecting the environment and natural resources.*

The *Draft Greater Macarthur Land Release – Preliminary Strategy & Action Plan* (Figure 1) illustrates the Greater Macarthur Vision to 2036 and clearly identifies the extent of the Menangle Park / Mount Gilead Priority Precinct and the Wilton Priority Precinct. Refer to Figure 2.

The *Draft Greater Macarthur Land Release – Preliminary Strategy & Action Plan* (Figure 2) illustrates the Draft Vision Structure for the Menangle Park and Gilead Priority Precinct. Refer to Figure 3.

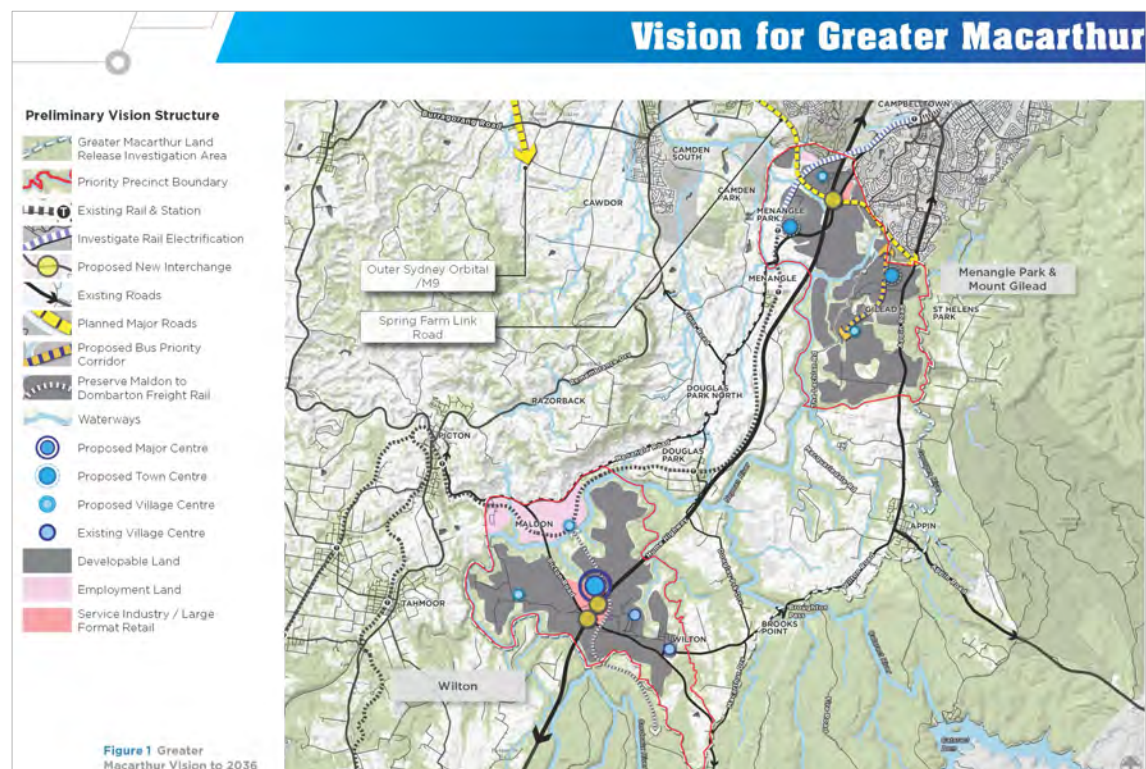


Figure 2 - This is a reproduction of Figure 1 of the *Draft Greater Macarthur Land Release - Preliminary Strategy & Action Plan*, illustrates the a broad vision for the growth and development of Greater Macarthur to 2036.

Menangle Park and Mount Gilead Priority Precinct

The *Draft Greater Macarthur Land Release – Preliminary Strategy & Action Plan* states that the northern part of Greater Macarthur adjoins the Campbelltown-Macarthur Regional City, and is a logical extension to Sydney's metropolitan urban area.

Land in the Menangle Park and Mount Gilead Priority Precinct is considered relatively unencumbered by constraints to development and it has less requirements for substantial transport and utilities infrastructure upgrades than other parts of Greater Macarthur, given its proximity to the existing metropolitan urban area.

The Menangle Park and Mount Gilead Priority Precinct has relatively direct access to jobs, health care and education opportunities in Campbelltown- Macarthur, and other opportunities in Western Sydney.

The extent and density of urban development is subject to further detailed transport assessment.

The *Draft Greater Macarthur Land Release – Preliminary Strategy & Action Plan* states that actions to deliver growth in this area include:

- Upgrade the Hume Highway between Picton Road and Raby Road
- Rezoning land for 4,900 homes through the Mt Gilead and Menangle Park planning proposals by the end of 2015, with the first new houses possible within two years
- Upgrades to Appin Road to provide direct connections to Campbelltown-Macarthur
- Construction of Spring Farm Link Road and new access ramps to the Hume Highway, to help ease congestion on Narellan Road
- Provision of a north-south bus priority corridor to promote public transport links to Campbelltown-Macarthur and
- Further investigate the extension of the Sydney Trains electrified rail network to Menangle Park to integrate this area with the suburban rail network

