



Crinigan Road Development Plan

November, 2012

*AMENDMENT 1 - January 2014 (NBA Group):
Removal of Neighbourhood Activity Centre (chapter 7, figure 4 & attachment 10)
and inclusion of revised Development Plan as Addendum 1*

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1 Introduction

This Development Plan applies to land covered by Schedule 5 to the Development Plan Overlay (DPO) in the Latrobe Planning Scheme and adjacent land holdings to the west of this area. The land is referred to as Crinigan Road and covers an area of 80.26ha (Refer to Figure 1 and Attachment 1).

The Precinct is bounded by Crinigan Road and residential properties to the south; Morwell Golf Club and LaTrobe City Soccer Stadium to the west; plantations to the north; and Alexanders Road and future industrial areas to the east.

The Development Plan is structured as follows:

Introduction: Provides the context for the preparation of the Development Plan (section 1);

Subject Area Analysis: Summary analysis and key opportunities and constraints (section 3); and

Development Plan: Includes articulation of development principles that have guided the Crinigan Road Development Plan (the “Development Plan”), and supporting detail (sections 4 to 13).

Figure 1: Site Context Plan



2 Development Plan Precinct Justification

2.1 Latrobe Planning Scheme

The Development Plan has been prepared in support of, and consistent with, the provisions of the Latrobe Planning Scheme.

The Plan supports the objectives of the State Planning Policy Framework by:

- Promoting sustainable growth and development of regional Victoria, encouraging urban growth in Morwell which provides a logical continuation of the existing urban area and is well connected to existing social infrastructure (Clause 11).
- Retaining and improving existing waterways through the area to ensure the protection of environmental values across the area (Clause 12).
- Addressing existing flooding constraints through the area with a holistic Stormwater Management Strategy to deal with, and treat, stormwater run-off ensuring no impact on downstream floodplains (Clause 13).
- Establishing planning and design objectives for the new residential land which seek to guide future development within the area and reinforce the identity of place, legibility and safety (Clause 15).
- Respecting the cultural and heritage values of the area, managing and retaining sensitive areas (Clause 15).
- Establishing residential growth near to existing community infrastructure which promotes housing diversity and affordability (Clause 16).
- Creating opportunities for population growth and subsequent job creation in the local Morwell area (Clause 17).
- Establishing a sustainable transport system through the integration of the neighborhood activity centers with walking, cycling and future bus services (Clause 18).
- Making efficient use of existing urban services establishing logical continuation of infrastructure and contributing toward new services resultant from increased population imposed by development (Clause 19).

The Development Plan Precinct (the ‘Precinct’) is identified in the Morwell Structure Plan as ‘future residential’. This designation is further reflected in Municipal Strategic Statement (at Clause 21.05-6) of the Latrobe Planning Scheme (“the Scheme”) which implements the outcomes of the Morwell Structure Plan.

To implement the strategic designation under the Morwell Structure Plan, Planning Scheme Amendment C58 rezoned the western portion of the Precinct from Farming Zone to Residential 1 Zone and applied Development Plan Overlay Schedule 5. The eastern portion was not rezoned under Planning Scheme Amendment C58 and is located in the Farming Zone.

The eastern portion of the Precinct is included in this Development Plan to ensure orderly development of the land in conjunction with adjoining areas also identified as ‘future residential’ in the Morwell Structure Plan and Clause 21.05-6 of the Scheme.

2.2 Land Zoning Status

Rezoning of the eastern portion of the Precinct is to occur in the future and it is intended the Development Plan Schedule 5 will also be applied to ensure orderly development of the land in conjunction with adjoining areas and allows application of the Development Plan over the land.

3 Subject Area Analysis

3.1 Development Plan Precinct

The Crinigan Road Development Plan relates to parcels of land located at the corner of Crinigan Road and Alexanders Road, Morwell as outlined in Table 1 below:

Table 1: land parcel details (Copies of titles included in Attachment 2)

	Property Address	Title details
1	Crinigan Road, Morwell	Lot 1 PS634891(part of)
2	175 Alexanders Road, Morwell	Lot 1 LP93736 (part of)
3	215 Crinigan Road, Morwell	Lot 1 PS412583
4	205 Crinigan Road, Morwell	Lot 1 PS424869
5	175 Crinigan Road, Morwell	Lot 1 PS608288
6	175 Crinigan Road, Morwell	Lot 2 LP75619

3.2 Site Context

The Precinct is located to the north of the Morwell town centre and has a total area of approximately 80.26ha. The Precinct interfaces with several land uses which include residential, recreational, future residential and rural. The dominant Precinct features are associated with Waterhole Creek that bisects the Precinct.

The Precinct is bounded to the south by existing and developing residential areas consisting of traditional neighbourhood designed suburbs. The area to the west includes regional recreational facilities including the Latrobe City Soccer Stadium and Morwell Golf Club. Land to the east is currently zoned as Farming Zone.

An existing dwelling and associated outbuildings are located central to the Precinct. The majority of the Precinct has been cleared. The Precinct has a long-term history of improved pasture management and grazing which has resulted in the almost complete loss of vegetation. Vegetation has been retained along Waterhole Creek, around the dwelling and along a small drainage line near to the western boundary. Short range views to the west/north-west are afforded from the dwelling and north-west area of the Precinct.

The northern and eastern portions of the land have been developed for plantation purposes (*Eucalyptus globules* ssp. *Bicostata* and *E.globulus* spp. *psedoglobulus*). Two dwellings exist in the south-eastern portion of the Precinct, accessed from Crinigans Road.

The land is currently dissected in a north-south orientation by three major items.

1. Waterhole Creek. This is a significant creek profile with vegetation along both sides
2. Overhead power lines. There are two 66kv lines running approximately alongside the creek (western side). Both lines are contained in appropriate easements.
3. A wide sewerage easement running alongside the western property boundary.

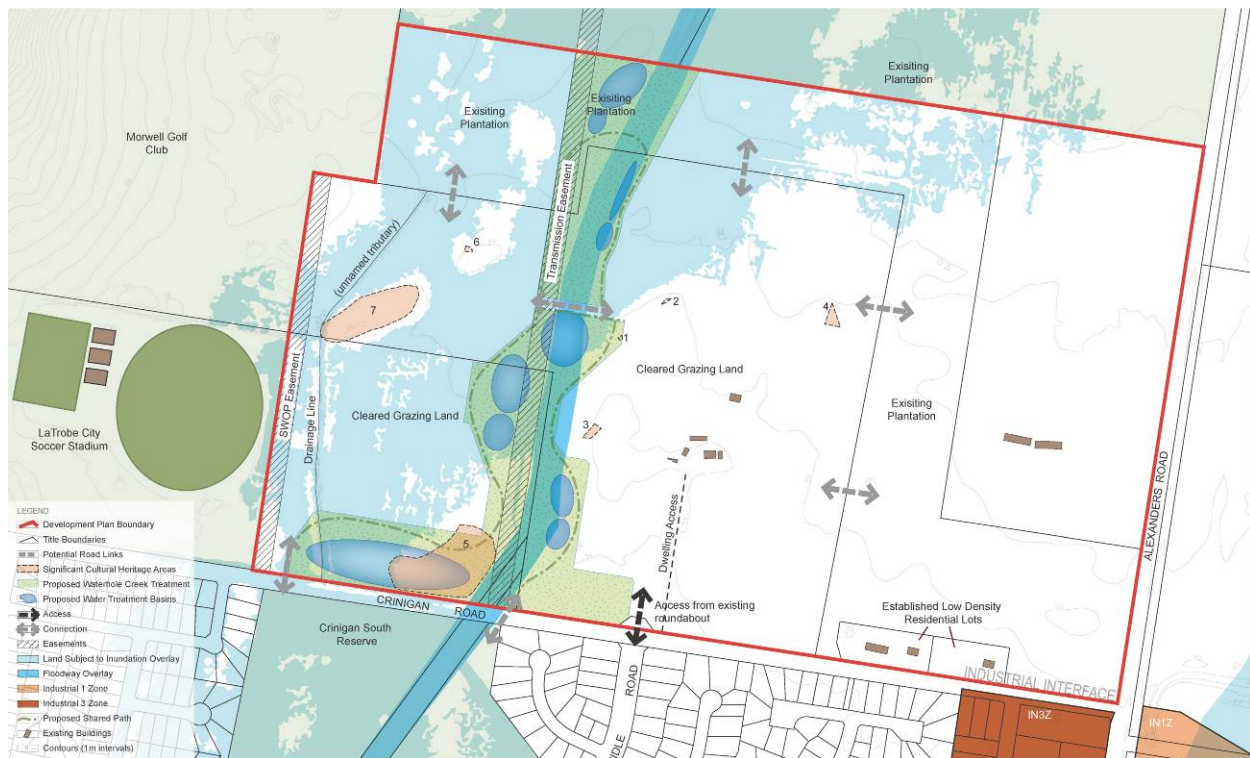
A summary of the local context and site analysis is illustrated in Figure 2 and provided in Attachment 3.

