



Beveridge Williams  
Melbourne Office  
1 Glenferrie Road  
Malvern Vic 3144

PO Box 61  
Malvern Vic 3144

Tel: (03) 9524 8888  
Fax: (03) 9524 8899

[www.beveridgewilliams.com.au](http://www.beveridgewilliams.com.au)



## **100 PATTERSONS ROAD, CLYDE**


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TOWN PLANNING PERMIT APPLICATION FOR SUBDIVISION & ASSOCIATED WORKS &  
VEGETATION REMOVAL ON BEHALF OF NATIONAL PACIFIC PROPERTIES AUSTRALIA  
PTY LTD

September 2013

BW REF: 1201253

## DOCUMENT CONTROL DATA

 <p>Beveridge Williams Melbourne Office</p> <p>1 Glenferrie Road Malvern Vic 3144</p> <p>PO Box 61 Malvern Vic 3144</p> <p>Tel: (03) 9524 8888 Fax: (03) 9524 8899 www.beveridgewilliams.com.au</p>	<b>Title</b>	Town Planning Report
	<b>Author</b>	FW
	<b>Checked</b>	SC
	<b>Project Manager</b>	BC
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**Client:** National Pacific Properties Australia Pty Ltd

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# 1 INTRODUCTION

Beveridge Williams & Co Pty Ltd act on behalf of National Pacific Properties Australia Pty Ltd in support of a proposed 746 lot residential subdivision and associated works and the removal of native vegetation at 100 Pattersons Road, Clyde.

The land is located within the Urban Growth Boundary in the municipality of Casey. The site will be subject to the provisions of the Urban Growth Zone Schedule relating to the Clyde Creek Precinct Structure Plan (PSP) which is currently being finalised by the Metropolitan Planning Authority (MPA) and the City of Casey. The Clyde Creek PSP will facilitate the transition of land from agricultural uses to residential land in the future.

The proposal requires planning approval for the subdivision of land, associated works and the removal of vegetation under the provisions of the Casey Planning Scheme. This report assesses the proposed development against the relevant planning policies and technical assessments that have been undertaken to inform the PSP and subject site.

It is submitted that the proposed subdivision:

- Will help achieve the City of Casey's forecasted population increase.
- Will contribute to the provision of community infrastructure for future residents of Clyde Creek and beyond.
- Will have positive social and economic effects on the community.
- Is consistent with the Casey Planning Scheme inclusive of the:
  - State Planning Policy Framework
  - Municipal Strategic Statement
  - Local Policies
  - Objectives of the Urban Growth Zone
  - Draft Clyde Creek Precinct Structure Plan
  - All other provision of the Casey Planning Scheme

Accordingly, we request that the MPA support the application for a 746 lot subdivision, associated works and the removal of native vegetation as sought.

# INDICATIVE PLAN OF SUBDIVISION



## 2 SITE AND SURROUNDS

### 2.1 Subject Site

The subject site is located within the City of Casey and is situated approximately 42km from central Melbourne. The site is 64.75 Ha in area, square in shape and is located on the southern side of Pattersons Road, Clyde. Tuckers Road adjoins the eastern boundary of the site. The property has frontage of 804.7 m to Pattersons Road and Tuckers Road. The parcel is situated approximately 825 m east of the Clyde-Five ways / Berwick-Cranbourne Road intersection which will both serve as main arterial roads, providing access to Melbourne via the Monash Freeway to the north and the South Gippsland Highway to the east. The future Clyde Major Activity Centre is located approximately 1.6 km south of the subject site.



**Figure 1: Site Location**

Source: Near Map  
Not to scale

The parcel is described as Crown Portion 52 on Title Plan 939260Y. The site is dominated by market gardens with the exception of one paddock which contains two dwellings and market garden infrastructure including storage and equipment sheds. Two large dams which are utilised for irrigation purposes are also located on the site. The largest dam is located in proximity to Clyde Creek which passes through the north-eastern corner of the site. Clyde Creek has been extensively modified to capture water from the creek and re-diverted into the dam. A second, smaller drainage line runs through the southern section of the property. The drainage channel has also been significantly modified to divert water into the dam located on the southern half of the site.

Patches of remnant vegetation comprising an area of approximately 0.46 Ha were identified on the site through the Department of Sustainability and Environment (DSE, who are now known as Department of Environment and Primary Industries) Time Stamping process. An analysis of the site

also identified scattered trees generally in proximity to the dwellings, the banks of the southern dam and eastern boundary of the site.

The site lies within the Clyde Creek Precinct Structure Plan (PSP) area which is currently under preparation. It is anticipated that the subject land will be designated for future development including residential use, drainage purposes and a variety of open space uses. In conjunction with the PSP, it is expected that the site will be subject to a Development Contributions Plan Overlay.

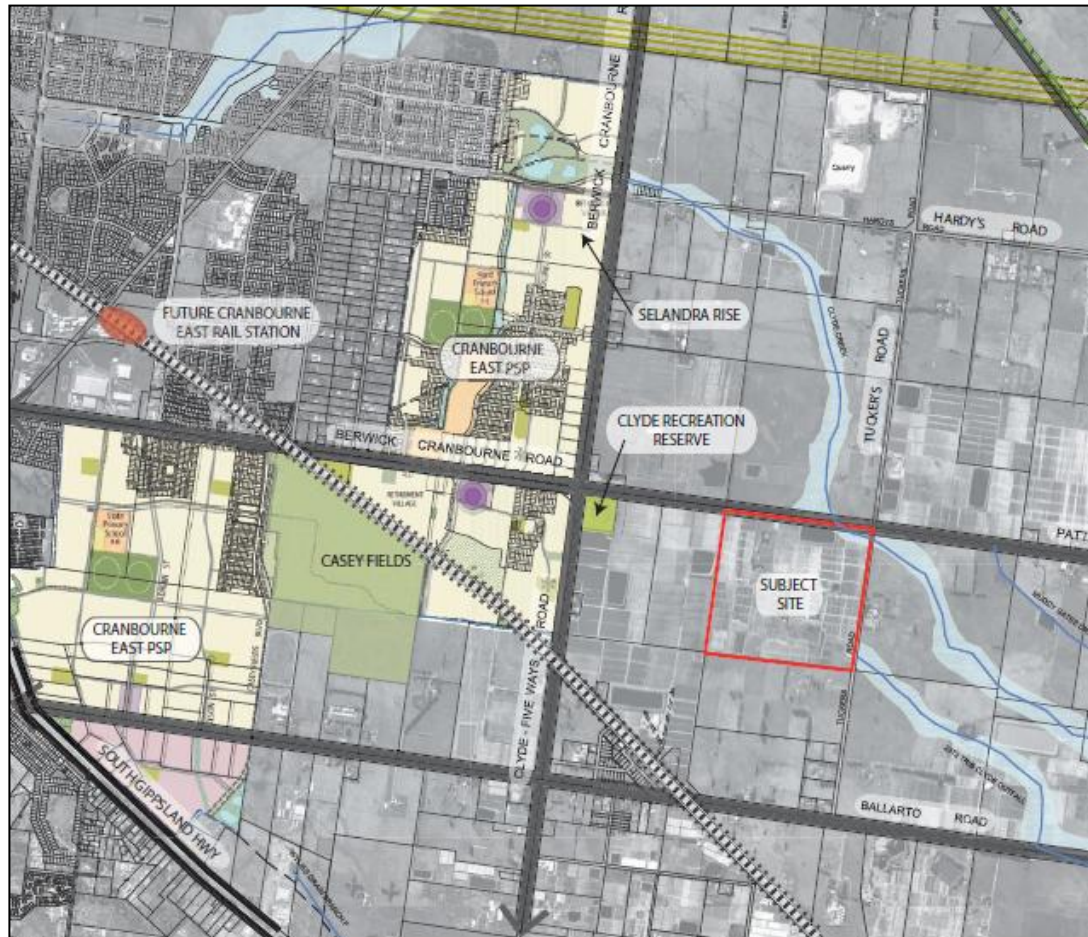


Figure 2: Location Plan  
Not to scale

A copy of the Certificate of Title is presented in **Appendix A**.

A Site Context Plan is contained at **Appendix B** and a Site Analysis Plan is contained at **Appendix C**.

## 2.2 Surrounding Land

The following is a summary of the land surrounding the site:

### North

Pattersons Road adjoins the northern boundary of the site. This road is nominated on the South-East Growth Corridor Plan and the Draft PSP Future Urban Structure Plan as a primary arterial road. The road will be widened on the south side in the future to facilitate a principle public transport route and movement through the growth corridor.

Further north the land is used for stock grazing and contains a variety of infrastructure to support this activity. Clyde Creek runs in a north-south direction through the property before crossing



Pattersons Road and continuing through the north-east corner of the subject site. A single dwelling is located in the south-east quarter of the site. Similar to the subject site, this land lies within the Clyde Creek Precinct Structure Plan (PSP) and is anticipated to be developed for residential use, open space and drainage, community facilities and a neighbourhood activity centre.

### **East**

Tuckers Road adjoins the eastern boundary of the subject site. This road is an unsealed two-way road but is designated to become a connector street in accordance with the draft Clyde Creek PSP. The road will be widened to the east in the future to facilitate traffic movement through the PSP area.

Beyond Tuckers Road is the property at 120-130 Tuckers Road. This land is currently used for grazing purposes and contains a residential dwelling that fronts onto Tuckers Road, farming sheds and supporting infrastructure. Clyde Creek runs diagonally north-west to south-east through the site. The site is affected by Heritage Overlay 133 under the Casey Planning Scheme which relates to the 'Mayfield Homestead' and surrounding trees. 120-130 Tuckers Road is generally earmarked for residential use in accordance with the draft Clyde Creek PSP.

### **South**

The land located to the immediate south of the subject site is affected by Heritage Overlay 134 under the Casey Planning Scheme which relates to the 'Fernlea Homestead'. At present, the property appears to be used for grazing purposes however its future urban use designation under the draft Clyde Creek PSP includes residential use and public open space and a recreation reserve.

