

PSP 1055

McPherson Key Issues Paper

December 2014



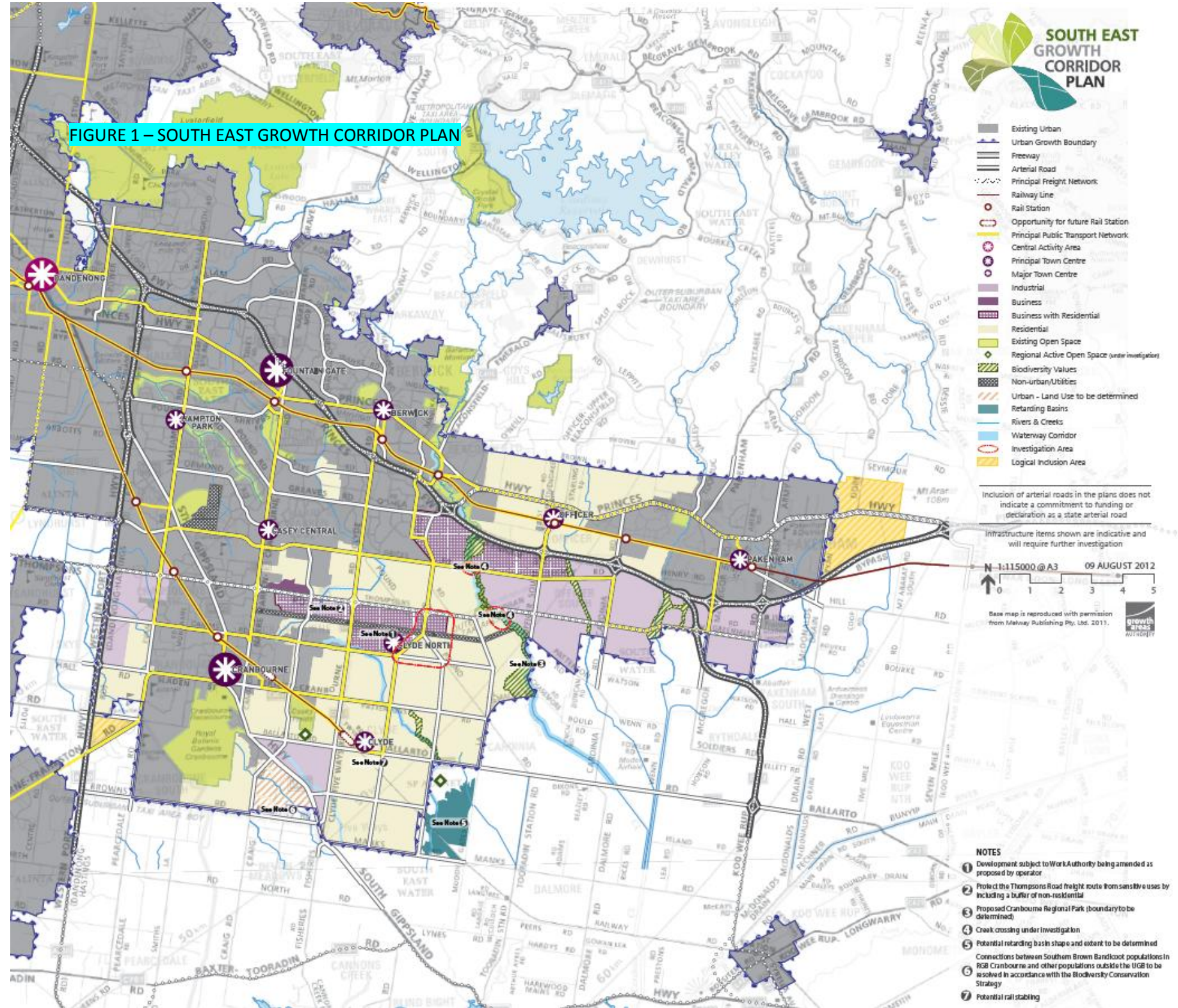
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FIGURE 1 – SOUTH EAST GROWTH CORRIDOR PLAN



1 Background

1.1 Purpose of this report

The objectives of this report are:

- To identify significant features within the McPherson PSP area (PSP1055) and present the key opportunities and constraints for development;
- To place the PSP within a wider urban context, including its relationship to the future Thompsons Road, Clyde Creek, Clyde North, and Officer Employment Area PSP areas;
- To ensure the PSP can adequately accommodate future growth and integrate with the adjoining urban fabric;
- To identify the key elements and points of difference to surrounding areas that will inform the precinct's individual sense of place, community focus and ultimate land use makeup.

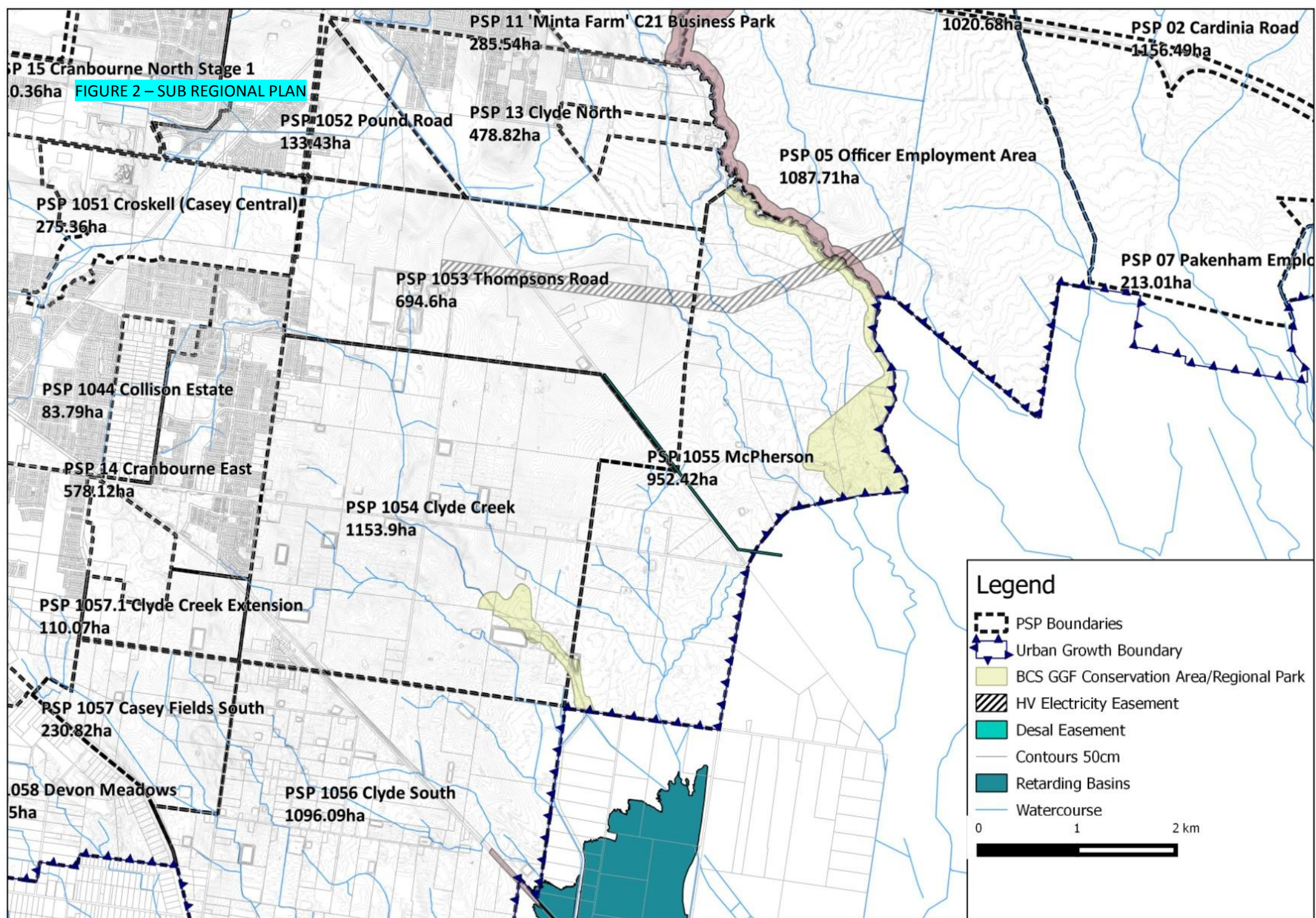
1.2 Presentation of this report

This report is essentially a 'desktop audit' which establishes the framework and informs the planning of the McPherson PSP. The discussion and analysis also considers the broader Casey growth corridor to provide context to the long term planning for Casey and the need to plan for in a coordinated and integrated manner.

Background documents informing this report include the Growth Corridor Plans (June 2012), refer to Figure 1, and the City of Casey's *C21 Strategy: A Vision for Our Future* (3 September 2002).

A brief outline of the sections of the report is provided below.

- Section 2 provides commentary on the expansion of the Urban Growth Zone in 2010 within the South-East Growth Corridor.
- Section 3 provides an overview of the site investigations that have been conducted to date and the implications for the PSP.
- Section 4 provides a demographic forecast in order to determine the role of the PSP in the context of the potential future population of the growth corridor.
- Section 5 contains an analysis of general infrastructure and service provision, the capacity and ability to provide for additional population created by the PSP, and the broader corridor context.
- Section 6 provides an overview of the vision and principles of the PSP.



2 Corridor Growth Area Analysis

2.1 Overview of the South East growth corridor

The Growth Corridor Plans (GCP) produced by the Growth Areas Authority (now Metropolitan Planning Authority) and released by the Minister for Planning in June 2012 seeks to accommodate close to half of Melbourne's future housing and employment land supply over the next 30 to 40 years. The GCP provides a framework to guide the planning of new communities in each corridor.

The South-East Growth Corridor is expected to accommodate a population of 230,000 people with the capacity to provide 86,000 jobs. This incorporates land within the municipalities of Casey and Cardinia.

A significant area of approximately 5,000 hectares makes up the Casey growth corridor. This area when completely developed has the potential to accommodate up to 40,000 lots and a further 136,000 people. This projected additional growth has informed the broader sub-regional network of service and infrastructure provision. While the PSP will need to provide its own local services, consideration needs to be given to the broader growth area to ensure no shortfall or loss of services will result across PSP boundaries (refer to Figure 2).

2.2 South East growth area considerations

In regard to the provision of services and infrastructure across the Casey growth corridor the following has been considered and is discussed in general terms below:

- Road and transport network;
- Infrastructure provision;
- Higher order retail services;
- Higher order community and recreational infrastructure; and
- Employment areas and job creation.