3.3 Surrounding area

Key observations include:

- Morwell town centre is approximately 4.3km south of the Precinct. Access to the town centre is provided via Maryvale Road, off Crinigan Road;
- The land to the immediate north, east and west of the Precinct is currently included within the Farming Zone;
- Morwell Golf Club is situated on land immediately to the west/north west of the subject land;
- Land to the south of the subject land is primarily included in the Residential 1 Zone and forms part of the Morwell existing urban area. Also to the south of the subject land, along Alexander’s Road is land included in the Industrial 3 Zone;
- A Public Park and Recreation Reserve is situated opposite the subject land’s southern boundary along Crinigan Road, which forms part of a linear reserve that services a vast portion of the Morwell urban area; and
- Nearby community facilities include Maryvale Private Hospital, Latrobe Regional Hospital, Heritage Manor Aged Care Facilities, Mitchell House Aged Care Facilities, Morwell Park and Valley Christian Community School.

Figure 2: Site Analysis Plan



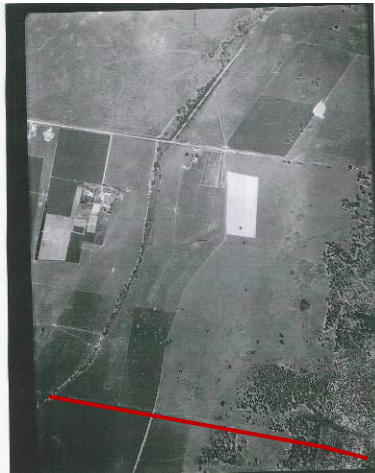
3.4 Development History

The dwelling at the centre of the property was constructed prior to 1945. Further residential development through the 1970s occurred to the south and west of the study area, though the study area remained relatively free from urban development.

Land at 175 Cringian Road was rezoned via Planning Scheme Amendment C47 in March 2011. The DPO was applied at the same time.

The remaining land within the Precinct is currently the subject of proposed Planning Scheme Amendment C58. Council has agreed to allow this Amendment to be prepared and exhibited. It is understood that gazettal of Amendment C58 is required prior to Council being able to approve this Development Plan. In the interests of facilitating development of the Precinct it has been agreed that these two planning processes can be run concurrently.

Amendment C9 to the Latrobe Planning Scheme introduced a Land Subject to Inundation Overlay (LSIO) and Floodway Overlay (FO) to the Precinct. The LSIO generally contains to land west of Waterhole Creek, though does also extend to the east within the northern sections of the DP area. The FO is restricted to Waterhole Creek.



Aerial Photography – 1945



Aerial Photography - 2009



Aerial Photography – 1977

3.5 Site assessments

A number of site assessments have been undertaken for the land. A summary of each is provided below.

3.5.1 Infrastructure (Property Investigation Report, SMEC Urban, June 2010) (Attachment 4)

Road Works and Drainage

- The Latrobe City Council (LCC) is the responsible authority for Crinigan Road and all of the subdivision internal road works and drainage to service the development. VicRoads is the responsible authority for Alexanders Road;
- The construction standard for any new roads must be in accordance with the recently adopted Infrastructure Design Manual, as well as Vicroads and Austroads Publications. All new fully constructed roads must include kerb and channel, footpaths and underground drainage to service roads and to service all allotments;
- The existing roundabout at the Crinigan Road and Bridle Road intersection must be used as the main access point to the land. The main access road must be designed as a collector road;
- An additional access point to Alexanders Road may be permitted;
- Road access across Waterhole Creek should either be provided via an internal bridge or an additional access point from Crinigan Road which includes a new roundabout. Should an internal road bridge not be provided then an internal footbridge could provided be to ensure connectivity through the area;
- LCC have advised they will assess the need to upgrade Crinigan Road along the land frontage. LCC would prefer that lots have direct frontage/access to Crinigan Road;
- Footpaths and lighting are required along Waterhole Creek to match development south of Cringian Road;
- Stormwater detention and stormwater quality improvements will be required for on-site drainage; and
- All subdivision development must be in accordance with LCC development guidelines and the Infrastructure Design Manual.

Sewer

- Gippsland Water (GW) is the responsible authority for the provision of sewerage facilities to service the Precinct; and
- GW has advised that the development can be serviced via the construction of a Pump Station, with a rising main to be constructed from the development to the Gippsland Water Factory site (a distance of approximately 1km).

Water

- Gippsland Water is the responsible authority for the provision of water supply facilities to service this Precinct;
- GW advise that this development can be supplied via the existing 300mm diameter water supply main which is located along Crinigan Road; and
- GW have also advised that the water main servicing Australian Paper could be relocated at the cost of the developer, to increase the developable area of the Precinct.

Electricity

- SP AusNet is the responsible authority for provision of electricity supply to service the proposed development. Electricity supply can be provided to the Precinct in accordance with SP AusNet terms and conditions for residential land development;
- SP Ausnet advised Council that the 66kv lines which traverse the property cannot be used as a source of power supply to the Precinct; and
- SP AusNet will require that no additional risk be placed on their power supply, either by the land development works or the waterway (Waterhole Creek) potential redevelopment to accommodate detention, wetlands and any other creek works including landscaping. SP AusNet will also require access to their assets (poles and lines) and this to be available at all times.

Telecommunications

- Telstra is the principal authority responsible for the provision of telecommunications facilities to service the proposed development. Telephone facilities can be readily provided to the subdivision in accordance with Telstra's usual terms and conditions for residential land development.

Gas

- Envestra (Gas) is the principal authority responsible for the provision of gas reticulation to service the property. Supply can be readily provided to the development in accordance with Envestra's terms and conditions for residential land development.

Waterways

- The West Gippsland Catchment Management Authority (WGCMA) is the principle authority responsible for the protection of the waterway that currently runs through the middle of the development area; and
- Waterhole Creek will become the major drainage outfall for the development.

3.5.2 Cultural Heritage Assessment (Heritage Insight Pty Ltd, 14 July 2011) (Attachment 5)

- Identifies that land parcels Lot 1 LP7569, Lot 634891 and Part Lot 1 LP93736 are located within areas of cultural sensitivity and therefore a mandatory Cultural Heritage Management Plan (CHMP) is required for future development of these areas. This will be required prior to a Planning Permit being issued for development occurring in the Study Area;
- Both of these lots are considered to be of moderate archaeological sensitivity and are likely to contain Aboriginal cultural heritage material. Any Aboriginal cultural heritage, however, is likely to be highly disturbed due to land clearance.

3.5.3 Net Gain Vegetation Assessment (Water Technology, August 2011) (Attachment 6)

- Lot 1 PS608288 and Lots 1 and 2 LP75619 (the 'paddock' zone) comprise common exotic pasture grass species and typical exotic flora of agricultural landscapes. Garden plants surround the residence with no native vegetation was identified on the properties;
- The majority of vegetation within the 'drainage line' is exotic pasture species and weeds. Swamp Paperbark (*Melaleuca ericifolia*) and Blackwood (*Acacia melanoxylon*) were present in small sections within the southern half of the drainage line. All individual plants of these species were found to be in poor health;
- Waterhole creek comprises no native vegetation. The creekline is comprised wholly of exotic weed species and an overstorey of Willows (*Salix* sp.) and occasional European Common Ash (*Fraxinus excelsior*);
- The 'plantation' properties comprise planted eucalyptus plantations, grazing paddocks and residential garden areas. The plantation vegetation is native though not indigenous as per the definitions of the Native Vegetation Framework;
- A small section of vegetation within the Crinigan Road reservation whilst native, comprising Blackwood and Swamp Paperbark, is not remnant vegetation as it has been planted along the roadside;
- There were no rare or threatened fauna species observed on or near the property;
- No habitat hectare assessment is required for vegetation removal within the Precinct as none of the native vegetation found on the Precinct meets the description of a 'patch' of native vegetation; and
- As established in the Net Gain Vegetation Assessment, the removal of the overstorey species and medium shrubs within the drainage line will require an offset calculation. An offset of 5 trees to be planted for each tree removed should be required.