Further south are eight parcels of land of varying size. These parcels generally appear to be used as lifestyle type properties but have been earmarked as the future Clyde Major Activity Centre in accordance with the draft Clyde Creek PSP. These parcels of land adjoin Ballarto Road along the southern boundary which will become a secondary arterial road in the future.

### **West**

Land to the west of the subject site is known as 410 Clyde - Five Ways Road and comprises 4 separate land parcels. The site currently operates as a market garden and contains three large dams and two smaller dams, farm buildings and sheds and other supporting infrastructure. Twyford Road adjoins the southern boundary of the site with the Pakenham train line located on the south side of Twyford Road. Clyde – Five Ways Road forms the western boundary of the site and will be widened in the future to accommodate traffic movements within and around the Clyde Major Activity Centre which will be partially located on the site. 410 Clyde - Five Ways Road is also designated for future residential use, public open space, a primary school and recreation reserve.

Further west, beyond Clyde – Five Ways Road is the Cranbourne East PSP area which is currently under construction.

### 3 THE PROPOSAL

#### 3.1 Proposed Subdivision

This planning application is for the subdivision of land and associated works across the entire site at 100 Pattersons Road. The proposal also seeks the removal of vegetation if a Native Vegetation Precinct Structure Plan (NVPP) is not included in the Clyde Creek Precinct Structure Plan Amendment documentation.

Key details of the proposal are as follows:

<b>Land Use</b>	<b>Area</b>	<b>Percentage Area</b>
Residential Lots (746)	26.97 Ha	40.47%
Medium Density Lots (127)	3.51 Ha	5.26%
Arterial Roads	2.27 Ha	3.40%
Non Arterial Roads	15.89 Ha	23.84%
Drainage Reserve / Swale	9.18 Ha	13.77%
Creek Reserve	1.52 Ha	2.28%
Unencumbered Passive Open Space	1.10 Ha	1.65%
Active Open Space	6.07Ha	9.11%
Net Developable Area (NDA)	46.46 Ha	69.72%

The proposed development is summarised below:

- The subdivision proposes 746 lots comprising 619 conventional density lots and 127 medium density lots.
- Conventional lots range in size from 319 m<sup>2</sup> to 739 m<sup>2</sup> with an average lot size of 437 m<sup>2</sup>.
- Medium density lots range in size from 229 m<sup>2</sup> to 300 m<sup>2</sup> with an average lot size of 276 m<sup>2</sup>. Medium density lots are clustered around open space and drainage reserve areas.
- A residential lot yield of 16.05 lots per hectare is achieved.
- A large active open space reserve is proposed in the south-east corner of the site. The subject site provides 6.07 Ha of land for the reserve, with the balance, 2.21 Ha proposed on the adjoining property at 75 Tuckers Road.
- The open space reserve is expected to facilitate two (2) cricket pitches, three (3) soccer ovals and a shared pavilion.
- Two passive open space areas will also be provided across the site. The open space areas have been located within 400m of all dwellings, ensuring ease of access and encouraging maximum use.
- The northern passive open space reserve is 0.50 Ha in area and can be accessed from three road frontages. Medium density housing adjoins the northern boundary of this reserve, providing for passive surveillance.
- The second passive open space reserve adjoins the southern boundary of the site and a large drainage reserve. The subject site contains 0.6 Ha of the open space reserve with balance,

0.52 Ha to be provided on the adjoining property at 75 Tuckers Road. The open space and drainage reserves are encircled by paths to provide easy access from all directions.

- Two principle drainage reserves will be provided across the site, the first being located in the north-east corner, encompassing Clyde Creek. The second drainage reserve adjoins the southern boundary of the site, south of the east-west connector road.
- A drainage swale is also proposed immediately north of the active open space reserve to facilitate stormwater flow across the site without impeding the operation of the reserve at any point throughout the year.
- Two road connections are proposed at Pattersons Road to the north and one access point from Tuckers Road to the east. These access points are expected to facilitate movement to and from the subject site as well as function as an access location to adjoining subdivisions on neighbouring properties.
- Multiple road connections to the west and the south are also proposed to facilitate movement through the Clyde Creek Precinct.
- Internal roads have been designed to provide logical and functional movement through the estate. Traffic calming measures are also proposed along the long, straight roads for safety.

An Indicative Development Plan is included at **Appendix GD** and Indicative Subdivision Plan is contained at **Appendix E**. A Staging Plan is included at **Appendix F**.

The intent of the subdivision layout is to accommodate a range of standard and medium density residential lots consistent with the yield requirements identified in the PSP Guidelines. Standard residential lots comprise the more dominant lot mix throughout the estate however the development also proposes 127 medium density lots. The medium density lots front onto or adjoin open space areas including the active open space reserve, local parks and drainage reserves. The area breakdown of lots is as follows:

Lot Mix	No. of Lots	%
<300m <sup>2</sup>	127	17.02
301-600m <sup>2</sup>	615	82.44
>600m <sup>2</sup>	4	0.54
<b>Total</b>	<b>746</b>	<b>100</b>

### 3.2 Road Network

The internal road layout provides a series of roads designed in accordance with their function. The cross sections are of sufficient width to facilitate the provision of on street parking, pedestrian paths, bicycle paths and public transport. The street network ensures safe movement and ease of access both internally and with surrounding uses.

The network has been designed in accordance with the Draft Clyde Creek Future Urban Structure Plan and includes a key north-south and east-west connector street which been established to facilitate safe and efficient movement within and between the surrounding residential estates. In addition, the road network incorporates a key green street, linking Clyde Creek to the active open space and southern drainage / passive open space reserve and beyond, to the Clyde Major Town Centre.

The lower level street cross sections have also been designed to integrate with the neighbouring properties to the south and west, further facilitating safe and efficient access through the site and surrounding area.

All lots are orientated north-south or east- west which provides for direct street frontage.

A Road Hierarchy Plan and a Street Cross-Section Plan can be found at **Appendix G**.

### **3.3 Landscape Concept Plan**

A Landscape Master Plan has been prepared by Beveridge Williams and included as **Appendix H** of this submission

The landscape design has been established to help articulate the role and function of the internal street network. The road hierarchy conveys a distinctive character utilising deciduous and evergreen trees in avenue-style planting to the larger roads and local style planting to the smaller streets. Feature trees and planting are located at key points throughout the development.

The northern passive open space provides an activity area including a shelter, picnic area and a playground for younger age children. These facilities are located centrally in the space to take advantage of the existing trees. It is anticipated that trees in good health will be retained until the newly planted vegetation is established at which point, some existing trees may be removed if they become a danger to the community or a liability to Council. Meandering paths wind around the activity area to provide access from the surrounding road frontages.

The southern passive open space reserve contains a playground, shelter and picnic area and overlooks both an informal grass area and the drainage reserve. These two spaces are integrated with the landscape theme to provide a recreational space with paths and boardwalks encircling the drainage area and connecting into the wider path network throughout the development. The northern drainage reserve also provides shared paths and seating areas with a shelter platform overlooked the reserve which acts as an entry feature adjacent to the Key Green Street.

All open space areas are visually linked with treed avenues and replication of the development's landscape theming. Treed paths allow for movement throughout the park, bordered with seating for community interaction and passive surveillance.

The functional aspects of the design are discussed in Section 5 of this report – Planning Assessment. A Design Response Plan is contained at **Appendix I**.

## 4 PLANNING POLICY CONTEXT

### 4.1 Thompsons Road (53) Clyde Creek (54) Precinct Structure Plans Issue Paper and Draft Clyde Creek PSP

#### Thompsons Road (53) Clyde Creek (54) Precinct Structure Plans Issue Paper

The Thompsons Road (53) Clyde Creek (54) Precinct Structure Plans Issue Paper sets out the following principles for the Clyde North area:

- Create diverse and vibrant new communities
- Integrate transport and land use planning
- Plan for local employment creation
- Create precincts with high amenity and character
- Protect biodiversity, waterways and cultural heritage values
- Create integrated open space networks
- Plan for environmental sustainability
- Ensure the efficient and orderly provision of infrastructure

#### Draft Clyde Creek Precinct Structure Plan

The Clyde Creek PSP has not been formally approved as yet, however the layout and features of the plan are well established.

The PSP is a mechanism used by the Victorian Government and the City of Casey to plan for major new urban development together with the infrastructure and services required by the future community.

The Precinct is generally bounded by:

- Hardys Road to the north.
- Berwick-Cranbourne / Clyde – Five Ways to the west.
- Ballarto Road to the south.
- Pound Road and Bells Road to the east.

The purpose of the PSP is:

- To provide the framework, conditions and requirements for the consideration of planning permits that provide for urban development under the provisions of the Casey Planning Scheme, including the provisions of the Urban Growth Zone.
- To plan for the creation of an urban structure that implements the ‘Neighbourhood Principles’ as stated in Melbourne 2030.
- To ensure that planning occurs so that the future community within the Thompsons Road Precinct Structure Plan area can be provided with early access to infrastructure and services, such as community facilities and services, transport, employment, activity centres, open space and recreation facilities.
- To provide developers, investors and local communities with certainty regarding the nature of future development within the Precinct.

A range of development themes are identified in the Precinct Structure Plan. These themes include Image and character, housing, employment and activity centres, community facilities, open space and natural systems, transport and movement and utilities, energy and sustainability.

The subject site has been designated for the following purposes as part of the draft Thompsons Road PSP:

- Residential
- Active Open Space
- Passive Open Space
- Drainage / Creek Reserve areas

A copy of the Draft Future Urban Structure Plan is contained at **Appendix J**.