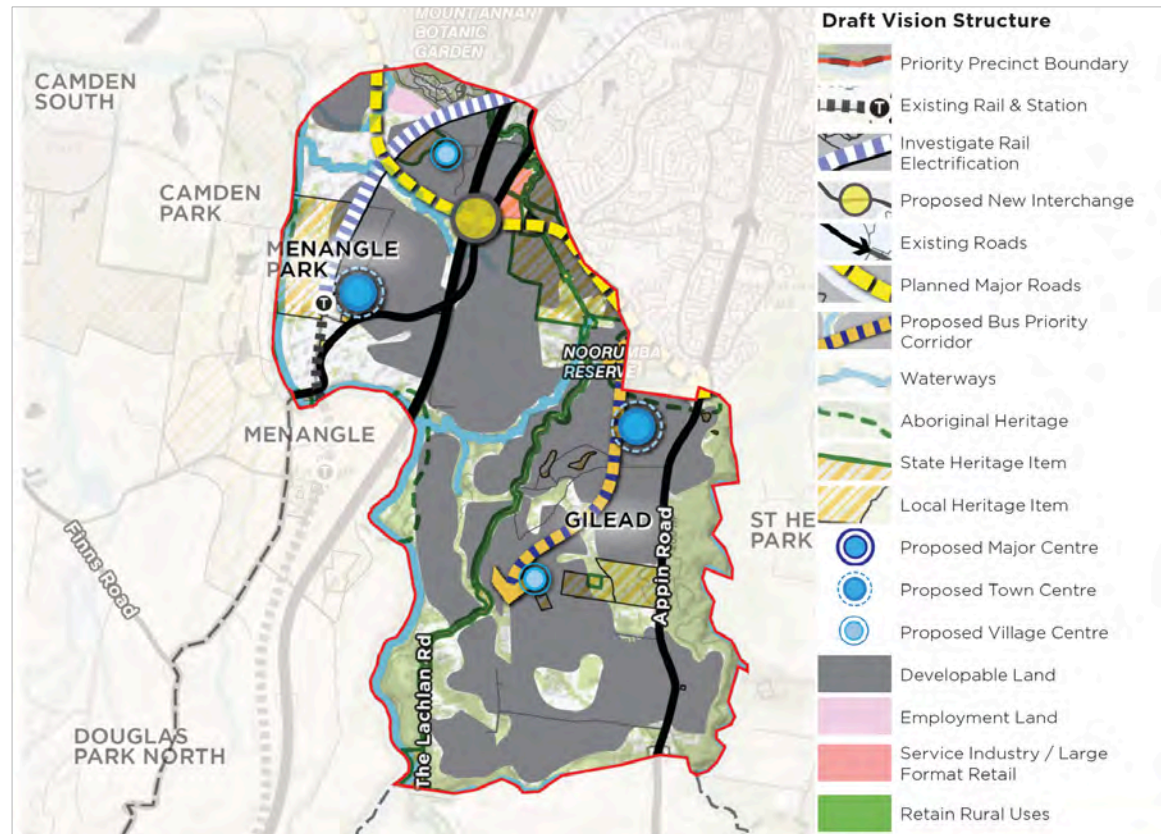


Figure 3 - This reproduction of Figure 2 of the *Draft Greater Macarthur Land Release - Preliminary Strategy & Action Plan*, illustrating the Draft Vision Structure for the Priority Precinct.

Rezoning pathway and key issues

The *Draft Greater Macarthur Land Release – Preliminary Strategy & Action Plan* states that future rezoning process will test and refine suitable locations for urban development and appropriate densities.

To ensure that constraints are managed appropriately and that the land is suitable for urban development, encumbered land will need to provide evidence that the necessary pathway steps have been undertaken prior to rezoning.

In addition to the general rezoning assessment requirements outlined in the Delivery Pathway, the *Draft Greater Macarthur Land Release – Preliminary Strategy & Action Plan* identifies the following key issues to be specifically addressed in future rezoning processes:

- **Heritage conservation** – the precinct contains a number of heritage items and known Aboriginal sites, some of which are located in or adjoin proposed centres. Further investigation will be required to ensure these items are retained and integrated with future development.
- **Flooding** – the extent of flooding across the precinct, particularly around Menangle Park, will need to be considered with rezoning proposals.
- **Mining** – The southern portion of the precinct has been, and still is being, used for coal mining. For urban development to occur in these areas, proposals will need to demonstrate that they comply with the relevant rezoning pathways steps.
- **Coal seam gas** operations – there are a number of coal seam gas extraction sites within the precinct. Development within close proximity to extraction operations will be required to satisfy relevant rezoning pathways steps.
- **Upper Canal** – the Upper Canal, which provides water to Sydney from the four Upper Nepean dams, crosses the eastern portion of the precinct. Future development in this area will need to ensure this system is not adversely impacted upon.
- A detailed **transport network assessment** is required to confirm the extent and density of urban development.