2.2.1 Transport

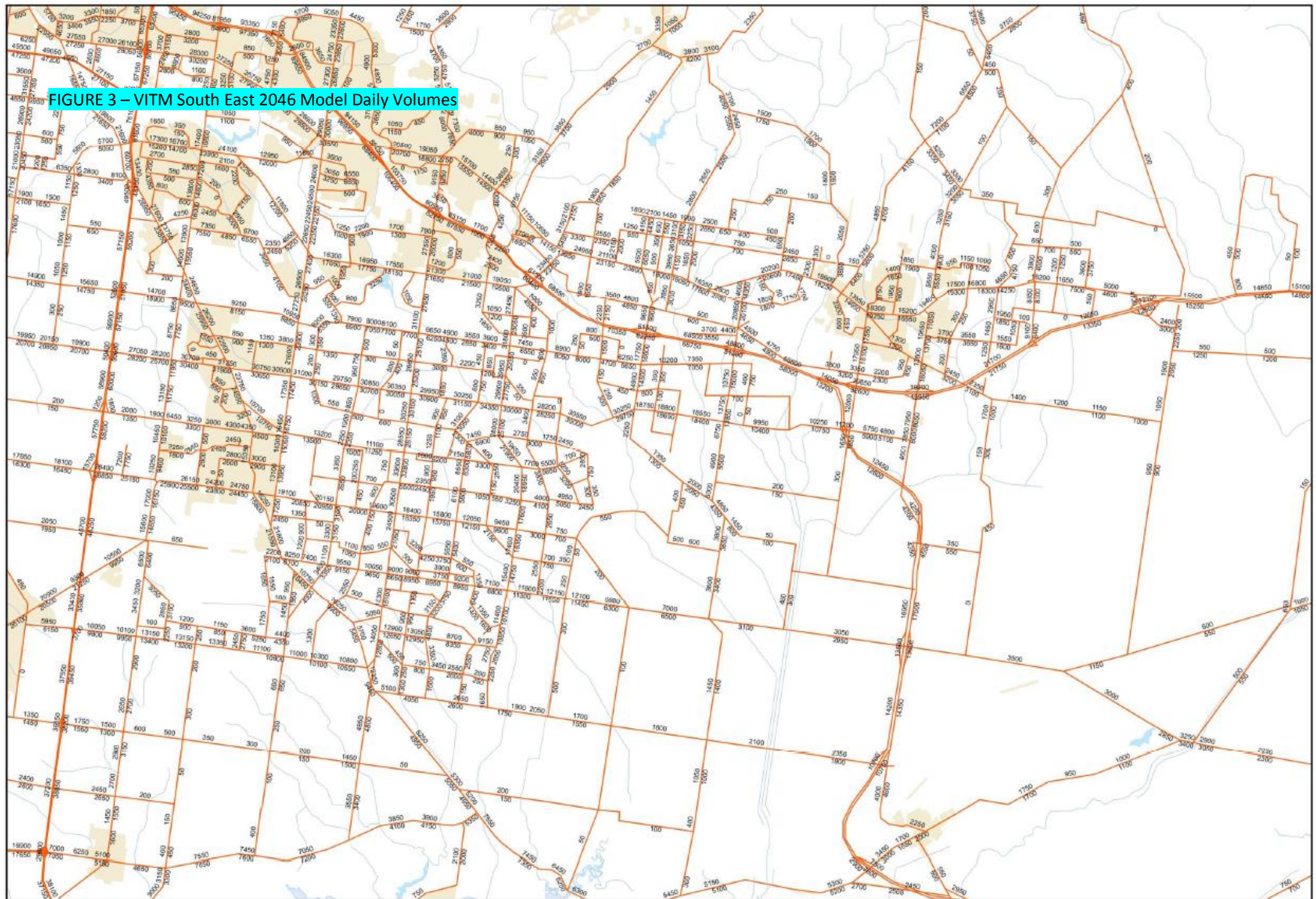
The arterial grid network shown in the GCP has formed the basis for the future road network across the corridor. Casey's existing urban structure is based on a two mile grid. The proposed road network for the growth corridor introduces a single mile grid providing additional capacity for trip choice and less congestion on the primary arterial roads. This single mile grid enables the integration of four lane arterials across the corridor, decreasing the need for six lane arterials, which form significant barriers to community integration and pedestrian walkability within the urban environment.

The extension of Thompsons Road (principal freight route) through the PSP and bridge connection over Cardinia Creek would form the primary east-west arterial within the precinct connecting to employment land within Cardinia Shire. Pattersons Road will extend from the adjacent Clyde Creek PSP and continue through the McPherson PSP connecting to McCormacks Road and Cardinia Shire beyond. The extension of Hardys Road and Ballarto Road will provide direct connections for the future community to the major town centres within the adjoining Thompsons Road and Clyde Creek PSPs.

Traffic Modelling of the arterial and connector road network was undertaken by AECOM earlier this year as part of the planning for the adjacent Thompsons Road and Clyde Creek PSPs, using the Victorian Integrated Transport Model (VITM) (refer to Figure 3 for overview). The vehicle movement numbers give us an indication of the traffic generation expected for these roads at interim and ultimate build out, years 2026 and 2046 respectively. Further traffic modelling is currently being undertaken with updated land use, population and employment figures for McPherson PSP. The modelling results will provide guidance on configuration of the proposed roads and whether upgrades may be required to Pattersons Road, Ballarto Road, and McCormacks Road and ultimately the bridge over Cardinia Creek.

Further refinement of the road configuration beyond this base grid will take place as part of the detailed planning of the precinct to accommodate natural topography, land form and land use.

FIGURE 3 – VITM South East 2046 Model Daily Volumes



2.2.2 Physical Infrastructure

An assessment of physical infrastructure, servicing and possible implications on future capacity within the PSP is still being undertaken.

2.2.3 Retail – Local Town Centres

The economic analysis produced as part of the GCP has provided the basis for catchment allocation for Local Town Centres and that has informed the planning for the PSP to date. Given the provision of two major town centres located in the adjacent Thompsons Road and Clyde Creek PSPs the McPherson PSP is expected only to provide two large Local Town Centres with a possible Convenience Centre to service the local residential catchment.

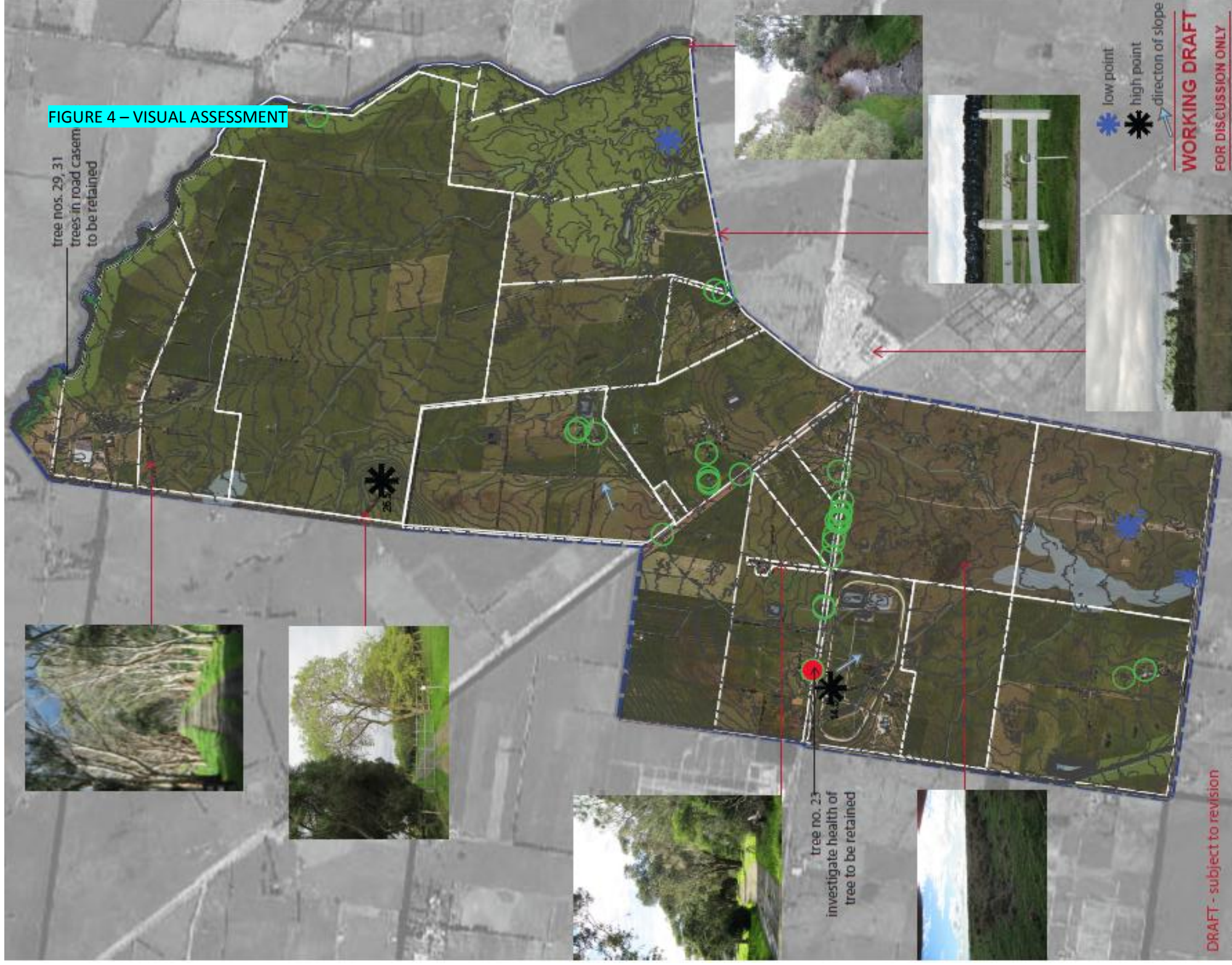
2.2.4 Community/Recreational infrastructure

Lower order or local services will be provided at Local Town Centres or neighbourhood level in the form of Primary Schools, Maternal and Child Health, Community/Neighbourhood hubs, and Local Sports Ovals. These will be planned on a neighbourhood basis as part of the PSP.

2.2.5 Employment

Thompsons Road provides the key connection across the South-East corridor for freight movement and industrial traffic. It will provide direct access to employment lands for the local population within the Casey corridor and ultimately to Cardinia's employment lands to the east. Broader connections to the future Port of Hastings will also be facilitated through the Western Port Freeway and Thompsons Road network. Employment lands within Thompsons Road, Croskell (formerly Casey Central Employment), and Minta Farm PSPs and the industrial lands shown in the GCP along South Gippsland Highway provide the four employment nodes across the Casey corridor. The actual land use resolution of these areas will be resolved through the detailed planning of each precinct.

FIGURE 4 – VISUAL ASSESSMENT



DRAFT - subject to revision

1:2500
0 200 400 600 800 1000
M

site analysis_plan 2
mcperson precinct structure plan

3 Characteristics

3.1 Site Features

The GCP identifies the McPherson PSP as a residential precinct. Occupying approximately 952 hectares the precinct is generally bounded by Cardinia Creek to the north and east, Muddy Gates Lane to the east, Ballarto Road to the south, Bells Road and Smiths Lane to the west (see Figure 4).

The PSP area is generally flat with a number of drainage lines traversing the precinct.

The prominent landform Cardinia Creek supports the key environmental, recreational and landscape qualities of the future urban area. A number of man-made wetlands are located near McCormacks Road which have been included in the Biodiversity Conservation Strategy (BCS) for Melbourne Growth Areas (DEPI 2013) Conservation Area 36.

Historically, the area has been used extensively for agricultural purposes and more recently horse agistment. As a result the precinct has been largely cleared of native vegetation, with some patches of scattered trees along Cardinia Creek and dispersed within the precinct.

- High voltage electricity transmission lines within a 150 metre wide easement traverse across the northern portion of the PSP.

3.1.1 Exotic Plantings

Due to the agricultural history of the land, the precinct has largely been cleared of vegetation. Only a handful of windrows exist within the PSP but generally appear to have been affected by the recent years of drought as signs of poor health and structural decline, are obvious. An aboricultural report has been commissioned to investigate a number of trees that may have retention value. The findings of this report are discussed below.

3.1.2 Watercourse

Cardinia Creek is the most prominent watercourse within the PSP and forms the northern and eastern boundaries of the PSP. The Creek banks are deeply incised and have shifted between 10-15 metres at certain points within the last 20 years. The Creek's riparian zone (100 metres either side of the creek line) provides good vegetation cover and key habitat for the EPBC-listed Growling Grass Frog.