## 4.2 Casey Planning Scheme

The following section sets out the relevant Planning Policy contained within the Casey Planning Scheme and incorporated documents. Table 1 provides a summary of the applicable provisions:

**Table 1: Applicable Planning Provisions**

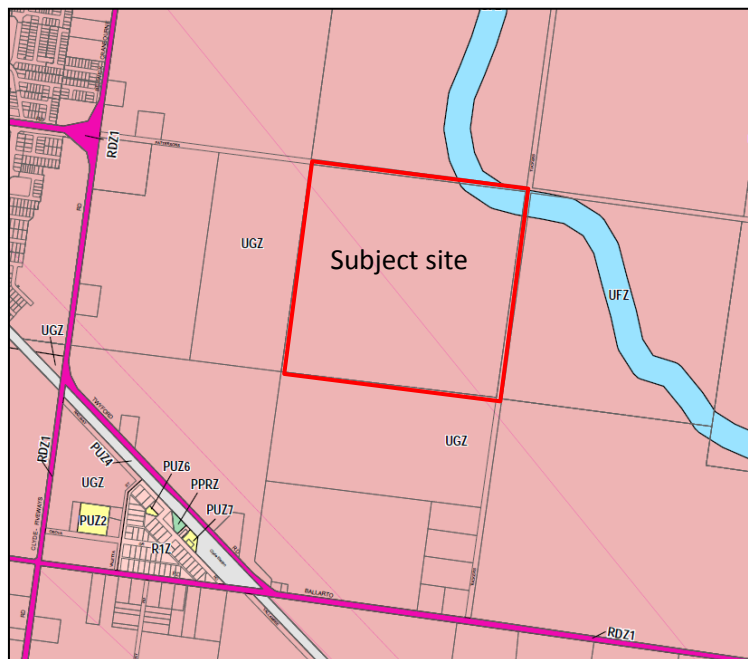
<b><u>State Planning Policy Framework</u></b>	
<b>Clause 11 Settlement</b>	<b>Clause 16 Housing</b>
<ul style="list-style-type: none"> <li>• Clause 11.02-1 Supply of Urban Land</li> <li>• Clause 11.02-2 Planning for Growth Areas</li> <li>• Clause 11.02-3 Structure Planning</li> <li>• Clause 11.02-4 Sequencing of development</li> <li>• Clause 11.03-1 Open space planning</li> <li>• Clause 11.04-5 Melbourne’s Urban Growth</li> </ul>	<ul style="list-style-type: none"> <li>• Clause 16.01-1 Integrated Housing</li> <li>• Clause 16.01-2 Location of Residential Development</li> <li>• Clause 16.01-4 Housing Diversity</li> <li>• Clause 16.01-5 Housing Affordability</li> </ul>
<b>Clause 12 Environment and Landscape Values</b>	<b>Clause 18 Transport</b>
<ul style="list-style-type: none"> <li>• Clause 12.01-1 Protection of Habitat</li> <li>• Clause 12.01-2 Native Vegetation Management</li> </ul>	<ul style="list-style-type: none"> <li>• Clause 18.01-1 Land use and transport planning</li> <li>• Clause 18.02-1 Sustainable Personal Transport</li> <li>• Clause 18.02-2 Cycling</li> <li>• Clause 18.02-3 Principal Public Transport Network</li> <li>• Clause 18.02-4 Management of the road system</li> </ul>
<b>Clause 13 Environmental Risks</b>	<b>Clause 19 Infrastructure</b>
<ul style="list-style-type: none"> <li>• Clause 13.02-1 Flood Plain Management</li> <li>• Clause 13.01-1 Use of contaminated and potentially contaminated land</li> </ul>	<ul style="list-style-type: none"> <li>• Clause 19.03-1 Development contribution plans</li> <li>• Clause 19.03-2 Water supply, sewerage &amp; drainage</li> <li>• Clause 19.03-3 Stormwater</li> <li>• Clause 19.03-4 Telecommunications</li> </ul>
<b>Clause 14 Natural Resource Management</b>	
<ul style="list-style-type: none"> <li>• Clause 14.02-1 Catchment planning and management</li> </ul>	
<b>Clause 15 Built Environment and Heritage</b>	
<ul style="list-style-type: none"> <li>• Clause 15.01-1 Urban design</li> <li>• Clause 15.01-2 Urban design principles</li> <li>• Clause 15.01-3 Neighbourhood &amp; Subdivision Design</li> <li>• Clause 15.01-4 Design for Safety</li> <li>• Clause 15.02-1 Energy &amp; Resource Efficiency</li> <li>• Clause 15.03-2 Heritage conservation</li> </ul>	
<b><u>Local Planning Policy Framework</u></b>	
<b>Clause 21 – Casey Municipal Strategic Statement</b>	<b>Clause 22 – Local Planning Policies</b>
<ul style="list-style-type: none"> <li>• Clause 21.02-1 Policy context</li> </ul>	<ul style="list-style-type: none"> <li>• Clause 22.01 Future Urban Policy</li> </ul>

- 
- Clause 21.02-2 The Regions
  - Clause 21.02-3 Key land use themes
  - Clause 21.03-2 Casey's framework plan – a vision of the future
  - Clause 21.06 Urban Fringe
  - Clause 21.09 Building New Communities
  - Clause 21.10 Natural and built assets
  - Clause 21.13 Accessibility
  - Clause 21.14 Infrastructure
  - Clause 22.05 Residential Development Policy
  - Clause 22.14 Infrastructure Policy
  - Clause 22.15 Good Design Policy
  - Clause 22.17 Stormwater Policy
  - Clause 22.22 Interim Telecommunications Conduit Policy
- 

### 4.3 Zone Provisions

The existing zones at the site are shown in Figure 3 below.

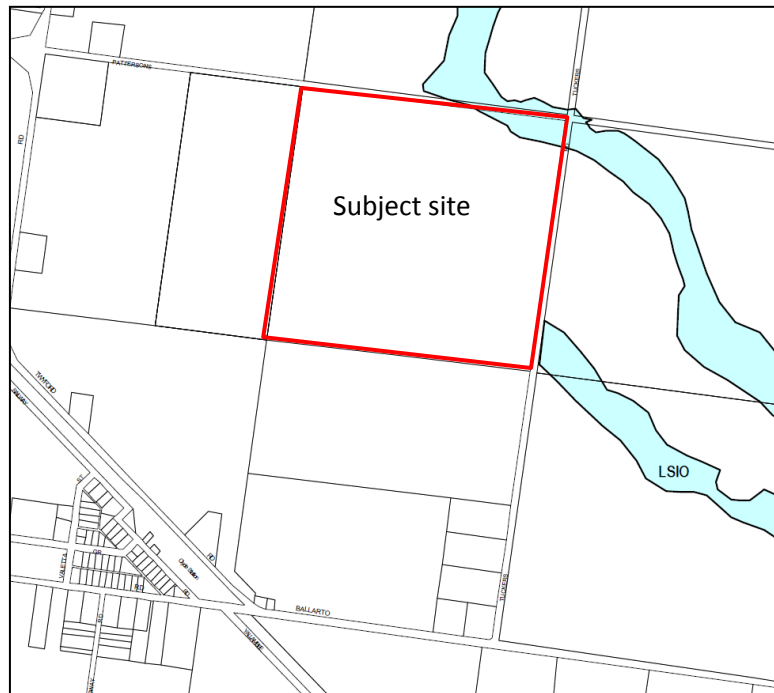
- Clause 37.07 – Urban Growth Zone
- Clause 37.03 – Urban Floodway Zone



**Figure 4: Zoning Map**  
Source: Casey Planning Scheme  
Not to Scale

## 4.4 Overlay Provisions

The north eastern portion of the site is covered by a Land Subject to Inundation Overlay (LSIO).



**Figure 5: LSIO Map**  
Source: Casey Planning Scheme  
Not to Scale

## 4.5 Particular Provisions

The following Particular Provisions are relevant to the application.

- Clause 52.01 Public Open Space Contribution And Subdivision
- Clause 52.16 Native Vegetation Precinct Plan
- Clause 52.17 Native Vegetation
- Clause 52.36 Integrated Public Transport Planning
- Clause 56 Residential Subdivision

## 4.6 Summary of Required Approvals

Planning permit approval for the proposed subdivision is required under the following statutory controls:

**Table 2: Required Approvals**

Provision	Application	Requirement
<b>Zoning:</b>	<b>Urban Growth Zone – Schedule</b> (to apply Clyde Creek PSP) Will apply the General Residential	<ul style="list-style-type: none"> <li>• Planning permit required for subdivision and associated works in accordance with the anticipated future zone schedule.</li> </ul>



	zone provisions.  <b>Urban Floodway Zone</b>	<ul style="list-style-type: none"> <li>• Planning permit required for subdivision and associated works.</li> </ul>
<b>Overlays</b>	<b>LSIO</b>	<ul style="list-style-type: none"> <li>• Planning permit required for subdivision and associated works.</li> </ul>
<b>Particular Provisions:</b>	<b>*Clause 52.16 Native Vegetation Precinct Plans</b>	<ul style="list-style-type: none"> <li>• A permit is required to remove any Native Vegetation which has been identified for retention as being nominated as part of a Native Vegetation Precinct Plan (NVPP).</li> </ul>
	<b>*Clause 52.17 Native Vegetation</b>	<ul style="list-style-type: none"> <li>• A permit is required to remove, destroy or lop native vegetation, including dead native vegetation where the land area is greater than 0.4 hectare</li> </ul>
	<b>Clause 56</b>	<ul style="list-style-type: none"> <li>• ResCode Assessment</li> </ul>

\*It is our current intention to propose the development in accordance with the eventual NVPP for the PSP. Should there be any discrepancies between the NVPP and the ultimate design we will look to review the discrepancies and work towards a solution with Council and the MPA, which may require planning permit approval.

## 5 PLANNING ASSESSMENT

### 5.1 PSP Guideline Considerations

The Precinct Structure Plan is a mechanism used to facilitate change and to guide new development, by creating a plan to provide infrastructure and services required by new communities. The Precinct Structure Plan area is bound by Pound Road and Bells Road to the east and Berwick-Cranbourne Road to the west. Hardy's Road runs along the northern boundary and the southern boundary is formed by Ballarto Road.

