



# NORTHERN AND WESTERN GEELONG GROWTH AREAS PROJECT

## CONTEXT REPORT

April 2016

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## 1. INTRODUCTION

### 1.1 Why do we need a Context Report?

The identification of two Further Investigation Areas (FIAs) in the G21 Regional Growth Plan (RGP) has set the context for future urban growth in the municipality. Given the extent of the two FIAs, there is potential for significant population growth to occur in the future and consequently the need to plan for essential infrastructure and services for the new communities.

A significant amount of high-level strategic work has been undertaken for the two FIAs. This information is contained in the G21 RGP, Implementation Plan and associated Background Report. This work has also been informed by numerous technical studies undertaken by major stakeholders in these areas.

Given the extent of work that has been undertaken to date and the need to present the agreed planning framework for these areas in a clear and transparent manner, the Context Report provides an opportunity to consolidate this information into a succinct format to assist all parties involved in the strategic planning process and act as a 'go-to' document.

### 1.2 Purpose of the Context Report

The Context Report will act as a key reference document for Council, Council officers, major stakeholders and key authorities and agencies. It is not intended that this report will supersede State and Local planning policy and guidance or the G21 RGP and associated Implementation Plan and background reports.

It sets out a position of Council, with the support of major landholders, for the integrated planning of these areas. It will guide the early stages of the preparation of the Integrated Infrastructure Delivery Plan (IIDP) and future Framework Plans.

The Context Report has regard to the proposed planning process detailed in the Council report of 8 December 2015. The planning process will enable major landholders and key authorities/agencies to work concurrently with Council, consistent with previous models used at Armstrong Creek, in the preparation of an Integrated Infrastructure Delivery Plan and Framework Plans.

To date, the City has referred to this project as the Managing Future Growth Project and used the term Further Investigations Areas to describe the subject areas. The Project is termed the Northern and Western Geelong Growth Areas Project (NWGGA), which includes the preparation of an Integrated Infrastructure Delivery Plan and a Framework Plan for each Growth Area. The subject areas are referred to as Growth Areas replacing the term Further Investigation Areas.

### 1.3 What is the role of the Framework Plan and Integrated Infrastructure Delivery Plan?

There is a need to plan in an orderly and coordinated manner to ensure that the Northern and Western Geelong Growth Areas are delivered in a sustainable manner. This means that a planning framework is required to guide the future growth of these areas adopting a top-down approach.

The Framework Plans will set the overall strategic land use and development vision for each Growth Area. The IIDP will ensure that future infrastructure needs are identified and support the intention of enabling well planned, liveable communities. The IIDP will input significantly to the preparation of the Framework Plan given its consideration of technical infrastructure requirements. The main objective for both plans is to establish a framework to deliver sustainable liveable communities.

It is essential that Council is aware of the likely infrastructure requirements to support future communities in the two Growth Areas. With this, there is a need for Council to understand the potential funding requirements and associated implications to deliver community infrastructure to these areas without compromising service levels to existing Geelong residents and therefore their wellbeing.

The IIDP will enable Council to fully appreciate the overall infrastructure requirements and in particular, the community infrastructure requirements, and associated funding needed for delivery and maintenance.

To inform the preparation of the Framework Plans and IIDP, additional technical work is required which will investigate land capability, identify key planning objectives in relation to environmental, social and economic outcomes, detail infrastructure needs and set out a process for delivery. Further work requirements are discussed later in this report.

## **1.4 What are the RGP Further Investigation Areas?**

This section provides a snapshot of the two FIAs identified in the RGP in terms of land area, landscape character and land use planning. For more detailed information about the two RGP FIAs, reference should be made to the G21 RGP Implementation Plan and Implementation Background Report.

The term FIA is used in this section of the Context Report as it refers to the work of the G21 RGP.

The G21 RGP Implementation Plan Background Report (Page 57) states that the FIAs are areas of land identified in the G21 RGP to be studied more closely for their potential to provide for the expected longer term population growth of Geelong and the G21 Region. The G21 Implementation Plan Background Report (Ibid) advises that combined the two areas are larger than the Armstrong Creek urban growth area and have the capacity to house up to 60,000 people.

The G21 RGP Implementation Plan Background Report (Page 57) states that the FIAs are notional areas only with no fixed boundaries and that abutting and nearby areas have been considered in their analysis.

[Note: For the purposes of the NWGGA project, the Study Area boundaries have been defined using fixed boundaries based on physical characteristics and informed by the notional FIA areas. **Section 7 Key Assumptions** provides updated Study Area boundaries for the two Growth Areas.]

### **1.4.1 Geelong Context**

The context of the two FIAs in relation to Geelong is shown in **Figure 1** below. Their urban fringe location creates a number of challenges that need to be considered in the future detailed planning phases.