Baillieu Creek is a lower order watercourse that runs through the northern portion of the precinct and connects into Cardinia Creek south of McCormacks Road and the PSP boundary.

The majority of the southern section of the precinct drains into the Muddy Gates Drain catchment. Clyde Creek also traverses the site in the south-western corner before joining Muddy Gates Drain and travelling south and ultimately draining into the RAMSAR wetlands and Western Port Bay.

3.1.3 Heritage

The McPherson PSP has two known listed Heritage properties. However an additional historic homestead has been cited as part of the site inspections related to the visual and landscape analysis. This dwellings and land holding requires further investigation to determine its level of heritage significance as part of the PSP process. Of the two existing Heritage properties within the precinct some refinement of one of these overlay boundaries is anticipated as a result of the PSP process.

An Aboriginal place (artefact scatter) has been recorded along a tributary and located on a low rise at 110 Smith's Lane south of the transmission lines. This is an additional place to existing Aboriginal place located along the Pound Road alignment adjacent the desalination pipe (CHMP 10620). These places along with the Cardinia Creek and Clyde Creek corridors have the potential to yield additional aboriginal artefacts.

3.1.4 Distant views

The foothills of the Dandenong Ranges are recognised by the City of Casey for their aesthetic green backdrop and are extensively visible across the Casey municipality. Despite the generally low-lying topography of the precinct the small hill formation mid-way along Smiths Lane provides an opportunity to take advantage of these views and views along Cardinia Creek.

3.1.5 Indigenous trees/remnant habitat

Areas of remnant indigenous trees are mostly restricted to land adjacent Cardinia Creek and some roadside vegetation along the precinct's perimeter roads particularly Pattersons Road.

An arboricultural assessment (by Treelogic) found several individual trees and tree groupings along the driveways of 20 Smiths Lane, 110 Smiths Lane, and 475 Pattersons Road demonstrate moderate to high landscape value and may be retained (see Figure 6), subject to resolution through the future urban structure.

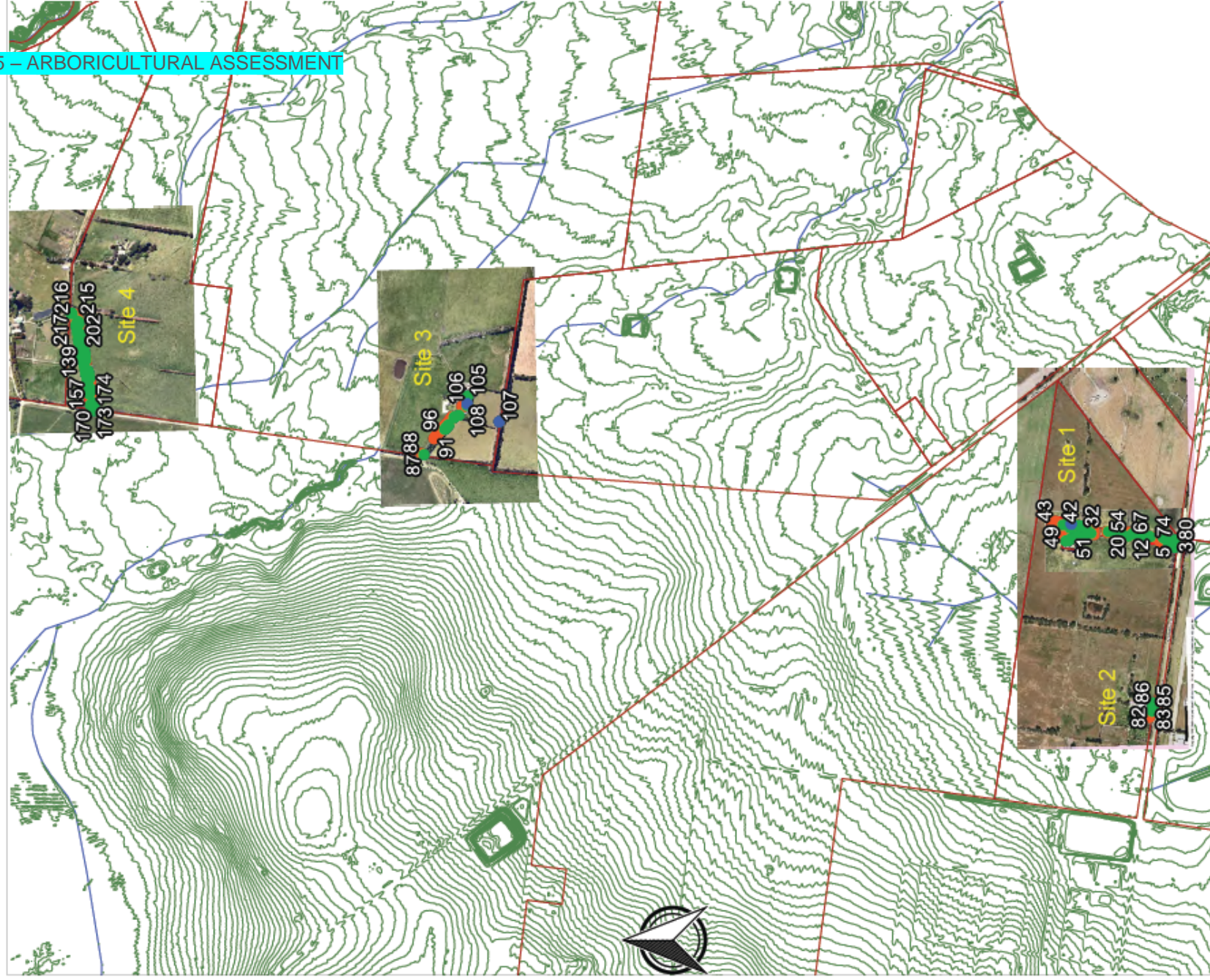
3.2 Implications for the PSP

As part of an integrated approach, the PSP should take advantage of its topographical and natural features. These include remnant vegetation along watercourses, fence lines and some dam locations. Recognition of Aboriginal heritage along both Clyde and Cardina Creeks will also be significant. Post-settlement heritage features provide historical context to the Precinct and the broader Casey corridor. Retention and enhancement of these features will preserve historical links and strengthen the sense of place and identity for the future community.

Linear and open space areas will be provided to enhance views and connections to destinations particularly Cardinia Creek, the future Regional Park and Employment lands to the north-west. The preservation of significant trees along waterways will enhance passive and active linkages across the precinct.

A number of site investigations have been prepared to date to inform this report. A summary of the findings of these investigations is provided on the following pages.

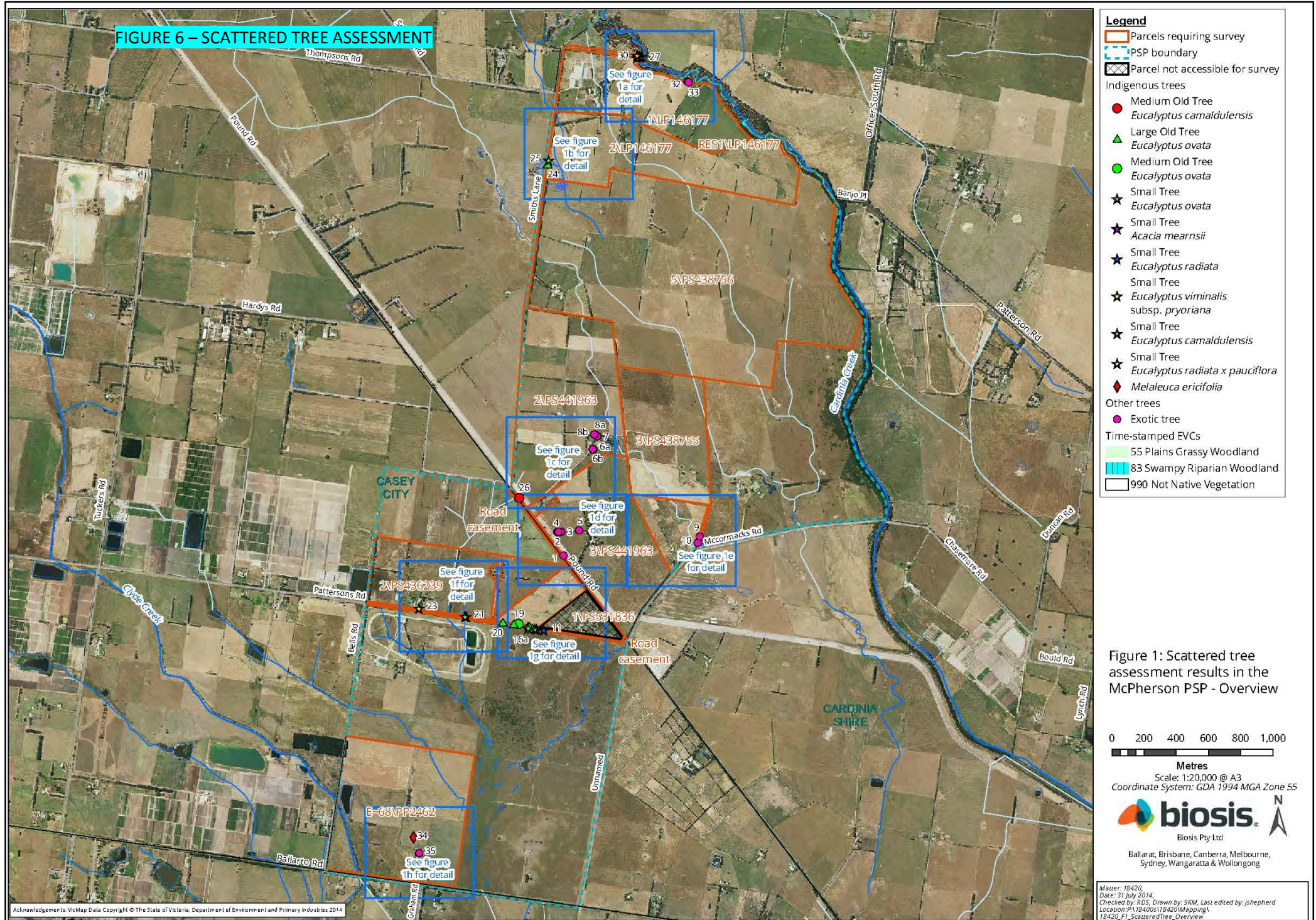
FIGURE 5 – ARBORICULTURAL ASSESSMENT



Legend

- 0 250 500 750 m
- Tree_High Arb. Value ● Tree_None Arb. Value
- Tree_Moderate Arb. Value TPZ
- Tree_Low Arb. Value SRZ
- PSP 1055 cadastre

FIGURE 6 – SCATTERED TREE ASSESSMENT



3.3 Biodiversity

boundaries of the Regional Park and GGF habitat within Conservation Area 36, and we are awaiting their advice on this matter.

3.3.1 Site Description

The Cardinia Creek riparian zone as well as an additional portion of land adjacent to McCormacks Road and Clyde Creek is affected by Conservation Area 36 and been identified as 'part' Growling Grass Frog habitat and 'part' Regional Park in the BCS.

A Scattered Tree Assessment was undertaken by Biosis earlier this year. The assessment did not assess scattered trees located within 100 metres of Cardinia Creek or on Crown Land, as these areas will not be subject to development as part of this PSP. This approach was supported by DEPI, who have since quality assured the assessment.

A Seasonal Herbaceous Wetland (SHW) and associated Maroon Leek-orchid, listed as Critically Endangered and Endangered respectively under the Commonwealth *EPBC Act 1999*, are present at the south of the precinct near Ballarto Road. DEPI has however inspected these sites and confirmed that there is an expectation that both will be removed as part of urban development approved under the BCS, and that no further approval is required.

