

# west belconnen

## visual impact assessment

June 2014



The Riverview Group



CANBERRA FIRST







Title            West Belconnen  
                  Urban Design Report

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Prepared by:   Angela Koepp/Nicole Dennis

Approved by:   Martine White

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## Introduction

RobertsDay has been engaged by Riverview Group (ACT) Pty Ltd (Riverview) to prepare a Visual Impact Assessment (VIA) to assess any potential impacts of the proposed West Belconnen Master Plan (draft Master Plan) on existing view corridors from within the site and adjoining properties.

The outcomes of the VIA clearly demonstrate that implementation of the draft Master Plan will not have a significant impact on the visual amenity of adjoining rural and urban properties or the scenic corridors within the site.

The draft Master Plan has been prepared to support:

- An Amendment to the National Capital Plan
- A rezoning under the Territory Plan
- A rezoning under the Yass Valley Local Environment Plan

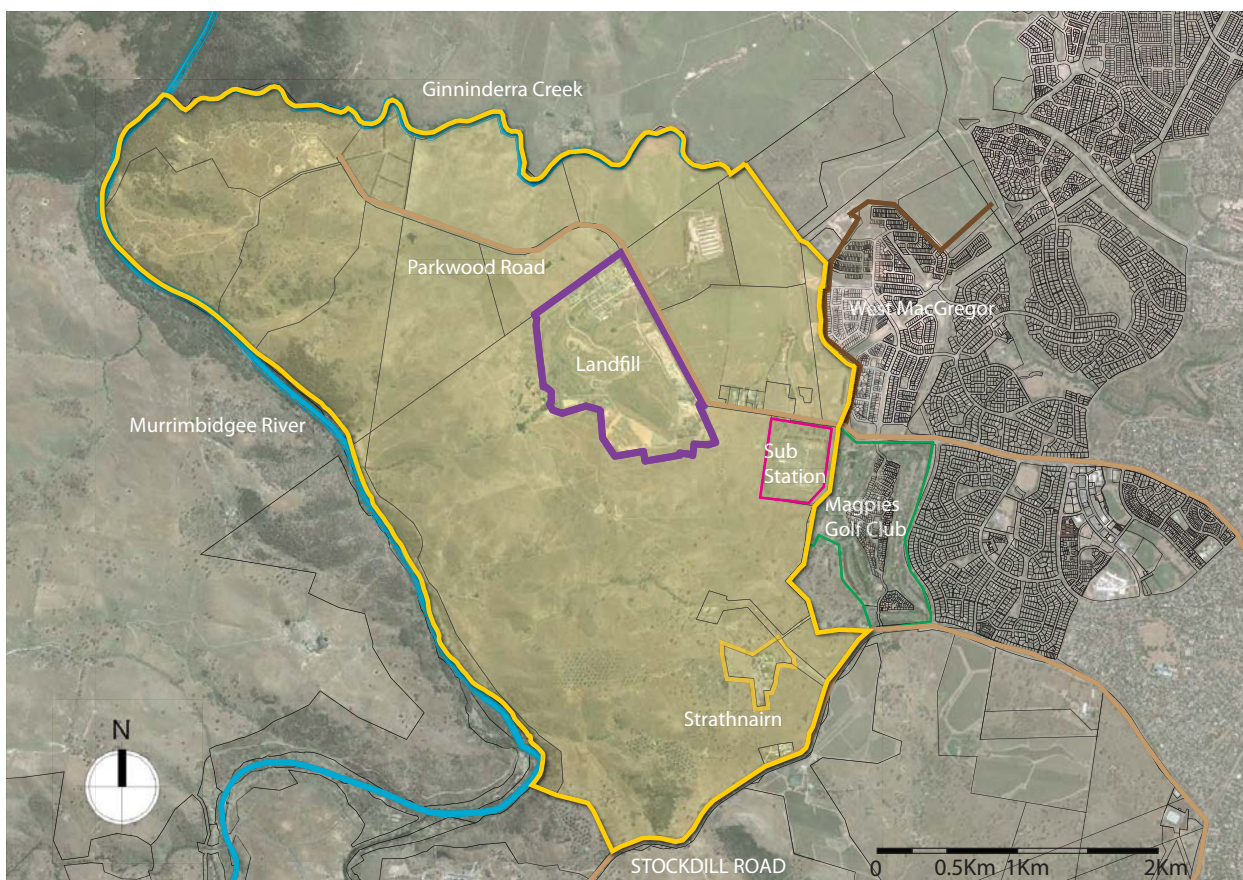
This will facilitate the development of a new settlement with 11,500 new homes over a 30 year development timeframe.

## Study Area and Existing Visual Environment

The subject site consists of 1,600 hectares (ha) of land located 15 kilometres (km) from Parliament House and 8km the Belconnen Town Centre and University of Canberra.

The existing visual environment consists of cleared undulating pasture with remnant bushland primarily clustered along the riparian corridor of the Murrumbidgee River.

Ginninderra Creek is a tributary of the Murrumbidgee River and runs along the northern boundary of the Study Area. Part of the site is used for low intensity agricultural uses.





The site also includes an existing landfill site, series of transmission lines and a substation that provides power to the greater Canberra region.

The established residential suburbs of Holt, MacGregor and Dunlop are located to the east of the site within ACT. The balance of the site is surrounded by rural land within both NSW and ACT.

The elevation of the site ranges from 625metres (m) along the southern boundary to 425m along the banks of the Murrumbidgee River. A prominent ridge line ranging between 560m to 585m runs along the power line easement with two high points located within the landfill site. The Study Area slopes from generally higher terrain in the east with the low points being along the Murrumbidgee River on the western boundary. The existing topography currently blocks views from the existing suburbs adjacent to the east of the site to views of the Brindabellas to the west.

The existing visual amenity of the site is currently impacted by the following land uses:

- A series of 330kv and 132 kv transmission lines and associated towers that traverse the site (108ha)
- A substation that provides power to the greater Canberra region (26ha)
- A land fill site and industrial precinct ( 108ha)

The substation and transmission lines have been incorporated into the draft Master Plan. It is proposed to use the land within the transmission line easements to create a series of green corridors providing integrated pedestrian and cycle routes.

The land fill site will be progressively rehabilitated and will ultimately become a community asset with the potential to accommodate a range of diverse uses including innovative technologies, and urban agriculture.

The combined area of these uses is 242ha and collectively they are dominant features within the landscape and visible from areas outside the subject site.

## Methodology

Preliminary discussions with ACT and NSW Government officers confirmed that there are no Australian based adopted or agreed guidelines on the assessment of landscape and visual assessment. The methodology adopted for the West Belconnen VIA represents current best practice as utilised in a range of high profile NSW and ACT projects.

### 1. Viewing locations

The 8 viewing locations are intended to provide a comprehensive analysis of the impact of the proposed development and fall within the following categories:

#### ADJOINING URBAN AREAS

- Hollows Circuit, West MacGregor
- Golf Course Estate (Woodhaven)
- Dunlop

#### ADJOINING RURAL AREAS

- Rural properties adjoining Ginninderra Creek (NSW)
- Rural properties adjoining Murrumbidge River (ACT)

#### SCENIC VIEWS FROM WITHIN THE DRAFT MASTER PLAN

- Shepherds Look Out
- West Belconnen Farmhouse

#### PARLIAMENTARY TRIANGLE

The National Capital Plan is designed to preserve the integrity and prominence of the buildings within the Parliamentary Triangle. The intent is that any development at West Belconnen is visually contained within the natural landscape and not visible from the Parliament House.

### 2. Cross Sections

A series of cross sections were created along each of the viewing locations by:

- Importing the existing 3D terrain model with 5 metre contour intervals from Google Earth into Sketch Up



- Overlaying the Study Area and draft West Belconnen Master Plan onto the 3D model
- Exporting 2D cross sections into PhotoShop along each of the chosen view lines along with a birds eye perspective shown in 3D to put each cross section into context

### 3. Viewing Positions

- The viewing position of each 2D cross section is based on the eye level of a person of average height (1.7 metres) standing on the ground
- A bird's eye perspective of the draft Master Plan at an elevation of 300m is provide to place each section within context
- For the view from the Parliamentary Triangle and Stirling Ridge a view shed was created and any development visible has been shown as hatched.

### 4. Visibility Categories

The following "visibility zones" occur at horizontal intervals moving away from the viewing position and have been created and the extent of development visible within each of the zones documented and assessed:

- Land within the "High Visibility" zone is at the same RL (measured in metres) or lower, than the viewing position. On a clear day, this area will be visible for a person of average height (visibility will vary subject to disturbance ie diminution in visibility corresponds with distance from object)
- Land within the "Low Visibility" zone extends beyond the "High Visibility" zone to the highest RL within the entire cross section
- Land classified as "Not Visible" is located beyond the highest point within the cross section and would therefore not be visible from the viewing location

Development at each specified stage is depicted as light yellow (within the bird's eye perspective), whereas land that is undeveloped or proposed to be set aside as open space is shown as green. The 2D cross section illustrates the land that will be developed within that section as bright yellow.

### 5. Landscaping

It is important to note that neither the existing or proposed landscaping has been modelled.

Landscaping will play an important role in creating the visual amenity of the West Belconnen settlement and as the landscape matures will screen development and reduce its visual prominence. However, because of the complexity involved to accurately model landscaping, the progressive planting programme and growth as it matures, it has been omitted from the modelling undertaken for this VIA and therefore not considered as part of this visual assessment. However, it should be noted that street trees, rehabilitation of woodland and landscaping will mature over time and act to mitigate the visual impact of the proposed Master Plan.