A range of development themes are identified in the Precinct Structure Plan. These themes include Image and character, housing, employment and activity centres, community facilities, open space and natural systems, transport and movement and utilities, energy and sustainability.

The proposal responds to the urban settlement intent of the Draft Precinct Structure Plan by providing land for the land uses specified in the Draft PSP, by managing the developments interface with surrounding sites, and by facilitating the orderly development of that land.

#### PSP development themes response

##### Image and Character

The subject site is centrally located relative to the boundaries of the Precinct Structure Plan area. The Structure Plan identifies the site as suitable for residential development, community facilities in the form of a large active open space reserve and two principle drainage reserves. The PSP also shows north-south and east-west connector streets and the location of public open space.

The subdivision has been strongly informed by the draft Future Urban Structure Plan which has guided the orientation and ultimate depth of each lot to ensure that a functional internal road network can be achieved. The designation of drainage reserves and open space areas within the site has focused the location of the medium density clusters around these land uses.

The landscape master plan for the site will ensure that the provision of street trees and planting within passive open space areas provide shade as well as visual cues and definition to different classes of roads, park frontages and key intersections and entrances.

The proposed subdivision layout will promote walkable, pedestrian friendly streets and easy access to local open space areas. The design layout will also encourage travel by means other than private car by providing walking, cycling paths, both within the development area and to adjoining residential neighbourhoods. The internal road cross sections are also sufficient in size to accommodate a future bus route if required.

##### Housing

The subdivision provides for a range of standard and medium density residential lots consistent with the yield requirements identified in the GAAs Precinct Structure Plan Guidelines with the overall lot yield amounting to 16.03 dwellings per hectare. Specifically, the proposed subdivision will consist of 615 standard and 128 medium density lots.

Standard residential lots comprise the more dominant lot mix throughout the estate. These lots range in size from 319 m<sup>2</sup> to 739 m<sup>2</sup> with an average lot size of 439 m<sup>2</sup>. The lots are generally orientated north-south or east west to maximise building and energy efficiency and facilitate a logical and orderly road network.

Access to each lot is provided in many cases via a shared cross over to maximise on street parking and landscaping of the street. All lots will have direct street frontage.

Medium density lots are proposed to front or adjoin open space areas including the active open space reserve, local parks and drainage reserves. These areas are expected to facilitate high volumes of pedestrian traffic and medium density housing will provide natural surveillance of the public realm. The proposed medium density lots range in size from 235 m<sup>2</sup> to 300 m<sup>2</sup> with an average lot size of 280 m<sup>2</sup>.

Access to the medium density lots is proposed by double cross-overs to maximise on-street parking opportunities. It is anticipated that the medium density lots will facilitate the development of single and double storey dwellings and contain a single car garage. In addition, the small lot housing code requires that lots less than 300 m<sup>2</sup> be setback at least 1.5 m from the front boundary and that the garage be setback a further 0.8 m (at least). It is therefore submitted that all medium density lots will be able to provide for 2 on-site car spaces in addition to on-street parking.

The 128 medium density lots will be developed in accordance with the Small Lot Housing Code including a Building Envelope Plan which will demonstrate how overlooking and solar orientation requirements can be met.

### Employment and Town Centres

Long term employment generation, beyond the initial construction phase of the project, will be generated in areas in close proximity to the subject site including the Clyde Major Town Centre to the south of the site and a number of local schools. Future employment opportunities are also anticipated in the surrounding precincts including the Thompson Road PSP area which provides for major and local town centres, a large medical and retail sector, retirement village and schools. These services will provide employment opportunities in proximity to the emerging residential neighbourhoods.

### Community Facilities

A large active open space reserve is proposed in the south-east corner of the site. The subject site provides 6.24 Ha of land for the reserve, with the balance, 2.21 Ha proposed on the adjoining property at 75 Tuckers Road. The open space reserve is expected to facilitate two (2) cricket pitches, three (3) soccer ovals and a shared pavilion.

Two passive open space areas will also be provided across the site. The open space areas have been located within 400m of all dwellings, ensuring ease of access and encouraging maximum use.

The northern passive open space reserve is 0.50 Ha in area and can be accessed from three road frontages. Medium density housing adjoins the northern boundary of this reserve, providing for passive surveillance. This reserve contains an activity area including a shelter, picnic area and a playground for younger age children. These facilities are located centrally in the space to take advantage of the existing trees. It is anticipated that trees in good health will be retained until the newly planted vegetation is established at which point, some existing trees may be removed if they become a danger to the community or a liability to Council. Meandering paths wind around the activity area to provide access from the surrounding road frontages.

The second passive open space reserve adjoins the southern boundary of the site and a large drainage reserve. The subject site contains 0.6 Ha of the open space reserve with balance, 0.52 Ha to be provided on the adjoining property at 75 Tuckers Road. The reserve contains a playground, shelter and picnic area and overlooks both an informal grass area and the drainage reserve. These two spaces are integrated with the landscape theme to provide a recreational space with paths and boardwalks encircling the drainage area and connecting into the wider path network throughout the development.

All open space areas are visually linked with treed avenues and replication of the development's landscape theming. Treed paths allow for movement throughout the park, bordered with seating for community interaction and passive surveillance.

The locations of the reserves are generally consistent with the Draft PSP.

## Open Space and Natural Systems

The Regional Stormwater Management Strategy proposes two Wetland/Retarding Basins (WLRBs) located fully within the site, capable of delivering the ultimate system water management and quality treatment facilities for the overall catchment. The first WLBR is proposed in the south western quarter of the site and an open waterway runs from this to Tuckers Road (Station Creek). Downstream of Tuckers Road there will be two further WLRBs and flows will then discharge into Clyde Creek.

The second WLBR proposed is in the north east corner of the site, abutting Pattersons and Tuckers Roads. This is located on Clyde Creek and will ultimately form part of the overall water management for this waterway, with the WLBR and sedimentation basin on the north side of Pattersons Road as part of the overall catchment treatment train.

The drainage reserves have been integrated into the landscape design with treed paths and seating for community interaction and passive surveillance. In addition, the northern drainage reserve provides a shelter platform that overlooks the reserve which acts as an entry feature adjacent to the Key Green Street.

## Transport and Movement

Pattersons Road is designated in the Clyde Creek PSP as a 6 lane primary arterial road. To facilitate the construction of a 6 lane carriage way, Pattersons Road will need to be widened on the southern side. Accordingly, the proposed subdivision has set aside land to accommodate the ultimate Pattersons Road road-cross section. In the interim however, Pattersons Road will need to be upgraded from the current gravel road to a sealed 2 way carriageway between Berwick-Cranbourne Road to Tuckers Road.

The subdivision proposes access to and from Pattersons Road at two locations. The main access in its ultimate configuration is via a signalised intersection into a 25m connector street that provides for one vehicle lane each way, on-road bicycle paths in both directions, on street parking, wide nature reserves and 1.5m wide pedestrian paths on both sides of the street.

Initially however, Pattersons Road will only consist of a single carriageway and the City of Casey has confirmed that a T-intersection incorporating left and right hand turn lanes would be acceptable as an interim arrangement. The proposed entrance road itself is based upon the ultimate location with a median strip approach in anticipation of a fully signalised intersection with slip lanes.

The second Pattersons Road access is proposed via a 20.5m 'key green street', located along the western boundary of the Clyde Creek drainage reserve. This street provides for one vehicle lane each way, on street parking, wide nature reserves and a 1.5m wide pedestrian path on the western side of the street. A shared path is proposed within the Clyde Creek drainage reserve, eliminating the need for a footpath on the eastern side of the road for the length of the reserve. South of the Clyde Creek drainage reserve, the key green street expands to 22m to facilitate footpaths on both sides of the road.

The second Pattersons Road intersection is proposed to be an uncontrolled intersection.

Both Patterson Road access points are consistent with the Draft Clyde Creek PSP.

Tuckers Road adjoins the eastern boundary of the subject land. The draft PSP designates this road as secondary arterial road that will ultimately facilitate a 4 lane carriage way. Widening of Tuckers Road will occur to the east and therefore has no consequence to the proposed subdivision layout. Prior to its ultimate construction, Tucker Road will need to be upgraded to a sealed 2 way carriageway across the development frontage.

A single access point from Tuckers Road is proposed in its ultimate configuration via a signalised intersection. In the interim however, Tuckers road will require a T-intersection incorporating left and right hand turn lanes. Similar to the main Pattersons Road access, the Tuckers Road entrance is

based upon the ultimate location with a median strip approach in anticipation of a fully signalised intersection with slip lanes.

The 21m east-west connector street adjoins medium density housing to the north and a drainage swale and active open space reserve to the south. The proposed road-cross section allows for parking on both sides of the street and discussions with the GAA and Council confirm that a shared path can be established within the drainage reserve, removing the need for an on-road bicycle lane.

Further west, the draft PSP proposes that the east-west connector street intersect with the north-south key green street. Upon review, it is considered that it is more appropriate to offset this intersection due to the anticipated pedestrian and bicycle traffic moving to and from the open space reserves. It is expected that the offset will more effectively stop or significantly reduce the speed of traffic at a t-intersection in comparison to a roundabout which vehicles can drive straight through. Furthermore, the key green street is approximately 765 m in length from the northern boundary to the southern boundary of the site and completely straight for the entire length with the exception of the very southern portion of road. The proposed intersection offset will remove the creation of a 'gun barrel' and function as an effective traffic calming device. In addition, the offset removes the need for a roundabout in this location and avoids the creation of awkward shaped lots that are generally more difficult to develop efficiently and cost effectively.

Whilst this offset creates a slight variance to the draft Clyde Creek PSP, it is submitted that the overall function and purpose remains the same and can therefore be considered as 'generally in accordance with' the draft PSP. **Appendix K** contains a plan showing indicative traffic control locations.

For the balance of the site, the road design provides an accessible and safe neighbourhood street system for all users. The proposed road reservation widths are generally wide enough to accommodate appropriately sized carriageways, traffic calming devices, parking, landscaping, drainage, public transport, and pedestrian/cycleway requirements.