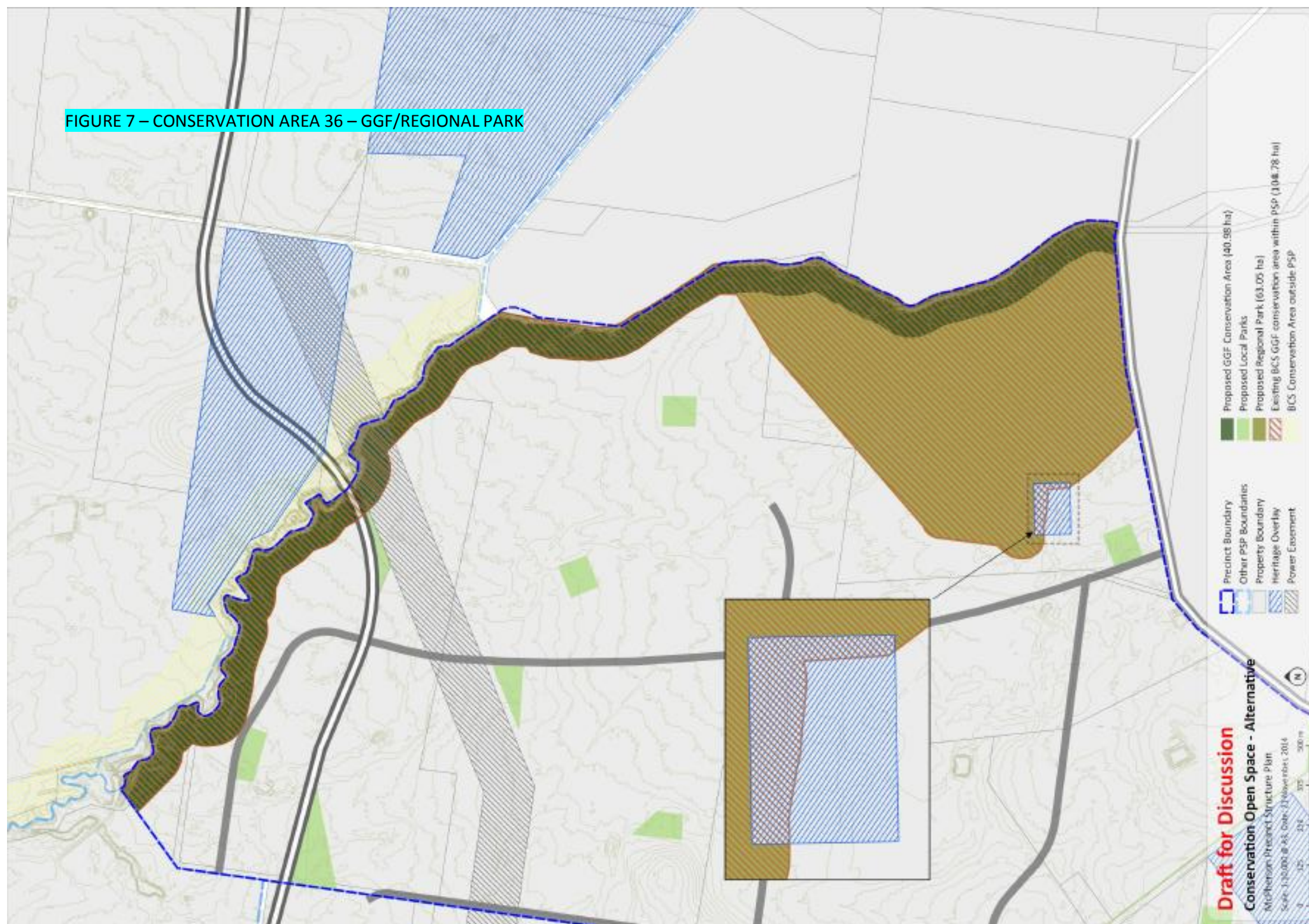
3.3.2 Implications for the PSP

The primary policy and legislative mechanism for biodiversity protection and management of matters of national environmental significance is through the BCS. The BCS as it applies to the South East Growth Corridor and the Sub-regional Species (SRS) Strategy for the Growling Grass Frog (GGF) were approved by the Commonwealth Government in September 2014.

The BCS requires that land designated for GGF conservation is transferred to DEPI at the time of subdivision. There is an expectation that land required for Regional Park will be purchased by DEPI and managed by Parks Victoria.

To date DEPI has been unable to provide the MPA with confirmation on the

FIGURE 7 – CONSERVATION AREA 36 – GGF/REGIONAL PARK



3.4 Cultural Heritage

3.4.1 Site Description

With respect to Aboriginal archaeological potential within the PSP, a Standard Cultural Heritage Management Plan (by AHMS) has found various areas of sensitivity (see Figure 8) as follows:

- Stone artefacts deposits are likely to be found at varying densities across most landforms within the PSP.
- Higher density artefact scatters and sub-surface deposits may be found on crest landforms
- Higher density artefact scatters and sub-surface deposits are likely to be found adjacent to creeks or wetlands. Artefact density/frequency is likely to increase with higher stream order (creeks) and permanence (for wetlands).
- Higher density of artefact scatters and sub-surface deposits in close proximity to stone sources (either outcrops or river pebble sources).

Two Heritage Overlay sites are located within the activity area and are protected by the City of Casey Planning Scheme (see Figure 9). As previously discussed, only one of these sites is expected to be reviewed in regard to their level of Heritage Significance and their associated Heritage Overlay boundary, these items are:

- HO16: House known as St Germain's at 95 McCormacks Road, Clyde North;
- HO130: House known as Southside Lodge 'formerly Kurrajong' at 465 Patterson Road, Clyde.

In addition to these items the original homestead located at the Oakwood Riding School at 10 Smith's Lane Clyde North appears to have heritage significance as an original homestead from the late 19th century. Investigations to determine its level of significance will form part of the PSP process.

3.4.2 Implications for the PSP

If land within 200 metres of Clyde Creek is to be impacted by future ground disturbance, these areas must be further investigated to clarify the risk to aboriginal heritage values. The *Aboriginal Heritage Act 2006* requires that a Cultural Heritage Management Plan (CHMP) is produced if culturally sensitive land is to be subject to a high impact activity. The Standard Assessment prepared to date provides a basis from which a Complex CHMP can be completed and guides where sensitivity levels are likely to result in significant artefacts.

The Heritage Overlay sites will also need to be sensitively managed in accordance with the policies and controls of the City of Casey Planning Scheme. The PSP will need to resolve the level of Heritage Significance applicable to the homestead at the Oakwood Riding School.

FIGURE 8 – CULTURAL HERITAGE SENSITIVITY

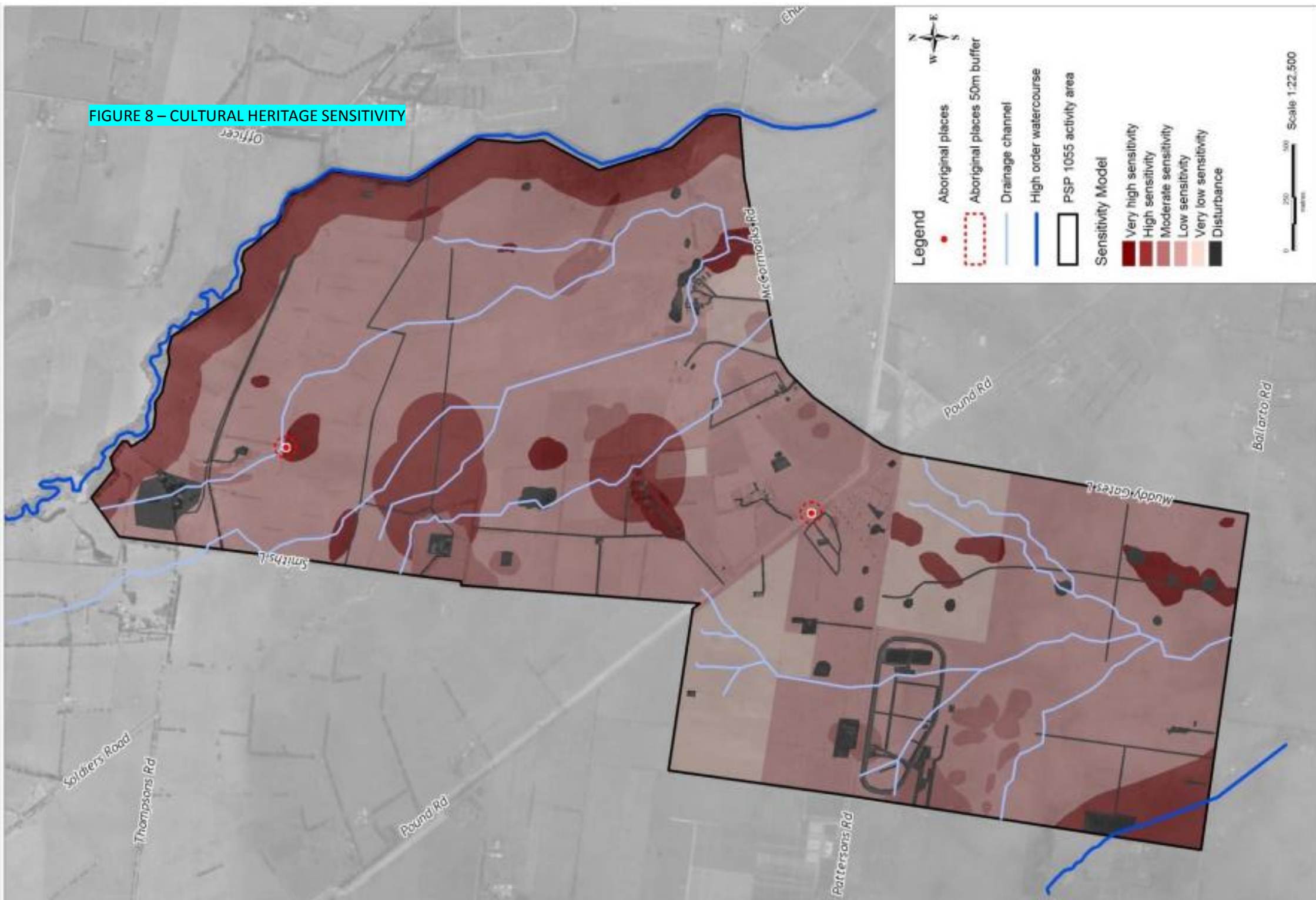
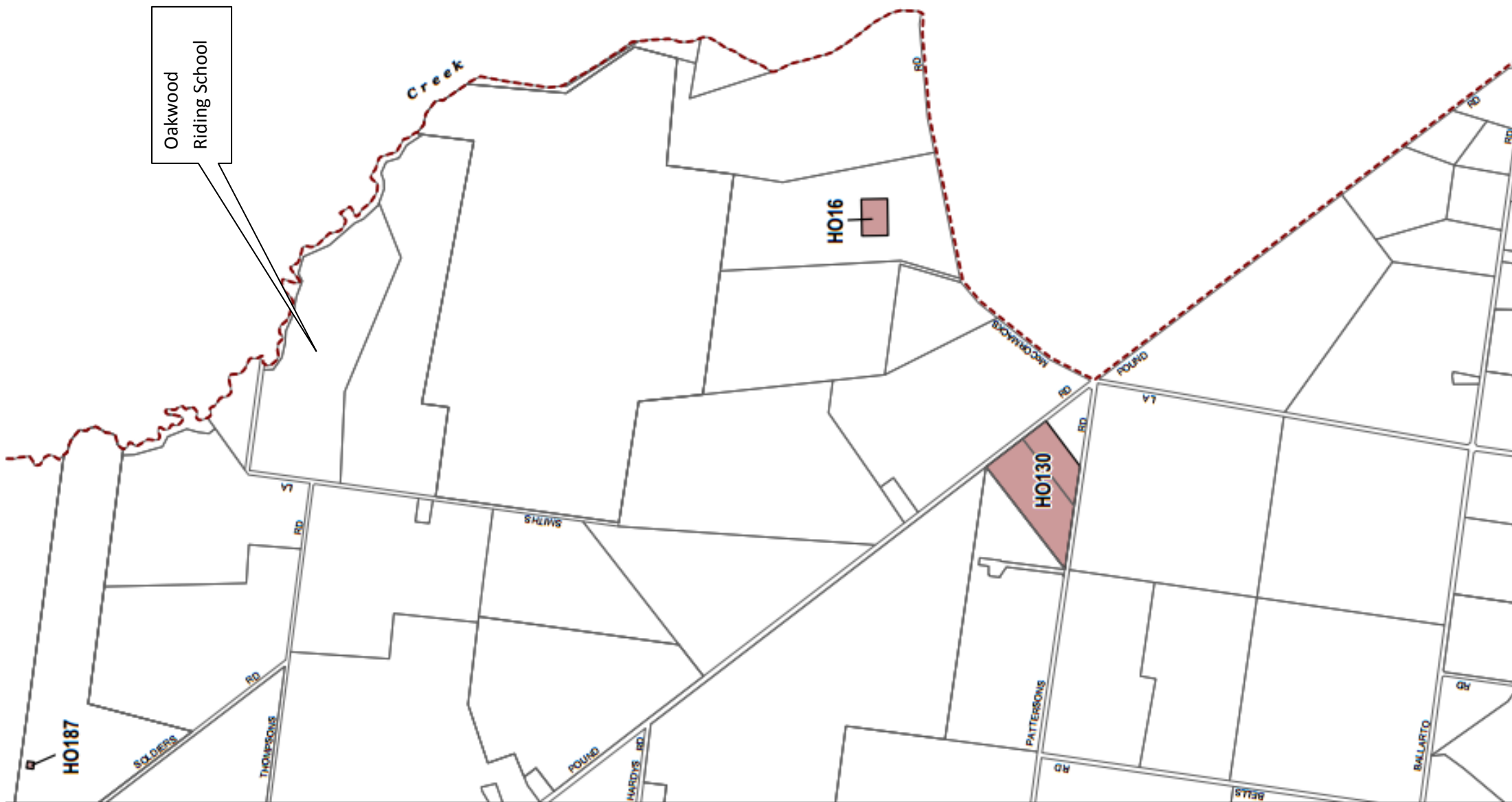