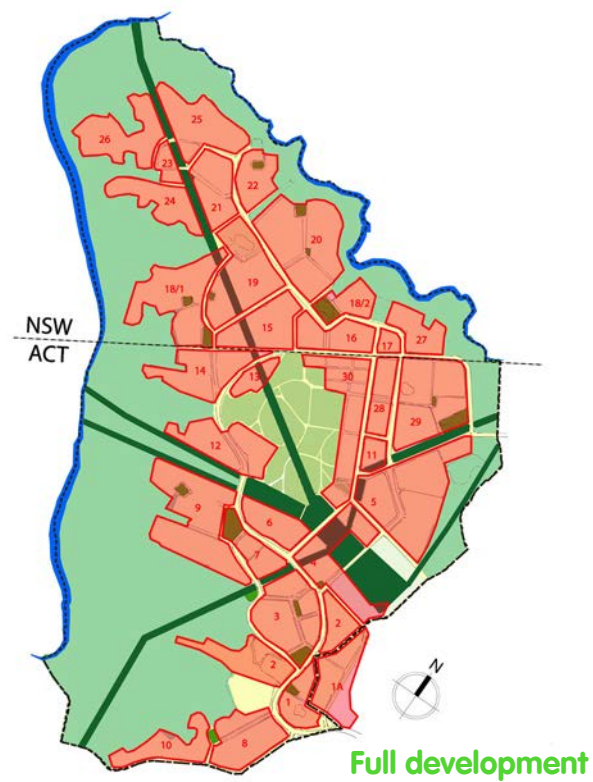
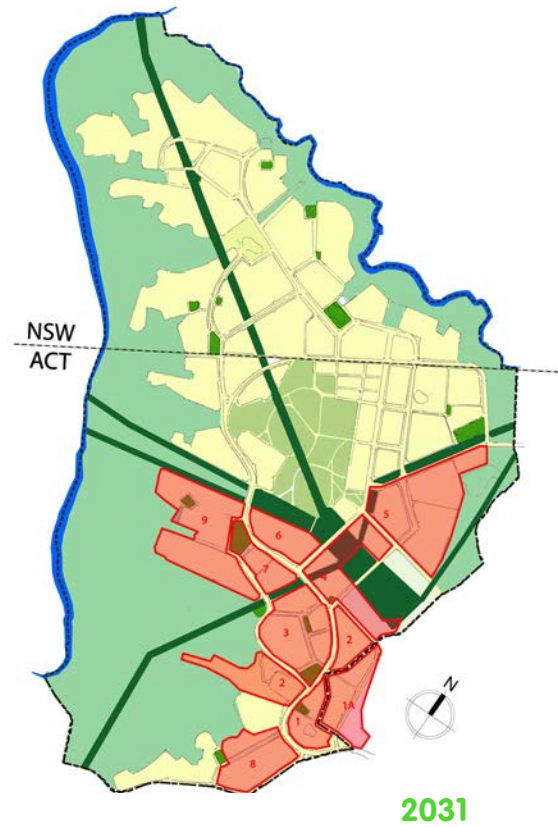
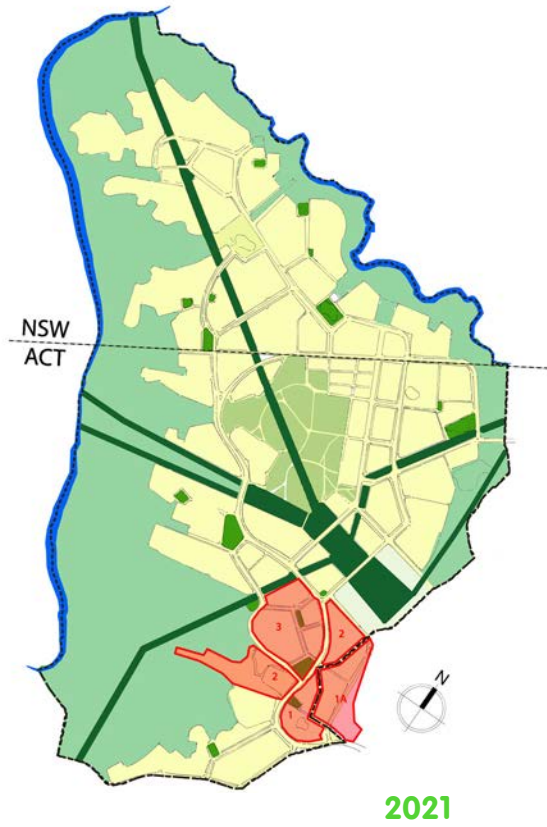
### 6. Development Timeframes

The development timeframes used in the VIA reflect those used by AECOM to inform the traffic modelling for West Belconnen and are based on the assumption that development will commence in 2016:

- 2021 (after 5 years of development)
- 2031 (after 10 years of development)
- Full development



## Staging





## Planning Framework Guidance

### National Capital Plan

Development is subject to the requirements of the Territory Plan, and must reflect the requirements of the National Capital Plan. The Master Plan and this Visual Impact Assessment have been undertaken to support an amendment to the National Capital Plan to utilise the area for future urban development.

The National Capital Authority (NCA) was established to manage the Commonwealth's interest on planning matters within the National Capital Boundary. In particular, the NCA acts as a custodian of the National Capital Open Space System (NCOSS) including Lake Burley Griffin, river corridors, mountains and bushland, and hills, ridges and buffer space.

Since Griffin's vision for Canberra, this open space system has guided the urban growth of Canberra through the Y-Plan and subsequent growth strategies where new development is visually contained by the natural landscape. Collectively, this Strategy has preserved Canberra's legacy as a 'city in nature' and protected against the incremental development of a monotonous sprawling city.

In order to ensure the proposed Draft Master Plan is consistent with NCOSS, a detailed analysis of the open space system was undertaken as part of the master planning process and resulted in the following key landscape and open space outcomes:

- Creation of the Murrumbidgee River and Ginninderra Creek Conservation Corridor
- Celebration of the site's high points and open space setting
- The creation of three primary visual axes - Bush Axis, City Axis and Belconnen Axis connecting the site to its surrounding regional context
- Transform of the landfill site into a city scale asset that has the potential to significantly enrich the value of Canberra's open space system

### Territory Plan

The Territory Plan is the ACT Government's primary planning tool. The subject site is currently zoned Non Urban - NUZ 3 Hills Ridges and Buffers. The Master Plan and this Visual Impact Assessment have been prepared to support a request to rezone the subject land to "Future Urban Area".

A comprehensive review has been undertaken of the existing development standards contained within the Estate Development Code, Single Dwelling Housing Development Code and the Multi Unit Housing Development Code with alternative standards proposed to support the vision for West Belconnen where appropriate as part of an addendum for each of the Codes. The Precinct Code will document the range of housing typologies, street types and landscaping required.

### Yass Local Environmental Plan 2013

Yass Local Environmental Plan 2013 (LEP 2013) applies to the portion of the Study Area within New South Wales. The land is currently zoned RU1 Primary Production. The draft Master Plan and Visual Impact Assessment will also support an application to rezone the NSW portion of the subject site for urban development.





## Draft West Belconnen Master Plan

The draft Master Plan is a natural extension of Canberra's urban footprint, as envisaged by the Y Plan, and will transform 1600 hectares of agricultural land and a landfill site into a new sustainable settlement.

The settlement will be the first ACT/NSW cross border development and will provide 11,500 new homes supporting a population of 30,000 people over a 20 to 30 year time frame.

The draft Master Plan proposes a series of residential neighbourhoods within a landscape setting and proposes the following landscape and open space features which will significantly improve the visual amenity and contribution to the creation of a unique sense of place:

- Consolidation of the NCA's Open Space system through the creation of a Conservation Corridor along the Murrumbidgee River that will improve the Box Gum Woodland and retain the Pink Tail Worm Lizard's habitat
- Extending the Conservation Corridor to include the land adjoining the Gininniderra Creek to create a continuous greenbelt encircling the proposed new settlement
- Creation of a secondary series of open space areas that create three identifiable green loops containing the neighbourhood clusters
- Creation of a series of interconnected wetlands and basins to restore a stable groundwater hydrology
- Retention of the existing high quality trees and significant new planting that over time will provide additional habitat for flora and fauna

The topography of the Study Area has been a key consideration throughout the design process and has provided a number of opportunities to create and celebrate views through the sensitive siting of public open space and the movement network. The natural character of the landscape provides the foundation for creating a strong sense of place.





## Legend

- Site Boundary
- NSW / ACT Border
- Proposed Urban Areas
- Schools
- Playing Fields
- Retail
- Mixed Use
- Potential Mixed Use-  
Subject to Further Remediation  
Studies
- Employment
- Parks
- Box Gum Woodland
- Transmission Line  
Easement  
Potential Uses May Include:  
Public Open Space  
Pedestrian/Cycle Network  
Community Gardens  
Urban Agriculture
- Development Subject to  
Proposed Switching  
Station
- Land Fill Site  
Potential Uses May Include:  
District Playing-Fields  
Urban Agriculture  
Fresh Food Market  
Sustainable Technologies  
Recycling Facilities
- Avenues
- WSUD Basins

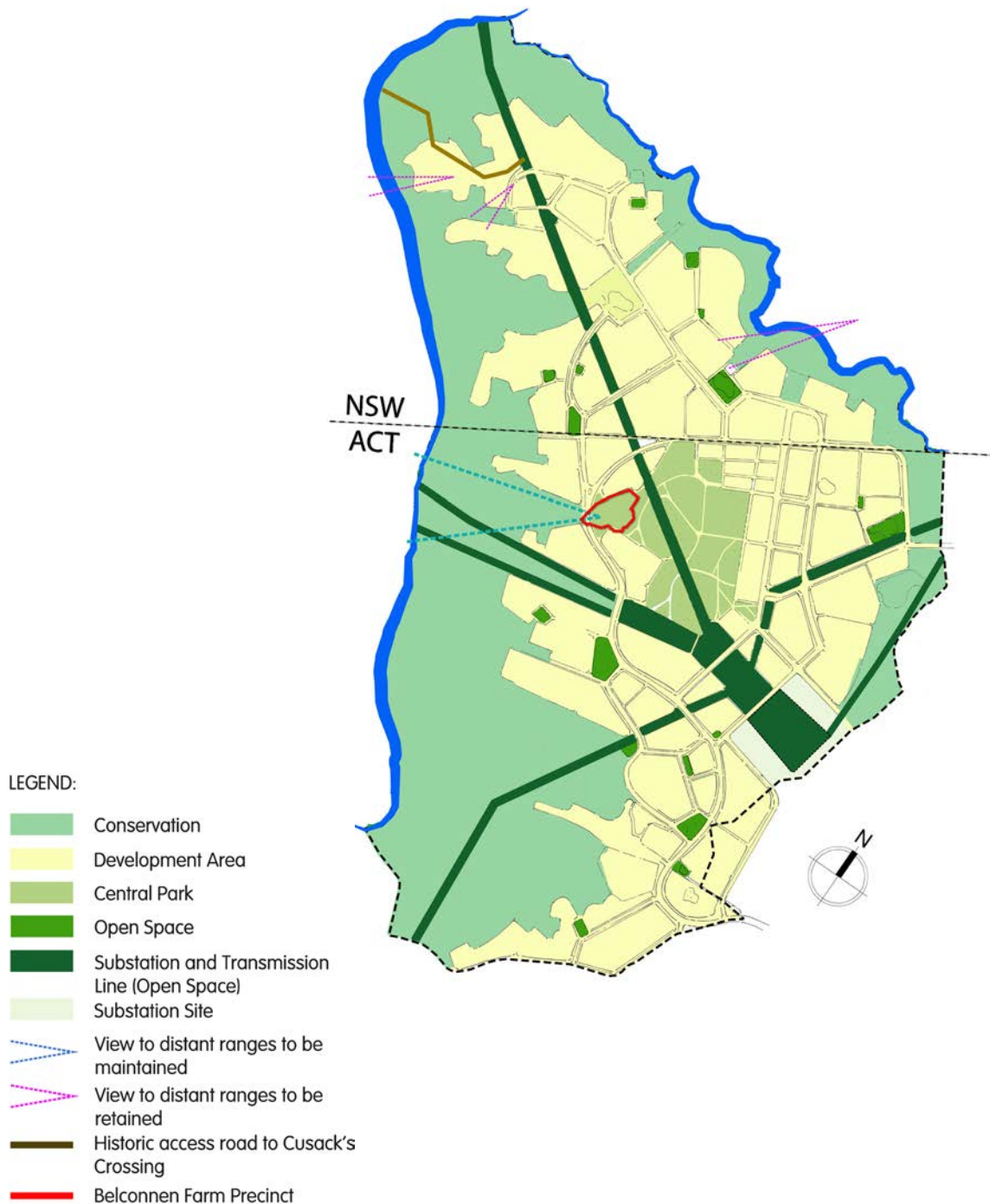
This Illustrative Master Plan provides an illustration of the potential for the development of the site only. It is not a statutory document. It is provided as a high level overview of the indicative movement network and broad land use intentions for the West Belconnen Project. The Master Plan will be subject to evaluation and amendment over time, and details may change. The proposed Future Urban Areas are shown on the Structure Plan.

robertsday.com.au planning@robertsday.com.au

WEST BELCONNEN ILLUSTRATIVE MASTER PLAN



The draft Master Plan recognises the heritage listed view corridor from the West Belconnen Farmhouse (shown in blue) through to the Conservation Corridor and the Brindabella's. A number of other scenic view corridors from key vantage points (shown in purple) are also protected through the sensitive siting of open space, roads and residential neighbourhoods.