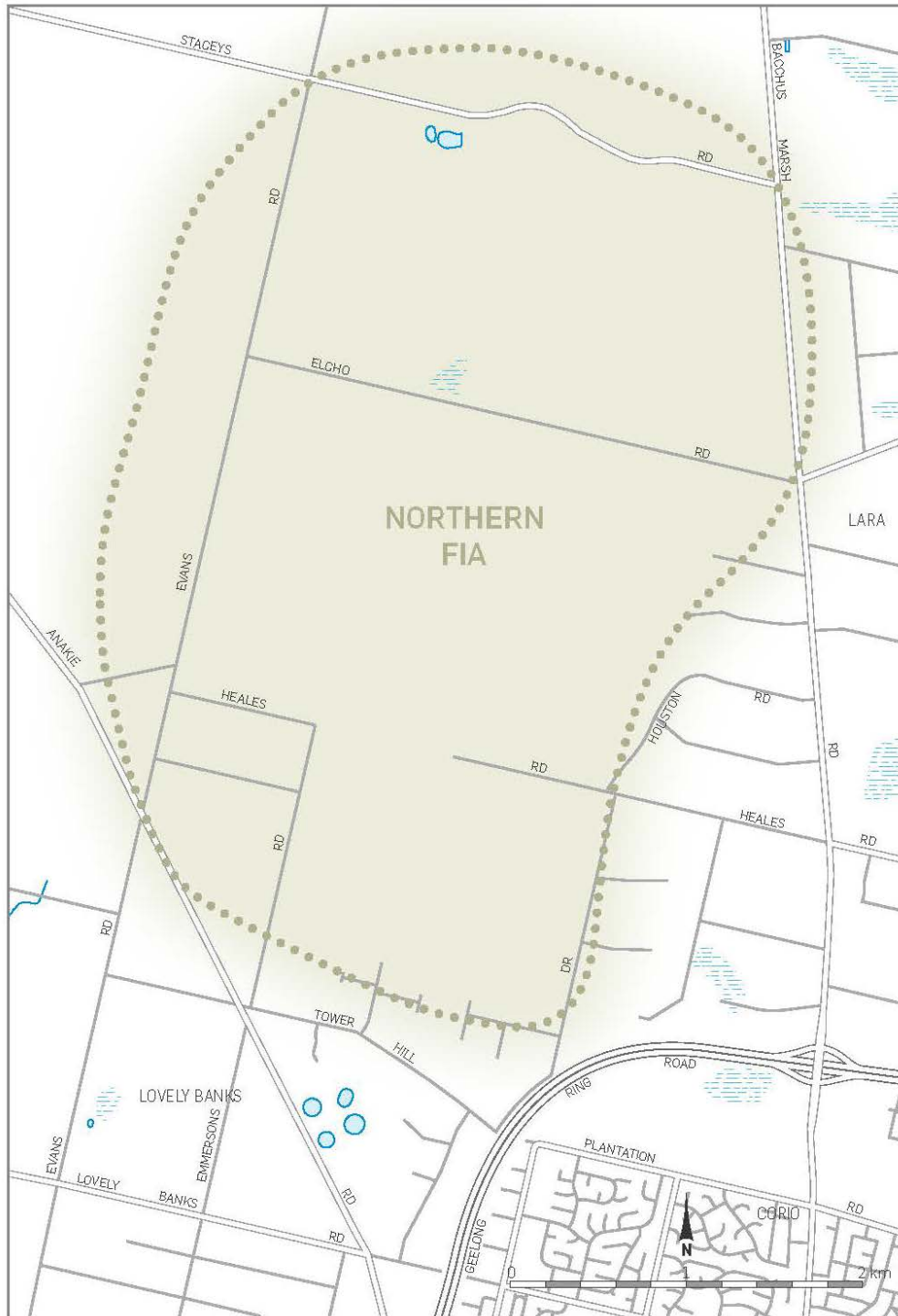
Figure 1 RGP FIAs Geelong Context



## 1.4.2 Northern FIA

The Northern FIA is located in the Lovely Banks area and generally bounded by Staceys Road to the north, Evans Road to the west and adjoining Rural Living zoned lots north of Plantation Road and west of Bacchus Marsh Road. Areas to the north of Staceys Road have been considered. **Figure 2** shows the Northern FIA study area.

**Figure 2 Northern FIA Study Area**



The study area is approximately 1200 hectares (ha). (The land affected by the Urban Growth Zone is approximately 1,100ha.)

The predominant land use in this area is farming. The landscape consists of rolling hills.

### 1.4.3 Western FIA

The Western FIA is located west of the Geelong Ring Road and extending through parts of Batesford from the Ballarat – Geelong rail line in Bell Post Hill to the north, to the Barwon River in Fyansford, and extending to Dog Rocks/Friend in Hand Roads in the west. **Figure 3** shows the study area for the Western FIA.

**Figure 3** Western FIA study area



The study area is approximately 2300 hectares.

The area includes a mix of land uses including a private school, recreation reserve, active quarry and farmland. The land is generally flat to gently undulating with the exception of the Batesford quarry pit and Moorabool River Escarpment and contains a number of major waterways.

## 1.5 Planning Context

In May 2014, the former Minister for Planning wrote to Council to seek support for the acceleration of land delivery in the two FIAs. Consequently, Council officers reported back to Council in September 2014 about the need to initiate the Managing Future Growth project in order to define the financial obligations to Council which will arise if development in the FIAs is pursued in the short to medium term. The critical question of the project was to ascertain whether Council or the State Government could fund community infrastructure to an appropriate level without impacting on existing Geelong residents. The intention of the project was to enable Council to be fully informed before making a decision as to whether the development of land should be accelerated in either of the FIAs.

In October 2014, in the lead up to the State election, the former Minister for Planning prepared, adopted and approved without notice an amendment to the Greater Geelong Planning Scheme to rezone land at Lovely Banks from Farming Zone to Urban Growth Zone. The zoning of land at Batesford South (Western FIA) was not changed. The Minister's decision was based on a desire to provide diversity in growth fronts across Geelong and to ensure that Geelong is positioned to accommodate redirected population growth from Melbourne.

Subsequent to the Minister for Planning's decision, Council officers reported back to Council in February 2015 with a revised approach to planning for these areas. The scope of works was revised to concentrate on analysing the land capability of the area within the boundary of the Urban Growth Zone at Lovely Banks. The purpose being to demonstrate which areas can be developed and which areas are constrained. Analysis of the financial implications of development in both FIAs continued to be included in the project scope.

In June 2015, the current Minister for Planning wrote to landowners in the Northern FIA advising that as a precursor to any Precinct Structure Plan being developed it is anticipated that Council will lead the preparation of a framework plan to set the scope for the future PSP, infrastructure requirements "and preferred timing of land release."

In December 2015, Council officers reported back to Council with an update on the Managing Future Growth project. The Council report noted that since the rezoning of land in the Northern FIA, a number of proposals had been submitted to Council. These included:

- A request from Lovely Banks Consortium to prepare a Planning Scheme amendment to develop a planning policy for the Lovely Banks FIA and to commence a Precinct Structure Plan process;
- A request from Batesford South (major landholders in the western FIA) to undertake detailed studies as set out in the G21 RGP Implementation Plan and subsequent rezoning of the area to the Urban Growth Zone;
- Ramsey Property Group advocating for the development of the Bell Post Hill area through a residential rezoning, which is the northern part of the western FIA; and
- Adept Developments advocating for an extension of the northern FIA by a further 500ha in an area located north of the northern FIA boundary and west of the Lara settlement boundary.

The December 2015 Council report reiterated the key issues in planning for these areas, which included:

- The financial impact on Council to provide infrastructure for existing and new communities;
- Creating liveable communities;
- Planning policy context; and
- The need to release land for housing based on the current lot supply and projected demand.

It is also important to note Council's resolution at its meeting of December 2015, which sets the framework for the future work to be undertaken as outlined in the following sections of the Context Report. At its meeting on December 2015, Council resolved to:

1. *Continue the Managing Future Growth project by commencing preparation of an Integrated Infrastructure Delivery Plan for the Northern and Western Further Investigation Areas and a Framework Plan for each Further Investigation Area;*
2. *Upon completion and adoption of the Integrated Infrastructure Delivery Plan and the Framework Plans, consider the development of a Precinct Structure Plan for Lovely Banks and a rezoning request for the Western FIA;*
3. *Write to the proponents in the Western and Northern FIA's inviting them to work collaboratively with Council to deliver an Integrated Infrastructure Delivery Plan and Framework Plan and seek their support for a process which would require them to prepare detailed background and land capability work to the satisfaction of Council;*
4. *Does not support the Northern FIA expansion north of Staceys Road, referred to as the 'Lara West Logical Growth Area' as proposed by Adept Developments; and*
5. *Continues to engage with the State Government to explore opportunities to secure funds to deliver State Government infrastructure in the FIAs and to secure greater investment in the local economy to ensure job creation in Geelong keeps pace with population growth given Geelong's role to accommodate redirected growth from Melbourne.*

## 2. POLICY FRAMEWORK

The policy context for this Project is significant for a number of reasons as it sets the framework against which to plan for the two Growth Areas. It provides a basis upon which to undertake more detailed planning work.

### 2.1 Key Planning documents

Beyond the provisions of the Greater Geelong Planning Scheme, the overarching strategic planning documents that will inform the future planning phases for these areas are shown in **Table 1**.

**Table 1: Key Planning documents**

Key planning documents
G21 Regional Growth Plan (April 2013)
G21 Regional Growth Plan Implementation Report (November 2013)
G21 Regional Growth Plan Implementation Report Background Report (November 2013)

#### G21 Regional Growth Plan

The G21 RGP is recognised at Clause 11.07 of the State Planning Policy Framework (SPPF). Key strategies include facilitating infill development in major nodes such as Central Geelong and activity centres, supporting and consolidating growth in district towns and urban areas utilising existing infrastructure investment while providing for long term growth options (FIA's). Other provisions of Clause 11 Settlement include:

- Providing sufficient land to meet forecast demand (at least 15 years) taking into account opportunities for consolidation and the costs of providing infrastructure;
- Providing for the appropriate sequencing of development to better coordinate infrastructure planning and funding and to provide orderly planning and liveable communities; and
- The application of Ministerial Direction No.12 Urban Growth Areas for rezoning of land to the UGZ or incorporation of PSP's. The Planning Authority must evaluate how the amendment implements any Growth Area Framework Plan applying to the land.