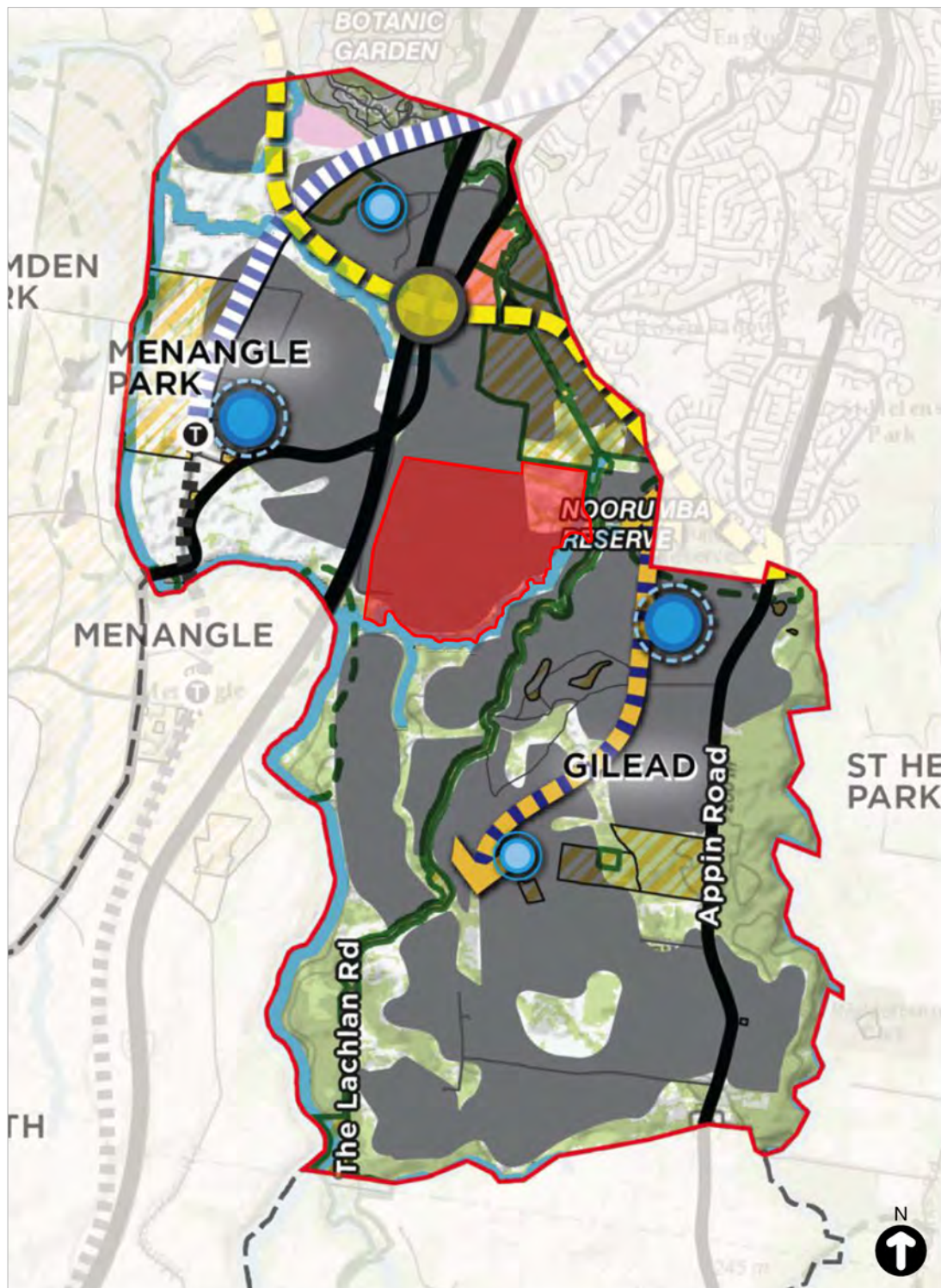


Figure 4 – This aerial image illustrates the extent of the Medhurst Road Precinct, centrally located within the Menangle Park / Gilead Priority Precinct

Biodiversity and Bushfire - Urban development within constrained land

The Draft Strategy states that limited urban development may occur in land identified as constrained, with the exception of Biobanking sites, if there is a need to smooth developable boundaries or where land owners have identified offset strategies for the clearing of land.

It is noted that the Draft Strategy states that it is recommended that the impact of development on biodiversity will be considered as part of future rezoning processes, including opportunities for the enhancement of high value sites and corridors.

3. About the Medhurst Road Precinct

Background

The Medhurst Road Precinct is a family owned farming property owned by R E Bloom and Sons Pty Ltd. The Bloom family has owned the farm since 1962 and lived on the farm since 1969.

Over the years there has been a gradual change in the primary use of the land from farming to differing types of infrastructure and industry. This has included the construction of the Hume Highway directly to the west of the farm, easements through the property for two sets of overhead transmission lines, two underground gas pipelines, an underground water pipeline, a Telstra phone tower and a fibre optic cable. Refer to Figure 5.

A quarry and an AGL gas plant operate on the southern part of the Medhurst Road Precinct to the north of Menangle Creek. The AGL gas plant has a lease, which expires in 2023 and the quarry has an estimated lifespan of 20 plus years.



Figure 5 – This aerial image illustrates the extent of the Medhurst Road Precinct, the location of the Quarry and the AGL gas plant in the southern part of the site north of Menangle Creek, the on-site coal seam gas wells and the north-south infrastructure easements.

Riparian corridor revegetation

In 1999 Campbelltown City Council suggested setting up a river to river wildlife / environmental corridor through the Bloom property that could connect the Nepean River in the west with and Georges River in the east.

A landcare group was created in partnership with council and over the next 10 years riparian corridor revegetation was undertaken and the corridor established. Important ecological areas have been established on the land. These areas can be seen on the aerial photo where vegetated gullies extend west from Menangle Creek and into the site. Figures 6, 7 and 8 illustrate parts of the site.

Prior to the release of the *Draft Greater Macarthur Land Release – Preliminary Strategy & Action Plan*, the Medhurst Road Precinct had commenced discussions with Campbelltown City Council, with a view to preparing a planning proposal for the future rezoning of the land for residential uses. As Figure 4, clearly illustrates, the Medhurst Road Precinct is centrally located to the proposed Menangle Park / Gilead Priority Precinct.



Figure 6 - looking east from the Medhurst Road Precinct towards Mount Gilead



Figure 7 - looking east across the Medhurst Road Precinct showing the revegetation on Menangle Creek



Figure 8 - Medhurst Road Precinct, looking south from the farmhouse

AGL gas plant - Rosalind Park

AGL's Rosalind Park gas plant is located and operates on the southern part of the precinct and serves a subregional coal seam gas supply area. The terms of the landowner's lease with AGL ensures that the gas plant will be decommissioned by March 2023.

There are 11 coal seam gas wells located within the Medhurst Road Precinct. A visual inspection of the 11 coal seam gas wells sites was undertaken in November 2015 and indicates that just two of the wells are operational (RP 02 and RP 08) and that 9 of the 11 wells are non-operational.

Figure 9 illustrates the infrastructure typically associated with an operational coal seam gas well at Rosalind Park, whilst Figure 10 illustrates the limited extent of a non-operational well.



Figure 9 – This photograph of the (formally operational) Rosalind Park coal seam gas well No. 10 illustrates the compact nature of the typical infrastructure associated with a coal seam gas well



Figure 10 – This photograph of Rosalind Park coal seam gas well No. 3 illustrates the limited extent of infrastructure and local impact associated with a non-operational coal seam gas well

Coal seam gas well sites – Location, design and rehabilitation

The coal seam gas wells within the Medhurst Road Precinct have been located in consultation with the landholder and with the future residential development of the site in mind. So as not restrict future residential development potential, the coal seam gas well sites are carefully located near or within the revegetating riparian zones or within existing infrastructure corridors.

AGL note that coal seam gas wells in the region have coexisted alongside a range of other land uses for almost 15 years, without evidence of subsidence, impact to property values, harm to aquifers or evidence or risk to human health.

In the Menangle Park / Gilead Priority Precinct that is proposed as part of the Macarthur Land Release Area, AGL state that coal seam gas wells have been located on sites where they can coexist with changing land uses. On this basis, the proposed need to impose exclusion zones coal seam gas wells or restrict future development is considered unnecessary.

AGL has in place a rehabilitation program in which each well within the Camden Gas Project will be decommissioned and rehabilitated over time, while acknowledging and enabling changing land-uses. Rehabilitation priorities include economic value of the well and remaining gas reserves, landholder requirements, future land uses and community needs.

The location of the 2 observed operational and 9 non-operational coal seam gas wells within the Medhurst Road Precinct are shown in Figure 11. Operational wells RP 02 and RP 08 are located within existing riparian areas and will therefore be away from future areas suitable for residential development.