## Assessment Criteria

The following assessment criteria has been developed based on a review of the National Capital Plan and the relevant planning framework.

The potential visual impact arising from the Draft Master Plan will arise as a result of the “visibility” of the proposed development from the agreed locations.

“Visibility” is a measure of the extent to which particular activities/components of a proposed development may be visible from surrounding areas, the relative number of viewers, viewing distance and context of view.

The following criteria have been used to determine whether the visual impact is nil/low/medium or high:

- Distance of the development from the viewing location
- The number of people impacted by the proposed development. If the number of people impacted is small, then the extent of the visual impact will be assessed as low
- The extent of visible development and its prominence in the landscape
- The presence of open space or undeveloped land which reduces the visual impact of development

## Key findings

The outcomes of the VIA are:

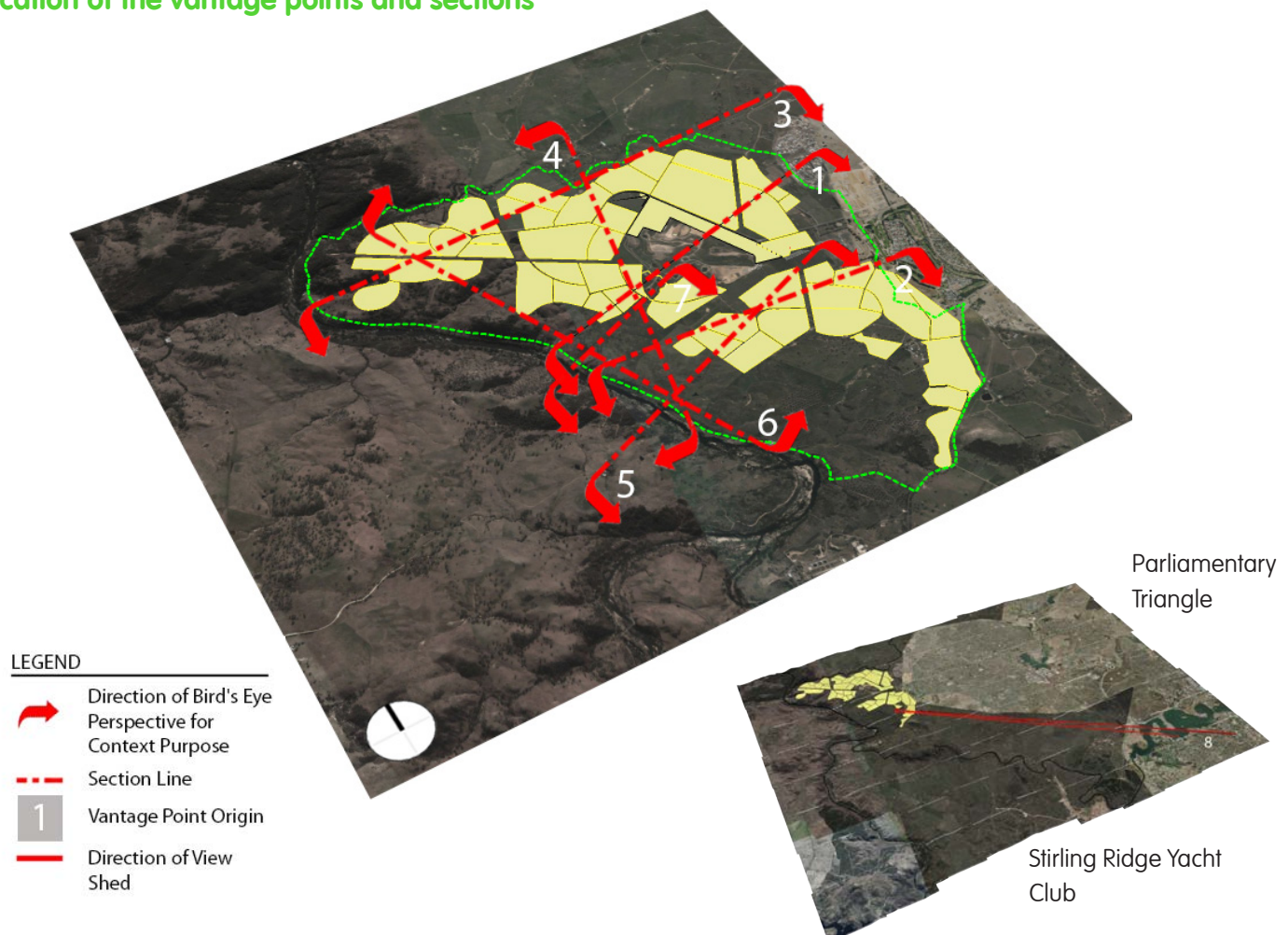
- The significant amount of land set aside for conservation and recreation purposes reduces the visual impact of the proposed development resulting in the overall visual impact of the draft Master Plan being predominantly low
- The retention of topography on the site preserves and enhances the visual amenity and reduces the visibility of sections of the draft Master Plan
- No development will be visible from the Parliamentary Triangle or the Stirling Ridge Yacht Club
- The draft Master Plan protects the views the heritage listed West Belconnen Farmhouse and therefore the visual impact from this viewing location is rated as nil
- The visual impact from most of the viewing locations at all three development phases were generally ranked as low, with some as nil
- The greatest visual impacts were found to be from the existing adjacent urban areas with the Hollows Circuit, West MacGregor revealing a ‘Medium’ visual impact by 2031 and at full development

## Sections

A Visual Impact Assessment of the following eight vantage points has been undertaken. The locations of the sections are illustrated and described in the table below.

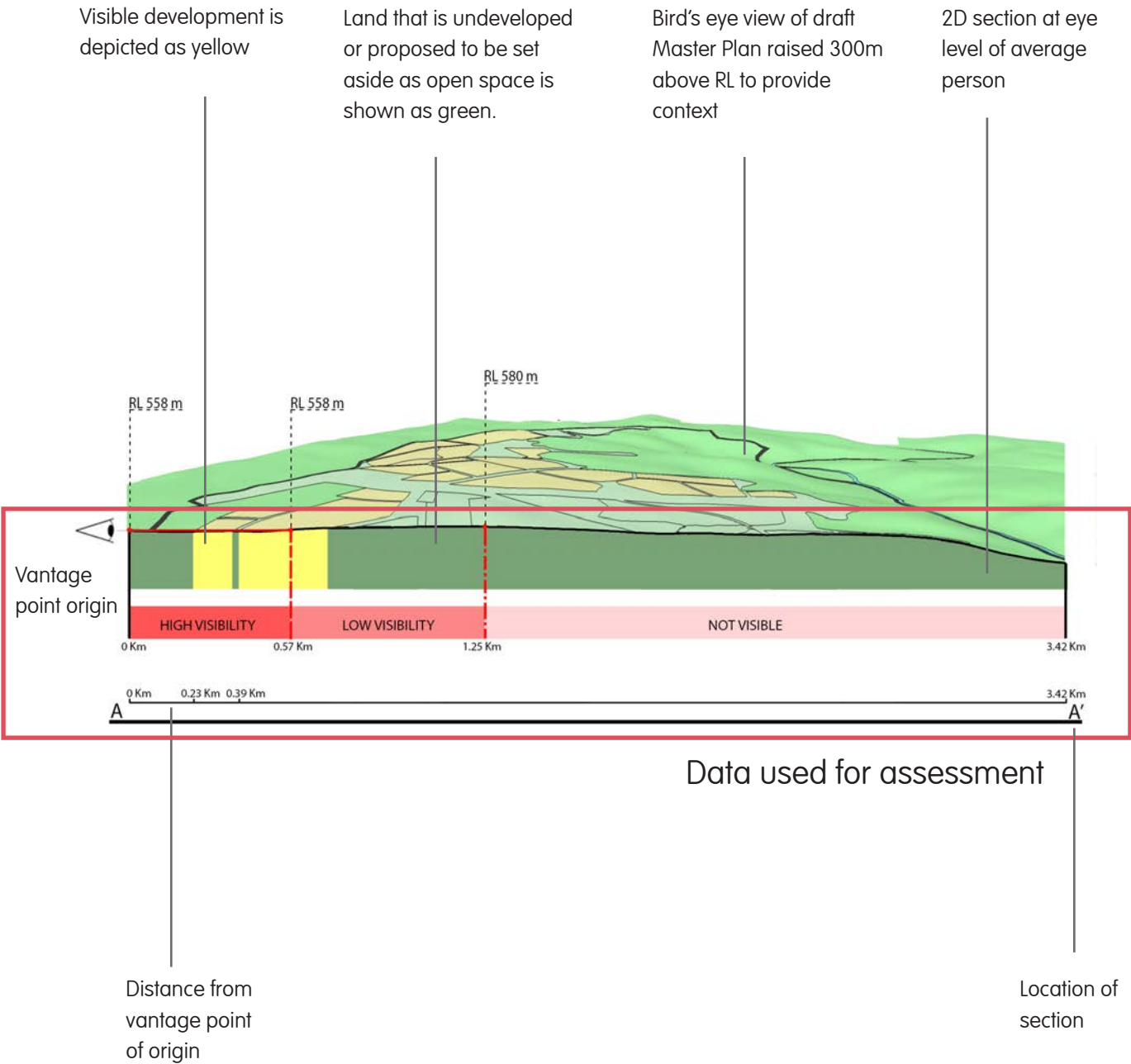
SECTION	LOCATION
1	Hollows Circuit, West MacGregor
2	Golf Course Estate (Woodhaven)
3	Dunlop
4	Rural properties adjoining Ginninderra Creek (NSW)
5	Rural properties adjoining Murrumbidgee River (ACT)
6	Shepherds Lookout
7	Belconnen Farm
8	Parliamentary Triangle and Stirling Ridge Yacht Club