3.5.4 Surface Water Management Strategy (Water Technology, November, 2012) (Attachment 7)

- Approximately 22ha of the Precinct is subject to inundation. This inundation is reflected by the LSIO and FO applied to the Precinct by Amendment C9;
- The Precinct contains Waterhole Creek and a modified unnamed tributary (adjacent to western boundary);
- To allow development of the inundated areas modifications to the affected area will be required. These modifications must ensure that there:
 - are no offsite flooding impacts;
 - is sufficient offset from Hazel Creek to maintain ecological values;
 - is no net loss of floodplain storage;
 - sufficient spaces for flood retention and water quality features; and is safe egress from the Precinct.
- A total storage volume of approximately 19,200m³ is required to meet the flood retention requirements for the Precinct. This will require a reserve of approximately 10 hectares in total;

- A culvert crossing is required to provide safe egress from the Precinct on Crinigans Road west of Waterhole Creek.
- An internal bridge will also be required and need to allow for a 100 year ARI event;
- Water quality may be managed through a series of irrigation/storage ponds and offline wetlands and sediment basins before entering Waterhole Creek;
- Development occurring on land which is located to the east of Waterhole Creek currently drains toward the north east of the Precinct and not towards Waterhole Creek;
- Drainage design is to re-direct the stormwater towards Waterhole Creek by cutting and filling the land to ensure that it slopes towards the creek. There are a number of different terrain solutions for this filling that should be addressed at a detailed design stage. The fill is outside flood extent and therefore it will have no influence on flooding outside of the property; and
- Detailed engineering at subdivision should consider pipework for existing dwellings along the southern side Crinigan Road and ensure flows are to be conveyed back into the Waterhole Creek Reserve. (Note: This will result in an improved drainage condition for the area immediately to the south.)

3.5.5 Transport and Traffic Impact Assessment Report (SMEC, November, 2012) (Attachment 8)

- Crinigan Road is a sealed two-lane, two-way undivided collector road which runs in an east-west direction;
- Bridle Road provides local access to the town centre and Mid-Valley shopping precinct through a residential area. Its intersection with Crinigan Road is controlled by a roundabout;
- Alexanders Road is a sealed two-lane, two-way undivided arterial road which runs in a north-south direction. Its intersection with Crinigan Road operates under give-way control and turning lanes are provided on both approaches. Alexanders Road is an approved route for B-double and higher mass limit trucks given the industrial development on the west side of the road, south of Crinigan Road;
- The nearest bus service to the Precinct is Route 2 (Morwell Central to Mid-Valley via Crinigan Road.) which travels along Crinigan Road, Junier Street and Symons Crescent. The closest bus stop is located on Vary Street, approximately 270 meters from the westernmost point of the Precinct;
- Footpaths are generally provided on the south side of Crinigan Road. There are no footpaths on Alexanders Road; and
- There are no formal on-road bicycle lanes within close proximity of the Precinct. The nearest off-road bicycle path is located along Waterhole Creek to the south of the Precinct.

3.5.6 CFA Fire Buffer Response (dated 31 August 2011) (Attachment 12)

- CFA is in support of the proposed Development Plan which proposed an interim landscape buffer between residential lots and the plantation use subject to the following considerations being applied:
 - The design of standard residential lots fronting the open landscape recreation buffer is to be supported by an assessment of the plantation vegetation fuel load and possible fire intensity; this requirement may be reviewed pending State Government announcements on the proposed changes to the planning and building controls for wildfire assessment;
 - In the event of the removal of the WMO CFA is to be a referral authority for the subdivision design;
 - Any lots within 100m of the plantation may have a bushfire attack category applied to any dwelling development; expected to be either BAL19 or BAL 12.5 where applied;
 - CFA agrees that the development can be staged to prevent development within 100m of the existing plantation areas until harvesting and removal occurs;
 - It is to be noted that the plantation edge may be subject to fire danger period ground fuel management controls where grass or weed invasion and growth occurs on the adjoining boundary to the development.

3.6 Key opportunities & constraints

Analysis of the entire context, site and background reports has revealed a series of key opportunities and constraints that have influenced the overall Development Plan. The key opportunities and constraints are summarised below and shown in Figure 3 and Attachment 9.

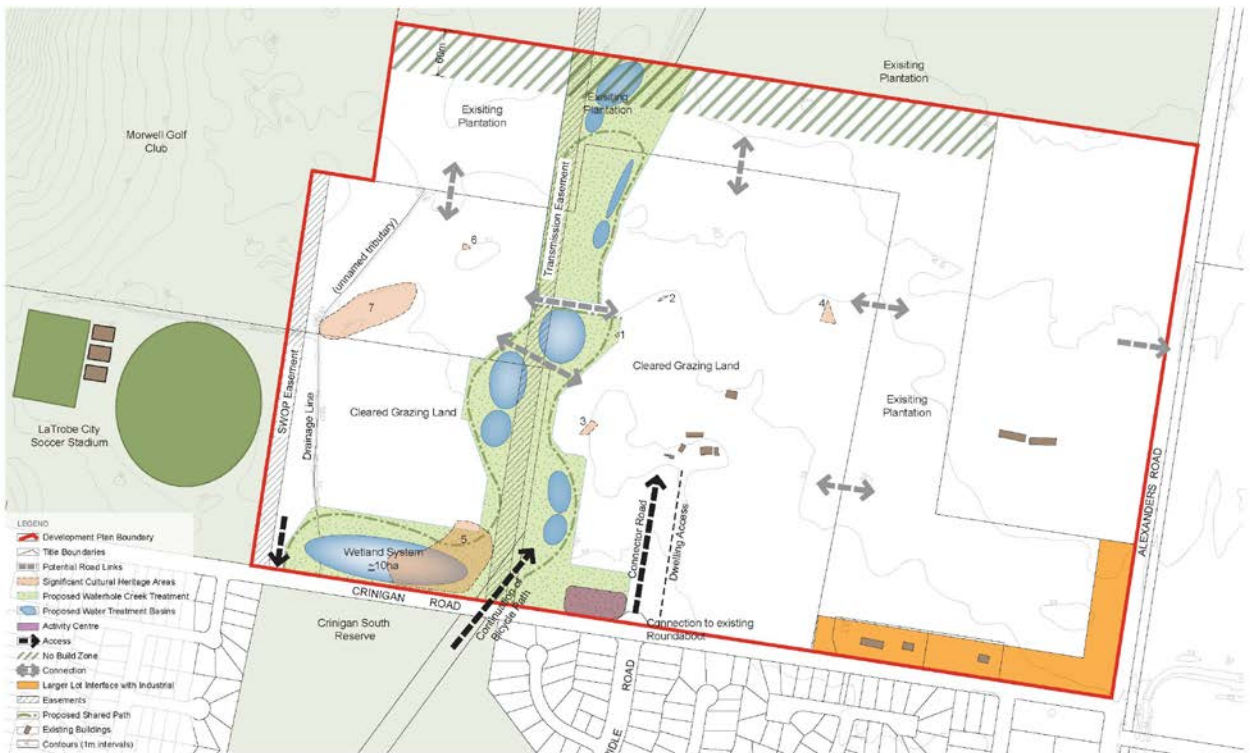
Opportunities

- Provide an integrated wetland system that provides both flood storage and water quality management functions which utilises an existing feature of the Precinct into the new development and streetscapes whilst providing open space and integration opportunities with the existing Waterhole Creek spaces to the south of Cringian Road;
- Create better connections to surrounding social infrastructure, residential areas and open space. The street and open space network should clearly link residents to surrounding community infrastructure, reserves and public facilities;
- ~~Introduce a neighbourhood level centre within walking distance of most residents to serve their daily shopping needs. Sustainable neighbour walking distance of residents communities and improve interactions with residents;~~ **Amendment 1: Deleted** ~~ion of local services and shops within s also create a focus for new~~
- Create large lots or open spaces to manage challenging interfaces, particularly with the light industrial activity to the south and south-east, and the plantations and wildfire risk to the north. Managing these interfaces through the creation of large lots or the provision of open spaces may enable appropriate separation between uses, and not impact on the overall amenity and safety of new residents or the ongoing capacity of existing businesses in the industrial estates;
- Improve connections to surrounding open spaces including Crinigan South Reserve, Waterhole Creek, Mobile Park and Morwell Golf Club;
- Create an urban area that is integrated with surrounding residential areas. This can be achieved through a clearly connected street network, utilising existing road infrastructure including the Crinigan Road roundabout, and creating frontage to key external facing roads and open spaces; and
- Locating open spaces within a walkable catchment of surrounding residents also encourages them to be part of the new development.

Constraints

- Impact of encumbered land on neighbourhood structure. A large area of the Development Plan is encumbered by flooding or easement issues such as:
 - the transmission easement and pylon towers create aesthetic and physical challenges. The location of the pylon towers limits the number of bridge crossing and infrastructure locations;
 - the flooding impacts which can be managed through the creation of a series of wetlands, though this requires a substantial area of land and has implications for the lot layout and street network in this area; and
 - the retention of the sewerage easement along the western boundary which results in the need for a reserve and will reduce overall development yield.
- Amenity impacts at the residential / industrial interface. Lots need to be designed to ensure off site amenity impacts such as noise from industrial activities are avoided. Options such as larger lots and landscaping buffers have been explored; and
- Proximity of plantations and associated increased wildfire risk. A large area adjacent to the northern boundary will need to be left as open space to ensure wildfire risk for the Precinct is reduced.