The G21 RGP takes its vision from the G21 Geelong Region Plan, which provides the framework for the G21 RGP. The Geelong Region Plan vision is:

***"The Geelong region is Australia's most desirable destination for living, working and investing; it is renowned for its vibrant cohesive community, exceptional physical environment and vigorous economy."***

The RGP sets out 9 principles for growth in the region which are consistent with the G21 Vision. The RGP principles for regional growth are fundamental overarching parameters for the successful delivery of the two Growth Areas. **Table 2** sets out the 9 RGP principles.

Table 2: Regional Growth Plan Principles

No.	Principle	Discussion
1.	<b>Optimise infrastructure and consolidate</b>	Maximise capacity and leverage off existing infrastructure and services, particularly near central retail and transport nodes. Minimise additional land used for residential, commercial and industrial purposes by harnessing under utilised land and buildings in our settlements. Develop new infrastructure and services to facilitate consolidation and growth.
2.	<b>Diversity, knowledge and innovation</b>	Build and support diversity and innovation through a range of affordable education, housing types, service provision, technology, employment and social opportunities. Create a resilient and robust region that seeks, and is open to, new opportunities and lifelong learning.
3.	<b>Unique and connected communities</b>	People feel part of their communities and celebrate their sense of place. Ensure growth enhances choice, health and wellbeing, liveability, amenity and diversity. Communities can easily participate in arts, culture, sport and recreation, encouraging healthy lifestyles. Provide affordable access to housing, services and facilities consistent with settlement role and function.
4.	<b>Protect, restore and enhance our unique environment</b>	Protect, restore and enhance the quality of our land and marine areas, waterways, biodiversity and soils. Ensure development minimises risks and impacts on the environment and landscape. Plan for and adapt to changes in our climate.
5.	<b>Food, water and energy security</b>	Promote new opportunities in farming, fisheries and energy in a changing climate. Harness our existing energy and natural resources to promote a productive, robust and self-sustaining region while protecting and enhancing our farming and natural assets as we grow.
6.	<b>Live, work and participate locally</b>	Create jobs to utilise our skills within the region. Promote learning of new skills to support increasing employment diversity. Encourage our communities to invest and be involved in the region.
7.	<b>Build our economy</b>	Diversify the G21 region economy and create jobs through building on our competitive strengths, including tourism and agricultural land resources and economic, social and natural assets. Ensure there is sufficient employment land, infrastructure, skills and education facilities to respond to growth and support changes in our economy.
8.	<b>Accessible transport choices</b>	Provide a broad range of integrated and sustainable transport choices which are flexible, reliable and connect residents, workers and visitors to the services and facilities they need.
9.	<b>Balanced, consistent and collaborative</b>	Use the collective power of people in

	<b>approach</b>	the G21 region to bring about change. Use inclusive engagement processes to create a balanced, transparent and consistent approach to planning and growth.
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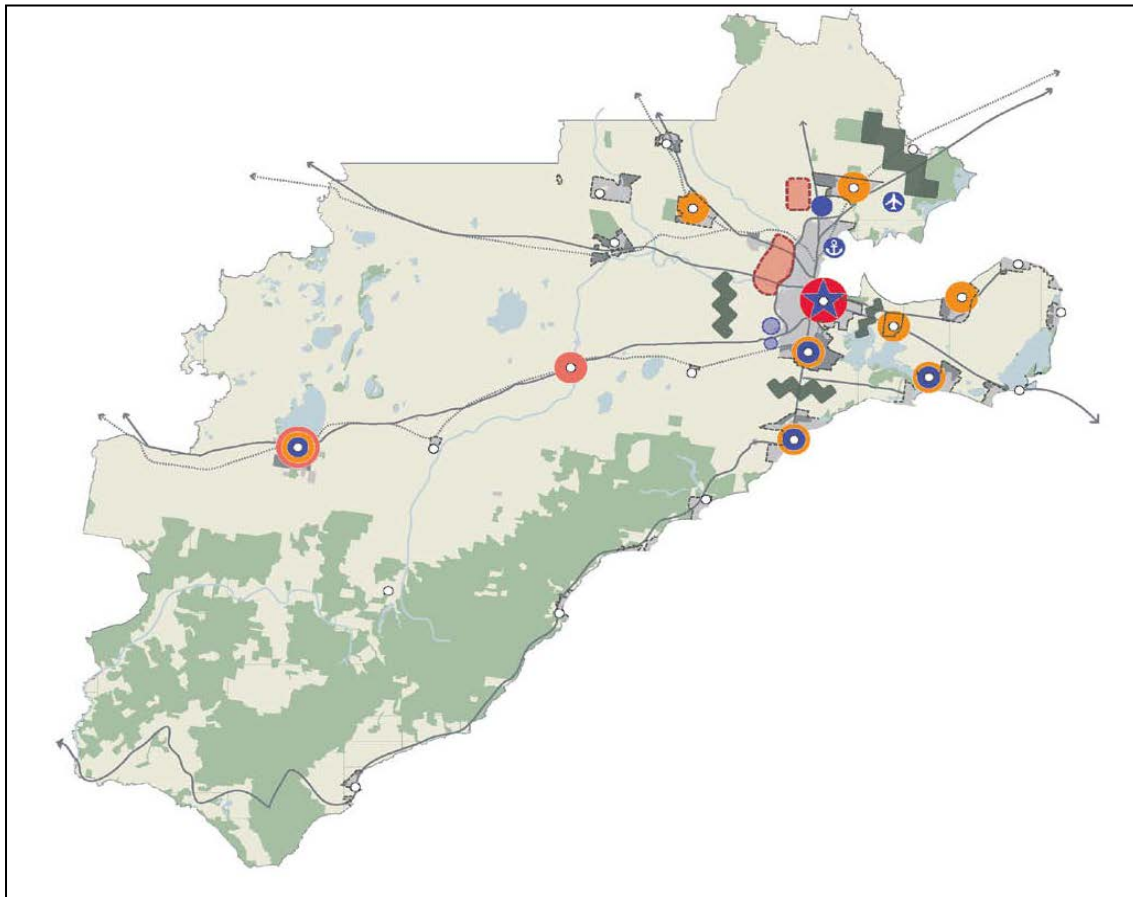
The RGP establishes a framework for strategic land use and settlement planning that can sustainably respond to and accomodate population growth. It collates the strategic land use and growth planning already done across the region and builds on it to identify where future residential and employment growth will be accommodated and what critical infrastructure is required to support it.

Whilst supporting a focus on growing within existing urban areas and existing planned growth areas, the RGP considered the potential for higher growth rates beyond 2050. In doing so, it identified the two FIAs to be examined for their potential to provide capacity for the G21 Region to grow beyond 500,000 and as a longer term option.

The G21 RGP notes that an additional rigorous process of assessment is required to determine the suitability of the FIAs. The G21 RGP broadly outlines some of the key considerations such as implications for major trunk infrastructure provision, including major transport infrastructure links, the ability to create connected, rather than isolated, communities, and timing.

The G21 RGP notes the importance of the Implementation Plan in terms of providing further direction on how the FIAs will be considered and the Implementation Background Report in terms of the examination of considerations in more detail. **Figure 4** below shows the G21 RGP settlement and employment growth directions.

Figure 4 Regional Growth Plan- Settlement and employment growth directions



**★ Reinforcing the role of Central Geelong as a regional city and Victoria's second largest city**  
Major infill is proposed to support the revitalisation and strengthening of central Geelong.

**● Supporting the growth of Geelong with a focus on infill housing opportunities**  
A focus on infill housing opportunities at targeted activity centres and Key Development Areas as identified in the Greater Geelong Planning Scheme.

**● Supporting planned growth and reinforcing the role of district towns**  
Encourage growth of district towns or centres consistent with existing Structure Plans/Growth Plans. With Armstrong Creek, this will accommodate a further 125,000 people over the next 20 – 30 years. Development of underutilised sites and urban infill is actively recommended within these settlements to ensure a range of housing choice.