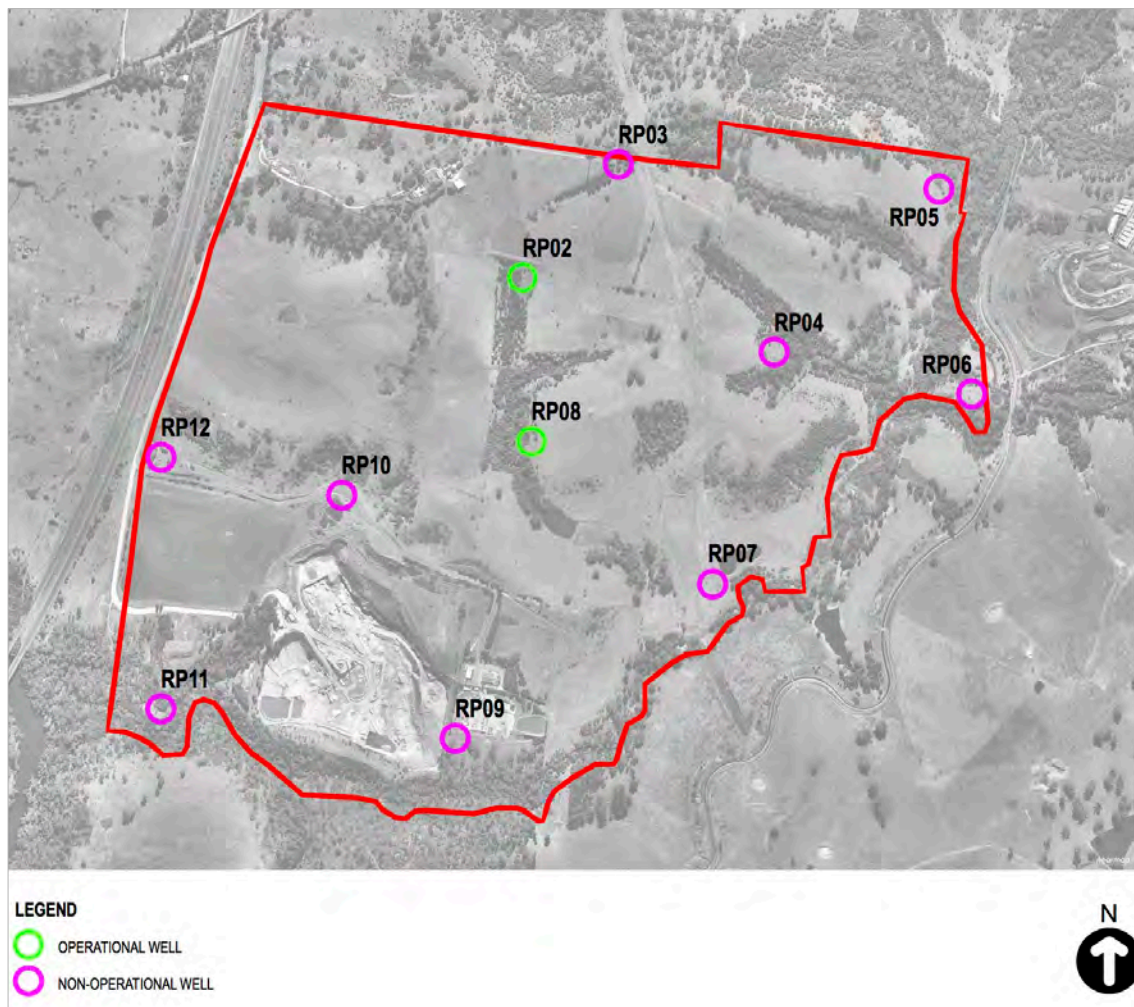


Figure 11 - The location of the 2 observed operational (RP02 and RP08) and 9 non-operational coal seam gas wells within the Medhurst Road Precinct

4. Medhurst Road Precinct – In principle support and issues arising

As a Medhurst Road Precinct landowner, RE Bloom + Sons Pty Ltd generally support the findings and recommendations of the *Draft Greater Macarthur Land Release – Preliminary Strategy & Action Plan*, specifically the inclusion of the Medhurst Road Precinct as a key part of the proposed Menangle / Mount Gilead Urban Release Area.

However, following a review of the *Preliminary Strategy & Action Plan and Land use and Infrastructure Analysis*, the following key issues have arisen:

- a) *General mapping*
- b) *Vegetation mapping*
- c) *Coal Seam Gas (CSG) operations*
- d) *Future transport connections*
- e) *Better green connections*

Issues arising and amendments required

The Medhurst Road Precinct landowner believes that these issues need to be amended prior to finalisation of the *Greater Macarthur Land Release Strategy and Action Plan and Land use and Infrastructure Analysis* and the following is proposed:

a) General mapping

The Medhurst Road Precinct landowner has concerns regarding the general mapping shown in the *Draft Greater Macarthur Land Release – Preliminary strategy and Action Plan* and the implications this may have on future development potential.

A close inspection of the layered mapping of constraint and opportunities reveals that the accuracy of constraints and opportunities mapping, when combined with the line weights used, can lead to a misinterpretation of constraints that apply to land within the urban release area.

Recommended change

It is recommended that the department amend the *Draft Greater Macarthur Land Release – Preliminary Strategy and Action Plan and Land use and Infrastructure Analysis*, to ensure that the accuracy of mapping is qualified, by clearly stating that the delineation of actual constraints and developable opportunities are at a strategic level and subject to further, more detailed study and investigation as part of future rezoning proposals.

b) Vegetation mapping

The Medhurst Road Precinct landowner has concerns regarding the draft vegetation mapping shown in the draft strategy and the implications this will have on future development potential

It is understood that the draft vegetation mapping that forms part of the *Draft Greater Macarthur Land Release Strategy* has been generated through desktop analyses of aerial photographs and has not necessarily been to the subject of on-site survey work and groundtruthing.

The key issue that arises is that in the absence of on-site survey work, this analysis and mapping technique tends to make overly broad assumptions regarding the extent and value of vegetated areas.