Figure 3: Opportunities and Constraints Plan (refer Attachment 3)



4 Development Plan Principles

4.1 Development Principles

A series of development principles have been established to inform the development planning process and to act as a 'checking mechanism' to ensure the feasibility and deliverability of the Development Plan over time. The development principles are as follows:

- Maximise development outcomes;
- ~~Provide a neighbourhood activity centre within the Precinct;~~
- Provide passive & active open spaces;
- Minimise development costs through logical design;
- Consider title boundaries when designing essential structural elements to ensure (early) delivery and avoid issues related to cost;
- Consider title boundaries in neighbourhood design;
- Utilise existing easements and reserves;
- Connect to the existing grid / road network where possible;
- Avoid single sided roads with the exception of public open space interfaces;
- Avoid irregular shaped lots;
- Utilise natural features in design and development;
- Facilitate the achievement of sustainable neighbourhood outcomes;
- Provide legible connections to key community anchors within and surrounding the study area i.e. schools, market, hospital, recreation reserve;
- Provide for walkability in the new community;
- Integrate Water Sensitive Urban Design (WSUD) elements with open space requirements; and
- Incorporate Crime Prevention Through Environment Design (CCPTED) principles in neighbourhood design.

The preparation of the Development Plan was guided by these development principles.

4.2 Development Plan Objectives

In addition to the principles listed above, the key elements of the Development Plan have been prepared in accord with a series of strategic objectives based around best practice approaches to growth area planning established by the State Government's Growth Area Authority (GAA) and Clause 56 of the Victoria Planning Provisions.

The GAA's growth area precinct structure planning guidelines provide clear objectives and direction for delivering sustainable neighbourhood design in growth areas in metropolitan areas. These guidelines have equal relevance to Morwell, despite it being a regional centre, and have been applied to the growth area planning process and used to test the key elements of the plan.

The objectives of the Development Plan are listed below.

Community Design Objectives

To establish a sense of place and community

- Design neighbourhoods to be safe and compact, making it easy to walk or cycle to shops, local jobs, schools, community facilities and public transport stops;
- Promote healthy lifestyles and strong diverse communities through well designed public spaces and community facilities;
- Provide access to residents and workers to a variety of open spaces (parks, gardens and reserves) for relaxation and recreation;
- Create strong local character through distinct natural and cultural features as well as the urban form;
- Promote positive experiences in the Precinct for future generations through high quality design and built form; and
- Design neighbourhood centres to ensure they are attractive, lively and convenient focuses for the community they serve and include the provision of quality public spaces.

Housing Diversity Objectives

To create greater housing choice, diversity and affordable places to live:

- Provide housing that meets a range of population needs as the community ages and grows over time;
- Achieve an average net density of 12 dwellings per developable hectare;
- Locate higher density housing within and around the neighbourhood activity centre, along bus routes and close to public open space;
- Provide a range of lot sizes and housing styles;
- Locate a mix of private, affordable and social housing, where relevant, in and around neighbourhood activity centres for households on low to moderate incomes; and
- Locate houses close to where people work.

Movement Network Objectives

To provide better transport choices and options

- Provide safe and efficient walking, cycling, public transport and vehicle access to connect residents directly to the convenience centre, open space and community facilities within and adjoining the Precinct and to wider regional networks;
- Ensure that all areas can be adequately and efficiently serviced by buses;
- Design streets to cater for shared paths and bus movements; and
- Locate higher density housing along the bus route

To create well connected streets

- Ensure streets and urban form are designed to cater for people's choice in movement – walking, cycling, public transport, car and other motorized vehicles;
- ~~Encourage a mix of land uses within and around the neighbourhood activity centre that can be easily accessed;~~
- Distribute traffic evenly through the local street network, and avoid opportunities for 'rat running'; and
- Create permeable street networks, avoiding use of cul-de-sacs.

Open Space Objectives

To provide easily accessible open —space for passive recreation

- Provide local parks within at least 400m safe walking distance of at least 95% of all dwellings;
- Provide active open space within 1km of 95% of all dwellings;
- Provide linear parks and trails, most often along waterways, but also linked to vegetation corridors and road reserves within 1km of 95% of all dwellings;
- Ensure activation of public open space and reserves by providing an 'edge' road along or lots with direct frontage along the boundary extent;
- Create clear links to active recreation opportunities at Maryvale Reserve; and
- Use encumbered land productively for open space where possible.

Environment Objectives

To increase environmental sustainability —and urban water management

- Provide opportunities for integrated water management, including water sensitive urban design, re-use of stormwater and recycled water;
- Encourage best practice urban water management systems to deliver appropriate water quality and quantity outcomes.
- Neighbourhood design should ensure that waterways and ecologically significant areas of native vegetation and other important habitat areas become key community assets;
- Protect the built environment from flooding, inundation and stormwater drainage.

5 The Plan

The Development Plan is illustrated in Figure 4 (also provided in Attachment 10) and the key elements of the plan are detailed in the following section of the report.

The Development Plan delivers an integrated and sustainable neighbourhood, where residents can choose from a range of housing types in high amenity settings. Opportunities for a mix of people across the lifecycle allowing for housing affordability are provided in the Development Plan due to the range of lot sizes, which will appeal to new home owners; and housing diversity to enable people to transition to second or third homes from existing Morwell neighbourhoods for people seeking to live in a highly accessible Master Planned community.

~~The Precinct includes a neighbourhood activity centre to provide local convenience retail facilities. This centre is to be strategically located along the collector road network to well service the existing and future communities in the area. While community facilities will not be established in the Precinct pedestrian, cyclist and road connections are to be established from the Precinct to existing facilities in the Morwell township.~~

The overall neighbourhood design in the Development Plan has been influenced by natural features, drainage and vegetation requirements, and a logical perspective on development equity for all land owners. Within the framework created by these structural elements, the proposed neighbourhood structure has been designed to deliver a compact and walkable community in the Precinct.

The design has been particularly careful in ensuring that streets are well connected to ensure integration and easy movement through the neighbourhood and to surrounding residential areas. The provision of shared paths and linear paths along vegetated wetlands provide a attractive environment for people to walk and cycle through the neighbourhood, and to the shops, parks and recreation reserve.

Street networks are designed to maximise opportunities for natural surveillance and implement the principles of Crime Prevention Through Environmental Design (CPTED). Public open space and reserves are to be bound by the street network and complimented with a shared pathway to encourage activation of these areas. Residential lots will front onto adjoining street networks and be orientated to encourage future dwellings with openings overlooking public open space and reserve areas.

From a sustainability perspective, a variety of housing density is encouraged throughout the Precinct, with opportunities for medium density housing located proximate to the shops, parks and recreation reserve. It is intended that this design will provide people with the choice to travel less with their car, creating a more sustainable neighbourhood. Drainage and wetland design and Water Sensitive Urban Design (WSUD) techniques in local streets will add to sustainability in terms of capture, use and treatment of stormwater. It is intended that wetland areas will be re-habilitated to improve the ecological integrity and habitat potential for native flora and fauna.

The details of the Development Plan are contained in the following sections.

Figure 4: Development Plan (refer to Attachment 10)

*Amendment 1 - Plan Superseded
See Addendum 1: Revised Development Plan*



The Land Budget for the Development Plan is provided in Table 2, below. As noted in the Land Budget, the Development Plan can deliver a range of residential densities with average lot sizes from 450m² to 900m².

Table 2: Land Budget

DEVELOPMENT ANALYSIS				
121119/ Rev H opt 2		%TSA		
Total Site Area	80.26	ha		
Encumbered Land	11.63	ha	14%	
Transmission Easement*	1.84	ha		
Waterways Reserve	8.50	ha		
Sewer Easement*	1.19	ha		
Cultural Heritage Conservation Area	0.10	ha		
Gross Developable Area	68.63	ha	%GDA	
Credited Open Space	2.23	ha	3%	
Passive Open Space	1.04	ha	2%	
Pedestrian Link	0.06	ha	0%	
Local Open Space	1.13	ha	2%	
Net Developable Area	66.40	ha	%GDA	%NDA
Roads	19.41	ha	28%	29%
Local & Connector Streets	19.41	ha		
Net Residential Area	46.99	ha	68%	71%
Medium Density Residential	0.80	ha	1%	1%
Standard Density Residential	42.50	ha	62%	64%
Low Density Residential	4.49	ha	7%	7%

*Open space provisions as per discussions with MESH and La Trobe City Council (30/10/12) and credited Open Space plan supplied by MESH on behalf of La Trobe City Council.