FIGURE 9 – HERITAGE OVERLAYS



1.1 Environmental, Hydrological and Geotechnical features

1.1.1 Site Description

An environmental, hydrological and geotechnical assessment (Phase 1) was undertaken for the precinct by Golders Associates (2014). The main conclusions from the Assessment are as follows:

Contamination

Imported fill material was found adjacent to McCormacks Road, with the type of material and local topography suggesting that the test pit area has been backfilled (see Figure 10). This may be a potential source of contamination but is unlikely to require an Environmental Audit.

Cardinia Creek Alignment

A comparison of aerial images from 1975 and 2014 suggest that the alignment of Cardinia Creek in the north of the precinct has shifted between 10-15 metres. This movement is likely to have occurred prior to the construction of the 'drop structure' directly north of the precinct in Clyde North and the establishment of the vegetated conservation area around the Creek. However, the alluvial soils adjacent to the Creek may still be prone to erosion during flood events or high flow periods.

Hydrological

The groundwater table is relatively high across the precinct, generally within 5 metres from ground surface. This may increase construction costs and the risk of soil consolidation during excavation and construction.

Geotechnical

A variable layer of fill and topsoil is likely to be present across the majority of the precinct. Deeper construction footings or placement of engineered fill may therefore be required to improve bearing capacity with building class M to H1 anticipated across the precinct. Due to localised variability across the precinct, further site-specific geotechnical investigations will be required. Due to the shallow water table, basement construction is likely to be prohibitively expensive.

There is low probability of acid sulphate soils in the precinct, however there is a high probability area located 100 metres to the south of Ballarto Road where the Melbourne Water retarding basin is anticipated to be delivered (see Figure 11).

1.1.2 Implications for the PSP

A site-specific investigation (Phase 2) with limited intrusive soil sampling will need to be undertaken as part of development proposals within the precinct to detect any point sources of contamination, including resolving any Underground Storage Tanks (USTs) found on individual sites.

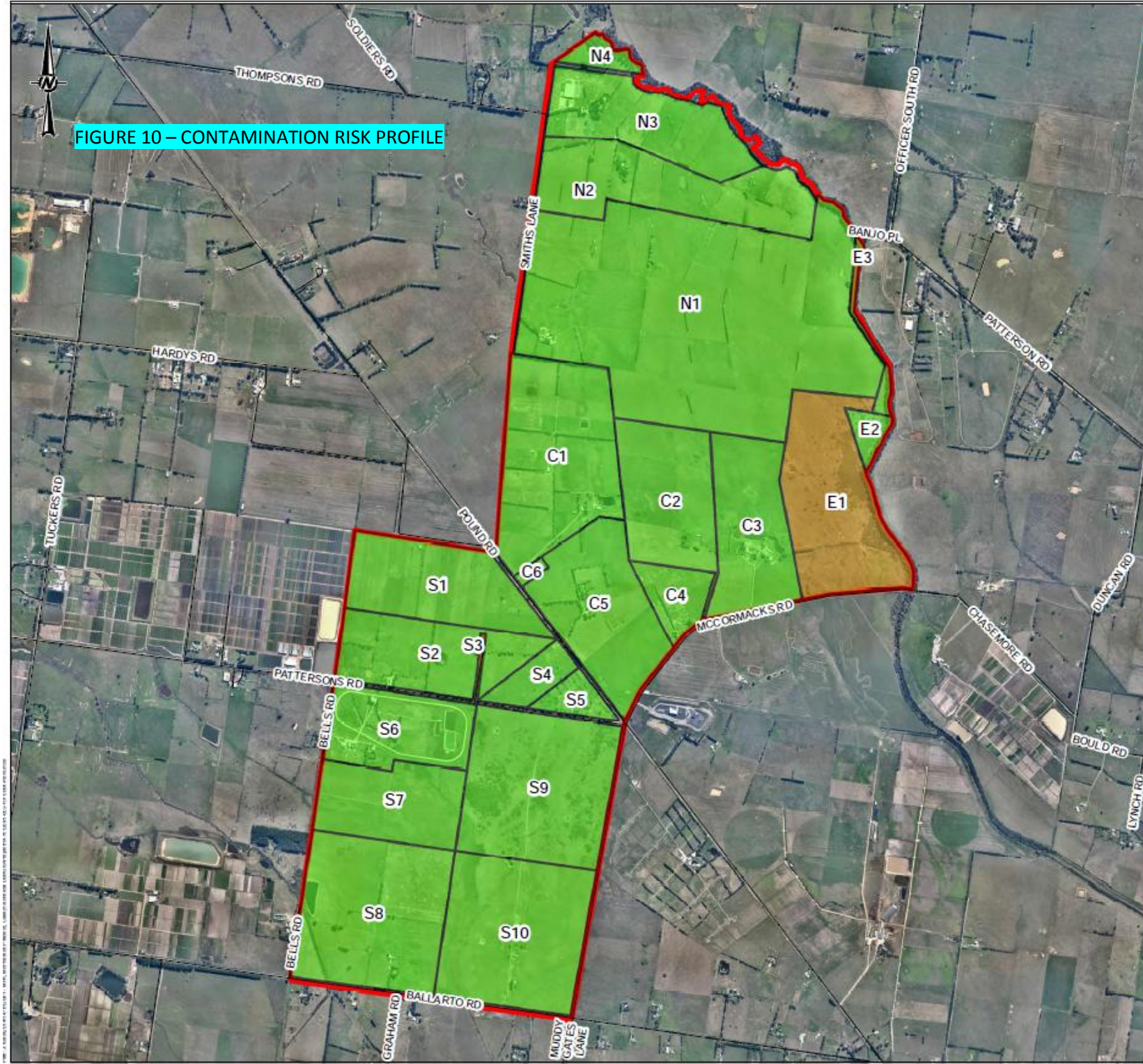


FIGURE 10 – CONTAMINATION RISK PROFILE

LEGEND

Site Boundary

Potential Land Contamination Ranking

Risk

- Low
- Medium
- High

E1 Parcel ID

NOTES

1. Aerial Photograph sourced from Nearmap. Date of capture 14/05/2014.
2. Road data sourced from VicMap.
3. Geological sourced from Cranbourne(1967).
4. The Potential Contamination Ranking is based on the assessment methodology (including subjective and objective factors). This ranking should be considered in conjunction with the assessment methodology.

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1. Aerial Photography Copyright NearMap Pty Ltd.
2. Road data © The State of Victoria, Department of Environment and Primary Industries 2013.

REFERENCE SCALE: 1:21,000 (at A3)

PROJECTION: GDA 1994 MGA Zone 55

CLIENT

METROPOLITAN PLANNING AUTHORITY


PROJECT

MCPHERSON PRECINCT STRUCTURE PLAN (PSP 1055)