A Road Hierarchy Plan and a Street Cross-Section Plan can be found at **Appendix G**.

#### Utilities and Energy

A Development Contributions Plan will summarise the costs to deliver major development and community infrastructure services required by the future residents within the Clyde Creek Precinct. Whilst many properties within the Clyde Creek Precinct will only be required to make a financial contribution to this infrastructure, the subject site contains a number of items expected to be picked up in the DCP including:

- Signalised intersection at Pattersons Road
- Land and construction for the duplication of Pattersons Road
- Signalised intersection at Tuckers Road
- Land and construction of the active open space reserve

Generally, staging will be determined by the development and the availability of infrastructure services. Planning with servicing authorities is already underway to allow time for comprehensive infrastructure plans to be planned, funded and enacted.

It is anticipated that the costs associated with land and construction of proposed Melbourne Water drainage assets will be included in the Regional stormwater drainage scheme.

## **5.2 State Planning Policy Framework (SPPF)**

Imperative to the SPPF direction set out for growth areas such as Casey, is the need to ensure strategic planning provides suitable infrastructure and community services to cater for future

populations, whilst ensuring that the environmental values and cultural heritage values of the areas are not significantly impacted. In furthering the SPPF, it is integral that development seeks to achieve the objectives set out and implement the strategies.

It is submitted that the proposal will achieve the following key imperatives of the SPPF by:

- Providing for the orderly continuation to the neighbouring Cranbourne East residential area by proposing residential development at an average of at least 16 dwellings per hectare whilst maintaining an appropriate standard of neighbourhood character in accordance with the strategies set out in **Clause 11.02**.
- Allowing for a design which will incorporate high value landscaped and open space areas which will assist in improving the character and identity in accordance with the strategies of **Clause 12.04-2**.
- Responding to the environmental risk policy direction outlined in **Clause 13.02** and the protection and improvement of water quality in accordance with **Clause 14.02** through the appropriate management and conservation of water to mitigate any risk as a consequence of the development of the land as well as the overall catchment area.
- Responding to the context of the existing site and 'planned' urban character in accordance with **Clause 15.01-1 & 2** and **Clause 15.01-3** by providing connectivity to the nearby development and planned residential areas to the surrounding future residential estates in accordance with the designations of the draft Clyde Creek PSP.
- Designing lots that overlook open space and or drainage reserve areas to allow for passive surveillance and contributing to the objective for Design for Safety **Clause 15.01-4**. In addition, the proposed road network has been designed to increase pedestrian safety through the provision of traffic management measures, including the removal of a major cross intersection where pedestrian traffic is expected to be substantial.
- Improving the condition of Clyde Creek and enhance its role in the precinct through its designation as a primary waterway and regional wetland / retarding basin in accordance with the objective of **Clause 15.01-5** Cultural Identity and Neighbourhood Character.
- Appropriately orientating lots to maximise opportunities for energy efficient dwelling designs in accordance with **Clause 15.02-1**.
- Ensuring Aboriginal cultural heritage investigations have been undertaken and providing contingency plans in the event unknown aboriginal cultural heritage is found before, during or after the construction of the prescribed activity detailed in the CHMP in accordance with the objective of **Clause 15.03-2**.
- Proposing a subdivision layout generally consistent with the draft Clyde Creek PSP which in turn responds to the objectives of Clauses **16.01-1 & 2**.
- Providing a range of allotment sizes and designs to provide housing choice and affordability, whilst ensuring densities are appropriately located around community facilities such open space and drainage reserve areas in accordance with **Clause 16.01-4** and **Clause 16.01-5**.
- Ensuring that the internal road network integrates with the future neighbouring estates and provides for on street parking, pedestrian paths and bicycle paths. In addition, the proposed cross sections are of sufficient width to facilitate a future bus network if required in accordance with **Clause 18.02**.
- Adopting a suitable development design that can leverage off existing infrastructure, whilst allowing for the funding and establishment of increased infrastructure provision to allow for the orderly development of the wider Clyde area in accordance with **Clause 19.03**.

Having regard to the above considerations, the proposed subdivision will make an important contribution to achieving the objectives of the SPPF.

### 5.3 Local Planning Policy Framework (LPPF)

#### Municipal Strategic Statement (MSS)

Council's MSS deals in detail with ensuring that development within the City of Casey is consistent with its policies relating to settlement, urban character and environmental protection. Key to achieving these objectives is ensuring that development is well planned and in accordance with the designated growth regions as outlined at **Clause 21.02**. Specifically, 100 Pattersons Road is located within the Urban Fringe region.

It is considered that the proposal achieves the objectives set out for the 'Urban Fringe' area by providing for:

- Orderly residential development that is suitably timed with the delivery of physical and social infrastructure including drainage reserves capable of delivering the ultimate system water management and quality treatment facilities for the overall catchment and a large active open space reserve in accordance with **Clause 21.06**.
- An appropriate allocation of medium density residential uses around open space and drainage reserve areas in accordance with the housing aspirations set out for new communities in **Clause 21.09-2**.
- Development that is consistent with the underlying zoning intent of the General Residential Zone and the designations of the draft Clyde Creek PSP in accordance with **Clause 21.09-2**.
- Waterways that provide a significant environmental, amenity, economic, hydraulic and cultural contribution to the precinct in accordance with **Clause 21.10-01**.
- Well-designed pedestrian networks throughout the subdivision with links to community facilities and surrounding residential areas in accordance with **Clause 21.13**.
- The timely and cost effective delivery of infrastructure through the establishment of the Clyde Creek Development Contributions Plan in accordance with the objectives of **Clause 21.14-2**.

#### Local Policies

The Casey Planning Scheme has strong emphasis on Local Planning Policies which set out Council's requirements for development in the municipality.

The **Future Urban Policy** contained at **Clause 22.01** applies to all land located within the Urban Growth Boundary and identified for future urban purposes in the Casey-Cardinia Growth Area Framework Plan. The policy requires that urban development occurs only after the planning authority is satisfied orderly planning is facilitated by an approved PSP. This application seeks approval for the proposed subdivision which has been informed by and is generally consistent with the draft Clyde Creek PSP.

The proposed subdivision meets the requirements of **Clause 22.05** as it is generally in accordance with the draft Clyde Creek Future Urban Structure Plan and provides for:

- Housing densities consistent with Growth Area Authority PSP guidelines.
- Community facilities in the form of active and passive open space reserves.
- Drainage infrastructure at a regional level to maximise urban development within the Clyde Creek and Thompsons Road PSP areas.

The proposal complies with the policy set out in **Clause 22.14** by setting aside land and or providing for the delivery of local and regionally required infrastructure. In addition, the Clyde Creek

Development Contributions Plan will ensure adequate funding is available to provide for the infrastructure needs of new residents.

The Indicative Subdivision Plan has been prepared following a process of detailed site analysis and technical assessments which in turn, have informed the layout of the site. The proposed subdivision meets the policy intentions of **Clause 22.15** by providing a range of allotments sizes and dimensions that will assist in achieving a variety of housing stock and design. The location and orientation of the smaller lots will provide passive surveillance of the public realm. The subdivision will facilitate the development of a range of open space areas that will contribute to the character and identity of the precinct.

The application includes a Stormwater Management Strategy in accordance with **Clause 22.17** and a Cultural Heritage Management Plan in accordance with **Clause 22.18-4**.

Having regard to the above considerations, the proposed subdivision is consistent with and furthers the intentions of the Local Provisions of the Casey planning Scheme.

## **5.4 Zone Provisions**

### **Urban Growth Zone**

The site is zoned Urban Growth Zone (UGZ) and will be subject to a new Schedule to the Urban Growth Zone following gazettal of the Clyde Creek PSP. The Schedule to the Urban Growth Zone (UGZ) will incorporate the Clyde Creek PSP into the Casey Planning Scheme. It is anticipated that this will apply the provisions of the General Residential Zone for subject sites, as highlighted by Amendment C200 to the Casey Planning Scheme. Therefore the proposed subdivision will need to meet the requirements of Clause 56 of the Casey Planning Scheme. A full assessment of the proposal against the relevant provisions of this Clause 56 is provided in **Appendix L**.

Overall, the proposal is consistent with the intent of the Urban Growth Zone for allowing for the transition of agricultural uses to residential uses in accordance with the draft Clyde Creek PSP.

### **Urban Floodway Zone**

Clyde Creek, located in the north eastern corner of the site is subject to the Urban Floodway Zone. The Regional Stormwater Management Strategy (SWMS) being prepared by Neil Craigie for the Clyde Creek PSP designates Clyde Creek and the proposed wetland as a Melbourne Water waterway. It is therefore anticipated that the Urban Flood Zone in this area will remain.

## **5.5 Overlay Provisions**

### **Land Subject to Inundation Overlay Clause 44.04**

The Land Subject to Inundation Overlay covers part of the north-eastern part for the subject site. As detailed above, it is anticipated that the Land Subject to Inundation Overlay will remain over the creek alignment and potentially be expanded to include the future wetland / retarding basin area.

With regard to the balance of the site, the Drainage Strategy prepared for the site demonstrates that the proposed residential development can meet Stormwater Best Practice Environmental Management Guidelines (BPEMG) and provides for:

- Conveyance of external catchment flows through the site in accordance with the Melbourne Water Land Development Manual Safe Floodway Criteria;



- Construction of drainage to meet the likely requirements of Melbourne Water and Council, including a 1 in 100 year ARI capacity waterway and underground drainage for the 1 in 5 year ARI storm event as needed;
- Construction of a Wetland / Retarding Basin to meet the retardation and water quality treatment requirements.

The proposed development, designed with in accordance with the Drainage Strategy, will allow for a development that meets the provisions of Clause 44.04.

## 5.6 Particular Provisions

### Clause 52.01 - Public Open Space

In accordance with Clause 52.01, a person who proposes to subdivide land must make a contribution to the council for the provision of public open space.