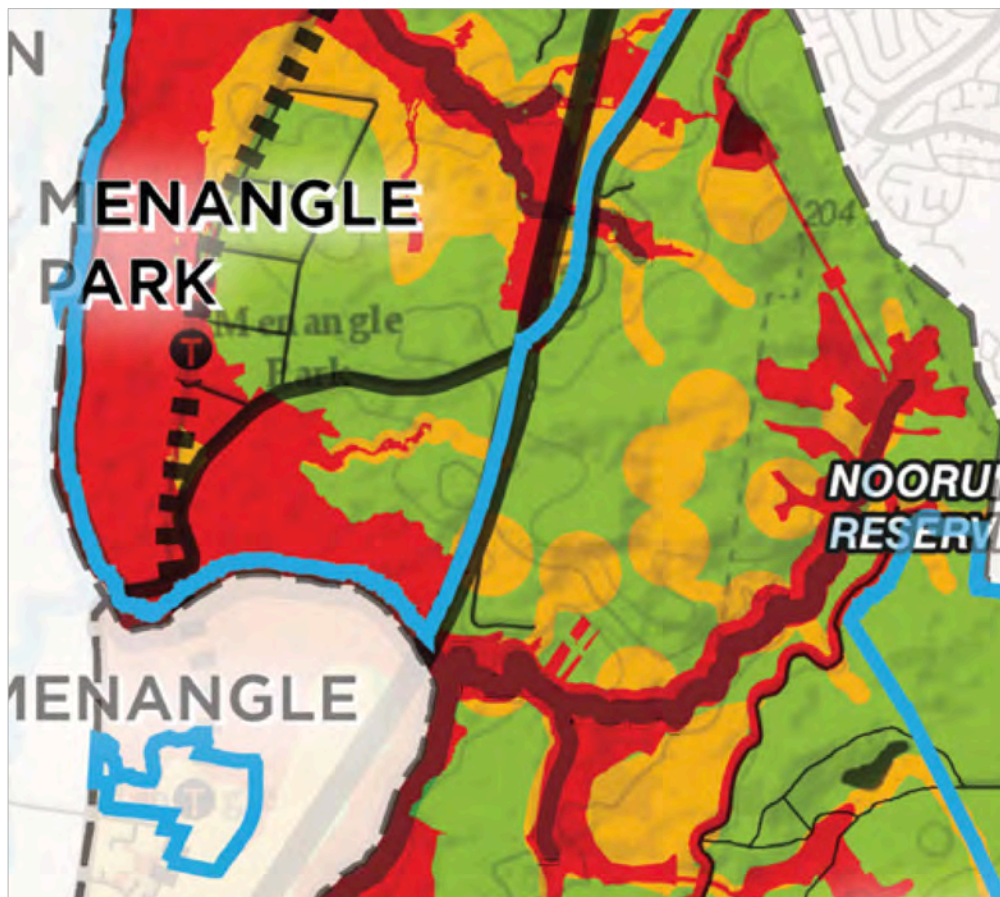





Figure 12 – This extract from Figure 3 - Menangle Park & Mount Gilead Suitability of the *Draft Greater Macarthur Land Release Preliminary Strategy and Action Plan* illustrates the vegetation mapping.

The desktop based mapping technique is compounded by the chosen legend categories for red and orange mapped lands, which is reproduced below:

	Unencumbered land which is suitable for development.
	Land encumbered by constraints which are resolvable with appropriate environmental or staging measures.
	Land which is constrained and not suitable for development.

The landowner is of the view that all the land shown mapped red within the Medhurst Road Precinct is not necessarily constrained and unsuitable for development and that the mapping has the effect of a prohibition, but prior to any actual on ground analyses actually informing that status.

Recommended amendment

It is recommended that the department either amend the vegetation mapping, or the legend, or a combination of both. The following approach is suggested.

- iii. Introduce a new (darker) red category that is defined by the retention of recognised high value vegetation and endangered ecological communities and is non-negotiable. The Georges River Regional Open Space is an example of this category and
- iv. Retain the remaining areas shown as red, but amend the legend to state – ‘Land which may be constrained and needs to demonstrate suitability for development’.

This amended approach will enable future planning proposals to address these (and other) issues in a proper and rigorous manner.

c) Coal Seam Gas operations

In respect of Coal Seam Gas (CSG) operations within the Medhurst Road Precinct, on page 9, the *Draft Greater Macarthur Land Release – Preliminary Strategy and Action Plan* states:

Urban development can only occur on land within 200 metres of coal seam gas operations once:

- *The coal seam gas wells have been closed and sealed;*
- *The Rosalind Park Gas Plant has finalised its operation; and*
- *The Appin East and Appin West (Tower) gas/ power stations have finalised their operations.*

Figure 13 below reproduces Figure 6 of the *Draft Greater Macarthur Land Release - Strategy and Action Plan* and illustrates current and planned mining across the investigation area, whilst Figure 14 below zooms into the Medhurst Road Precinct and focuses on the CSG mapping.

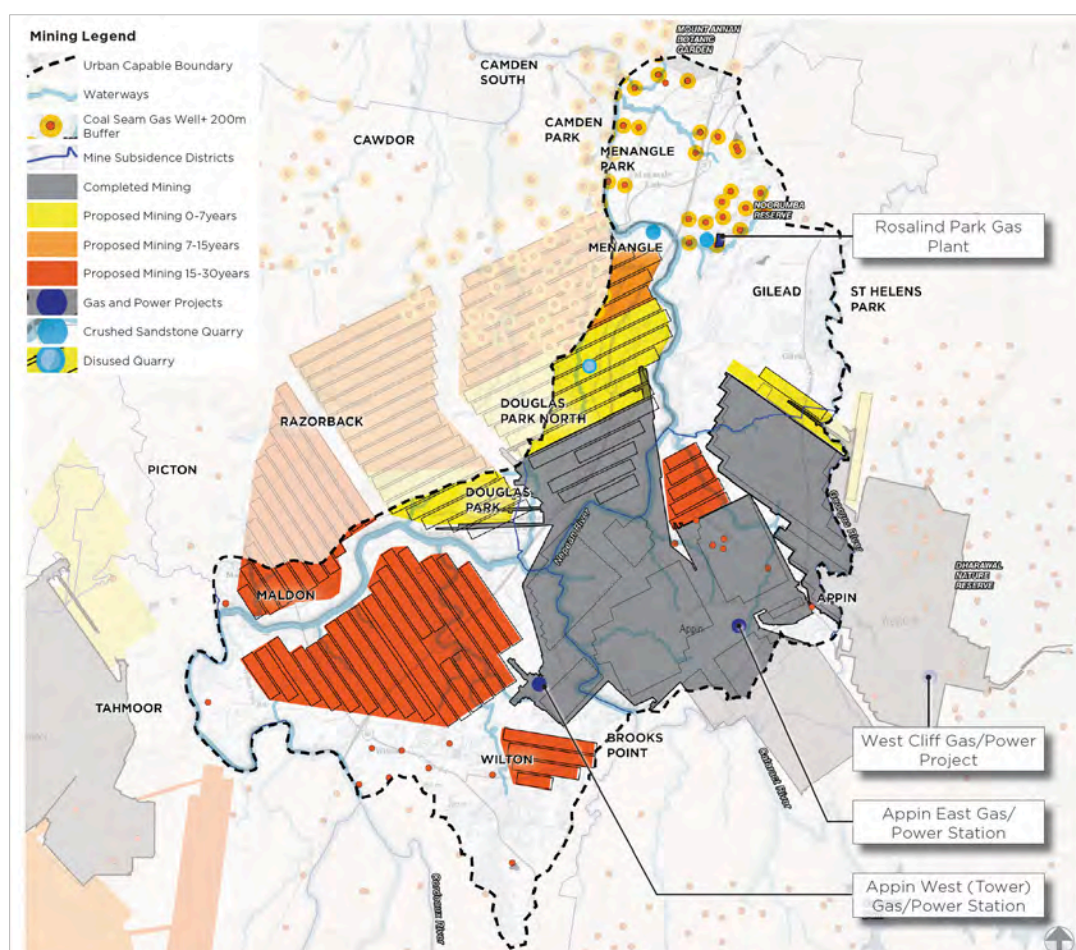


Figure 13 illustrates current and planned mining and reproduces Figure 6 of the *Draft Greater Macarthur Land Release - Strategy and Action Plan*.