**● Introducing new targeted growth nodes**  
Grow Colac to a town of 20,000 and Winchelsea to a town of 10,000. Further strategic work will need to be undertaken for both towns to identify the most appropriate areas for growth and to identify major incentives to support growth. These areas are not anticipated to be required until at least 2030-2040.

**● Identification of two Further Investigation Areas in Geelong**  
Potential development of these areas, is not likely to be required ahead of identified planned growth. They will require further assessment of suitability and capacity for growth and the monitoring of land supply within the region to determine timing. The Lovely Banks area near Lara potentially has a higher priority, given greater connection to Melbourne and links with proposed national transport logistics employment areas.

**● Strengthening and protecting the identified existing and planned employment areas (shown on map)**  
As well as tourism precincts and district town activity centres (not shown on map).

**● Maintain productive agricultural areas**  
Consistent with existing Rural Land Use Strategies and includes opportunities for broadacre cropping and livestock, intensive livestock and horticulture, irrigated agriculture, forestry and emerging agricultural activities.

**● Identifying new employment nodes**  
A new Education, Health and Research Hub at Deakin University, the long term potential employment hub at Waurn Ponds South, subject to further investigation, and the expansion of industrial employment areas in Colac and Winchelsea, subject to more detailed planning.

**● Identification of four key settlement breaks**  
Discussion provided in section 4.11.

**● Designation of settlement boundaries for all towns**  
The region's other rural and coastal settlements will continue to experience modest growth and play an important tourism and agricultural role to surrounding areas. Growth will be limited to identified structure plan settlement boundaries.

**● Maintain and enhance natural assets**  
Protect and build on our natural assets by maximising key opportunities to link and rehabilitate ecosystems and enable sustainable and planned productive uses. Sustain the health of our natural assets by considering future challenges in the management, planning and development of these assets.

The G21 RGP Implementation Report and the G21 RGP Implementation Background Report set the context for the further investigation of the two FIAs. The detail provided in these documents will provide a sound basis to understand the high-level opportunities and constraints affecting both areas.

### **G21 Regional Growth Plan Implementation Plan & Background Report**

The G21 RGP Implementation Plan built on the direction of the G21 RGP by analysing the two FIAs. The Implementation Plan provides context about the two FIAs and strengths, weaknesses, opportunities and threats for each area. The Implementation Plan effectively provides a summary of the Background Report analyses of each FIA and considers the necessary steps that should be adopted in the detailed planning phase.

The G21 RGP sets out a vision and a number of principles. These principles along with the desire to deliver a *liveable, vibrant and cohesive community* and criteria used by the Growth Area Authority (now the Metropolitan Planning Authority) informed the six goals to assess delivery of the vision in undertaking the further planning for the FIA's (G21 RGP – Implementation Plan; P. 85).

The six goals are:

- *Ability to create a diverse and unique community*
- *Ability to deliver significant community benefit to Geelong*
- *Ability to provide accessible and integrated transport choices*
- *Ability to provide efficient infrastructure and services*
- *Ability to ensure efficient and sustainable use of land and resources*
- *Ability to provide exceptional physical environments.*

The G21 RGP Implementation Plan assists the next steps of planning by identifying the following:

- the relative constraints and opportunities of each FIA to identify appropriate planning responses;
- key community and urban planning outcomes to be considered in future growth area planning; and
- a range of possible next planning steps including detailed area planning, policy development and zoning, infrastructure planning, land release timing triggers and staging directions.

Analysis of land capability, planning, accessibility and capacity to deliver matters formed the key parameters in understanding the merits and suitability of each FIA. The Implementation Plan also undertook situational (SWOT) analyses of each FIA, which was subsequently considered against the capacity to deliver a *liveable, vibrant and cohesive community*. (G21 RGP Implementation Plan; P. 87-94).

The G21 RGP work provides an extensive list of opportunities and constraints along with a comparative analysis of the two FIA's. The following summary is provided for each area (G21 RGP – Implementation Plan; P. 94):

- *The Northern FIA has minimal land capability constraints and is relatively straight forward to develop and service; however the public transport options and the potential for isolation from the rest of Geelong would need to be addressed.*
- *The Western FIA presents an opportunity to create major regional community assets and biodiversity enhancements integrated with a diversity of housing options; however complex site, road connection and capacity challenges would need to be addressed.*

The G21 RGP Implementation Plan documents the need for well planned and serviced communities, with the following discussion provided (G21 RGP – Implementation Plan; P. 97):

- *Providing well planned community infrastructure including places to meet and gather, functional open spaces and places for recreation, linked footpath and cycle networks, good public transport and accessible community services and facilities is critical to supporting vibrant, safe and healthy communities.*
- *Ensuring infrastructure delivery keeps pace with development and need is also important to building communities and to minimise long travel distances to important services.*

- *Having an effective Integrated Infrastructure Delivery Plan (IIDP) in place at an early stage of area planning is critical to provide a basis for budget planning and resource allocation processes, delivery, phasing and triggers for provision of key infrastructure. Infrastructure considered includes community facilities, social housing, open space, transport and movement networks and stormwater management. These plans are developed in consultation with key service and infrastructure providers to identify whole of community infrastructure needs and coordinate planning and delivery.*
- *Infrastructure should be provided based on triggers, for example population based triggers, drawn from current best practice provision rates. Documents such as the Armstrong Creek Integrated Infrastructure Delivery Plan and City of Greater Geelong's Sustainable Communities – Infrastructure Development Guidelines provide a basis for identifying community infrastructure requirements and design standards.*

The purpose of the G21 RGP Implementation Plan Background Report is to assist Council and the State Government to respond to future land rezoning proposals and to identify longer term infrastructure planning needs.

Additional work is required to build on the baseline investigations undertaken by the G21 RGP Implementation Plan & Background Report. The additional work required to inform the planning for these areas will be discussed later in this report.

### **3. MEMORANDUM OF UNDERSTANDING (MOU)**

#### **3.1 Purpose of the MoU**

The purpose of the MoU is to provide a framework within which parties can work collaboratively to deliver the Project. The MoU will ensure that key milestones and inputs required to complete each phase of the Project are understood and agreed by all parties.

The MOU is not a legally binding document though it does outline the overall governance structure and source of authority.

#### **3.2 Northern and Western Geelong Growth Areas MoUs**

CoGG will enter into two separate MoUs for each area (northern and western) with the key land owner consortium/s.

The MOUs include the following parameters:

- Deliverables and Milestones;
- Key inputs;
- Governance;
- Communication Protocols;
- Confidentiality; and
- Dispute Resolution/Variation/Legal effect.