The proposed subdivision has been designed to incorporate significant areas of public open space in the form of 2 local parks and a large active open space reserve. Furthermore, the proposed subdivision sets aside large areas of land for drainage purposes and it is envisaged that these drainage reserves will provide additional passive open space within the estate.

### Clause 52.16 - Native Vegetation Precinct Plan

It is anticipated that the Clyde Creek PSP amendment process will incorporate a Native Vegetation Precinct Plan (NVPP) to facilitate urban development as proposed by the draft Future Urban Structure Plan. The purpose of the Native Vegetation Precinct Plan is:

- To protect and conserve native vegetation to reduce the impact of land and water degradation and provide habitat for plants and animals. To achieve the following objectives:
  - To avoid the removal of native vegetation.
  - If the removal of native vegetation cannot be avoided, to minimise the removal of native vegetation through appropriate planning and design.
  - To appropriately offset the loss of native vegetation.
- To provide for the protection, management and removal of native vegetation in accordance with a native vegetation precinct plan.

Flora has been detailed at this site via the Time Stamping process in accordance with the methodology enacted by the Department of Environment and Primary Industry. Eight patches of remnant vegetation were confirmed to occur on site equating to 0.43 Ha.

Due to the engineering works required to facilitate the Clyde Creek Precinct drainage regime and the future expansion of Pattersons Road, all patches of remnant vegetation will need to be removed. We therefore anticipate that the NVPP will identify the removal of all remnant native vegetation patches from the subject site as proposed.

Vegetation offset and re-planting will ensure that the site offers a good level of revegetation which will both support the proposed creek/ drainage system, and will also add to the landscape quality of the area.

The Vegetation Management Plan contained at **Appendix M** details the extent of existing native vegetation at the site.

### **Clause 52.17 - Native Vegetation**

We anticipate that a Native Vegetation Precinct Plan will be included as part the Clyde Creek Precinct Structure Plan Amendment documentation. However, in the event a NVPP is not included as part of the Amendment documentation or should there be any discrepancies between the NVPP and the ultimate design, this planning permit application seeks approval for the removal of vegetation to facilitate the development of the site as proposed.

### **Clause 52.36 Integrated Public Transport Planning**

The purpose of this policy is to ensure that new development supports public transport usage and incorporates safe, attractive and convenient pedestrian access to public transport stops.

The proposed road network provides an accessible and safe neighbourhood street system for all users. The proposed road reservation widths are to accommodate public transport in the future if required.

### **Clause 56 - Particular Provisions**

A full analysis of the proposal against the relevant provisions of Clause 56 (ResCode) can be found in **Appendix L**.

## **5.7 Technical investigations & design considerations**

A series of site assessments have been completed to inform the design response:

- Cultural Heritage – an assessment of the site’s cultural heritage sensitivity
- Flora and Fauna – Flora has been detailed at this site via the Time Stamping process in accordance with the methodology enacted by the Department of Environment and Primary Industry. Fauna of note in this area potentially includes the Growling Grass Frog and the Southern Brown Bandicoot.
- Hydrogeological Assessment – an assessment of groundwater conditions (and potential for contaminated land). Our client has requested that for this report be required as a condition on permit.
- Preliminary Environmental Contamination Assessment – an analysis of any significant soil contamination or potential contamination sources on the site.
- Stormwater Management Assessment - to demonstrate that the proposed development can meet the Urban Stormwater Best Practice Environmental Management Guidelines.
- Infrastructure Servicing report – to demonstrate that the site can be appropriately serviced with the required infrastructure.

### **Cultural Heritage Management Plan**

Archaeological and Heritage Management Solutions Pty Ltd (AHMS) were engaged by the Growth Areas Authority (GAA, now MPA) to prepare a Cultural Heritage Management Plan (CHMP) Desktop and Standard Assessments for Precinct Structure Plans, Thompsons Road (PSP1053) and Clyde Creek (PSP1054).

Desktop Assessment

A Cultural Heritage Desktop Assessment was prepared in accordance the Aboriginal Heritage Regulations (2007). The aim of the desktop assessment was to produce an archaeological site prediction model, which would assist in the design of the fieldwork, the interpretation of fieldwork results, the assessment of cultural heritage significance and the design of the management recommendations.

The assessment identified the following:

- The key landform features of the PSP activity areas are the two creeks that bisect parts of it, Clyde Creek and the unnamed former stream channel in the north-east corner of PSP 53.
- Drainage within the immediate surrounds of the activity area comprises poorly defined and shallowly-incised drainage lines that flow from the north-west to the south-east.
- Due to artificial drainage, channelling, and dam construction, the original hydrology of the landscape has been significantly altered. Dams in particular have been excavated within most properties within the activity area which have captured water flows and preventing the natural flow of water downstream.
- Similarly, ditches and channels have been cut into low lying open depressions to drain these areas and open them up for grazing.
- A prominent stable Aeolian dune crest extends across the northern part of the activity area from the north-western corner. The landform almost certainly forms part of the Cranbourne Sands soil landscape.
- The remainder of the activity area comprises flat to gently undulating topography, with several small, isolated crests.
- The Geographic Region for the purpose of this CHMP is the Bunyip River Basin.
- More than 1,165 Aboriginal cultural heritage places have been recorded within the Geographic Region, with the majority of sites situated within close proximity to major rivers and creeks, particularly Cardinia Creek.
- Twelve places have been previously recorded within the PSP activity areas and a further seven places are situated within 50 – 200m of the activity area.
- In the immediate area, Aboriginal cultural heritage places are predominantly located on elevated landforms such as hills and rises, and within close proximity to watercourses, former watercourses and around the edge of swamps/former swamps.

Consequent to the findings of the desktop assessment, a site prediction model was established and based on a probabilistic approach, where a combination of traits was used to determine the combined level of potential. The model traits are as follows:

- Areas within 200m of high-mid order stream = Very High Sensitivity;
- Areas within 200m of lower-order stream or outer edge of swamp = Moderate Sensitivity;
- Areas within 200m of former waterway/seasonally inundated stream = Very High Sensitivity;
- Alluvial soils = Moderate Sensitivity;
- 'Cranbourne Sands' geological landform = High Sensitivity
- Crest landforms = Moderate Sensitivity;

- Crest and within 200m of former water (including all stream types and swamp) = Increased Sensitivity by One Level;
- Cut and Fill Disturbance = Disturbed;
- Horticultural/ Market Gardening Disturbance = Very Low Sensitivity;
- Within Wetland = Very Low Sensitivity; and
- All other areas = Low Sensitivity.

The site prediction model was used as the basis for the surveys undertaken as part of the standard assessment.

#### Standard Assessment

A total of 45 properties were surveyed within the activity area, including the subject site. Surveys were carried out between 16-23 April 2012.

Survey coverage aimed to balance sampling of areas of ground surface exposure on these properties with detailed coverage of areas of high to very high sensitivity indicated in the predictive model developed during the Desktop Assessment. The survey also aimed to sample each of the landform types, providing coverage of crest, slope and floodplain landforms.

The principal aim of the survey was to identify exposed cultural material (i.e. surface sites) and to assess disturbance levels. The survey aimed to identify areas of archaeological potential, landforms, vegetation patterns, geomorphic units, and areas of disturbance.

The investigation was also used to assess the extent to which past land-uses may have affected natural soil profiles.

The survey confirmed that the entire activity area of 100 Pattersons Road was disturbed by ploughing, stock grazing and the installation of infrastructure to support these activities and as such, no Aboriginal places were identified within the activity area during the survey.

Whilst the survey confirmed that the site was heavily disturbed by market gardening and unlikely to contain intact deposits in the upper soil profiles, the desktop assessment found there was some potential for intact deposits at depths exceeding the impact of market gardening and within close proximity to Clyde Creek running through the north east portion of the site and an ephemeral watercourse running through the south east portion of the site. The predictive model developed during the desktop assessment also identified areas of very high sensitivity within 200m of Clyde Creek.

The standard assessment therefore concluded that further complex assessment was warranted because there were parts of the activity area that may be likely to contain buried Aboriginal cultural deposits at depths below the disturbance caused by market gardening.

#### Complex Assessment

As a consequence of the desktop and standard assessment findings, AHMS were engaged to undertake a complex assessment of the subject site. A landscape based test excavation approach which was informed by the survey results and observations from the standard assessment was adopted for the complex assessment. Areas ranging from low to very high sensitivity were subject to systematic landform testing designed to test the predictive model developed in the GAA desktop and standard assessment report.

The test excavation was completed over four days in March 2013. A total of ten 1m<sup>2</sup> test trenches were set out at 100m intervals on linear topo-sequence transects designed to sample the range of topography within the subject site.

The test excavation focused upon those areas which were assessed as most likely to contain aboriginal cultural heritage meaning the test pits were focused around Clyde Creek in the north and

the ephemeral watercourse in the south of the site. Areas of prior cut & fill disturbance which were less likely to contain Aboriginal cultural heritage were largely excluded from the testing program.

No Aboriginal cultural heritage was identified during the Complex Assessment. The assessment concluded that the activity area is unlikely to contain Aboriginal cultural heritage as it comprises flat to gently undulating plain which has been extensively disturbed by market gardening. Therefore, no further archaeological investigation or mitigation measures are warranted prior to development.

However, as there always remains the possibility that undetected artefacts may exist in any given area, the CHMP recommends the following:

- Cultural Heritage Inductions for all contractors and consultants employed to work on the site during the activity.
- Contingency Plans in the event unknown aboriginal cultural heritage is found before, during or after the construction of the prescribed activity detailed in the CHMP.

The CHMP has been submitted to Aboriginal Affairs Victoria for approval and on 27<sup>th</sup> September 2013 a Notice of Approval was issued.

A copy of the CHMP is contained in **Appendix N**.