TITLE

POTENTIAL LAND CONTAMINATION RANKINGS

CONSULTANT	YYYY-MM-DD	2014-06-12
PREPARED	JPH	
DESIGN	N/A	
REVIEW	JAGM	
APPROVED	CJW	



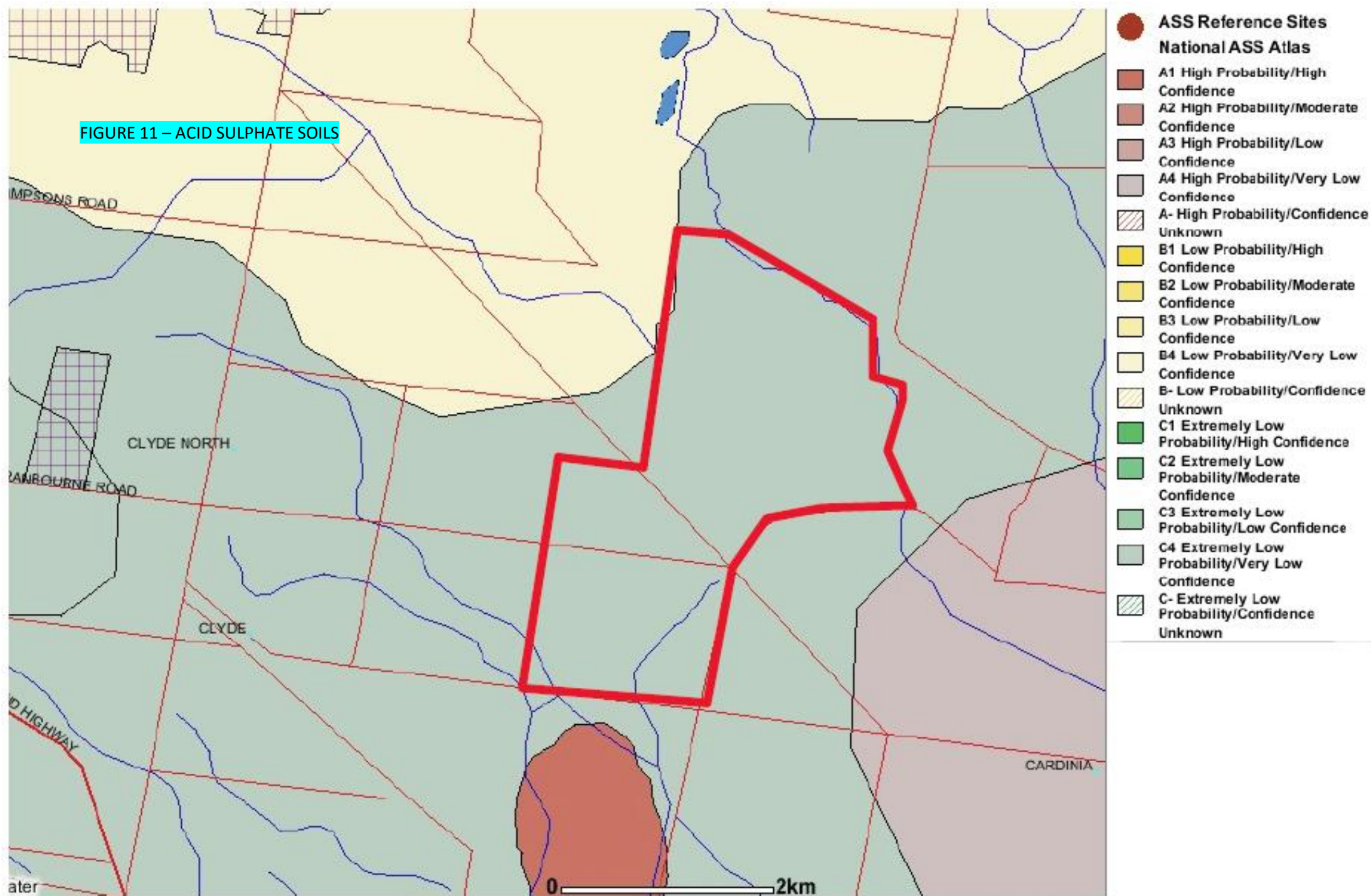
Golder Associates

PROJECT No. 147612091

CONTROL 002-R

Rev. 0

FIGURE 4



2 Demographic Forecast

2.1 Objectives

The demographic forecast is an attempt to determine the position of the PSP in the context of the existing and proposed future population. It is important to understand what is committed within each PSP but also to understand the implications of the proposed future growth within the entire growth corridor. This is a means of not only forecasting infrastructure needs but in planning the location of services where optimum service delivery can be achieved for the new communities both within and outside the currently being planned PSPs. The demographic forecast will focus on overall population numbers with a basic analysis of the existing and future community profiles.

The term 'future community' is used to describe the wider growth corridor population, of which the PSP is a part. The PSP will be serviced by individual provisions as well as external provision for higher order services, for example secondary schools will overlap precinct boundaries due to their broader catchment area.

For the purposes of providing a wider context, the forecast incorporates the established suburbs of Casey and the adjoining establishing suburbs of Cranbourne and Berwick South, including the 'logical inclusion' areas as adopted which will impact on the PSPs (see Figure 13).

2.2 Component Area Analysis

2.2.1 The Existing Casey Community

The existing Casey Community consists of approximately 96,419 dwellings with an ultimate population of 278,816 based on existing development in the established suburbs of Casey.

In addition to this population gazetted PSP within the Casey Municipality will add an additional 49,637 dwellings and another 138,984 people at total build out.

2.2.2 Commenced PSP

The PSPs that have been commenced within the existing Casey urban area are anticipated to provide 16,563 dwellings with a population of 46,376. This includes the PSP known as Croskell, McPherson, Minta Farm and Casey Central Town Centre.

2.2.3 McPherson PSP

The McPherson PSP has a gross land area of 952 ha with an anticipated dwelling number of 11,000 and a residential population of 30,800. (These numbers are based on densities of 16 dwellings/ha of net developable area, with 2.8 persons/household.)

2.2.4 Future Community

The remaining land within the Casey growth corridor, which are yet to be planned, include the 'logical inclusion' land provides for an additional 14,175 dwellings and a population of 39,689. This brings the entire total Casey population to 507,786 people at ultimate build out between 2040 and 2045.

2.3 The Place of McPherson in the future community

McPherson PSP will form part of a new community at a rate of 11% of Casey's existing community. This community will amount to 37% of the future community anticipated in the Casey growth corridor (see Figure 12).

These forecasts provide the basis for infrastructure and service planning for the entire growth corridor that will ensure that the existing and proposed community can be serviced adequately. In doing so, the proposed expansion of this community is considered, pending delivery through individual precincts, and not compromised.

FIGURE 12 – POPULATION PROJECTION TABLE

CASEY

CASEY

2.4 Demographic Characteristics of the PSP

Using the City of Casey's community profile for the Berwick South and Cranbourne North areas to provide some understanding of the likely future demographic of the PSP, key characteristics of this community, as compared to both the City of Casey and the Melbourne SD, are as follows:

- A comparatively high percentage of children, an average percentage of adults and a lower percentage of mature adults and senior citizens (65-84 years).
- A comparatively high percentage of people that are purchasing their own home, and a low percentage of households that own their home.
- A slightly higher percentage of people employed full time, and a slightly lower percentage of people unemployed.
- Main occupation categories of intermediate clerical, sales and service workers, tradespersons and related workers and professionals.
- Over half of total families were couple families with children.
- These characteristics are largely typical of an establishing outer growth area community.

2.5 Implications / Issues to be resolved

Based on population projections outlined above, the following presents an analysis of the broad infrastructure and services required for the McPherson Precinct. For the purposes of this section of the report, the future populations and servicing needs of the PSP has been considered within the broader context of the overall growth corridor to ensure no shortfalls occur as part of this long term planning.

3 Infrastructure & Service Analysis

3.1 Primary Schools

3.1.1 Standard Provision

The Department of Education and Early Childhood Development (DEECD) has established base standards for the provision of Primary Schools. While some flexibility exists to adapt provision to meet demand, key criteria are:-

- One Primary School P-6 or P-9 for a population of 8,000 to 9,000 (approximately 3,000 dwellings).
- P-6 site area of 3.5 hectares.

3.1.2 Existing Situation

The eastern boundary to the PSP, Bell's Road, and the extension to Thompsons Road across the northern section of the PSP form identifiable boundaries (as arterial roads) to the provision of primary schools. This is clearly defined by the location of primary schools in the adjoining Clyde North PSP (gazetted 2011) and Thompsons Road/Clyde Creek PSP's (gazetted Nov 2014) to cater for future populations of approximately 18,000, 18,200 and 38,400 respectively resulting in all primary schools operating ultimately at capacity.

The future alignment of Thompsons Road in association with the Transmission lines form a primary school barrier, as a 400m distance is required to any primary school from transmission easements. This has resulted in no provision of primary schools in the McPherson PSP north of the transmission lines and all primary schools being located at least 400m south of the transmission easement.

3.1.3 4.1.3 Response for McPherson

Based on the population for the McPherson PSP, approximately 30,800, a catchment for three primary schools, is anticipated. The only variation to this number may result from the extent of high density residential that may be achieved within and adjoining the two LTC within the precinct.

3.1.4 4.1.4 Implications / Issues to be resolved

DEECD are yet to confirm the final number of primary schools required for this PSP. While their catchment numbers are as discussed above (see Figure 13) the issues associated with total overall population within the Casey Growth Corridor and the limited private school provision only Catholic School proposed north of Ballarto Road anticipated for the corridor, may require more consideration.

3.2 Secondary Schools

3.2.1 Standard Provision

DEECD base standards for the provision of Secondary Schools, generally equate to one every three primary schools. Therefore the key criteria are:

- One State Secondary School for a population of 30,000 (approximately 10,000 dwellings).
- P-12 site area of 8.4 hectares.

3.2.2 Existing Situation

There is one proposed State Secondary School to the north in Clyde North and two in Clyde Creek to the east of McPherson PSP. The Secondary School north of Thompsons Road is expected to accommodate the catchment from one primary school south of Thompsons Road.

3.2.3 Response for McPherson

Based on the population for the PSP, approximately 30,800, the catchment demand for one Secondary School is anticipated. Given the expected population is consistent with the standard provision for a Secondary School this will result in an adequate provision across the Casey Growth Corridor.

FIGURE 13 – SCHOOL PROVISION

McPherson Facilities Provision Check									
DRAFT - For Discussion Purposes - Subject to Revision									
				School Provision Ratio and Quantities Summary					
PSP	Estimated Households (Dwellings)	Persons Per Household	Population	Govt P6 School Per dwellings	Govt P7-12 School per dwellings	Govt Spec Needs school per dwellings	Catholic P6 School Per dwellings	Catholic P7-12 School Per dwellings	Other Non Govt Schools per population
Explanatory notes				3.5ha	8.4ha	2.6ha	2.6ha	7.0ha	8.0ha
Ratio				3,000	9,000	60,000	9,500	34,000	40,000
Source of Ratio				DEECD	DEECD	DEECD	CEOM Catholic School Provision Model 2013 (Note: figure varies depending on the region)	CEOM Catholic School Provision Model 2013 (Note: figure varies depending on the region)	ASR 2008 Growth Area Comm Inf Rept
Totals Residential	10,959	2.80	30,685						
	Calculated Provision Rates			3.7	1.2	0.2	1.2	0.3	0.8
SUMMARY	Corrected Provision Rates								
	Calculated Hectares			12.8	10.2	0.4	3.0	2.3	6.1
	Proposed Overall Draft Plan Provisions			3	1	0	1	0	1
	Proposed Hectares			10.5	8.4	1.1	2.6	0.0	8.0

3.2.4 Implications / Issues to be resolved

DEECD are yet to confirm the final number of Secondary Schools required for the PSP, however the edge nature of the precinct is likely to ensure the provision of a large Secondary School particularly given the limited private school provision anticipated for the corridor.

3.3 Independent Schools

3.3.1 Standard Provision

There are no standard provisions covering independent schools. However the Catholic Education Office base their provision on Catholic Parish participation and demographics. These standards equate to:

- One Catholic Independent School for a population of 64,400 (approximately 23,000 dwellings)
- P-6 site area of 3. 5 hectares.

Similarly the Catholic Education Office provision for secondary schools equate to:

- One Catholic Independent Secondary School for a population of 102,200 (approximately 36,500 dwellings)
- P-12 site area of 8 hectares.

3.3.2 Existing Situation

Hillcrest Christian College is located to the north of the precinct in the Clyde North PSP and has recently expanded its Master Plan to include a second campus on Soldiers Road. As an established private school with a regional catchment additional independent schools are unlikely to locate within the McPherson PSP.

The Lighthouse Christian College is also located within the Casey Growth Corridor on South Gippsland Highway and is the only other known non-catholic independent school within the growth corridor.

The Clyde Creek PSP has included a potential non-government school within the precinct which has been requested by the Catholic Education Office as a potential future school site.

3.3.3 Response for McPherson

It is not envisaged that there will be need for further independent schools within the PSP however interest in the provision of independent schools can change at any time.

3.4 Retail

3.4.1 Assumptions on demand

Based on catchment analysis generated from 0.63 sqm of retail floor space/person (GCP - Activity Centre and Employment Planning, Nov 2011 Essential Economics) LTC are proposed across the entire corridor (of between 5,000-8,000sqm of retail floor space). This equates to the provision of a network of town centres within growth areas at a rate of one LTC for each neighbourhood population of between 8,000 - 10,000 residents (walkable catchment to 80% or more of residential population).