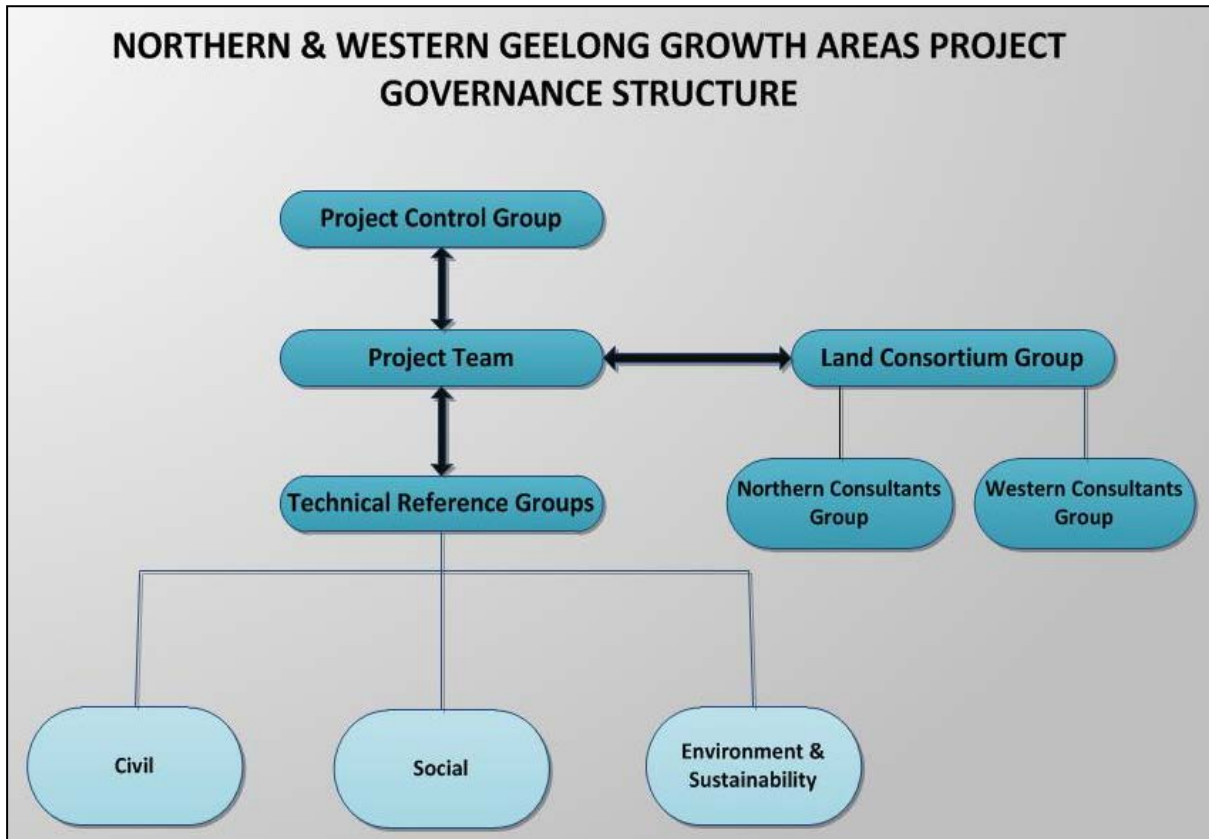
A key tenet of both MoUs is that the land consortiums for each Growth Area will work collaboratively with Council to deliver the Integrated Infrastructure Delivery Plan and Framework Plan for the respective areas.

## 4. PROJECT GOVERNANCE

### 4.1 What is the Project Governance Structure?

The project governance structure outlines who has responsibility and authority to make decisions which ensures there is clearly defined accountability for all aspects of the project. The governance structure for the Project is outlined in **Figure 5**.

**Figure 5 Project Governance Structure**



## 5. PROJECT PLAN

### 5.1 What is the Project Plan?

The project plan outlines how an Integrated Infrastructure Delivery Plan for the Northern and Western Geelong Growth Areas and a Framework Plan for each Growth Area will be delivered.

The completion of these tasks will provide Council with the information it requires to make a fully informed decision about the next phases of planning for the Growth Areas and appropriate timing. **Figure 6** below shows the Project Phases and Timelines.

Figure 6 Northern and Western Geelong Growth Area Project- Project Phases and Timelines

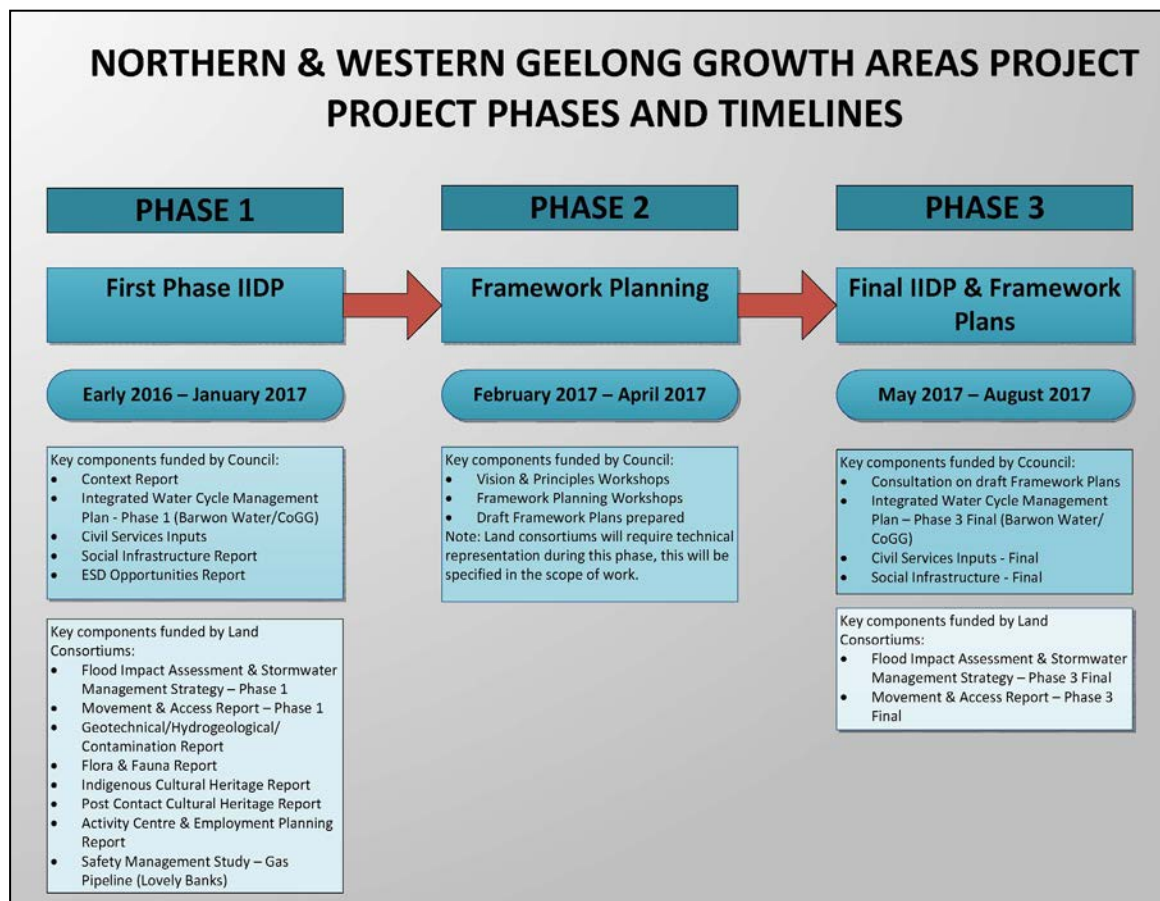


Table 3 below provides a more detailed timeline for the release of each scope of works and the expected completion date of each technical report to be prepared by the Land Consortium Project consultants.

Table 3: Key technical components to be delivered by the Land Consortium Groups

Key components funded by Land Consortiums	Scope of Work issued	Completed
Flood Impact Assessment and Stormwater Management Strategy - Phase 1	May 2016	November 2016
Movement and Access Report - Phase 1	May 2016	September 2016
Geotechnical, Hydrogeological and Contamination Report	May 2016	September 2016
Safety Management Study – Gas Pipeline (Note this process will be managed by APA Group and is only required for the Northern Growth Area. Funding for the Study will be the responsibility of the Lovely Banks consortium group)	Process to be agreed with APA	November 2016
Indigenous Cultural Heritage Report	May 2016	November 2016
Post Contact Cultural Heritage Report	May 2016	November 2016
Activity Centre and Employment Report	June 2016	November 2016
Flora and Fauna Report	June 2016	December 2016
Flood Impact Assessment and Stormwater Management Strategy - Phase 3 Final	Included in scope issued May 2016	July 2017
Movement and Access Report - Phase 3 Final	Included in scope issued May 2016	July 2017

## 5.2 Project Plan - Phase 1

Key inputs required for the First Phase IIDP include:

- Flood Impact Assessment and Stormwater Management Strategy Reports- (Phase 1);
- Movement & Access Reports - (Phase 1);
- Geotechnical, hydrogeological and contamination reports;
- Integrated Water Cycle Management Plan (IWCM) draft report;
- Civil service requirements; and
- Social Infrastructure Report which includes:
  - Community & Health Services;
  - Education Facilities;
  - Arts & Cultural Facilities;
  - Emergency Services Facilities; and
  - Sport & Recreation Facilities.