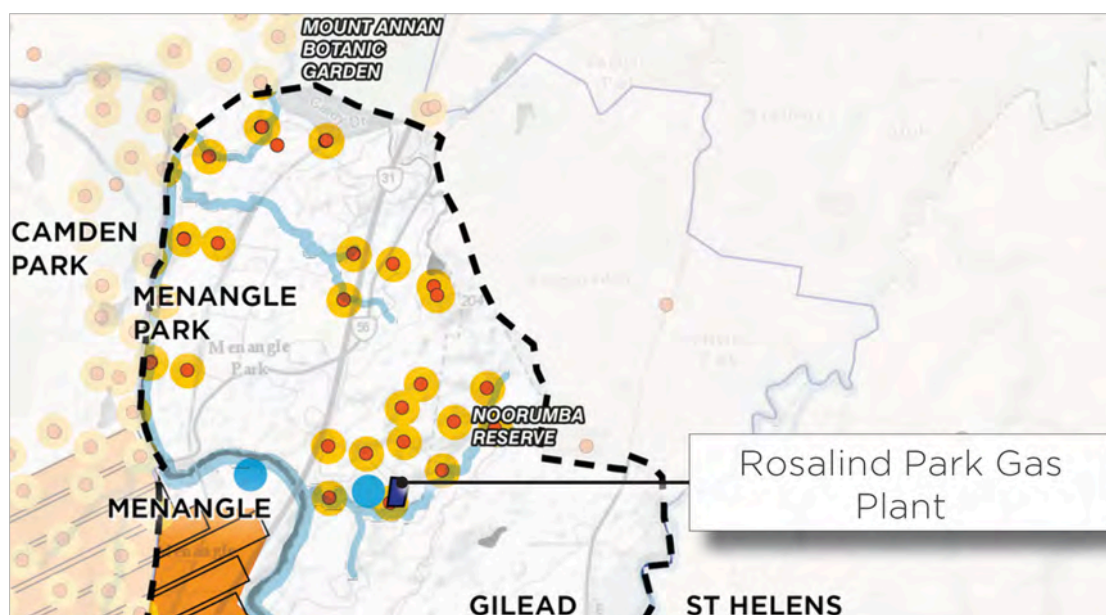


Figure 14 focuses in on the mapping of CSG wells and the location of the Rosalind Park Gas Plan in the Medhurst Road Precinct and CSG wells in the Menangle Park Precinct

CSG - Issues arising

The CSG planning strategy and buffer zone mapping techniques used for the CSG wells in the *Draft Greater Macarthur Land Release - Strategy and Action Plan* raises significant concerns with the landowner.

Specifically, these concerns relate to:

1. **Mapping** - Whilst the CSG well map for the Medhurst Road Precinct (Figure 14) provides approximate location of the 11 wells on the property, this map do not accurately represent the small number (two) of CSG wells that are operational. The mapping of the CSG wells in the Draft Strategy needs to be updated in consultation with AGL and categorised / differentiated to show the CSG wells that are both operational and non operational.
2. **Buffer zones** - the proposed planning strategy and buffer zone mapping techniques adopted in the *Draft Greater Macarthur Land Release - Strategy and Action Plan* do not represent best practice. There is no justification for the 200m buffer standard being applied to development and this proposed control is considered an unnecessary separation distance for CSG wells and should be deleted from the Draft Strategy. As advocated for CSG operations in a recent report by the NSW Chief Scientist + Engineer, a transparent and evidence-based approach to the CSG wells and planning and design of the precinct is required. (Refer to the following section for a summary of findings).
3. **Precinct structure planning** – The proposed structure planning process that will lead to the production of an *Indicative Layout Plan* for the Menangle Park / Mount Gilead Priority Precinct is the best time and the best process to determine the appropriate planning / design response and separation distances to CSG wells and operations. It is therefore recommended that the Draft Strategy be amended to remove the current proposed deterministic separation distances and requirements for CSG operations and that this process be transferred to the future proposed structure planning process.

CSG - Best practice report

In 2013, to address tension between the CSG industry and communities in which they operate, the NSW Chief Scientist + Engineer was requested to:

“identify best practice in relation to the management of CSG or similar unconventional gas projects in close proximity to residential properties and urban areas and consider appropriate ways to manage the interface between residences and CSG activity”.

In 2014, the NSW Chief Scientist + Engineer published an *Independent Review of CSG Activities in NSW*, which provided an information paper *On managing the interface between CSG and other land uses (Setbacks)*.

In this paper, the NSW Chief Scientist + Engineer examined strategies for managing the interface between proposed CSG activities and residential, industrial, urban and environmental areas. The paper had a focus on setbacks and as the impact potential is similar no matter from which industry it arises, drew strategies from a range of industries.

The following is an extract from the Executive Summary of the NSW Chief Scientist + Engineer’s Independent Review is instructive on the approach that should be taken in managing the interface between proposed CSG activities and residential, industrial, urban and environmental areas.

Setbacks or exclusion zones are typically defined by planning or zoning laws, and are designed to act as spatial barriers between two or more otherwise conflicting land uses or activities. Setbacks or separation distances are regulated distances that ‘set back’ oil and gas activities from entities that have been judged to merit additional protection, like human and animal inhabited spaces – including residences, urban areas, schools, hospitals – and surface and subsurface water resources. Setbacks exist to separate these protected spaces from potential harm related to resource extraction activities in the event of natural disasters, technological or procedural failures, or other incidents.

A clearly delineated interface such as a setback is easily understood and readily legislated, but should not detract from the need to understand the complex interaction and interdependency of social, environmental, legal and economic factors. The process of how setbacks are determined, whether they apply across the board or on a site-by-site basis, should be transparent, as should conditions under which operators will be required to implement further mitigation measures and monitoring.