3.4.2 Existing situation

The Avenue Village Shopping Centre is the closest established shopping centre at the corner of Thompsons Road and William Thwaites Boulevard, in Cranbourne North. However two Major Town Centres and four Local Town Centres are planned in the three adjoining PSP of Clyde North, Thompsons Road and Clyde Creek. These will consist of the Hardy's Road Town Centre and the Clyde Town Centre with floor areas of approximately 60,000 and 50,000 sqm respectively, and four proposed local town centres varying from 5,000 sqm up to 8,000 sqm of retail floor space.

3.4.3 Response for McPherson

Two LTC's are proposed in the precinct one north of Pattersons Road and one south of Pattersons Road. Given the edge nature of the precinct and the position of Cardinia Creek the catchment for the northern LTC is confined to the immediate and local community as an inboard centre. The southern LTC will be positioned on Patterson Road so will be supported by a wider catchment and passing trade. Both these centres are expected to support retail floor space of 8,000 – 10,000 sqm. There may also be potential for a Local Convenience Centre (LCC) at the very southern boundary of the precinct along Ballarto Road subject to discussion with Council.

3.4.4 Implications / Issues to be resolved

Planning of these proposed town centres need refinement through discussion with Council.

FIGURE 14 – OPEN SPACE

Open Space						
PSP	Net Developable Area (NDA)	Population	Active OS 6% (Ha) (Except for dedicated employment where 0%)	Passive OS 4% (Ha) (Except for dedicated employment where 2% max prevails)	Total Active & Passive Ha	Indoor Active Recreation @5Ha/60,000 people (Ha)
McPherson PSP 55 demand	684.93	30,685	41.1	27.4	68.5	2.6
Croskell PSP 51 demand	146.10	6,545	8.8	5.8	14.6	0.5
Clyde South PSP 56 demand	765.13	34,278	45.9	30.6	76.5	2.9
Casey Fields South (E) PSP 57b demand	188.64	0	0.0	3.8	3.8	0.0
Minta Farm PSP 11 demand	93.75	4,200	5.6	3.8	9.4	0.4
Devon Meadows	148.35	6,646	8.9	5.9	14.8	0.6
TOTALS RESIDENTIAL	2,026.90	82,354	110.3	77.3	187.6	6.9

3.5 Open Space

3.5.1 Standard of provision

The provision of sports facilities is to be planned by a ratio of facilities to population as identified in “Planning for Community Infrastructure in Growth Areas” (April 2008) and consultation with Council departments on current needs analysis. The overall percentage of open space provision for all PSP is 10% which is generally applied as 6% Sports fields and 4% Local parks. However this percentage breakdown can vary depending on Council’s position on delivery of these facilities. Indicative ratios to population for major sports facilities are set out below with actual hectare provision shown in Figure 14.

Facility Ratio to population

- Level 1 Sport Fields 1:6,000
- Tennis facilities (4-6 Courts) 1:5,000 – 8,000
- Indoor recreation facilities (2 Court facilities) 1:20,000
- Aquatic Leisure Facilities 1:40,000
- Higher Order Sports Reserves 1:40,000
- Higher Order Tennis Facilities (10+Courts) 1:40,000
- Lawn Bowls Facilities 1:50,000
- Indoor Recreation (6 Court Facilities) 1:40,000

Sports fields begin at approximately 8.4ha per 3,000 households to accommodate multiple facilities and generally including football/cricket/netball and associated car parking etc. They are also generally co-located with schools and local Council community services where possible.

The City of Casey Leisure and Development Plan provides details of Council’s provision requirements and provides modifications to the above ratios of provision. The above ratios will be adjusted as relevant following further discussions with Council departments.

3.5.2 Existing situation

The provision of sports fields in the adjoining precincts of Clyde North, Thompsons Road and Clyde Creek are consistent with the ratios outlined above and detailed in Figure 14. While these ratios provide for standard sports and park facilities additional specific recreational activities that are established within this locality also need to be incorporated into the PSP, namely equestrian trails which are particular to this location of Casey and Clyde.

A Regional Park (originally Cranbourne Regional Park) has been shown in the GCP as relating to land within the McPherson precinct. This land has been shown as a node along the Cardinia Creek corridor adjacent to McCormack Road at the eastern boundary of the PSP. Consultation with DEPI and Parks Vic has been underway as part of the PSP process and confirmation on the size of the park is currently pending and will be resolved through the PSP process.

3.5.3 Response for McPherson

The PSP requires the provision of 67.5ha of open space. This equates to 43.3ha of sport fields and 23.5ha of local parks. This suggests that between five and six sports fields within the PSP are required. Local parks in the form of 1ha parcels will be spread across the precinct, in consultation with Council, to meet the required walkable catchment provision of 90% of the population.

An Indoor Recreation Centre is also anticipated for the precinct.

3.5.4 Implications / Issues to be resolved

Detailed planning of these proposed facilities need refinement through discussion with Council. The consideration of a second regional open space facility (in addition to Casey Fields) external to the growth corridor (as shown in the GCP) is also an option to be further discussed with Council departments.

FIGURE 15 – COMMUNITY FACILITIES

McPherson Facilities Provision Check											
DRAFT - For Discussion Purposes - Subject to Revision											
				Level 1 Comm Facilities	Level 2 Comm Facilities	Level 3 Comm Facilities		Totals	Kindergarten Facility Check	Kindergarten Facility Check	MCH Facility Check
PSP	Estimated Households (Dwellings)	Persons Per Household	Population	Multi purpose comm Ctr per population	Neighbourhood House per population	Specialist Community Centre per population	Branch Library & Community Centre per dwellings		Kindergarten rooms (4yo) per dwellings "Long term population"	Kindergarten rooms (4yo) per dwellings "Peak population"	Dual nurse facility per population
Explanatory notes				0.8ha - will include 2 or 3 kindergarten rooms / MCH + community rooms. May also include business accelerator, adult education, youth space, comm arts, play group & occasional child care. (0.4ha where no kindergarten)	1.2ha and replaces level 1 centre. Includes all elements of Level 1 centre + additional classroom space and specialist facilities. (0.8ha where no kindergarten)	1.5ha and replaces level 2 community centre. Includes all elements of a level 1 centre + possibly higher order youth , community arts, adult day care / planned activity group and / or delivered meals facility	1.5ha and replaces a L3 community centre. includes all elements of a level 3 centre + a branch library. Kindergarten facility could be incorporated but not required. (1.1ha where no kindergarten)		(Note: need to discuss capacity for 3yr old groups.)	(Note: need to discuss capacity for 3yr old groups.)	
Ratio				8,000	20,000	40,000	21,000		2,100	1,500	16,000
Source of Ratio				ASR 2008 Growth Area Comm Inf Rept + 2012 ASR Wyndham	ASR 2008 Growth Area Comm Inf Rept + 2012 ASR Wyndham	ASR 2008 Growth Area Comm Inf Rept + 2012 ASR Wyndham	ASR 2008 Growth Area Comm Inf Rept + 2012 ASR Wyndham		ASR 2008 Growth Area Comm Inf Rept + 2012 ASR Wyndham	ASR 2008 Growth Area Comm Inf Rept + 2012 ASR Wyndham	ASR 2008 Growth Area Comm Inf Rept + 2012 ASR Wyndham
Totals Residential	10,959	2.80	30,685								
	Calculated Provision Rates			3.8	1.5	0.8	0.5	6.7	5.2	7.3	1.9
SUMMARY	Corrected Provision Rates			2.3	0.8	0.8	0.5	4.4			
	Calculated Hectares			1.8	0.9	1.2	0.8	4.7			
	Proposed Overall Draft Plan Provisions			2	1	1	0	4			
	Proposed Hectares			1.6	1.2	1.5	0.0	4.3			

3.6 Council Community Services

3.6.1 Standard Provision

Community facilities have been considered across the entire 4 levels of provision given the ultimate population within the expanded Casey Growth Corridor. This has resulted in a combination of level 1, 2 and 3 services across the corridor with the expectation that level 4 facilities of a Municipal Library and Indoor Centre will be provided within the Clyde Town Centre in the Clyde Creek PSP.

3.6.2 Existing situation

Given the provision of community facilities in the adjoining precincts of Clyde North, Thompsons Road and Clyde Creek the provision of facilities within the McPherson PSP are expected to be similar in regard to the provision of Family and Children Centres, a Neighbourhood House and an Indoor Recreation centre.

3.6.3 Response for McPherson

The PSP requires the provision of two Level 1 - Family and Children's Centres (0.8ha) that each include kindergarten rooms and MCH, in addition to a Level 2 – Neighbourhood House /Family and Childcare Centre (1.2ha) to be located within one of the LTC and a level 3 Specialist Community Centre (1.5ha) to be located into the other LTC.. An indoor recreation centre (1ha) is also required and may be provided as a joint facility with the Secondary School. This equates to approximately 5.3ha of community facilities' required within the PSP.

3.6.4 Implications / Issues to be resolved

Detail planning of these proposed facilities need refinement through discussion with Council. The consideration of a joint facility that may incorporate the Specialist Community Centre with the Indoor Recreation Centre are options to be further discussed with Council departments.

3.7 Transport Network

3.7.1 Proposed Provision

Public transport consists of the extension of the PPTN across the Casey corridor and into Cardinia Shire. The PPTN is planned to travel north from Ballarto Road (future Clyde Station) along Tuckers Road to Thompsons Road and then onto Officer Station in Cardinia. This is a medium term solution until Grices Road crosses Cardinia Creek.

The road network is based on the mile grid as shown in the GCP with arterials at 1.6km separations. Connector roads then intersect at 800m centres from the mile grid, with the exception of where the grid may alter from its uniform delivery, as is the case adjacent Cardinia Creek.

3.7.2 Existing Situation

The existing road network is minimal given the rural nature of the land and domination by the diagonal Pound Road at a central location to the precinct. Pound Road has been planned out of the future road network through new road grids, in adjoining precincts, and this will continue to be the case in this PSP.

Thompsons Road is the primary east-west arterial road, ultimately 6 lanes, and has been designated as a priority freight route across the south-east of Melbourne. Soldiers/Bells Road will be the major north-south arterial, ultimately 6 lanes, at the precincts western boundary. Soldiers Road will connect to the Princes Freeway, once extended north through Minta Farm (C21), at the Beaconsfield interchange. This connection will complete the Casey grid and provide an additional north-south arterial through the centre of the Casey growth corridor.

3.7.3 Response for McPherson

The extension of Soldiers Road into Bells Road along the precincts western boundary will form the only north - south arterial within the precinct. Smith's Lane will form a major north – south connector through the precinct

connecting to Thompsons Road in the north and Pattersons Road and ultimately Ballarto Road in the south.

The extension of Thompsons Road across Cardinia Creek will form the primary east-west arterial through the precinct. Hardy's Road will form the second east-west arterial 4 lanes, into the precinct extending from Linsall Boulevard in the west and terminating within the precinct at a north-south connector road connecting McCormacks Road to Thompsons Road.

Patterson Road will form the next major east-west arterial, 6 lanes, subsequent to Thompsons Road through the precinct extending from Berwick-Cranbourne Road to McCormacks Road. Ballarto Road, 4 lanes, will form the southern arterial to the precinct in its current alignment.

3.7.4 Implications / Issues to be resolved

Traffic modelling of proposed road network and associated land uses has commenced as part of the PSP transport network design, prior to establishing appropriate road cross sections and intersection treatments.

3.8 Drainage and Stormwater

3.8.1 Existing Situation

Five water catchment systems drain across the Casey Growth Corridor, one drains to Port Phillip Bay with the other four draining to Western Port Bay. All the creeks and streams/drains that run through the precinct drain south to Western Port Bay. Cardinia Creek at the precincts eastern boundary is the major watercourse in the region, while Clyde Creek forms the next major creek system within the growth corridor. Muddy Gates Drain exists in the southern section of the PSP while tributaries to Cardinia Creek, including Baillieu Creek, occupy the northern section of the precinct.