## Location of the vantage points and sections

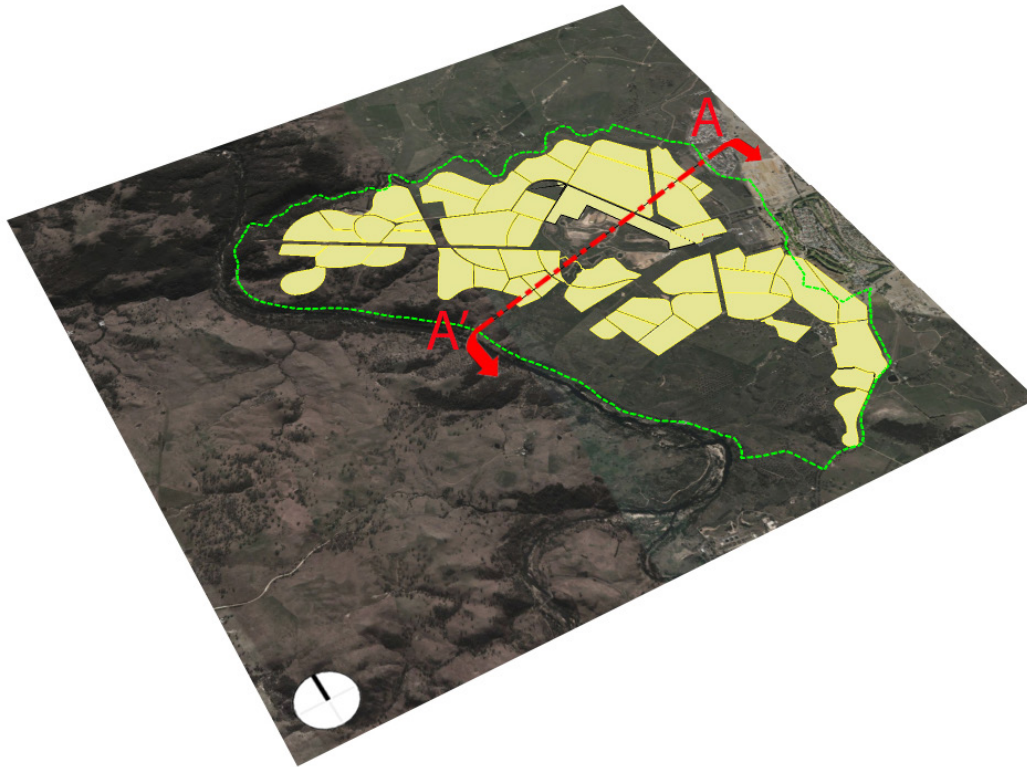




The following explains the typical components of the sections in the VIA.



# 1 Hollows Circuit, West MacGregor

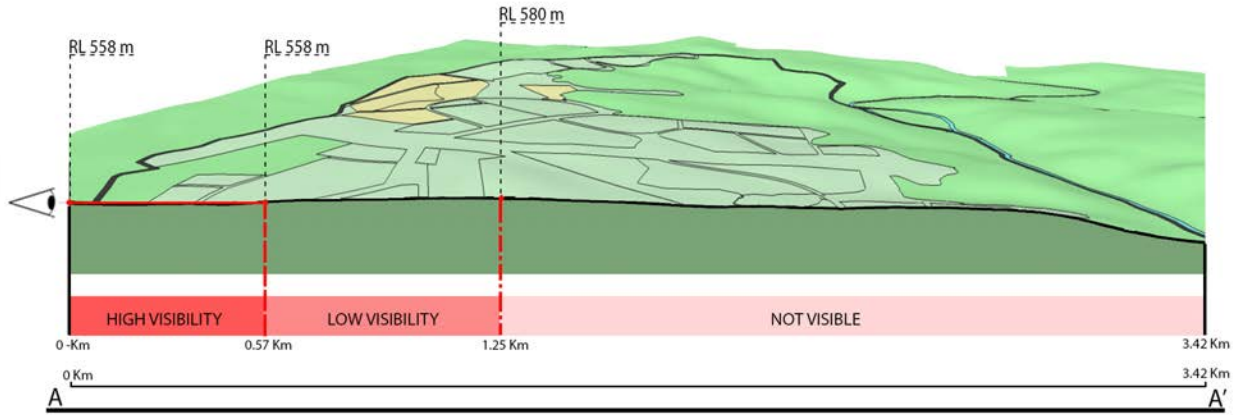


An assessment of the visual impact of the Draft Master Plan from Hollows Circuit, West MacGregor has been conducted to measure the impact of the future urban development on the adjacent existing residential area.

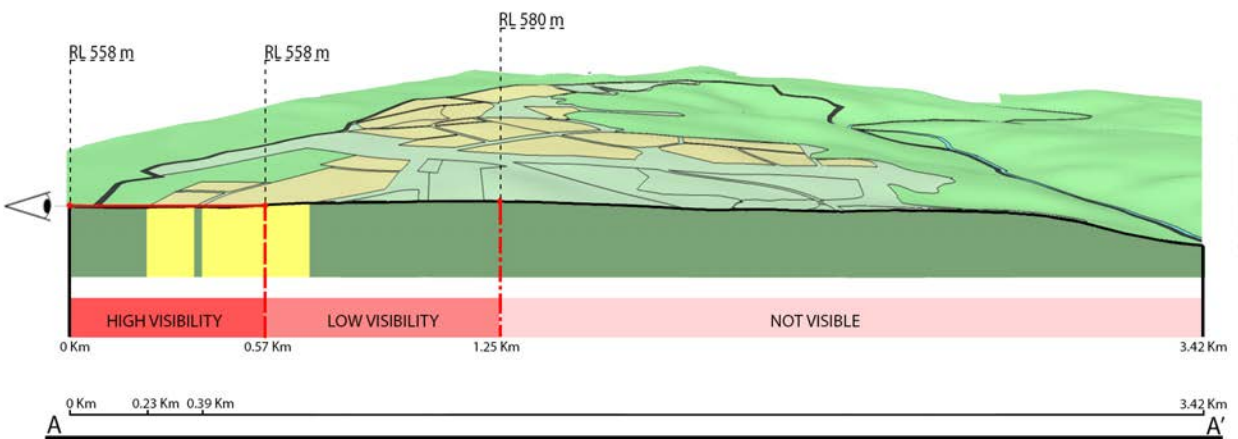
Timeframe	Assessment	Impact Assessment
<b>2021</b>	<ul style="list-style-type: none"> <li>There will be no development within the "High Visibility" or the "Low Visibility" range</li> </ul>	Nil
<b>2031</b>	<ul style="list-style-type: none"> <li>A buffer has been created between the existing and future development mitigating the extent of the visual impact and retaining the natural features of the riparian corridor</li> <li>Approximately 15% of the area within the "Low Visibility" range will contain development with development broken up by pockets of public open space</li> <li>Approximately 60% of the area within the "High Visibility" range will contain development by 2031</li> </ul>	Medium
<b>Full Development</b>	<ul style="list-style-type: none"> <li>No additional development would be constructed within the "High Visibility Area"</li> <li>Approximately 80% of the "Low Visibility Area" would be developed</li> </ul>	Medium



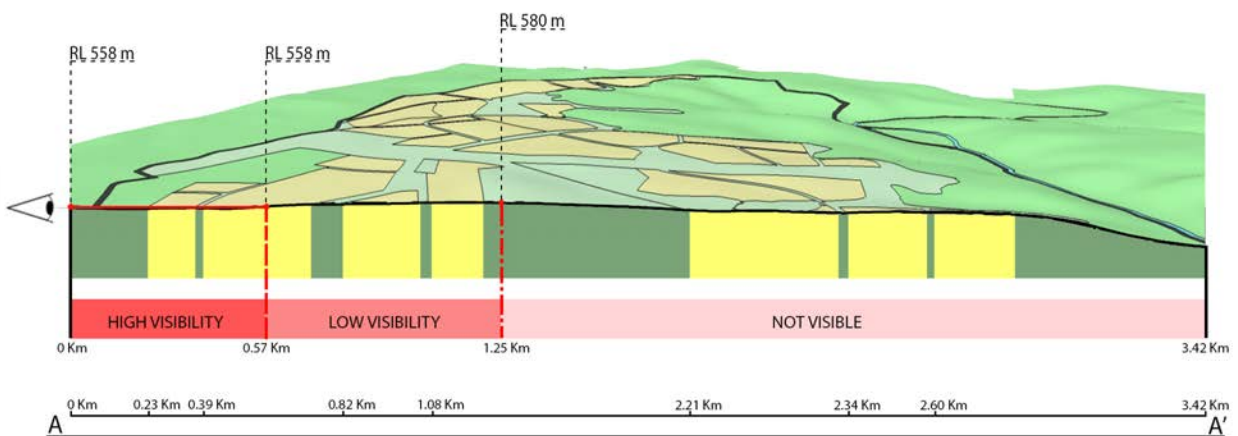
## Hollows Circuit, West MacGregor - 2021



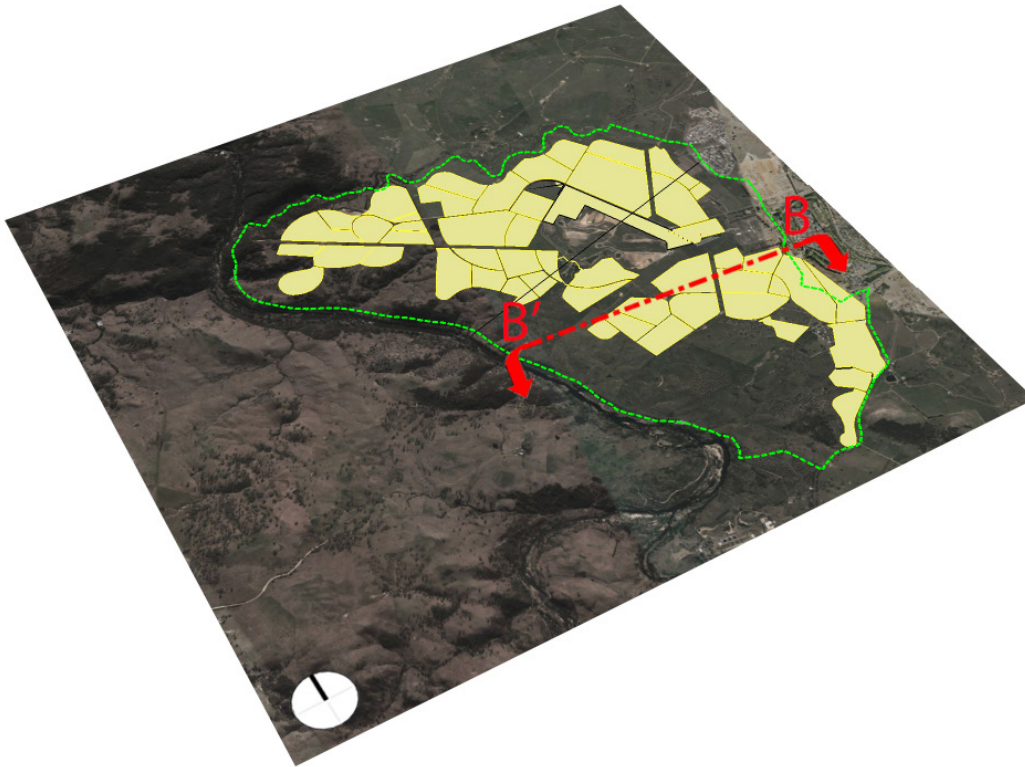
## Hollows Circuit, West MacGregor - 2031