6 Lot sizes / housing diversity

The Development Plan aims to achieve an urban neighbourhood structure that provides for a range of densities commensurate with the zoning requirements and Development Plan objectives, while respecting Morwell’s culture of larger standard residential lots.

Population growth in Morwell is projected to reach 92,855 people by the year 2036 with an average growth rate of 0.85% annually (Latrobe City Council Forecast ID, 2012). In accordance with the requirements of DPO5 and Clause 56, the development layout provides for a range of lot sizes and housing diversity (refer to Table 3). The range of lot sizes will maximise density and will provide the flexibility required to meet the range of housing needs of the growing Morwell community.

The layout of the Development Plan seeks to promote healthy lifestyle options by providing a walkable neighbourhood with good access to active open space. Reserve and open space areas are provided with activated frontages, where possible, to create a safe and well connected environment.

Table 3: Proposed Lot Yield

Lot Type	Lot Size Range	Average Lot Size	Total Lots
Standard density housing	450m ² to 650m ²	600m ²	710
Low density housing	750m ² to 1,500m ²	900m ²	49
Medium density housing	250m ² to 450m ²	300m ²	26

Note: Medium Density housing opportunities are identified in the Development Plan but are not included in the Proposed Lot Yield.

Assuming an average lot size across the Precinct, a total of 785 dwellings are to be established within the Precinct. With an average household size of 2.2 persons (Latrobe City Council Profile ID, 2012), the Precinct will be home to approximately 1,570 people when fully constructed. This will achieve a density of 12 dwellings per net developable hectare.

6.1 Low Density Housing (750m² to 1,500m²)

Low density housing (or larger lots) is proposed for the area of land in the south-east corner that is adjacent to the industrial area on Alexanders Road. These businesses are operating within an Industrial 3 Zone with a large area of currently vacant Industrial 1 Zone land east of Alexanders Road and therefore can expect to continue operations.

In this event residential development will need to manage any off-site amenity impacts. The Development Plan proposes that the south-east corner be developed with larger lots of an average size of 900m² adjacent to the industrial interface. This area has been extended further west along Crinigan Road to take account of the existing title boundaries and dwellings in this area.

Acoustic attention measures may be required for any new housing development in this area, and this could include vegetated buffers.

6.2 Medium density housing

Medium density areas are provided within the development. This will allow future development in the Precinct to provide diverse housing options within the following key locations preferred for medium density:

High amenity locations:

Medium density housing is encouraged adjacent to high amenity areas such as wetlands, parks and Waterhole Creek. Residents that can take advantage of the amenity enjoying a green outlook from their homes. It will provide a level of passive surveillance to these key pedestrian zones.

Near to the bus route:

Medium density housing is encouraged where possible within 400 metres of the bus route to provide residents with sustainable transport options within close walking distance from home. Maximising opportunities for people to catch the bus to work, school or recreation facilities is very important particularly when most of these destinations are only a short trip away.

A maximum lot size of 450 square metres is envisaged in the preferred medium density locations. It is acknowledged that this lot size is quite small and is uncommon at present in Morwell. However, this option reflects the need to provide for housing diversity and respond to State Planning Policy requirements to provide a mixture of housing opportunities and locate a high portion of housing close to neighbourhood activity centres, open space and public transport networks.

6.3 Statutory assessment guidelines

- Subdivision applications should be prepared to be generally in accordance with the proposed urban structure and dwelling density contained in the Development Plan;
- Subdivision applications are to achieve the objectives of Clause 56 of the Latrobe Planning Scheme;
- Standard density residential should achieve an average of 12 dwellings per hectare;
- Rezoning of Farm Zone land to Residential 1 Zone with the Development Plan Overlay Schedule 5 is required prior to development occurring in these areas;
- Any application for a planning permit which involve the establishment of a lot greater than 1,000m² and intended for medium density residential development is to be accompanied with urban design guidelines which outline how development should occur. These urban design guidelines will be prepared to the satisfaction of Latrobe City Council and a Section 173 Agreement is to be established to ensure future development of these sites are in accord;
- Removal of the Bushfire Management Overlay is required prior to development occurring in affected areas, except where development can meet the provisions of clause 44.06 of the Latrobe Planning Scheme;
- Low density housing will only be supported in the areas designated on the Development Plan:
 - Development on these lots will be required to front the street;
 - Building envelopes will be required for development proposals on these lots. The building envelope for dwellings must be setback no less than 4 metres from the front boundary. Ancillary buildings are not permitted within the front setback area; and
 - A landscape master plan is required for any future medium density developments occurring in the Precinct. The master plan must include provision of vegetation along the front boundary to screen interface uses.

7 Neighbourhood activity centre

A centrally located neighbourhood activity centre is proposed within the walkable catchment of the Precinct. The centre is located at the intersection of Crinigan Road and the new north-south collector road, enhancing accessibility by walking, cycling and car.

The centre will perform a daily needs function for the residents. An area of 0.3ha is to be set aside for the centre, reflecting its intended local role. Residents will continue to travel in to town for their main (weekly) shopping needs.

The size of the centre has been determined in accordance with growth area principles established by the GAA, a local centre is defined as:

'...an activity centre smaller than a neighbourhood activity centre which may include a small limited line supermarket or convenience store of between 500sqm and 1,500sqm, plus non-retail uses'. (GAA, 'Precinct Structure Planning Guidelines', 2009).

The centre will provide space for local business such as butchers, hairdressers, a small grocer, and even some small office services.

Medium density housing opportunities are provided around the centre to increase overall critical mass and encourage walking and cycling trips. Housing in this area will achieve an average density of 20 dwellings per hectare.

The centre will be required to be designed to address both street frontages, with shop entries clearly legible for passers-by on both the Crinigan Road and the new north-south street frontages. The centre should be designed to include seating, rubbish bins and lighting in the paved area at the front of the shops, as well as landscaping to improve overall amenity.

The land developed for the local centre will be required to be rezoned to the Business 1 Zone (B1Z). Use and development will need to be consistent with the zone provisions.

7.1 Statutory Assessment Guidelines

- An area of 0.3Ha is to be set aside for the development of a neighbourhood centre;
- A Concept Plan must be prepared for the neighbourhood activity centre, the following design guidelines apply:
 - Built form should be connected to create continuous façade along the streets.
 - Buildings should be well presented to all abutting streets with clearly defined entrances that connect with the pedestrian footpath at street level.
 - Street facades and all visible side or rear facades should be visually appealing, interesting and well articulated to create visual interest and interaction.
 - Quality built form should be encouraged.
 - Buildings of up to 2 storeys in height will be supported in principal.
 - Side building facades (excluding shop fronts) and continuous walls, should not exceed 10m without articulation, fenestration, activity or visual interest.
 - Upper level development should be a recessive element. Entrances provided at the street front will be required to be consistent with the provisions of the B1Z.
 - Built form should be activated on the ground floor.
 - On street angled car parking should be provided for customers. Any additional car parking must be located to the rear of the buildings.
 - The concept plan should show seats, bins and lighting in the neighbourhood centre. Screening of centralised waste collection points should minimise amenity impacts with adjoining areas and users of the centre.
 - Streets, public spaces and car parks should be well lit with pedestrian-friendly lighting.
 - New buildings within the neighbourhood centre must relate sensitively to the interface with adjoining residential area and creek corridor.

8 Surface water management strategy

The Development Plan proposes the application of water sensitive urban design, accommodating drainage within a wetland system and passive open space network. In total, 10Ha of land is required for drainage.

A Stormwater Management Strategy for the Precinct, was prepared in July 2011 and updated in June, 2012 by Water Technology, to inform the stormwater quantity and quality controls required to service future development.

8.1 Conceptual layout

The conceptual layout involves removal of an existing defined waterway to the west of the Precinct. This change in Precinct characteristics will allow all flow downstream of Crinigan Road to be routed through a single channel before being discharged into the existing Waterhole creek downstream of the Precinct.

Figure 5 depicts the conceptual layout for the proposed wetland / flood storage within the reserve.

Water is directed from the original unnamed tributary through a storage before connecting into Waterhole Creek downstream of Crinigan Road. This pond is intended to store water for irrigation of neighbouring sporting fields. Once the two flow paths have combined they flow along the existing Waterhole Creek floodplain. A series of offline wetlands and sediment basins are located within retarding basins to detain and treat the Precinct flows before entering Waterhole Creek. The proposed retarding basin and wetland system in addition to additional flood protection to the north of the Precinct will ensure that no additional flows are experienced upstream as a result of the development.