3.8.2 Response for McPherson

Consultants have been commissioned to undertake the drainage work for the PSP. This work is currently underway and must reflect the environmental constraints associated with the catchments that are draining to Western Port Bay. The drainage work previously done for the Thompsons Road and Clyde Creek PSP's by Neil Craigie (Thompsons Road PSP 53 and Clyde Creek PSP 54 – Stormwater Management Strategy, Dec 2013) addressed a significance amount of the drainage issues related to this precinct due to the biodiversity significance of the RAMSAR wetlands south of the Casey corridor and the future provision of a large retarding basin external to the UGB by Melbourne Water.

Stormwater management for Muddy Gates Drain had been resolved with Melbourne Water to the point that a Draft Drainage Services Scheme (DSS) exists. However the commencement of this PSP and the resolution of the Melbourne Water Retarding Basin south of Ballarto Road has created an opportunity to revisit the required drainage for Muddy Gates Drain and consequently the consultants are reviewing the proposed assets.

Stormwater management for tributaries into Cardinia Creek will be confined to water treatment assets (wetland etc) as flow into Cardinia Creek must be maintained. These assets may be able to be accommodated in part within the transmission easement and along the 100m riparian corridor adjoining Cardinia Creek.

Once the consultant's report is complete detailed consideration of the drainage system can be discussed with Council.

3.9 Servicing

3.9.1 Sewerage

South East Water have advised that sewerage services east of approximately 1km of Berwick-Cranbourne Road will require new facility installations to be planned and delivered through the Clyde Creek and Thompsons Road PSP's. These facilities are still being planned and will include a combination of gravity mains, pump stations and rising mains.

3.9.2 Water supply

Similarly South East Water have advised that water services will need to be extended from the western development front along Berwick-Cranbourne Road through the Thompsons Road and Clyde Creek precincts. Current developments will assist in facilitating these services however ultimate planning of the mains network is still underway.

3.9.3 Recycled water supply

A "third pipe" system has been mandated for residential components of the Casey Growth Corridor. It is anticipated that third pipe will be provided across the McPherson precinct.

3.9.4 Electricity

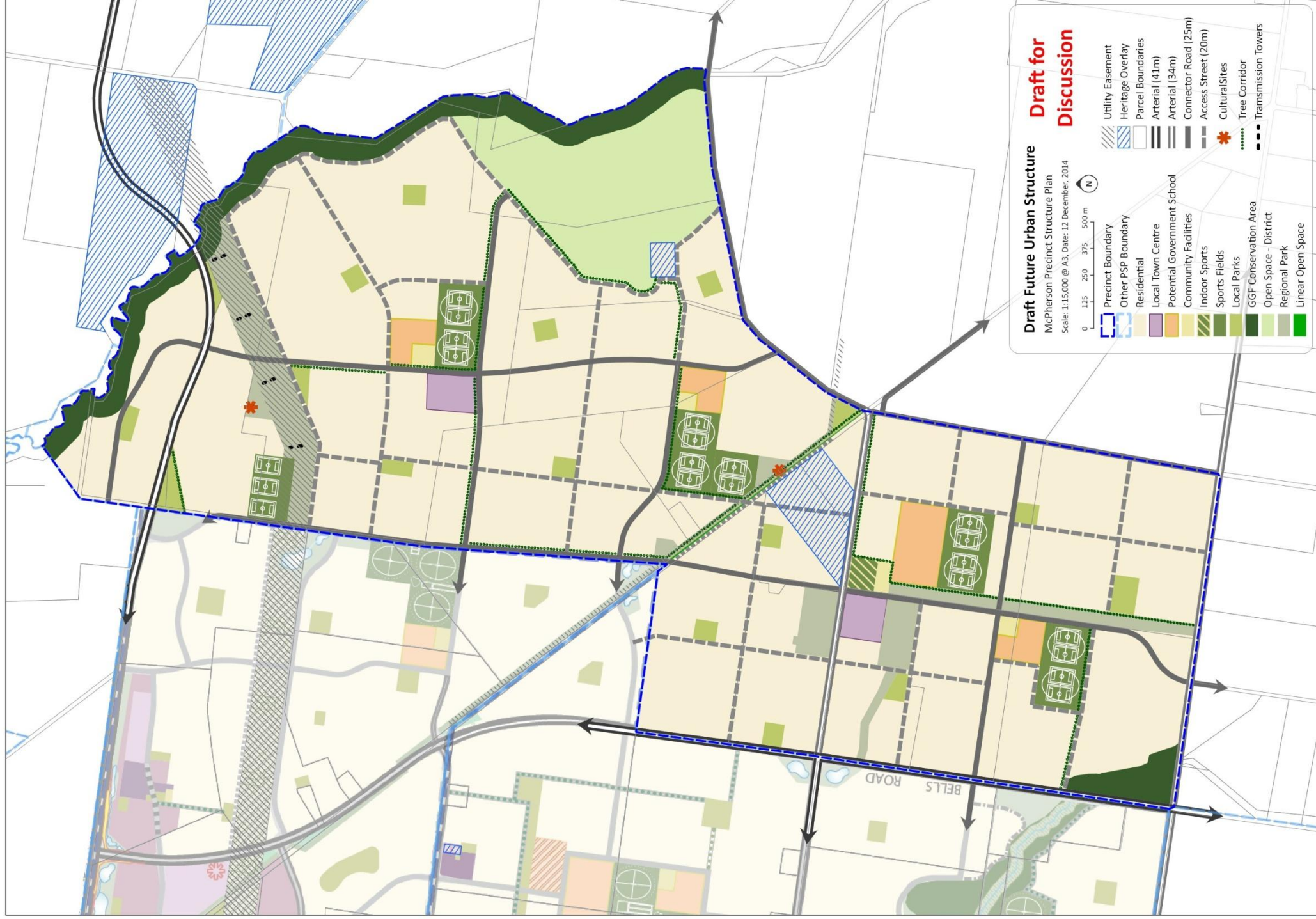
Electricity supply networks within the study area are controlled by SP Ausnet who have advised that recent upgrade works have been undertaken to meet local demands. The Clyde North Zone Substation (south of Thompsons Road north of the transmission easement) is complete and feeders from this facility are servicing the current development front. SP Ausnet anticipates the need for future upgrades to cater for development within the expanded growth corridor.

3.9.5 Telstra- Telecommunications

Consultants report has been commissioned -awaiting findings.

3.9.6 Gas supply

Consultants report has been commissioned -awaiting findings.



Draft for Discussion

development fronts and multiple connections to surrounding established and developing neighbourhoods.

4 Principles and Direction

4.1 Principles for the Plan

- 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 and services.

4.1.1 Create diverse and vibrant new communities

Building on the GCP, the plans seeks to, where possible and consistent with other principles, retain existing features where they contribute positively to the new community and create diversity. Remnant vegetation, scattered tree specimens and heritage places are all existing features that create a sense of place and origin for the future community. Key attributes able to be incorporated are likely to include some exotic plantings, natural watercourses, historic homesteads/buildings and topographical features such as hilltops. All of these components together provide a sense of geographical place and point of difference to each precinct which help builds community identity. The planning response to these attributes should also consider views, view corridors, road alignments and public open spaces that highlight and connect these characteristics with the future community through place.

The provision of a population of an adequate size and density to facilitate the delivery of local and ultimately regional infrastructure and services is a key element in creating vibrant communities. By optimising the overall lot yield the provision of services come earlier and evolve with the growing community. The provision of a well integrated road and trail networks also assist in facilitating vibrant communities by providing alternative

4.1.2 Integrate transport and land use planning

The local street network needs to be as permeable as possible to allow ease of movement across the entire growth corridor. Where physical barriers impede movement the ability to move across such barriers, particularly by pedestrians or cyclists should be provided. This particularly applies to sports fields, waterways, public transport hubs and schools.

Through the provision of linear open space corridors, particularly along watercourses of Clyde Creek and Cardinia Creek and along Pound Road (desalination pipe easement), the road network is supplemented by additional pedestrian and cycling links which will extend across the whole corridor. Efficient road networks, complimented by trail networks, will provide for convenient bus routes within walking distance to 90% of new dwellings.

4.1.3 Plan for local employment generation

The provision of employment lands within the Casey Growth Corridor provides local employment opportunities at the doorstep of each new precinct. These lands are of an adequate size and location to stimulate industrial and commercial development by building on freight and transport opportunities. The Thompsons Road employment lands will be developed as part of an integrated approach through the corridor which will accelerate the delivery of local employment. The connections to regional transport infrastructure, road networks and service provision are key requirements to creating local employment generation that is connected and substantial in its diversity.

4.1.4 Create precincts with high amenity and character

The precinct is located within a high quality rural environment that is characterised by creek corridors and rural plains. These attributes along with those physical features discussed previously will inform the future character of the precinct. The waterway features that dominate the landscape provide strong opportunities for high amenity residential communities through natural view/sight lines. The location of a Regional Park within the precinct will also create an enhanced natural environment for the future benefit of the regional community.

4.1.5 Protect biodiversity, waterways and heritage values

The significant biodiversity within the corridor particularly associated with the waterways are a key consideration for the precinct as they have direct connections to Growling Grass Frog habitat. The PSP will need to address the interface issues through its integrated waterway design and drainage systems. Cultural heritage values are also directly related to the natural waterways within each precinct as they form strong connections to the Aboriginal communities life on the land, their food supply and travel patterns. These connections will form the basis of open space and linear corridors through the precincts, enabling protection, enhancement, interpretation, education and recreational opportunities.

4.1.6 Create integrated open space networks

As discussed in a number of the above principles the physical attributes of the precinct and the natural waterway connections in association with proposed transport networks provide great opportunities for an extensive integrated open space network. These networks do predominate naturally to north-west south-east directions due to topography and consequently north-east to south-west connections will need to be created across the corridor to ensure an adequate open space network is achieved.

4.1.7 Plan for environmental sustainability

In order to deliver a more sustainable community, new urban areas need to reach a critical mass of population to sustain a range of higher order local services (particularly retail, secondary schools, local employment and transport). This reduces the need for residents to travel to such services and as a result, enhances the neighbourhood identity and cohesiveness of these new communities. The more 'compact' the new community is, the greater the population, the higher the service provision and ultimately the achievement of a more sustainable urban environment.

4.1.8 Ensure the efficient and orderly provision of infrastructure and services

The current precincts will generate new services to be provided within the PSP which will be utilised by the wider community i.e. Thompsons Road connection across Cardinia Creek, and in association with the adjoining precincts of Clyde Creek and Thompsons Road will create a critical mass sufficient to warrant the creation of higher order services.

The development of each PSP not only stimulates the demand for physical infrastructure, it funds the infrastructure provision. Key infrastructure works, including mains, drainage, road network etc will be required to enable the precinct to develop. These come at essentially a fixed cost regardless of urban density. Under a typical scenario 75% - 80% of a precinct is normally developable. Increased costs are incurred when the overall lot yield is reduced and, conversely, the per lot cost of providing physical infrastructure decreased when lot yield increased.

The PSP will seek to present a plan which achieves optimum efficiency in infrastructure provision and costs by optimising lot yield within the precinct and reducing the number of constraints or undevelopable areas which create 'voids' that infrastructure must cross but from which no contribution to funding is achieved.

4.2 Creating Vision

The McPherson PSP will create a community that builds from the adjoining, Thompsons Road business investment with high quality residential development. Characterised by a strong open space and trail network through its connections to Cardinia Creek and the future Regional Park, a distinct cohesive urban amenity will be created.