## Hollows Circuit, West MacGregor - full development



## 2 Golf Course Estate (Woodhaven)

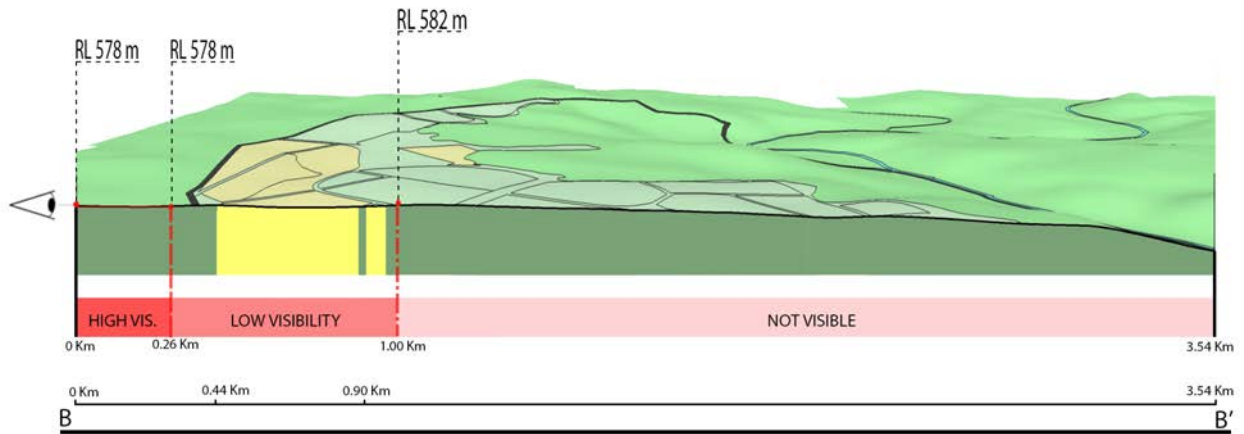


An assessment of the visual impact of the Draft Master Plan from the Golf Course Estate (Woodhaven) has been conducted to measure the impact of the future urban development from the Golf Course Estate.

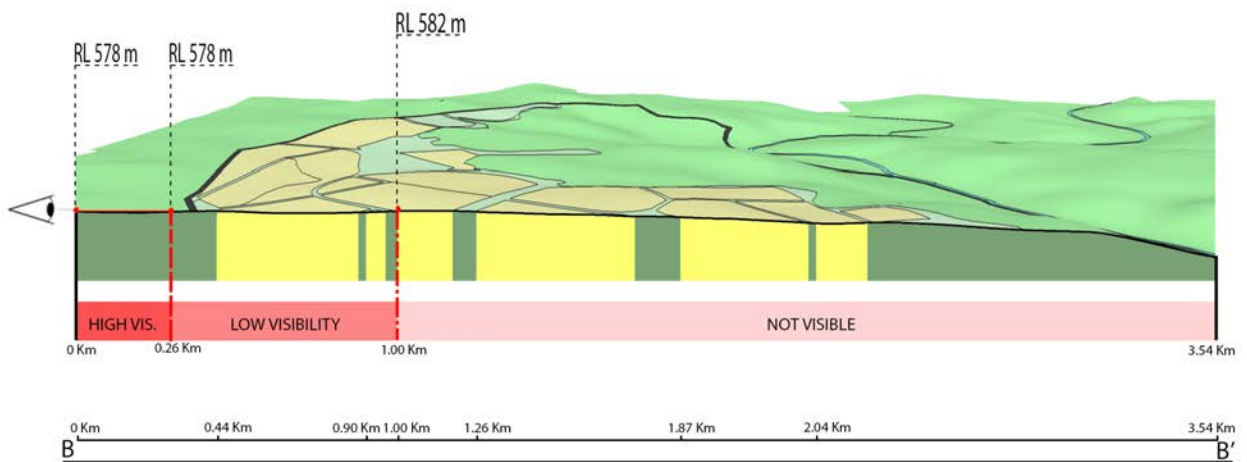
Timeframe	Assessment	Impact Assessment
<b>2021</b>	<ul style="list-style-type: none"> <li>There will be no development within the "High Visibility" range</li> <li>Approximately 80% of the "Low Visibility" range will be developed</li> <li>The Golf Course includes vegetation and fairway trees that will act to mitigate and shield a large proportion of the visual impact as the development will not exceed the height of the existing trees</li> </ul>	Low
<b>2031</b>	<ul style="list-style-type: none"> <li>There will be no development within the "High Visibility" range</li> <li>No additional development within the "Low Visibility" range will occur, therefore the visual impact will not increase over time, but rather decrease as landscaping and trees mature</li> </ul>	Low
<b>Full Development</b>	<ul style="list-style-type: none"> <li>There will be no development within the "High Visibility" range</li> <li>No additional development within the "Low Visibility" range will occur, therefore the visual impact will not increase over time, but rather decrease as landscaping and trees mature</li> </ul>	Low



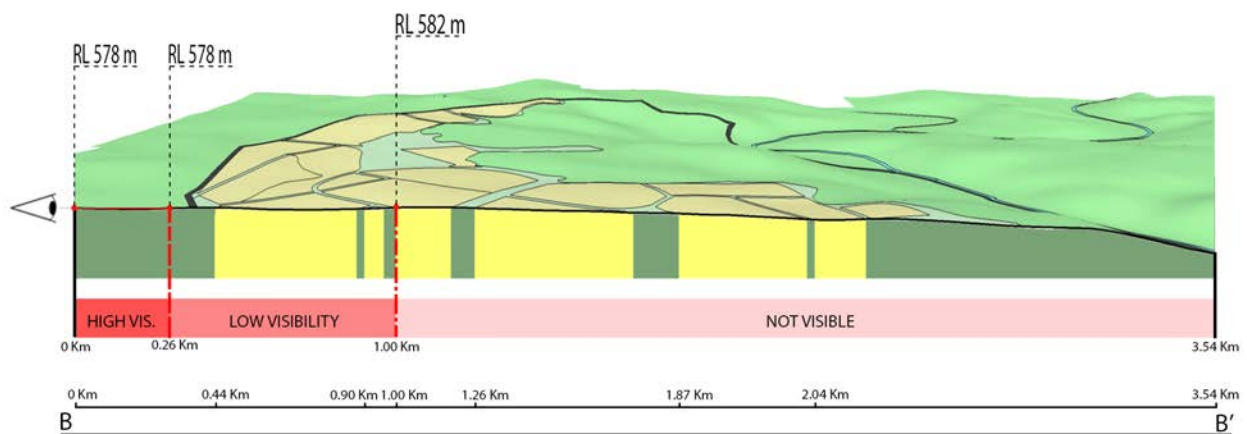
### Golf Course Estate - 2021



### Golf Course Estate - 2031



### Golf Course Estate - full development



### 3 Dunlop



An assessment of the visual impact of the Draft Master Plan from Dunlop has been conducted to measure the impact of the future urban development on the adjacent existing residential area.

Timeframe	Assessment	Impact Assessment
<b>2021</b>	<ul style="list-style-type: none"> <li>There will be no development within the "High Visibility" or the "Low Visibility" range</li> </ul>	Nil
<b>2031</b>	<ul style="list-style-type: none"> <li>There will be no development within the "High Visibility" or the "Low Visibility" range</li> </ul>	Nil
<b>Full Development</b>	<ul style="list-style-type: none"> <li>There will be no development within the "High Visibility" range</li> <li>Only approximately 20% of the "Low Visibility" range will be developed with the extensive open space buffer and breaks of open space breaking up the view over the built form mitigating the visual impact</li> </ul>	Low