## **Flora and Fauna**

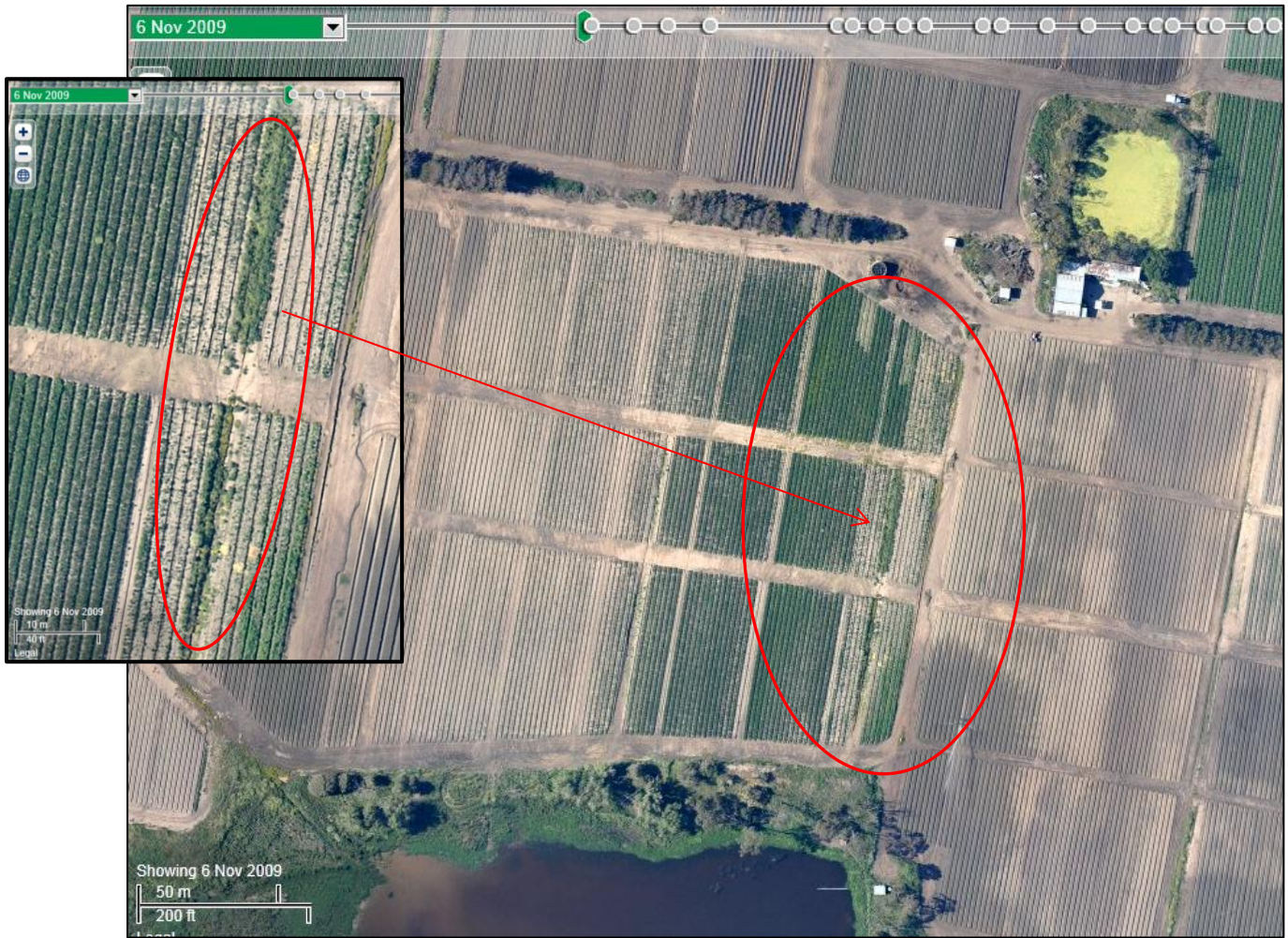
Flora has been detailed at this site via the Time Stamping process in accordance with the methodology enacted by the Department of Environment and Primary Industry (previously DSE).

Eight patches of remnant vegetation were identified during the time stamping assessment. Patches 1 and 4 consist of EVC 55 – Plains Grassy Woodland and have a habitat score of 17 and 25 respectively and equates to 0.02133885534 Ha. These patches were located within the Clyde Creek Reserve.

Patches 2, 5, 6 and 8 comprise EVC 937 Swampy Woodland which equates to 0.35365019513 Ha. Patches 2 and 5 have a habitat score of 16 whilst patches 6 and 8 have a habitat score of 18. Patch 2 is located in the Clyde Creek Reserve and patches 6 and 8 located in the future recreation reserve and adjoining drainage swale. Patch 5 is located around the banks of an existing dam.

Patches 3 and 7 were identified as EVC 136 – Sedge Wetland and contained habitat scores of 41.44 and 35.28 respectively. The total habitat area for this EVC equates to 0.05859346213 Ha. Both patches are located on the banks of existing dams.

A ninth patch of vegetation was noted in the time stamped mapping as EVC 937 – Swampy Woodland however further analysis of the property confirms that this vegetation does not exist, as illustrated in the images below:



**Figure 3: Location of erroneous time stamping EVC 937 – Swampy Woodland**

Source: Near Map - 6 November 2009

Not to scale



**Figure 4: Location of erroneous time stamping EVC 937 – Swampy Woodland**

Source: Near Map - 30 August 2013

Not to scale

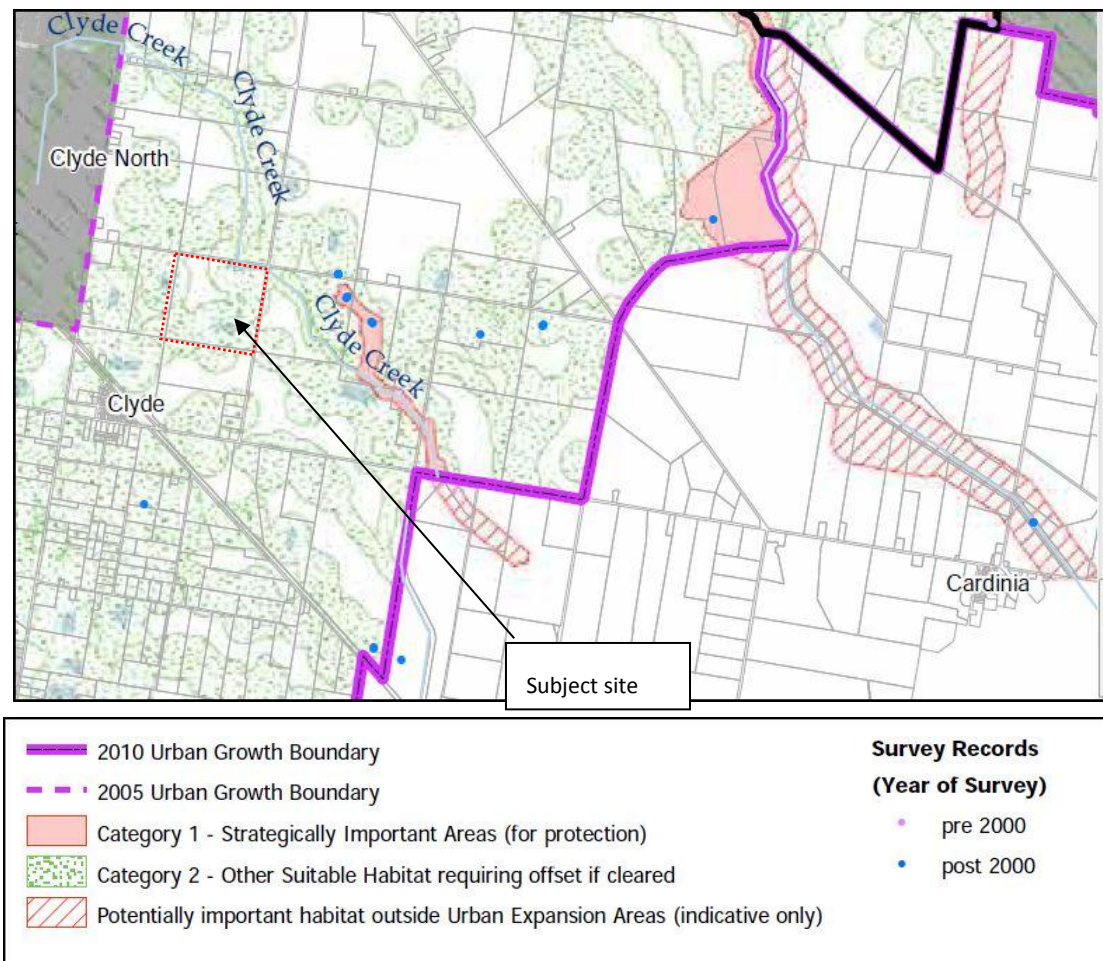
The draft PSP recognises the challenges of balancing the retention of native vegetation with providing a functional and efficient layout, which we understand will be reflected in the Native Vegetation Precinct Plan (NVPP). In accordance with the Draft Precinct Structure Plan and based on the proposed development plan, all patches will need to be removed to facilitate development of the site. We therefore anticipate that the NVPP will identify the removal of all remnant native vegetation patches from the subject site. Vegetation offset and re-planting will ensure that the site offers a good level of revegetation which will both support the proposed creek/ drainage system, and will also add to the landscape quality of the area.

In addition to the Time Stamping Process, Beveridge Williams & Co undertook a flora assessment to confirm the species, health and viability of the existing trees. The assessment identified 11 isolated trees, two groups of cypress trees, one group of acacia trees, one group of sugar gums and a group of mixed native and exotic trees generally in proximity to the dwellings, the banks of the southern dam and eastern boundary of the site. These trees are not native to the area and in most cases have been planted as windrows. Therefore, a planning permit is not required for their removal.

A Vegetation Management Plan is contained at **Appendix M**.

In the DEPI report, Sub-regional Species Strategy for the Growling Grass Frog (May 2013), the subject site is shown as containing Category 2 habitat (other suitable habitat requiring offset if cleared). The

report defines Category 2 habitat areas as being of high conservation significance but will be able to be cleared subject to financial compensation or compensatory habitat being provided elsewhere. Category 1 protection areas represent the areas of habitat of the highest strategic conservation significance. There are no Category 1 areas on the subject site, with the closest Category 1 designated land being approximately 1.5 km east of the subject site.