The First Phase IIDP will include the following:

- Role of the IIDP and key objectives for delivery;
- Key infrastructure constraints and opportunities established;
- Social infrastructure needs analysis;
- Civil infrastructure needs analysis;
- Specifications/standards for social and civil services;
- Social infrastructure servicing principles and ratios;
- Civil infrastructure servicing strategy;
- High level infrastructure costing; and
- Accountability for delivery of infrastructure.

Phase 1 also includes the completion of technical reports required to inform the Framework Planning to be undertaken in Phase 2. These include the following:

- Flora & Fauna Assessment reports;
- Indigenous Cultural Heritage Assessment Reports;
- Activity Centre and Employment Planning Reports;
- Post Contact (European) Cultural Heritage Reports; and
- Environmentally Sustainable Design Opportunities Report.

## 5.3 Project Plan - Phase 2

Phase 2 of the project will deliver a draft Framework Plan for each Growth Area.

The key inputs in this phase will be:

- Workshops to establish the principles and vision for development of the growth areas.
- Workshops to inform the development of a Framework Plan for each growth area.

## 5.4 Project Plan - Phase 3

Phase 3 of the project will deliver a Framework Plan for each Growth Area and a Final IIDP for adoption by Council.

This phase will include community consultation on the draft Framework Plans.

The Framework Plan for each growth area will be developed to a level of detail generally consistent with the Armstrong Creek Urban Growth Area Framework Plan. It will set an overarching plan to guide future development and inform the Precinct Structure Plan process. It will identify:

- Future land uses including residential, employment and industrial;
- Areas of high environmental or landscape value, natural features or open space to be preserved;
- Open space networks;
- Locations and role of future activity centres; and
- Transport infrastructure required to support development.

The Final IIDP will be informed by the Framework Plans as well as:

- Final Flood Impact Assessment and Stormwater Management Strategy;
- Final Movement and Access Report;

- Final IWCM Plan;
- Final civil service inputs; and
- Final Social Infrastructure Report.

The Final IIDP will include the following:

- Role of the IIDP and key objectives for delivery;
- Key infrastructure constraints and opportunities established;
- Social infrastructure needs analysis;
- Civil infrastructure needs analysis;
- Specifications/standards for social and civil services;
- Social infrastructure servicing principles and ratios;
- Civil infrastructure servicing strategy;
- Infrastructure costing;
- Accountability for delivery of infrastructure; and a
- Sequencing strategy.

## 5.5 Scoping of Works

Council will define the scope of works required for the Movement and Access, Geotechnical, Hydrogeological and Contamination, Flooding and Drainage, Flora and Fauna, Cultural Heritage (pre and post) and Activity Centre and Employment technical studies.

Council officers will play an important role in reviewing draft technical reports and other work considered necessary and relevant. Working in a collaborative way will ensure that both Council and Land Consortium Groups are clear about the expected technical outcomes for each study.

To assist with the preparation of the background work to the Framework Plan, a non-technical summary template has been prepared. This will need to be completed by consultants preparing technical studies. The non-technical summary template will provide a snapshot of the existing conditions, key issues, opportunities, constraints and overall summary relative to each technical study undertaken. A copy of the template will be provided with each scope of works.

## 6. VISION AND PRINCIPLES

The Vision and Principles at this stage of the Project have been derived from a number of sources, including the RGP Implementation Plan and the Metropolitan Planning Authority's Growth Corridor Planning Framework.

### 6.1 Project Vision

The G21 Vision contained in the Geelong Regional Plan sets the framework for the G21 RGP.

The Northern and Western Geelong Growth Areas project will have regard to the overarching G21 Region vision but it also will be steered by the desire to deliver a:

**“... liveable, vibrant and cohesive community...”**

### 6.2 Project Principles

Whilst the vision for the Northern and Western Geelong Growth Areas project has been derived from the RGP Implementation Plan, the principles have been adopted from the Metropolitan Planning Authority's (MPA) report on Growth Corridor Plans Managing Melbourne's Growth (June 2012). The eight Principles that underpin the MPA's Growth Corridor Plans are relevant to both Growth Areas. The MPA (Page 11) acknowledges that whilst each Growth Corridor is different in terms of for example landscape setting, heritage and biodiversity values, a suite of planning principles apply to all of them. In a Geelong context, this approach is reasonable to adopt for the two Growth Areas.

The MPA (Page 11) notes that each of the four Growth Corridor Plans have been prepared to address the eight common Principles, as well as the characteristics and requirements unique to each of them. The eight Principles outlined below will be used to inform the early stages of the project, in particular Phase 1 through the preparation of the draft IIDP. Consequently, the Principles are high-level. As part of Phase 2, the vision and principles will be refined during the Framework Planning process for the two

Growth Areas. Further detail as to how each Principle should be achieved will be provided in Phase 2 of the Project.

**Table 4** below shows the eight common Principles that will underpin the early stages of the Project.

**Table 4 Principles underpinning the Northern and Western Geelong Growth Areas Project**

<b>Northern and Western Geelong Growth Areas: High-level Principles</b>	
<b>P1</b>	Create diverse and vibrant new urban communities
<b>P2</b>	Integrate transport and land use planning
<b>P3</b>	Plan for local employment
<b>P4</b>	Create Growth Areas with high amenity and character
<b>P5</b>	Protect biodiversity, waterways and cultural heritage values
<b>P6</b>	Create integrated open space networks
<b>P7</b>	Plan for environmental sustainability
<b>P8</b>	Stage development to ensure the efficient and orderly provision of infrastructure and services

It must be acknowledged from the outset that the scale of Melbourne's Growth Corridors is somewhat different to the Northern and Western Geelong Growth Areas. The majority of Melbourne's growth corridors contained 2,000 plus hectares of Urban Growth Zone land, with the largest area containing over 10,000 hectares. Consequently, the meaning associated with each of the 8 principles will need to be tailored to ensure relevance and scale of aspirations in the Geelong context.

For example, Principle 3 Plan for local employment will likely focus on the provision of jobs through the development of retail activity centres, social and community hubs, education centres and so forth. The G21 RGP Implementation Plan (Page 99) further discusses the ability of both areas to provide onsite employment opportunities, primarily through activity centre and commercial nodes to achieve a one job per household benchmark. Given the location of the two Growth Areas consideration will need to be given to the potential impact of new employment land on existing centres. Also, given the location of the Northern Growth Area to the Geelong Ring Road Employment Precinct (GREP) on Bacchus Marsh Road, there may be scope to consider a transition of land uses from rural residential to employment related uses within the Northern Growth Area on the western side of Bacchus Marsh Road.

The identification of employment/industrial precincts is a matter that needs to be considered in the context of the broader municipality and importantly, existing employment/industrial precincts proximate to both Growth Areas.

## **7. KEY ASSUMPTIONS**

Key assumptions generally relate to the likely factors that will affect the future land use planning and infrastructure delivery for these areas. It is important to understand baseline assumptions before initiating the preparation of the Integrated Infrastructure Delivery Plan and Framework Plans. Understanding what technical work has been done to date and what new work will be required to inform the future planning for these areas is also important.