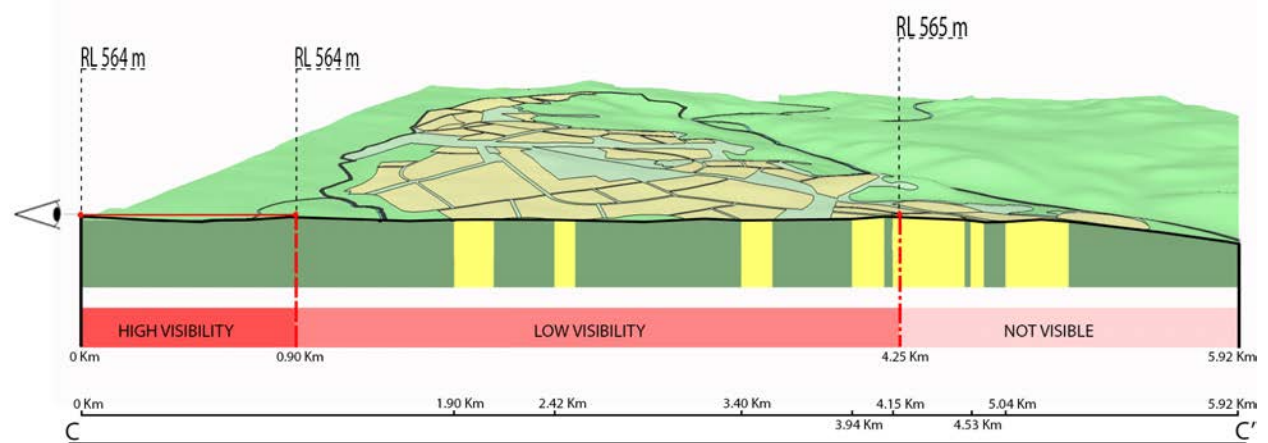
## Dunlop - 2021



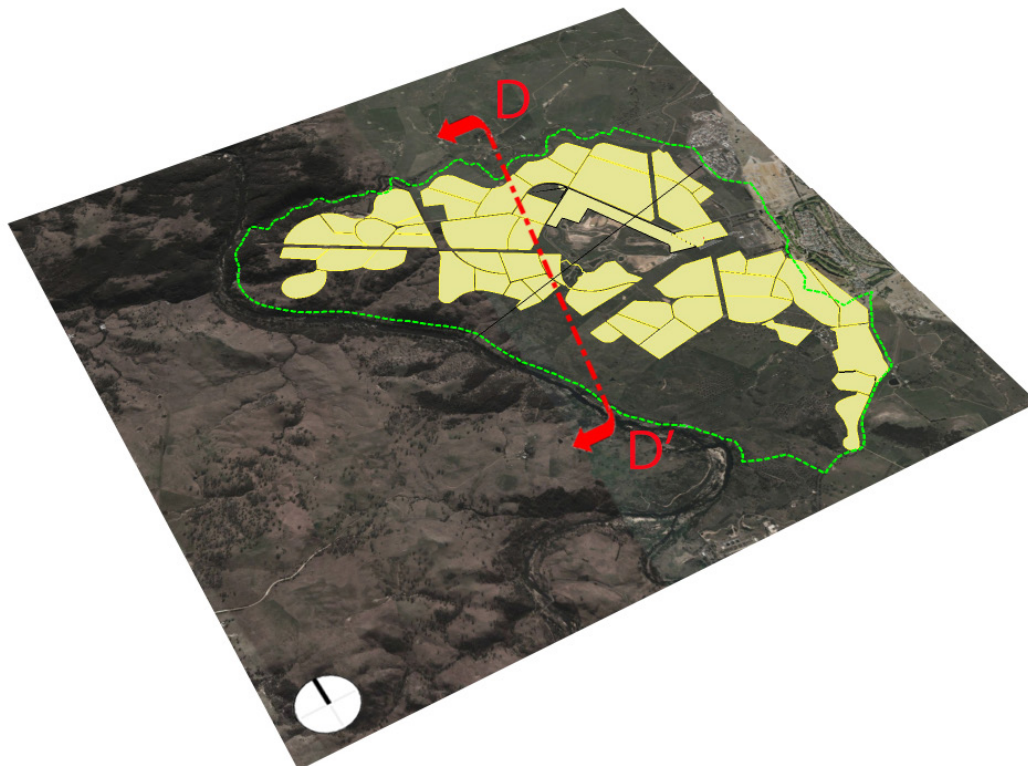
## Dunlop - 2031



## Dunlop - full development



## 4 Rural properties adjoining Ginninderra Creek (NSW)

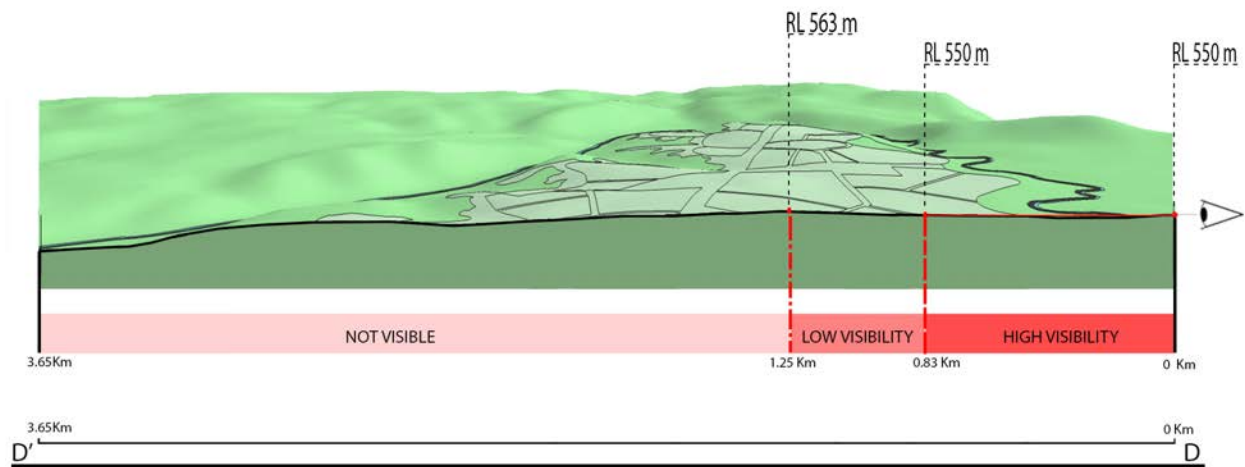


An assessment of the visual impact of the Draft Master Plan from rural properties adjoining Ginninderra Creek (NSW) has been conducted to measure the impact of the future urban development.

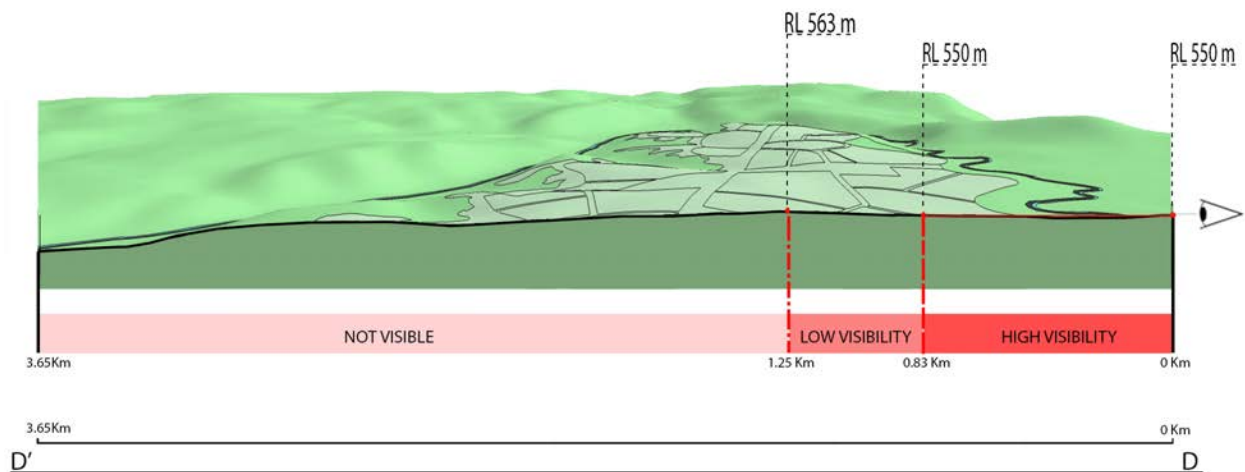
Timeframe	Assessment	Impact Assessment
<b>2021</b>	<ul style="list-style-type: none"> <li>There will be no development within the "High Visibility" or the "Low Visibility" range</li> </ul>	Nil
<b>2031</b>	<ul style="list-style-type: none"> <li>There will be no development within the "High Visibility" or the "Low Visibility" range</li> </ul>	Nil
<b>Full Development</b>	<ul style="list-style-type: none"> <li>A buffer has been created between the existing and future development mitigating the extent of the visual impact and retaining the natural features of the riparian corridor</li> <li>Only 40% of development within the "High Visibility" range will be developed</li> <li>Approximately 90% of the "Low Visibility" range will be developed</li> <li>Open space areas break up the visual bulk reducing the visual impact</li> </ul>	Medium



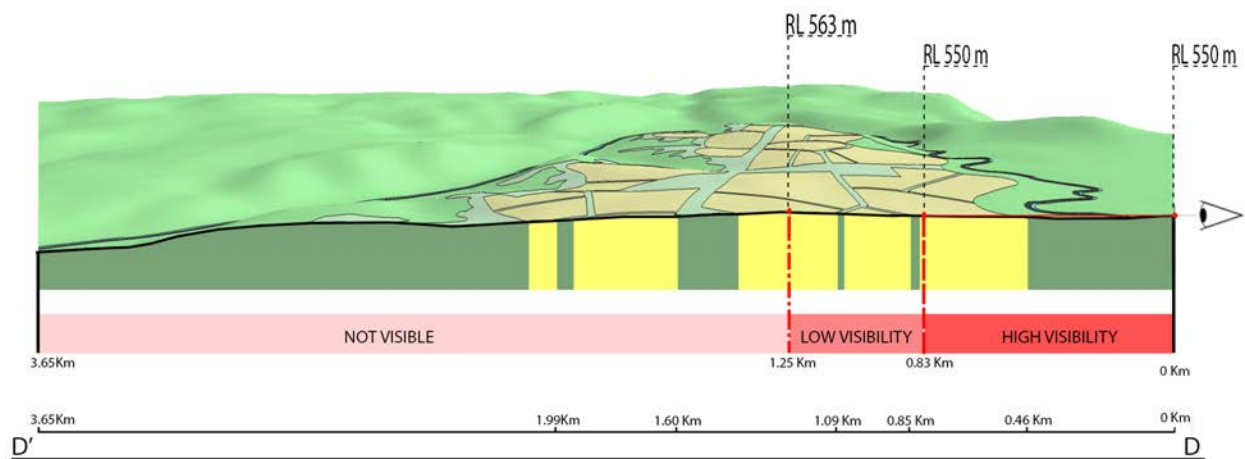
### Rural properties adjoining Ginninderra Creek (NSW) - 2021



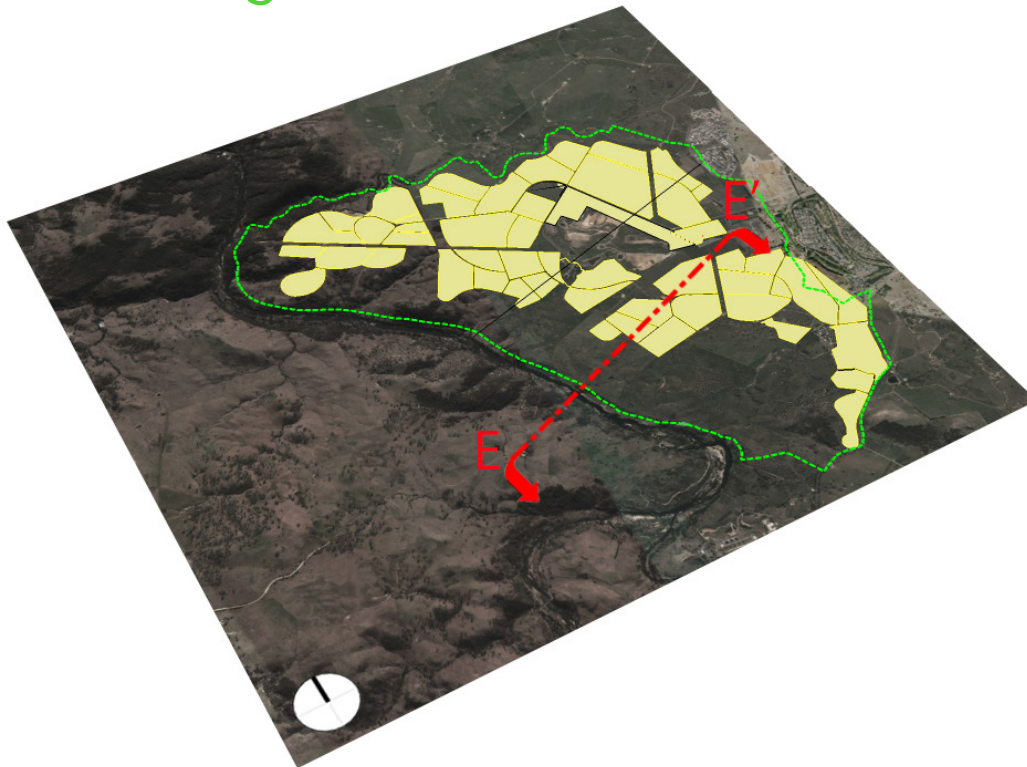
### Rural properties adjoining Ginninderra Creek (NSW) - 2031