It is normal practice to impose conservative control measures, such as standardised setbacks, on emerging industries, until ongoing monitoring and experience of local and regional impacts of a specific activity are obtained, and evidence-based controls can be adopted. Control measures should be modified and adapted over time to reflect improved knowledge and understanding based on robust data from monitoring and improved predictive modeling.

While setbacks are likely to be most effective in managing the interface with conflicting land uses when determined on a scientific basis, oil and gas activities that occur near iconic social and cultural locations may still be, for some, perceptually ‘too close’ and conflict with social values. However, opportunities exist for NSW to learn from examples provided by other jurisdictions and industries, and take a lead in establishing a transparent, data-based method for determining setbacks that also incorporates stakeholder concerns.

**Independent Review of CSG Activities in NSW.
Information paper on managing the interface
between CSG and other land uses (Setbacks)**

CSG - Recommended amendments

It is recommended that the department amend the CSG section and mapping of the *Draft Greater Macarthur Land Release - Strategy and Action Plan* to:

- f. update the CSG well mapping within the Medhurst Road Precinct to illustrate and differentiate between operational and non operational CSG wells, consistent with the mapping in Figure 9 and Figure 15;
- g. require that AGL provide an updated schedule of operational and non operational CSG wells and an updated schedule of Plug and Abandon (P&A) strategy and schedule for operational and non operational CSG wells;
- h. clarify that CSG wells and the Rosalind Park Gas Plant are separate entities and operations and that as a light industry, the gas plant complies with local planning regulations and should not preclude urban development;
- i. remove the reference to the 200m separation distance proposed around (operational and non operational) CSG wells and the associated pre-conditions relating to *coal seam gas wells have been closed and sealed, the Rosalind Park Gas Plant has finalised its operation; and the Appin East and Appin West (Tower) gas/ power stations have finalised their operations.*
- j. Transfer the process of determining separation distances from CSG wells as part of the proposed structure planning process that will lead to the production of an *Indicative Layout Plan* for the Menangle Park / Mount Gilead Priority Precinct as part of the integrated rezoning pathway.

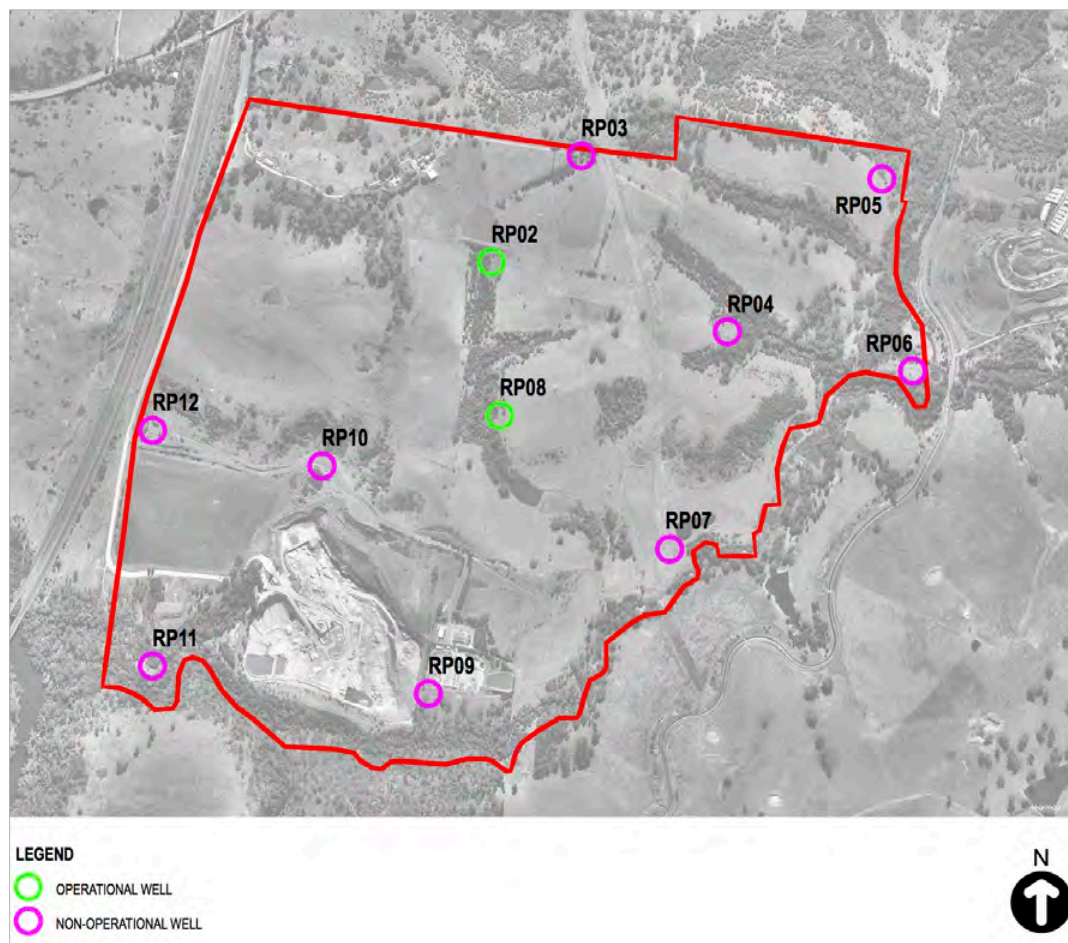


Figure 15 - It is recommended that the mapping for CSG wells be amended to identify both operational and non operational CSG wells and that the 200m buffers be removed at this stage and be addressed at the structure planning stage of the rezoning pathway.

d) Future transport connections

Future connections between the various precincts within the urban release area will be critical in creating accessible, dynamic and sustainable new communities at Mount Gilead and Menangle.

Currently, the Draft Strategy Structure Plan does not propose sufficient strategic transport connections between the precincts

As part of their staged development of the Gilead Precinct, it is understood that Lend Lease is proposing a new road that bridges over Menangle Creek. It is understood that this proposed road / bridge is to align close to or parallel with the Hume / M31 Motorway and connect with existing Medhurst Road, which will then connect into Menangle Road and then onto the new junction on the M31 Motorway.

The Medhurst Road Precinct landowner supports in principle the proposed north - south road / bridge connection as it can:

- significantly improve internal connectivity between the Mount Gilead and Menangle release area precincts
- enable ease of access to the future town centre at Mount Gilead
- improve external connectivity into existing and improving infrastructure and
- consolidate a future crossing of Menangle Creek into an area close to the existing Hume / M31 bridge, thereby limiting environmental and visual impact on the riparian creek corridor.