### **7.1 Growth Area Key Assumptions**

The overall assumption for both Growth Areas is that they will be residential-led growth areas. The Framework Plans for each Growth Area will set the future land use directions for each Growth Area, which will include the locations of residential uses, employment (retail/industrial) uses, a strategic transport network, provision and locations of social and community infrastructure, including active and passive open space.

The key assumptions will inform the technical work required to input to the preparation of the IIDP and Framework Plans.

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### 7.1.1 RGP Implementation Plan- Issues for Consideration

To inform the initial stages of developing the key assumptions for the Growth Areas, a review of the G21 RGP Implementation Plan and Background Report was undertaken. This provided direction on key considerations to inform future planning stages.

**Figure 7** and **Figure 8** below show the recommended issues for consideration arising from the situational analyses (SWOT) for each FIA undertaken by the RGP Implementation Plan. The situational analysis was based on the six goals outlined in **section 2.1** of this report. In addition to the situational analysis undertaken for each FIA, site specific considerations for each FIA were discussed, falling under the following headings: Growth Area extent; Interface; Integration; Infrastructure; Employment opportunities and economic impacts; Transport choices; Environment; Other.

Some of the key technical considerations for the Northern FIA include:

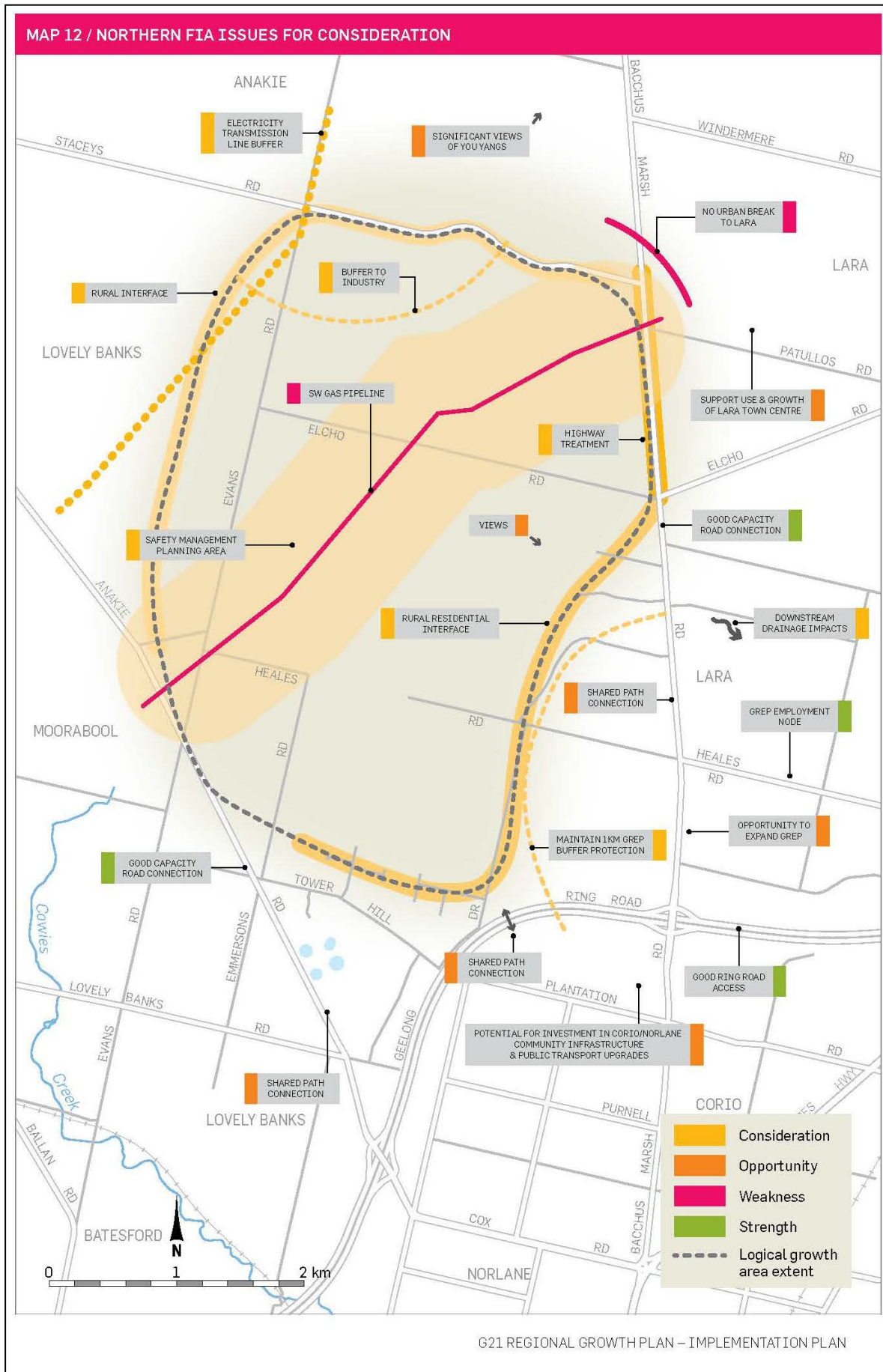
- South-West transmission gas pipeline and associated safety management planning area;
- 1km industry buffer to the Geelong Ring Road Employment Precinct (GREP);
- 1km industry buffer to the Lara Energetic Materials Manufacturing Plant (LEMMP) on Staceys Road;
- Electricity transmission lines;
- Rural edge interface treatments;
- Presence of the Lovely Banks monocline;
- Consideration of downstream drainage impacts; and
- Site geotechnical conditions

For the Western FIA, some of the key technical considerations include:

- Areas affected by flooding and drainage issues (weakness);
- Quarry pit;
- Overburden areas associated with the quarry;
- Electricity transmission line,
- Need for major road connections;
- Hamilton Highway (Deviation Road) capacity (weakness); and
- Rural edge treatments.

The Northern and Western FIA Issues for Considerations maps shown below provide a sound basis to determine the Study Area boundaries and development areas for the purposes of informing the preparation of the IIDP and Framework Plans. This will be discussed in the following section.

Figure 7 G21 RGP Implementation Plan Northern FIA Issues for Consideration





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## 7.1.2 Northern Geelong Growth Area- Key Assumptions

### 7.1.2.1 Study Area

The need to revise the notional Northern FIA boundary identified in the G21 RGP Implementation Plan was based on a desire to provide a logical study area that could be used to inform the necessary technical work that will be prepared to input to the preparation of the IIDP and Framework Plans.

**Figure 9** below shows the Northern Growth Area Study Area. The boundary has been drawn based on the consideration of a range of inputs, including the RGP Implementation Plan and Background Report and other resources available to Council officers.

The Study Area is approximately 2,127 hectares in size.

The Study Area reflects a larger boundary to that used in the RGP Implementation Plan. The principal reason for this is the need to consider the role of adjoining land uses as part of the future development of the Urban Growth Zone area. These areas include the Rural Living Zone land to the east and south, the Geelong Ring Road Employment Precinct (GREP) to the east, and Farming Zone land to west. It is assumed that adjoining and proximate land uses may become available for urban development and/or be required to facilitate the development of the Urban Growth Zone land based on their locational attributes. Acknowledging the role of adjoining land uses in terms of facilitating a better land use outcome is key to the success of this area.