It can be seen from the conceptual layout in Figure 5 that the Waterhole Creek reserve is intended to be a prominent feature of any proposed subdivision. Though the final layout of the water quality features may change the following points should be noted:

- 30 metre reserve has been provided for ecological values;
- Pond 1 is designed to drop out velocities of upstream flows and a potential collection point for water re-use;
- Water quality wetlands to treat runoff from proposed development;
- Road layout to border creek reserve to meet with a “pride of place” criteria;
- Potential open space area to meet council requirements;
- Allowance for a 100 Year ARI bridge structure connecting east and west sides of the development. This feature will enable site egress issues to be mitigated;
- Walking tracks and recreational areas should be integrated into the design to enable interaction with the reserve and wetlands; and
- Conveyance of flood waters is an important consideration for the site as the floodplain has been constricted. Hydraulic modelling of any revised layouts will be required to ensure no off-site flooding impacts.

The conceptual layout provides opportunities for landscaping and establishment of wetlands together with the establishment of aquatic vegetation that will enhance the ecological integrity of the waterway and improve its overall appearance.

Adjacent passive open space on each bank will include walking and cycling trails that link to surrounding development, creating a high amenity place for residents to spend their time.

Final details of the drainage layout will be approved as part of the detailed design provided at the subdivision application stage. Council may apply discretion to the drainage concept so long as the overall drainage function is not compromised and that the plans can meet wetland treatment requirements and provide appropriate areas for retardation storage and conveyance of the 1 in 100 year event.

Houses will primarily front the drainage reserve via the local street network. Some lots will side onto the drainage reserve though all houses must address the creek. This will activate these spaces and improve the surveillance of pedestrians and cyclists, as well as maximise the amenity to residents.



Figure 5: Wetland Conceptual Layout

8.2 Retarding Basins

To mitigate the post development flows back to existing pre-development levels a series of retarding basins with wetlands at the base is proposed. The wetlands and retarding basins are required to fit within the allocated easement, while taking into account external flows for Waterhole Creek and the unnamed tributary. The wetlands and sediment ponds are to be located within the retarding basins, so that any flows that enter the system can slowly fill the retarding basin above the normal water level of the wetland (refer Figure 6).

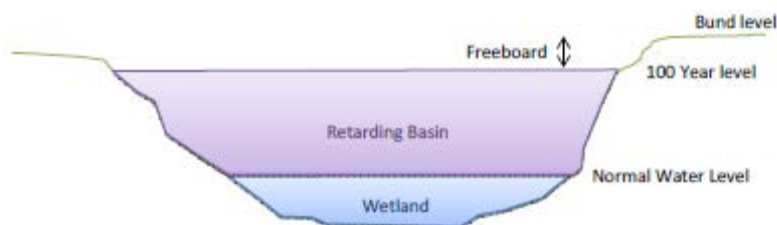


Figure 6: Retarding basin / wetland conceptual drawing

8.3 Statutory Assessment Guidelines:

- Water Sensitive Urban Design (WSUD) should be incorporated into the design of all streets and public land.
- A drainage reserve should be provided from Crinigan Road to the south, to the northern edge of the Precinct along the general alignment of Waterhole Creek. The width of which would typically be in the order of 80 to 90 metres for conveyance of the 1 in 100 year ARI flows.

- An irrigation pond with a wetland function comprising storage of about 10,000m³ should be located immediately north of Crinigan Road near to the western boundary.
- Four wetlands are required along the Waterhole Creek alignment. Their surface areas will range between 0.3Ha and 0.45Ha.

9 Landscape

Given the farming history of the area, landscape values are currently limited. Developing a landscape quality that assists in establishing a sense of place for this new community is essential. The Landscape Master Plan prepared by SMEC Urban and provided in Attachment 11, establishes the Landscape intent for the Precinct.

The Development Plan proposes a network of 'green streets' as a key feature in the Precinct (refer to Figure 7 and Attachment 11). These streets, incorporating shared pathways, will include strong landscaping themes that provide visual cues to naturally guide people to key assets in the area including open space, wetlands and the neighbourhood centre.

A hierarchy of landscaping is proposed for the Precinct. The opportunities for signature planting in key locations are encouraged in and around the neighbourhood centre to improve the overall amenity and enjoyment of the neighbourhood activity centre.

9.1 Waterhole Creek reserve

The Waterhole Creek Reserve is intended to be the primary open space area for the estate, incorporating Water Sensitive Urban Design elements and recreational facilities for residents (refer to Figure 8).

The proposed wetlands will be planted with indigenous and native vegetation that will assist with the storm water filtration process, provide biodiversity and add another dimension to the public open space. The planting along the waterway will also provide bank stabilisation and erosion control, further measures may be identified.

Public open space areas will be located alongside the waterway with a shared pathway proposed on both sides and a boardwalk crossing at the north end. Another pedestrian crossing will be integrated with the culvert bridge. Park furniture and facilities such as shelters, picnic tables and seating will be located at nodal points along the shared path.

All of the linear reserve has been designed to interface the road with open space, allowing passive surveillance and increasing visual amenity. Where this is not possible and residential lots back onto open space, landscape treatments such as low or visually permeable fencing and planting will be used to increase passive surveillance of public open space without compromising secluded private open space.

There will be no tree planting beneath power lines within the electricity easement.

9.2 Wildfire Protection reserve

The wildfire protection reserve will be achieved through a landscape buffer reserve with no tree planting and minimal garden bed areas. Fire resistant tree species will be used for streets within the wildfire protection reserve and all other species used within this reserve will be fire resistant or fire retardant.

9.3 Entry boulevard, Crinigan Road and Alexanders Road

The estate entry points should be highlighted through the use of soft and hard landscaping with feature planting and entry walls. A feature tree should be used to highlight the main boulevard through the estate.

9.4 Street trees

The hierarchy of the road network will guide street tree planting. For example, along wider streets, a larger, single species will be selected to create a formal avenue, and emphasise a sightline or view. Smaller residential streets will be less formal and planted with smaller sized trees to create individual and distinctive precincts within the estate.

9.5 Reserve Fencing

Where lots immediately adjoin the reserve, visually permeable fencing is proposed to provide passive surveillance to the open space and recreational pathway. This will be further complemented with a vegetation buffer.

Figure 7: Landscape Master Plan (refer to Attachment 11)



Figure 8: Waterhole Creek Reserve (refer to Attachment 11)



9.6 Statutory Assessment Guidelines:

- The landscape design should:
 - Ensure landscaping supports surveillance and provides shades in streets, parks and public open space.
 - Develop appropriate landscapes for the intended use of public open space including areas for passive and active recreation, the exercising of pets, playgrounds and shaded areas.
 - Provide for walking and cycling networks that link with community facilities.
 - Provide appropriate pathways, signage, fencing, public lighting and street furniture.
 - Utilise existing trees and areas of planting as settings for recreational and play areas, and take advantage of their aesthetic qualities as a feature within the development.
 - Create low maintenance, durable landscapes that are capable of a long life.
- Streetscapes and Public Open Space must be planted with native vegetation from Councils preferred planting schedule.
- Fencing directly abutting Public Open Space and reserves is to be visually transparent. Details of this fencing is to be provided as part of a future landscape plan for subdivision.
- Entry boulevard, Crinigan Road and Alexanders Road should be planted with trees from Council's landscape schedule, including:
 - *Acer x freemanii* 'Jeffersred' Autumn Blaze Maple;
 - *Angophora costata* Smooth-barked Apple; and
 - *Corymbia maculata* Spotted Gum.
- Connector streets should be planted with trees from Council's landscape schedule, including:
 - *Acer negundo* 'Sensation' Sensation Maple
 - *Agonis flexuosa* Willow Myrtle
 - *Eucalyptus sideroxylon* 'Rosea' Red Flowering Ironbark
 - *Magnolia grandiflora* 'Greenback' Magnolia Cultivar
 - *Melia azedarach* White Cedar
- Local streets should be planted with trees from Council's landscape schedule, including:
 - *Acacia implexa* Lightwood
 - *Allocasuarina littoralis* Black Sheoak
 - *Eucalyptus mannifera* 'Little Spotty' Dwarf Red Spotted Gum
 - *Eucalyptus leucoxyton* 'Euky Dwarf' Dwarf Yellow Gum
 - *Lagerstroemia indica* 'Natchez' Crepe Myrtle Cultivar
 - *Pyrus calleryana* 'Capital' Capital Pear
 - *Pyrus calleryana* 'Chanticleer' Chanticleer Pear
- The waterway reserve interface should be planted with trees from Council's landscape schedule, including:
 - *Callistemon salignus* Willow Bottlebrush
 - *Eucalyptus polyanthemos* Red Box
- The wildfire protection zone should be planted with trees from Council's landscape schedule, including:
 - *Melia azedarach* White Cedar
 - *Acmena smithii* Lilly Pilly
- Detailed landscape plans must be submitted as part of any planning permit application for subdivision. Any landscaping plan submitted should be consistent with the landscape master plan (Figure 7 and Attachment 11).