The attached Draft Strategy Structure Plan has been amended to illustrate this proposed future north south road / bridge connection across Menangle Creek linking with the Medhurst Road and Menangle Road. It is understood that Lend Lease will also do the same in their submission. Refer to Figure 16 and Figure 17.



Figure 16 illustrates where the proposed new road / bridge connection would cross Menangle Creek and how it would connect into the Medhurst Road Precinct.

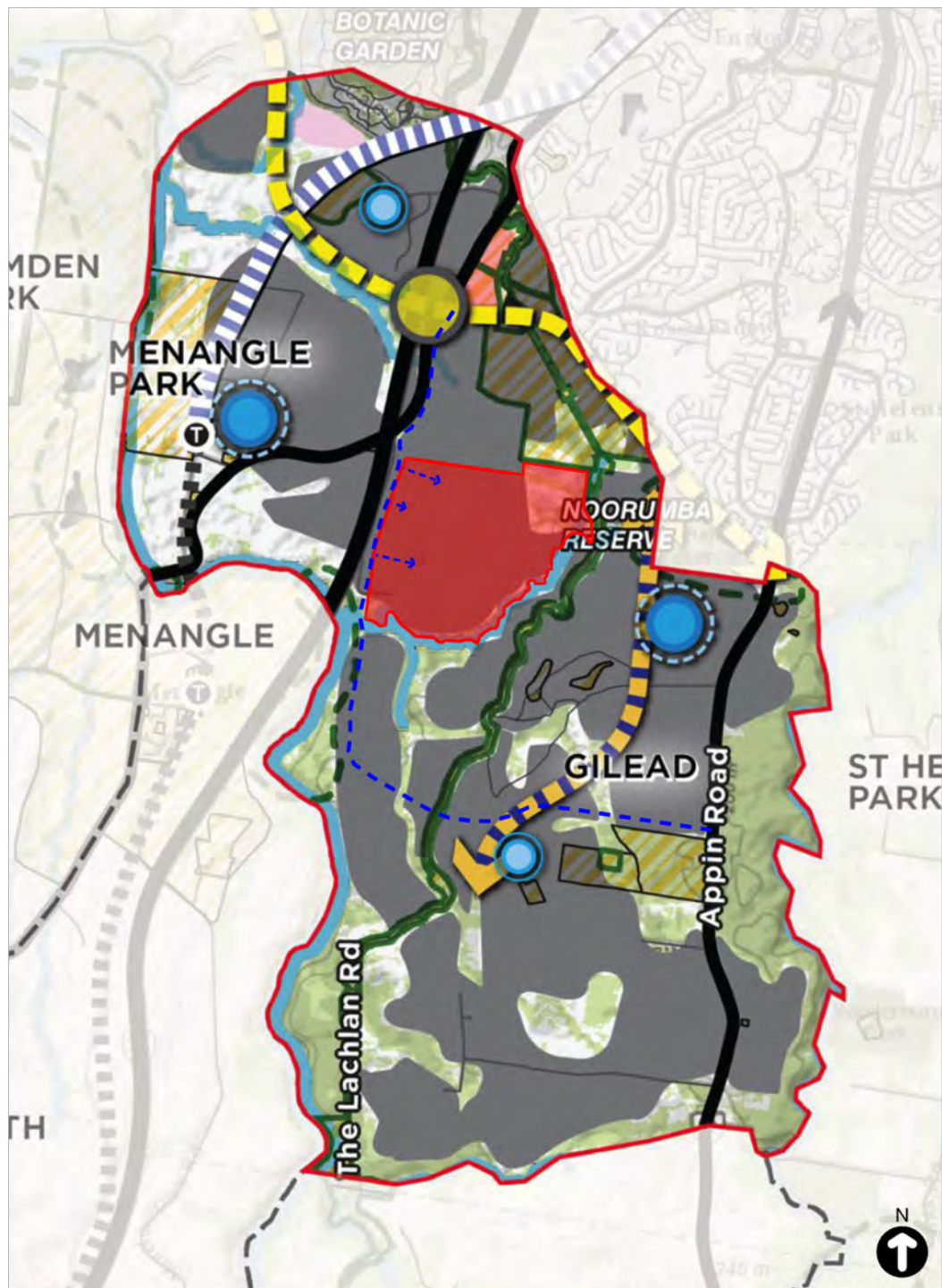


Figure 17 illustrates a precinct wide view of the proposed amendment to the Draft Strategy Structure Plan to provide a new road / bridge connection (shown as the annotated blue hatched line) across Menangle Creek linking the Medhurst Road Precinct with the Gilead Precinct / Appin Road in the south and Menangle Road / Menangle Park / M31 to the north.

Transport - Recommended amendment

It is recommended that the department amend the Structure Plan mapping in the *Draft Greater Macarthur Land Release Strategy* to show a new road / bridge link over Menangle Creek that connect the Gilead Precinct with the Medhurst Road Precinct and Menangle Road, in the manner illustrated above in Figures 16 and 17.

e) Better green connections

As well as transport connections, the new communities will benefit immensely from creating and improving upon local and regional environmental / green connections.

There is an opportunity to create '*Landscape Frameworks*' for both the Mount Gilead / Menangle and Wilton Priority Precincts. The purpose of the landscape framework is to illustrate key strategic green and environmental corridors and spaces that complement the development of urban precincts.

One particular opportunity, is for the completion of a strong east-west 'river-to-river' green / environmental connection between the Nepean River in the west and the Georges River Regional Open Space in the east. This river-to-river link was commenced in partnership between the Bloom family and Campbelltown City Council in 2000 and has the potential to establish a strong environmental and recreational corridor following Menangle Creek and integrating Noorumba Reserve, as illustrated in Figure 18.

Improving public access to the regional open space corridor asset along the Georges River will provide a significant amenity, recreational and environmental asset to the new and existing communities.



Figure 18 – Illustration of the potential of the river-to-river link between the Nepean River in the west and the Georges River in the east, following Menangle Creek and integrating Noorumba Reserve.

Better green connections - Recommended amendment

It is recommended that the department amend and improve the Structure Plan mapping in the *Draft Greater Macarthur Land Release Strategy* to create '*Landscape Frameworks*' for both the Mount Gilead / Menangle and Wilton Priority Precincts, that illustrates key strategic green and environmental corridors and spaces that complement the development of urban precincts.