### Rural properties adjoining Ginninderra Creek (NSW) - full development



## 5 Rural properties adjoining Murrumbidgee River (ACT)



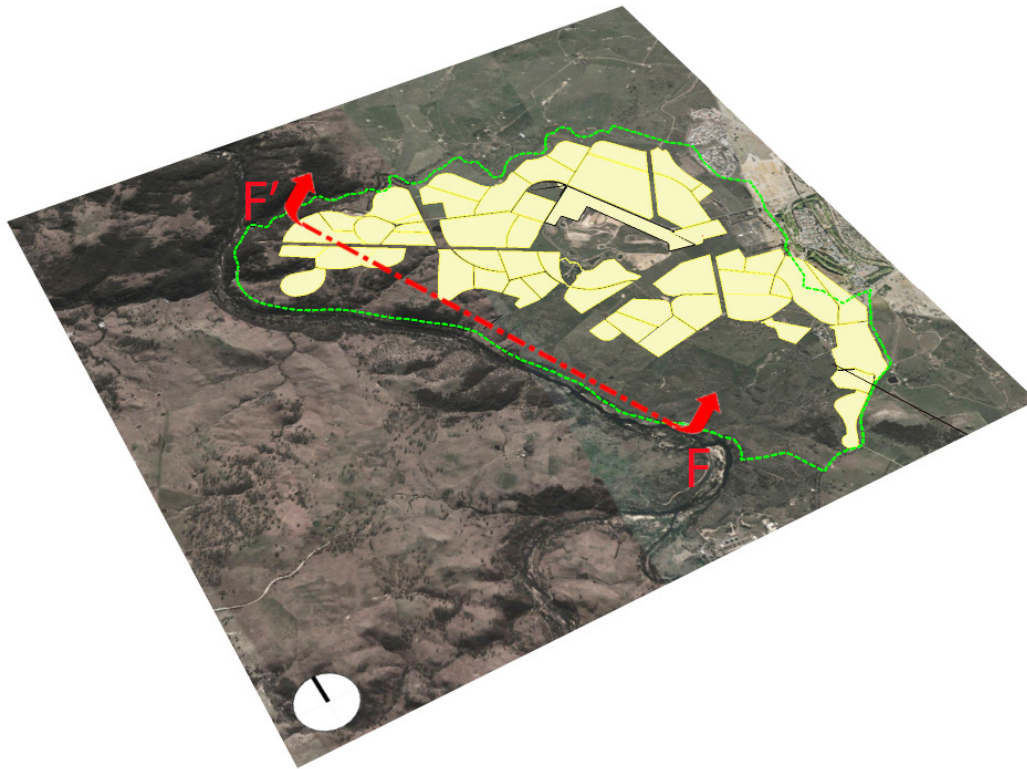
An assessment of the visual impact of the Draft Master Plan from rural properties adjoining Murrumbidgee River (ACT) has been conducted to measure the impact of the future urban development.

Timeframe	Assessment	Impact Assessment
2021	<ul style="list-style-type: none"> <li>There will be no development within the "High Visibility" or the "Low Visibility" range</li> </ul>	Nil
2031	<ul style="list-style-type: none"> <li>A buffer of over almost 2kms has been retained as conservation in perpetuity between the existing and future development mitigating the extent of the visual impact and retaining the natural features of the conservation corridor. There will be only approximately 10% of land developed within the "High Visibility Range"</li> <li>There will be approximately 85% of land developed within the "Low Visibility" range, however, this impact will be further reduced by the location of eco-village lots in this area which have site coverage restrictions and will therefore contain larger gardens and more trees</li> </ul>	Low
Full Development	<ul style="list-style-type: none"> <li>There will be no additional developed from 2031 until full development</li> </ul>	Low





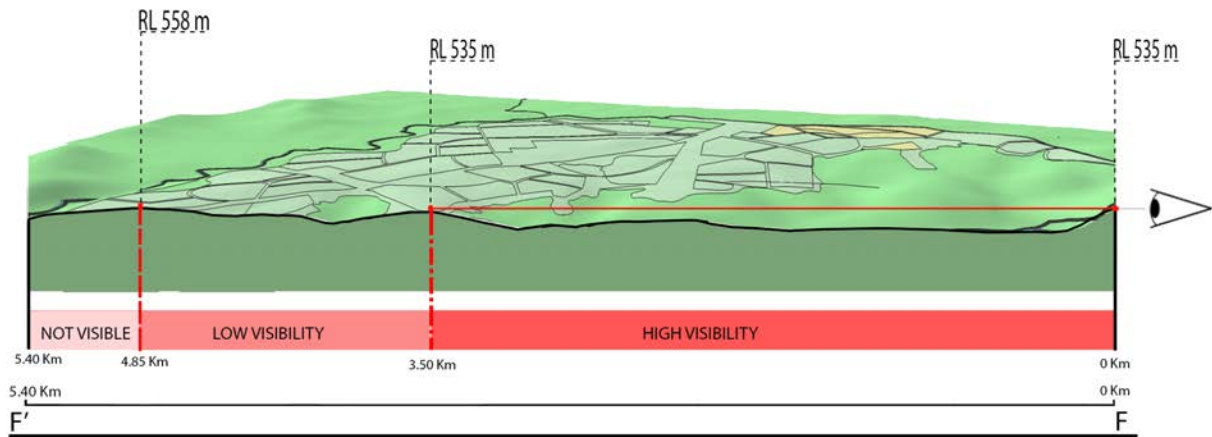
## 6 Shepherds Lookout



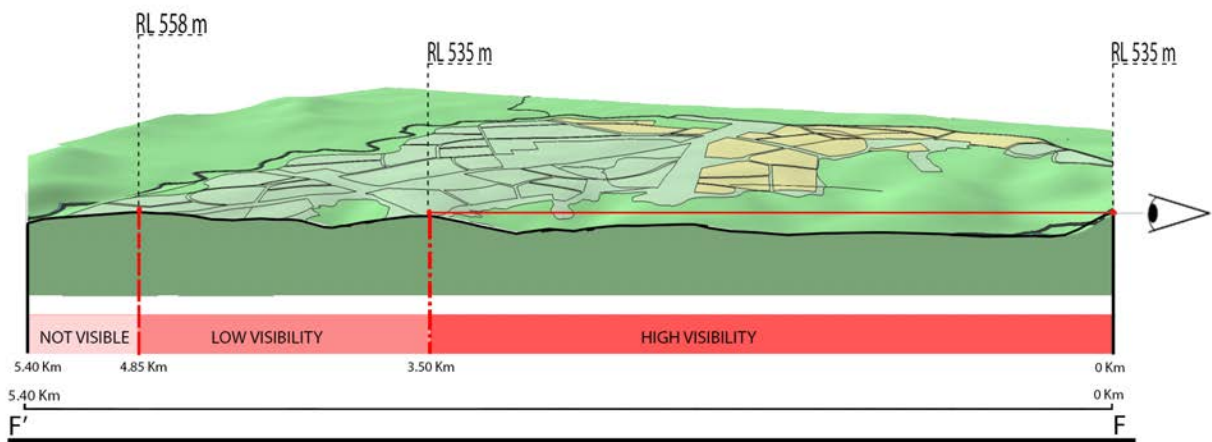
An assessment of the visual impact of the Draft Master Plan from Shepherds Lookout has been conducted to measure the impact of the future urban development from the scenic lookout.

Timeframe	Assessment	Impact Assessment
<b>2021</b>	<ul style="list-style-type: none"> <li>There will be no development within the "High Visibility" or the "Low Visibility" range</li> </ul>	Nil
<b>2031</b>	<ul style="list-style-type: none"> <li>There will be no development within the "High Visibility" or the "Low Visibility" range</li> </ul>	Nil
<b>Full Development</b>	<ul style="list-style-type: none"> <li>A buffer of over 4.25 kms has been retained as conservation in perpetuity between the existing and future development mitigating the extent of the visual impact and retaining the natural features of the riparian corridor</li> <li>Only approximately 30% of the "Low Visibility" range would be developed by the development completion</li> </ul>	Low