10 Open space

The open space network contains a number of key elements which are discussed below. These elements have been located and designed to be well connected to surrounding residential areas, neighbourhood activity centres and other open space areas via roads, pedestrian footpaths and cycle ways.

A number of these elements are associated with the drainage network that traverses the Precinct. The GAA encourages the productive use of encumbered land for open space purposes in growth areas. These spaces will be well designed for passive recreation purposes, and provide a good location for walking or cycling.

The GAA has determined that while these areas are not provided as a credit against public open space requirements that regard is taken to the availability of encumbered land when determining the open space requirement.

10.1 Linear Open Space – Waterhole Creek reserve

The core linear open space in the Precinct is provided along the general alignment of Waterhole Creek. An indicative concept plan is provided at Figure 8.

This network aims to increase incidental activity by building an environment where cycling or walking becomes a desired mode of transport, particularly for school aged children. In accordance with GAA standards, the reserve is located along a waterway and linked to the surrounding road network.

The majority of dwellings in the Precinct are located within 400 metres of this central reserve. Importantly the reserve continues the existing reserve and pathways along Waterhole Creek to the south of Crinigan Road.

10.2 Local Parks

Council policy requires that local parks are provided within a 500m catchment of all dwellings. This radius enables clear sightlines to encourage passive surveillance in surrounding areas and is developed in accordance with the Crime Prevention Through Environmental Design (CPTED) Planning principles. The GAA requires that local parks are located within a 400m safe walking distance of at least 95% of all dwellings.

Two local parks with a size of 5,000 square meters are to be located within the eastern and western parts of the Precinct. The location of these local parks will allow all future dwellings to be located in close proximity of useable public open space areas. Road reserves are proposed along the full boundary extent of these local parks to ensure future residential lots front the open space and natural surveillance of these areas is promoted.

Local parks are of a useable size and nature to accommodate a small playground, grassed and landscaped areas, pathways, bicycle parking, public toilets and seating. Residents in close proximity to these areas are envisaged to be the primary users of local parks for common recreational purposes.

10.3 Passive Open Space

A small area of passive open space is to be provided centrally within the Precinct at the junction of the north-south and east-west connector roads. This open space will provide an attractive feature within the Precinct ~~and is well connected to the proposed neighbourhood activity centre via the north-south connector and linear reserve via the east-west connector roads.~~

This passive open space area should be landscaped with a grassed area and vegetation. Footpaths from the surrounding street networks should connect with any future pathway system through the reserve. Bicycle parking should be located within the reserve in close proximity to the collector road network. Small-lot residential housing is to be established adjacent to the passive open space and will have a frontage to the reserve allowing for natural surveillance and activation of this space.

10.4 Active Open Space

No active open space areas are proposed within the Precinct however existing facilities in the immediate surrounding area will provide adequate active open space.

10.5 Statutory Assessment Guidelines

Open space must be provided as per the Development Plan.

- Any variation to the provision of open space in the Development Plan must be agreed with Council at the subdivision stage.
- All parks will be transferred to Council and rezoned as Public Park and Recreation Zone (PPRZ).

- All parks must be provided to the satisfaction of the responsible authority before the transfer of land:
 - With completed bulk earthworks where required fit for intended purpose;
 - Cleared of all rubbish and environmental weeds, top soiled and grassed;
 - With a water tapping for recycled and potable water;
 - With landscaping including drought resistant trees and other planting;
 - With shared paths and footpaths as appropriate;
 - With maintenance access points; and
 - With installation of basic play equipment as appropriate.

11 Access & movement

The Development Plan has been designed with a clear and legible street network, creating logical connections between residential areas, open space and the local centre. The plan utilises existing roads and road reserves to build the basis for a logical east-west and north-south street grid pattern.

A new north-south collector road will be constructed from Crinigan Road at its existing intersection with Bridle Road. Therefore, the access point would form a fourleg roundabout at the Crinigan Road/ Bridle Road intersection. This road will provide the primary entry to the land for the majority of future residents.

An east-west collector road will be constructed from Alexanders Road, intersecting with the new north-south collector road central to the Precinct. This road is proposed to accommodate a future bus service and therefore should have a modified 23 meters road reserve as a minimum.

The Precinct is expected to generate approximately 8,790 vehicle trips per day and 830 peak hour trips. The majority of roads within the subdivision will be classified in accord with the Latrobe City Design Guidelines, Volume 3.1, as minor or major access streets where vehicle movements are not anticipated to exceed 500 and 2,000 vehicles per day respectively. Road cross-sections will be prepared consistent with those provided in the Guidelines.

11.1 Road Hierarchy

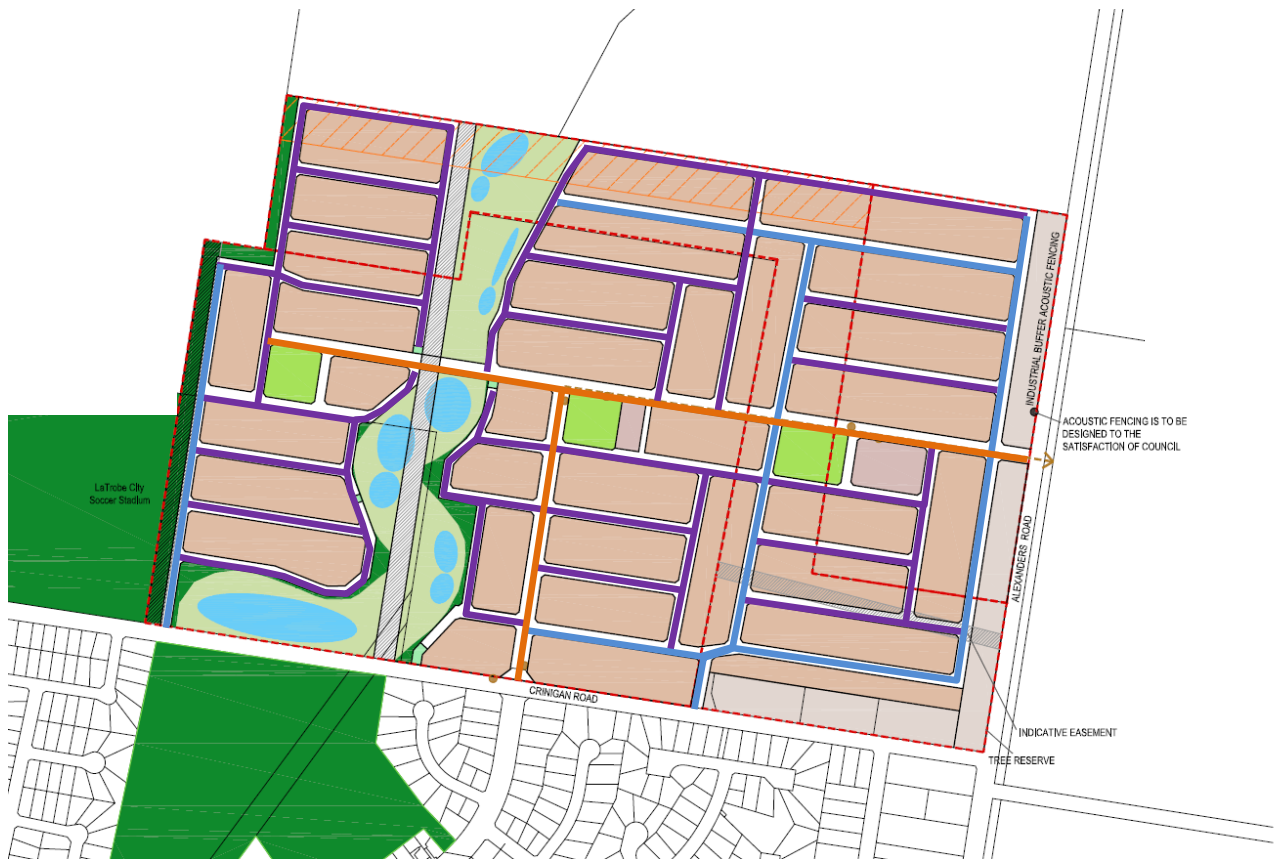
The Latrobe City Council Design Guidelines and Planning Scheme have been used to determine the road hierarchy for the Precinct. The following Table 4 is an extract from the Design Guidelines.

Table 4: Classification of urban roads

Classification	Vehicles per Day (up to)	No. of dwellings served
Access Lane	200	
Access Place	200	≤ 13*
Minor Access Street	500	< 50
Major Access Street	2,000	< 200
Collector Road	6,000	

From the traffic volumes expected to be generated by the Precinct, the road hierarchy for the development is established in Figure 9.