**Figure 5: F1d: South-Eastern Growth Corridor**  
 Sub-regional Species Strategy for the Growling Grass Frog (May 2013)  
 Not to Scale

The subject site is also within a Habitat Compensation obligation area for the Southern Brown Bandicoot. Our client understands that there may be a requirement to contribute to Flora and Fauna Offset Costs where habitat cannot be preserved.

In summary, there are no environmental based reasons to limit the full development of the site as proposed.

### Preliminary Environmental Contamination Assessment

A Preliminary Environmental Contamination Assessment for PSP 1053 (Thompsons Road PSP) and PSP 1054 (Clyde Creek PSP) was undertaken by Beveridge Williams in 2012 on behalf of the MPA (formerly GAA) see **Appendix O**. The assessment presented information on the site history, geology, the results of limited soil sampling, an evaluation of chemical testing results and the implications to provide recommendations for further assessments prior to development.

The following provides a summary of the site inspection undertaken at the subject site during this investigation:



*The property consisted of open paddocks leased for market garden cropping. A portion of the property was occupied by two residential dwellings with water tanks and a former hay shed used as vehicle parking. A former milking shed with large storage tank located on the roof was present to the south of the two residences. No fuel storage was observed at the property.*

No specific samples were taken from the subject site as part of this investigation.

Section 12.3.1 of the Preliminary Environmental Contamination Assessment report dated January 2013 made recommendations for further assessments to be undertaken prior to development, including a Hydrogeological Assessment and an Environmental Site Assessment.

It is understood that these assessments will be required as a condition of permit. The applicant is aware of this requirement and will commission the assessments at the earliest convenience.

### **Stormwater Management Assessment**

Beveridge Williams has prepared a Stormwater Management Plan (SWMP) to demonstrate that the proposed development can meet the Urban Stormwater Best Practice Environmental Management Guidelines (BPEMG) and to provide supporting evidence that the stormwater discharges from the proposed subdivision shall be to the satisfaction of Melbourne Water Corporation (MWC).

The Site Stormwater Management Strategy will be based on the Regional Stormwater Management Strategy (SWMS) being prepared by Neil Craigie for the Casey Growth Areas known as Thompsons Road PSP 53 and Clyde North PSP 54. The strategy provides a methodology for the management of stormwater on the subject site which would result in:

- Conveyance of external catchment flows through the site in accordance with the Melbourne Water Land Development Manual Safe Floodway Criteria;
- Construction of drainage to meet the likely requirements of Melbourne Water and Council, including a 1 in 100 year ARI capacity waterway and underground drainage for the 1 in 10 year ARI storm event for the Commercial area and 1 in 5 year ARI storm event for the Residential areas as needed;
- Construction of Wetlands / Retarding Basins to meet the retardation and water quality treatment requirements.

The Regional Stormwater Management Strategy proposes two Wetland/Retarding Basins (WLRBs) located fully within the site. The first WLRB is proposed in the south western quarter of the site and an open waterway runs from this to Tuckers Road (Station Creek). Downstream of Tuckers Road there will be two further WLRBs and flows will then discharge into Clyde Creek.

The second WLRB proposed is in the north east corner of the site, abutting Pattersons and Tuckers Roads. This is located on Clyde Creek and will ultimately form part of the overall water management for this waterway, with the WLRB and sedimentation basin on the north side of Pattersons Road as part of the overall catchment treatment train.

The Regional SWMS requires that the development of 100 Pattersons Road provide drainage reserves capable of delivering the ultimate system water management and quality treatment facilities for the overall catchment. This means that any water management and treatment facilities required specifically for the 100 Pattersons Road development can be provided within the overall areas to be allocated for the full catchment and will not rely on the provision of any external works and will not be affected by the development staging of neighbouring properties.

In summary, the above strategy can be implemented and all of Melbourne Water and Council's development requirements can be achieved, in accordance with the Proposed Draft Precinct Structure Plan and with no net effect on the downstream properties.

A copy of the Stormwater Management Report is contained in **Appendix P**.

### **Infrastructure Servicing Report & Sewage Servicing Report**

An Infrastructure Servicing Report has been prepared by Beveridge Williams and is included in **Appendix Q**.

Infrastructure is to be provided in accordance with the requirements of the relevant authority and will be subject to permit conditions.

The following service authorities apply to the subject site:

<b>Service</b>	<b>Responsible Authority</b>
Sewerage	South East Water Ltd ("SEW")
Potable Water	South East Water Ltd ("SEW")
Recycled Water	South East Water Ltd ("SEW")
Electricity	SP Ausnet
Gas	Envestra / APA Group
Telecommunications	Telstra
NBN	NBN

Roads, electricity, gas, telecommunications, water and sewerage will be provided to the site. Electricity will be provided to SPI Ausnet standards and gas will be designed in accordance with Envestra/APA Group requirements. Water will be reticulated and provided for in accordance with permit conditions provided by the responsible authority and South East Water.

South East Water (SEW) is the responsible authority for sewer services in the area. The overall sewer strategy provided in this report demonstrates that the proposed Residential Development can be serviced by existing sewerage Infrastructure and the additional infrastructure required. The additional infrastructure currently proposed includes a sewer pump station in Pattersons Road and a rising main to the existing system to the west. Timing of delivery of the additional infrastructure will depend on the staging of development in this area, with a number of developers keen to progress with their sites

The ultimate strategy for servicing the area is not yet finalised, but may include the development of a sewerage treatment plant to the south east of the growth area. However a decision on the ultimate design strategy cannot be made until a decision is made on the use of recycled water for the area. Beveridge Williams has on-going liaison with South East Water and is confident that, South East Water will complete a strategy for servicing the area in a timely manner.

In the interim however, the strategy proposes to transfer sewage from the subject area to existing infrastructure to the north and west via the Cranbourne East gravity sewers and pump stations. The existing infrastructure has a limited capacity to utilise before augmentation works are required, and South East Water is the responsible authority for determining the orderly and efficient development of sewerage services in this area.

In summary, the Infrastructure Servicing Report concluded that the extension of all services can be achieved through known and proven techniques. The area is suitable for development as proposed, with service authorities working with the GAA to plan for and deliver the required infrastructure to the area in a timely manner.

## 6 CONCLUSION

The proposed development provides for the subdivision of land into 746 residential lots, associated works and the removal of native vegetation at 100 Pattersons Road, Clyde.

The site is located within the Urban Growth Boundary and will be subject to the provisions of the Urban Growth Zone Schedule relating to the Clyde Creek Precinct Structure Plan.

This report details how the proposed subdivision will allow for the residential transformation of the site at standard and medium residential densities generally consistent with the draft Clyde Creek Precinct Structure Plan. The Indicative Subdivision Plan has been prepared following a process of detailed site analysis, technical assessments and State and Council policies governing the development of the land.

The planning assessment completed in this report has confirmed that the proposal is consistent with the following key planning provisions:

- State Planning Policy Framework - particularly **Clauses 11, 15 and 19** relating to Settlement, Built Environment and Infrastructure given the subdivision provides for residential development that will facilitate an integrated and connected community beyond the boundaries of the subject land.
- Municipal Strategic Statement – particularly **Clauses 21.02, 21.06, 21.09 and 21.14** which relates to Key influences, The urban fringe, Building new communities and Infrastructure, by providing residential land to accommodate the anticipated population increase in designated growth areas, establishing safe and functional transport networks through the estate and providing for the physical infrastructure to support the needs of the future residents.
- Thompsons Road (53) Clyde Creek (54) Precinct Structure Plans Issues Paper and the draft Thompsons Road PSP – particularly elements relating to **Housing and Transport and Movement** by designing a subdivision that provides for a range of standard and medium density residential lots consistent with the yield requirements whilst ensuring that the layout achieves the most functional road network.
- Draft Clyde Creek Future Urban Structure Plan – with regard to the location of key connector roads, drainage corridors, retarding basins and wetlands, open space reserves and future dwellings
- The proposed subdivision also satisfies the provisions of **Clause 56** by providing suitable access arrangements, infrastructure and housing diversity.

It is considered the proposal constitutes the most efficient use of the land due to its location and its ability to meet future housing demand by catering for a diverse range of allotment sizes with access to high quality open space facilities and infrastructure within the subject PSP and neighbouring PSP areas. For the reasons outlined above and detailed throughout the report it is respectfully requested that a planning permit be issued to allow for the development to proceed as proposed.

**BEVERIDGE WILLIAMS & CO PTY LTD.**

**September 2013**



**Appendix A Certificate of Title**



## Appendix B Site Context Plan



## Appendix C Site Analysis Plan



## Appendix D Indicative Development Plan



## Appendix E Indicative Subdivision Plan





## Appendix F Staging Plan



## Appendix G Road Hierarchy Plan

ROAD HIERARCHY PLAN

STREET CROSS-SECTIONS PLAN



## Appendix H Landscape Masterplan

LANDSCAPE MASTER PLAN

PARK CONCEPT PLAN

PARK CONCEPT AND DRAINAGE RESERVE PLAN

ESTATE ENTRY AND DRAINAGE RESERVE PLAN

STREET TREE PLAN



## Appendix I Design Response Plan



**Appendix J Draft Clyde Creek Future Urban Structure Plan**



## Appendix K Indicative Traffic Control Locations



## Appendix L Clause 56 (ResCode) Assessment



## Appendix M Vegetation Management Plan

VEGETATION MANAGEMENT PLAN

TIMESTAMP NATIVE VEGETATION PLAN





## Appendix N Cultural Heritage Management Plan

(See accompanying CD for Full Report)



## Appendix O Preliminary Environmental Contamination Assessment

(See accompanying CD for Full Report)



## Appendix P Stormwater Management Report



**Appendix Q    Infrastructure Serving Report**