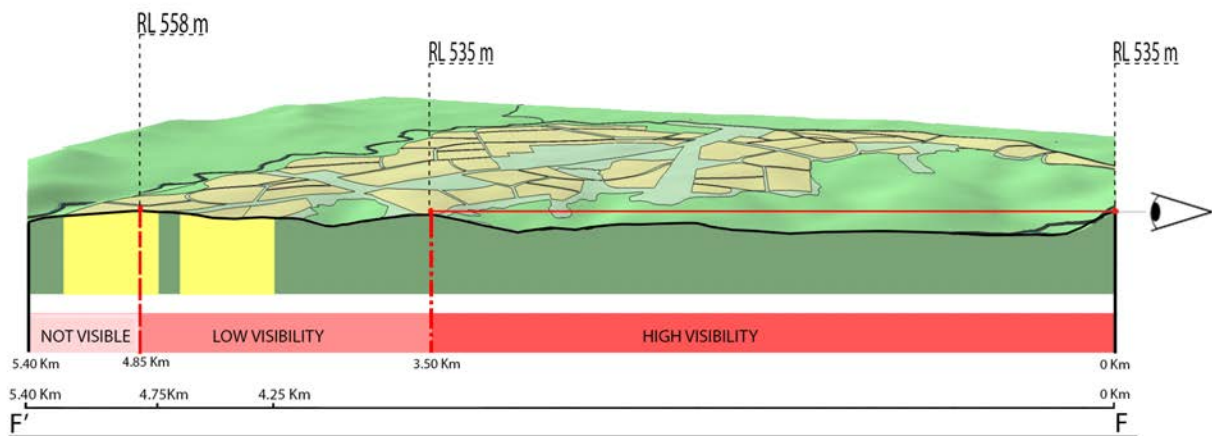
### Shepherds Look Out - 2021



### Shepherds Look Out - 2031

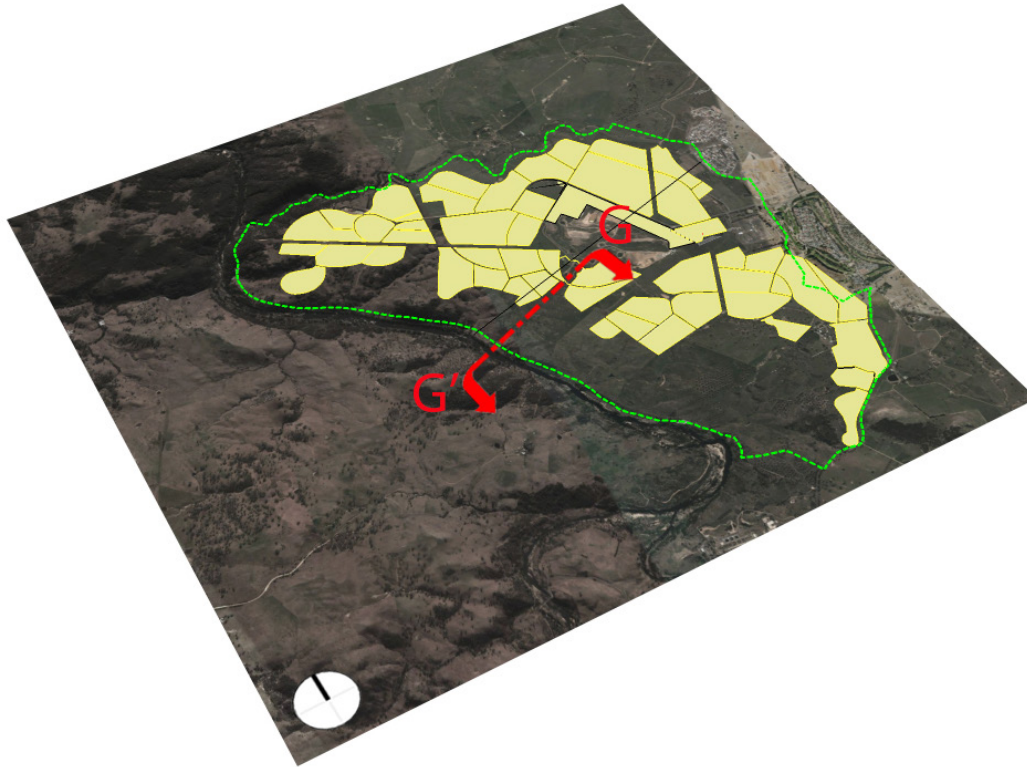


### Shepherds Look Out - full development





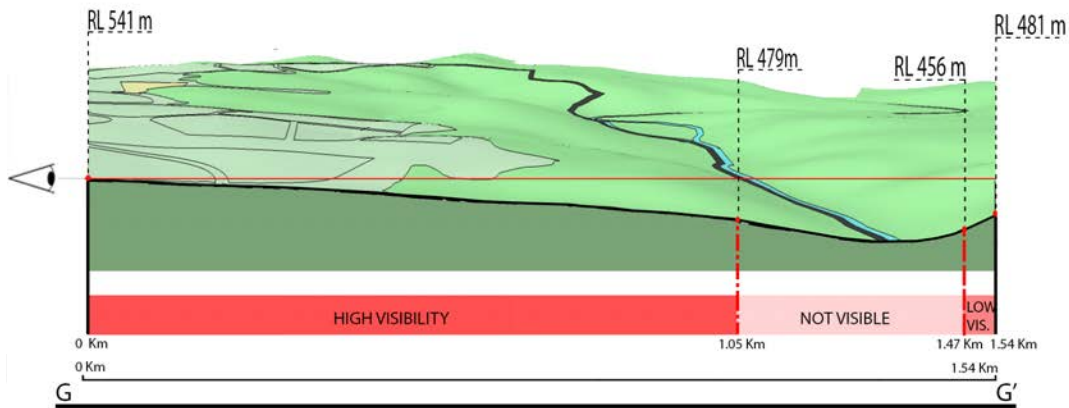
## 7 Belconnen Farmhouse



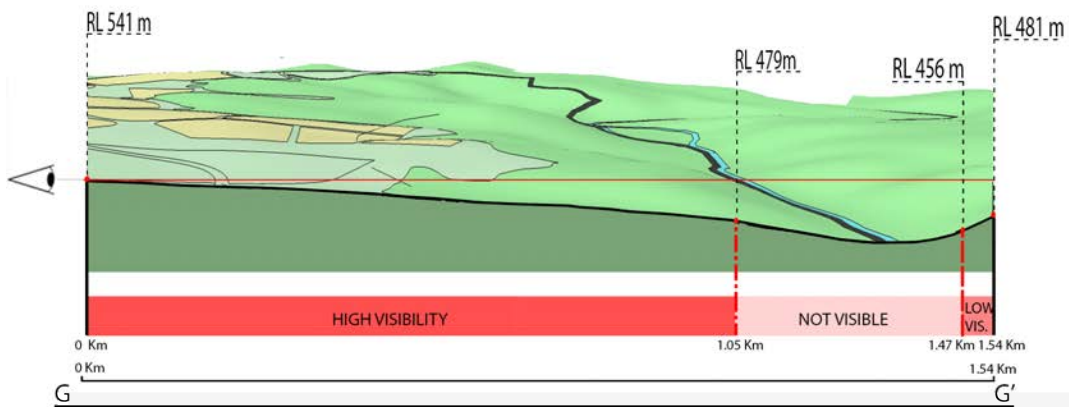
An assessment of the visual impact of the Draft Master Plan from Belconnen Farmhouse has been conducted to measure the impact of the future urban development on the prominent and highly visited heritage site.

Timeframe	Assessment	Impact Assessment
2021	<ul style="list-style-type: none"> <li>There will be no development within the "High Visibility" or the "Low Visibility" range because the heritage view will be retained undeveloped in perpetuity</li> </ul>	Nil
2031	<ul style="list-style-type: none"> <li>There will be no development within the "High Visibility" or the "Low Visibility" range because the heritage view will be retained undeveloped in perpetuity</li> </ul>	Nil
Full Development	<ul style="list-style-type: none"> <li>There will be no development within the "High Visibility" or the "Low Visibility" range because the heritage view will be retained undeveloped in perpetuity</li> </ul>	Nil

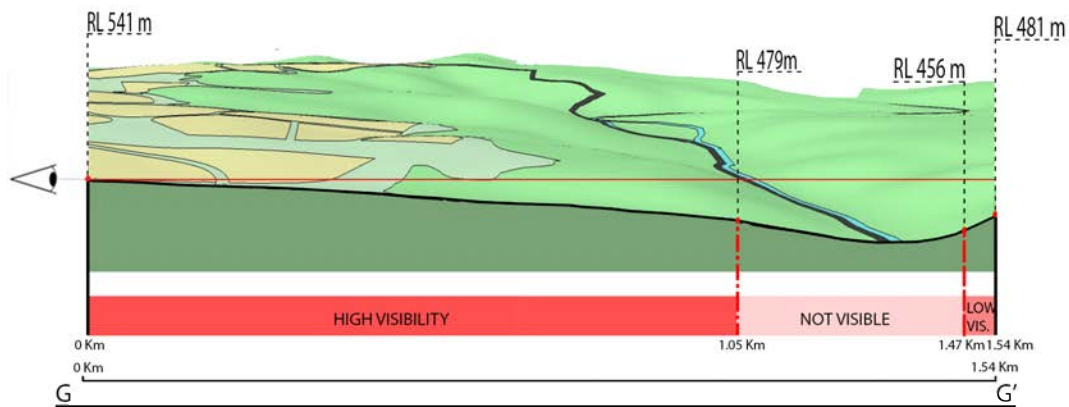
### Belconnen Farm - 2021



### Belconnen Farm - 2031



### Belconnen Farm - full development



## 8 Parliamentary Triangle and Stirling Ridge

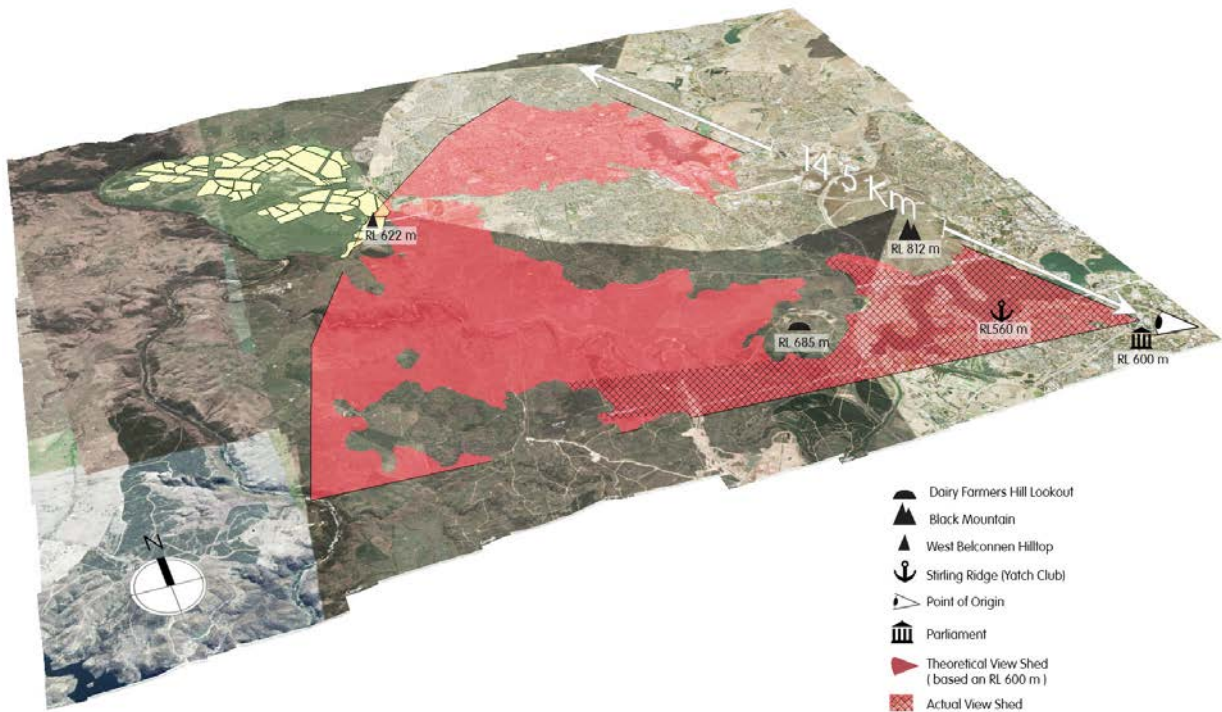


An assessment of the visual impact of the Draft Master Plan from the Parliamentary Triangle and the Stirling Ridge Yacht Club has been conducted to measure the impact of the future urban development within the context of the National Capital Open Space Plan.

Location	Assessment	Impact Assessment
<b>Parliamentary Triangle</b>	<ul style="list-style-type: none"> <li>The hatched area shows the area of land from the vantage point that is visible</li> <li>The site is over 14.5km from the vantage point</li> <li>The development is not visible from the Parliamentary Triangle as it is blocked by Black Mountain and the Dairy Farmers lookout</li> </ul>	Nil
<b>Stirling Ridge Yacht Club</b>	<ul style="list-style-type: none"> <li>The hatched area shows the area of land from the vantage point that is visible</li> <li>The site is over 11.7km from the vantage point</li> <li>The development is not visible from the Stirling Ridge Yacht Club as it is blocked by Black Mountain and the Dairy Farmers lookout</li> </ul>	Nil



## Parliamentary Triangle



## Stirling Ridge Yacht Club