Figure 9: Road Hierarchy



Legend

- Collector Road
- Major Access Street
- Minor Access Street

11.2 Road Cross Sections

The Latrobe City Council Design Guidelines and Clause 56.06 of the Latrobe Planning Scheme set out the road cross section configuration for each road type.

Table 5 provides a summary of the cross section requirements for the road types proposed in the road hierarchy for the Precinct.

Table 5: Street widths, parking provisions and speed

Street Type	Minimum Road Reserve Width	Carriageway Width*	Parking Provision Within Street Reserve	Minimum Verge Width (includes footpath)	Footpath Provision
Access Lane	-	3m to 8m	None	None	None
Access Place	16m	3.5m 5m	1 hard standing verge space per 2 lots On carriageway	7m total width (for services provide 3.5m one side and 2.5m other)	1.5m wide - one side
Minor Access Street	16m	5m	On carriageway	4m each side	1.5m wide - both sides
Major Access Street	18m	5m or 7m	On carriageway. If parking is required on both sides adopt 7m	4.5m each side	1.5m wide - both sides
Collector Road	20m	6m 7m	Indented to leave 6m clear carriageway On carriageway	4.5m each side with adequate road reserve width for widening for future bus route, if required	2.5m wide shared path - both sides

11.3 Intersections

There are four proposed vehicular access points to the Precinct:

11.3.1 Crinigan Road

There are three Precinct access points proposed on Crinigan Road.

The Bridle Road access point on Crinigan Road is proposed at its existing intersection with Bridle Road, which is controlled by a roundabout. The review of the peak hour turn movements at the Crinigan Road/ Alexanders Road and Crinigan Road/ Maryvale Road intersections shows that the current left and right turn treatments are adequate for the expected traffic volumes.

The eastern Precinct access point on Crinigan Road is proposed toward the eastern boundary of the precinct. In this location a channelised right turn and auxiliary left turn treatment would be required on Crinigan Road at the Future Road intersection. Localised road widening may be required to facilitate this outcome along the northern side of the road reserve and within the Precinct.

The western Precinct access point on Crinigan Road is proposed along the western boundary of the precinct. In this location a channelised right turn and auxiliary left turn treatment would be required on Crinigan Road at the Future Road intersection. Localised road widening may be required to facilitate this outcome along the northern side of the road reserve and within the Precinct.

The proposed Precinct access points on Crinigan Road are suitable. The safe intersection sight distance (SISD) on the approaches to the access points complies with the Austroads Guidelines.

11.3.2 Alexanders Road

The Precinct access point on Alexanders Road is proposed via a new T-intersection located some 400m north of its intersection with Crinigan Road.

The assessment shows that an auxiliary left and channelised right turn treatment would be required on Alexanders Road at the Future Road intersection.

The proposed Precinct access point on Alexanders Road are suitable. The SISD on the approaches to the access points complies with the Austroads Guidelines.

11.4 Public Transport

A public bus service should be provided in the north-east of Morwell to connect the future residents and employees of the development area to the town centre and train station.

The bus route should use the future collector road that runs west from Alexanders Road to Fairway Drive, as indicated in the Latrobe Planning Scheme. Until such time the western connection to Fairway Drive is established, an alternative bus route can be established via the north-south collector road and connected with Crinigan Road. This will provide a service that caters for the future residents of the proposed development Precinct when fully constructed.

This proposal is in accordance with the Latrobe Structure Plan for Morwell, which identifies a possible bus service on Alexanders Road, Fairway Drive and the future connector road that runs west from Alexanders Road to Fairway Drive.

A 23.0 meter road reserve has been allocated along the north-west and east-west collector roads to ensure bus access can be facilitated. This accords with *Latrobe City Council Design Guidelines, 2010* and *Department of Transport Guidelines for Land Use and Development: Public Transport, 2008*.

Bus stops are identified in key locations through the Precinct along the north-south and east-west collector roads to ensure that all residential areas are within a 400 meter walkable distance to public transport facilities (when established).

11.5 Footpath Network

A footpath network is to be established throughout the Precinct which provides safe and convenient pedestrian access.

All minor access streets are to include a 1.5 meter pedestrian footpath network on both sides of the street and access places are to provide this pathway on one side. This will create a pedestrian pathway network

through the Precinct which provides convenient connections to open space reserves and parks, as well as a possible neighbourhood activity centre. Footpaths are to be located adjacent to the road pavement and along the frontage of residential houses to allow pedestrians to move safely through the Precinct.

A 2.5 meter shared pathway is to be located along the north-south collector and east-west collector road on both sides. This will provide for pedestrian and cycle convenient movement in most directions through the Precinct and is off-road to improve safety on a busy street. The shared pathway network should connect with the wider networks along Crinigan and Alexanders Road at intersections collector road intersection point.

The existing footpaths on the south side of Crinigan Road do not provide a continuous pedestrian link. Therefore, the following sections of footpath should be provided by:

- South side of Crinigan Road, Crinigan Road Reserve to Waterhole Creek; and
- South side of Crinigan Road, Greenvale Park to Alexanders Road.

A new footpath should also be provided on the west side of Alexanders Road adjacent to the Precinct to facilitate pedestrian access.

Pedestrian crossing facilities (i.e. kerb ramps) should be provided at the Precinct access points and Crinigan Road/ Alexanders Road intersection to connect pedestrians from the Precinct to the footpath network.

11.6 Bicycle Facilities

As indicated in section 10.3, a shared pathway will be established on the collector roads throughout the Precinct to allow for off-road cyclist access in north-south and east-west directions.

The Latrobe Bicycle Plan for Morwell (prepared by TraffixGroup dated December 2007) identifies a number of the local bicycle facilities in the vicinity of the Precinct.

In addition, a pedestrian/ cycle link should be provided along Waterhole Creek within the Precinct to connect residents with the open space and natural features along the creek.

11.7 Statutory Assessment Guidelines

- Development should be designed to address the street where possible.
- A permeable street network must be created.
- Development should discourage unintended through traffic in residential areas by ensuring that main through routes are more direct or more easily accessed than unintended through routes.

12 Infrastructure

The development is to be staged in a manner to minimise large upfront capital costs.

Discussions have been held with Gippsland Water to upgrade an existing sewer pump station for the first 100 lots. This would be achieved by constructing a new rising main to the Gippsland Water factory and upgrading the pumps to accommodate the additional loading.

A new ultimate sewer pump station is to be built in the future. The ultimate pump station will service a larger catchment and allow the decommissioning of 2 smaller pump stations. The ultimate pump station will be a shared asset, with contributions payable by developers and Gippsland Water.

Internal road networks & drainage are to be constructed by the developer. These will be constructed progressively over a number of stages as the subdivision is developed.

Intersection works will be required at Alexanders Rd and the future internal road. Approval of these works will be by VicRoads.

The construction of the wetlands and detention basin system will be staged throughout the development. Staging these works will provide water quality improvements and restrict the stormwater discharges as the subdivision is released, whilst still minimising capital funding.

13 Native Vegetation

A Net Gain Vegetation Assessment prepared by Water Technology, 2011 for the Precinct. This Assessment provides an assessment of the area intended for future development across the Precinct and has been prepared in accordance with *Native Vegetation Management – A Framework for Action* (the 'NVF').

Adopting the principles of the NVF it is established that minimal native vegetation has been found in the Precinct. Removal of the overstorey species and medium shrubs within the drainage line adjacent to the western boundary cannot be avoided and therefore will require a planning permit along with an offset calculation.

Prior to granting a planning permit for subdivision within the Precinct, a Management Plan for the Growling Grass Frog and Dwarf Galaxias species is to be prepared to the satisfaction of Latrobe City Council and the Department of Sustainability and Environment.

Attachment 1

Site Context Plan prepared by SMEC Urban
October, 2011

Attachment 2

Title Statements

Attachment 3

Site Analysis Plan prepared by SMEC Urban
October 2011

Attachment 4

Property Investigation Report prepared by SMEC Urban
June, 2010

Attachment 5

Cultural Heritage Assessment prepared by Heritage Insight Pty Ltd
July, 2011

Attachment 6

Net Gain Vegetation Assessment prepared by Water Technology

August, 2011

Attachment 7

Surface Water Management Strategy prepared by Water Technology
July, 2011 (updated November, 2012)

Attachment 8

Transport and Traffic Impact Assessment prepared by SMEC
September, 2011 (updated November, 2012)

Attachment 9

Opportunities and Constraints Plan prepared by SMEC Urban
October, 2011

Attachment 10

Crinigan Road Development Plan prepared by SMEC Urban
November, 2012

Amendment 1 - Plan Superseded
See Addendum 1: Revised Development Plan

Attachment 11

Crinigan Road Development Plan Landscape Master Plan prepared by SMEC Urban,
October 2011 (updated November, 2012)

Attachment 12

Country Fire Association Advice