**Importantly, the Study Area does not represent the ultimate development extent of the growth area. Land within the Study Area may or may not be suitable for urban development depending on the extent of constraints and subject to further analysis.**

Figure 9 Northern Geelong Growth Area - Study Area



Figure 10 Northern Geelong Growth Area - Planning Zones

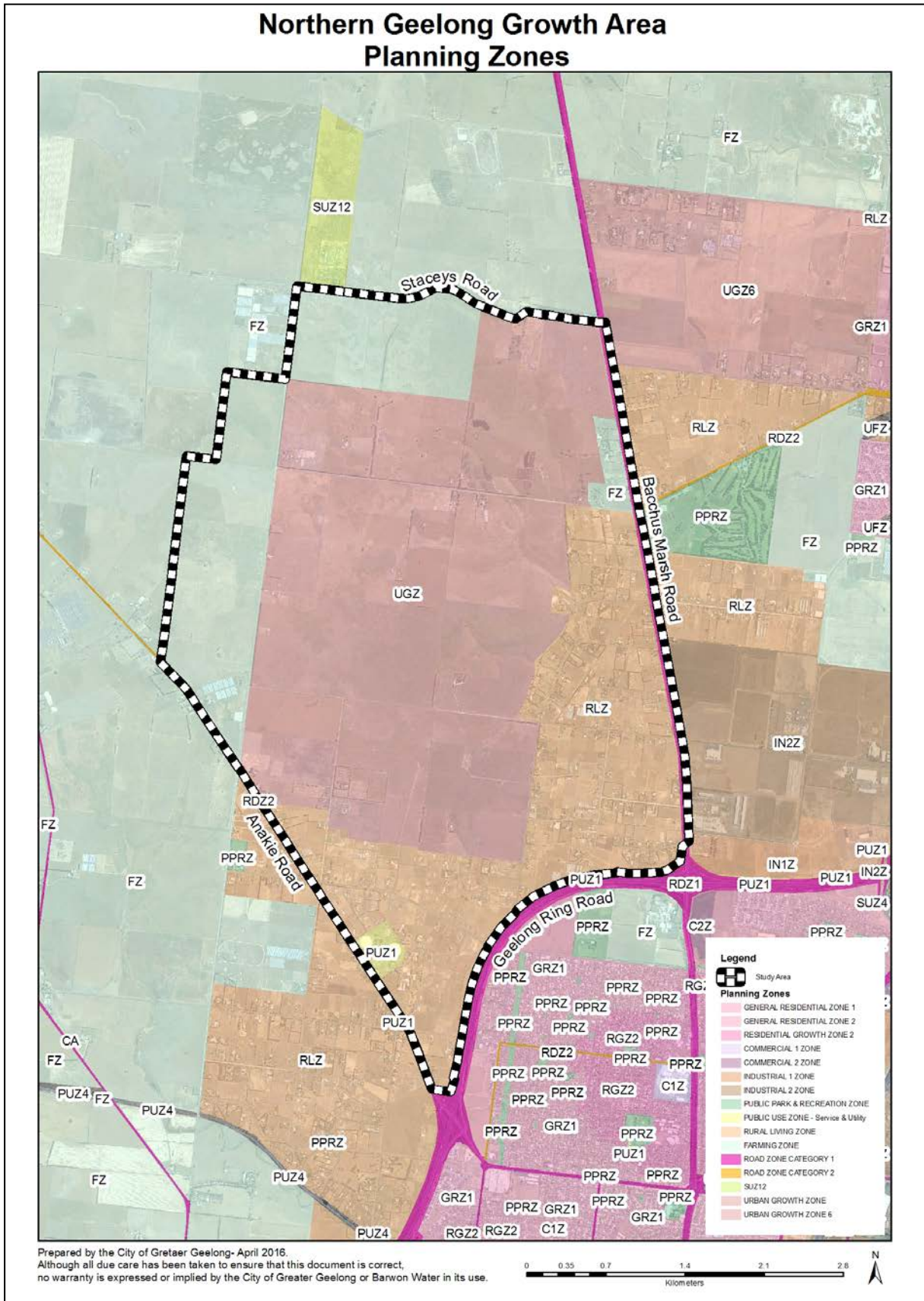


Figure 11 Northern Geelong Growth Area - Planning Overlays

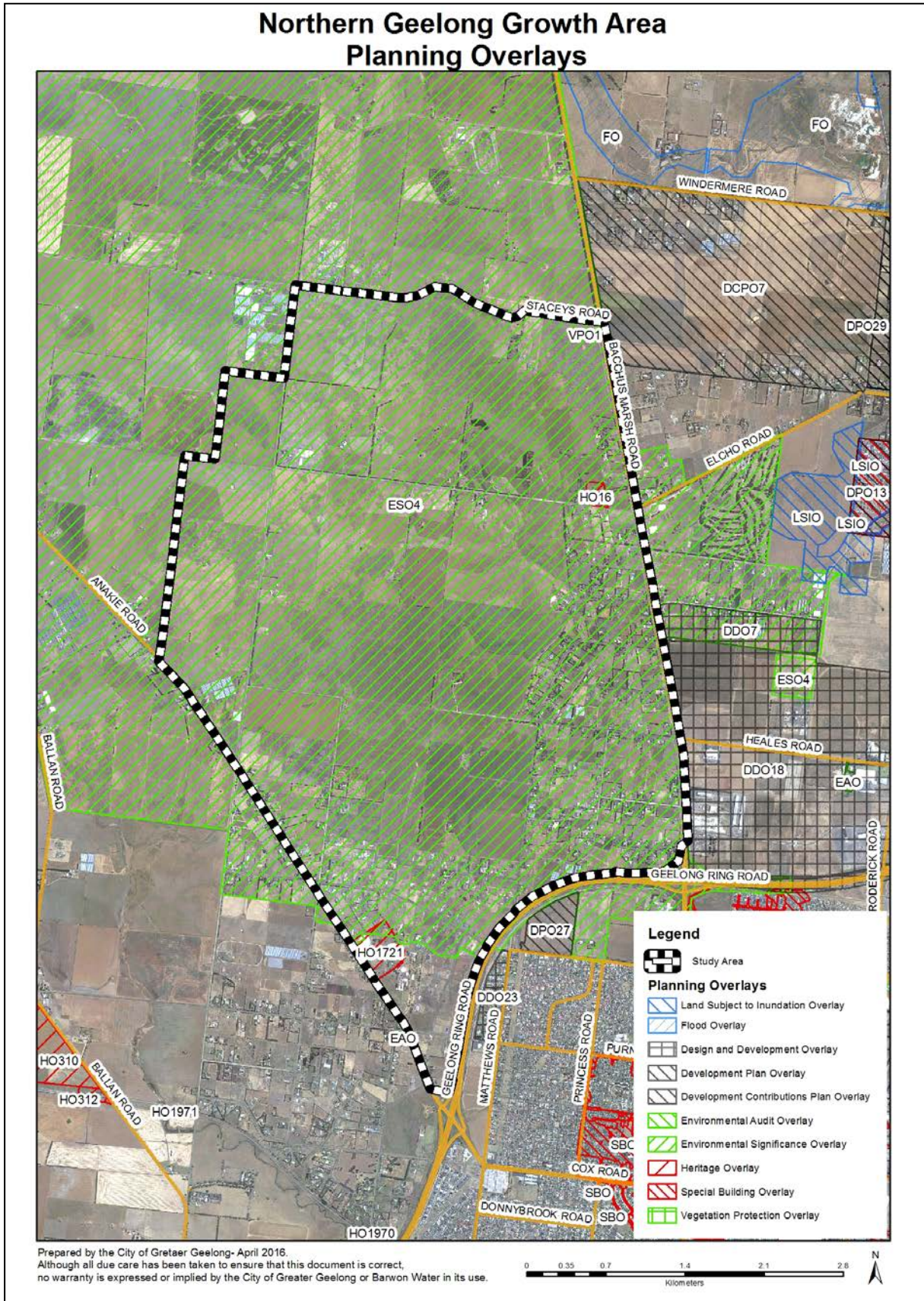
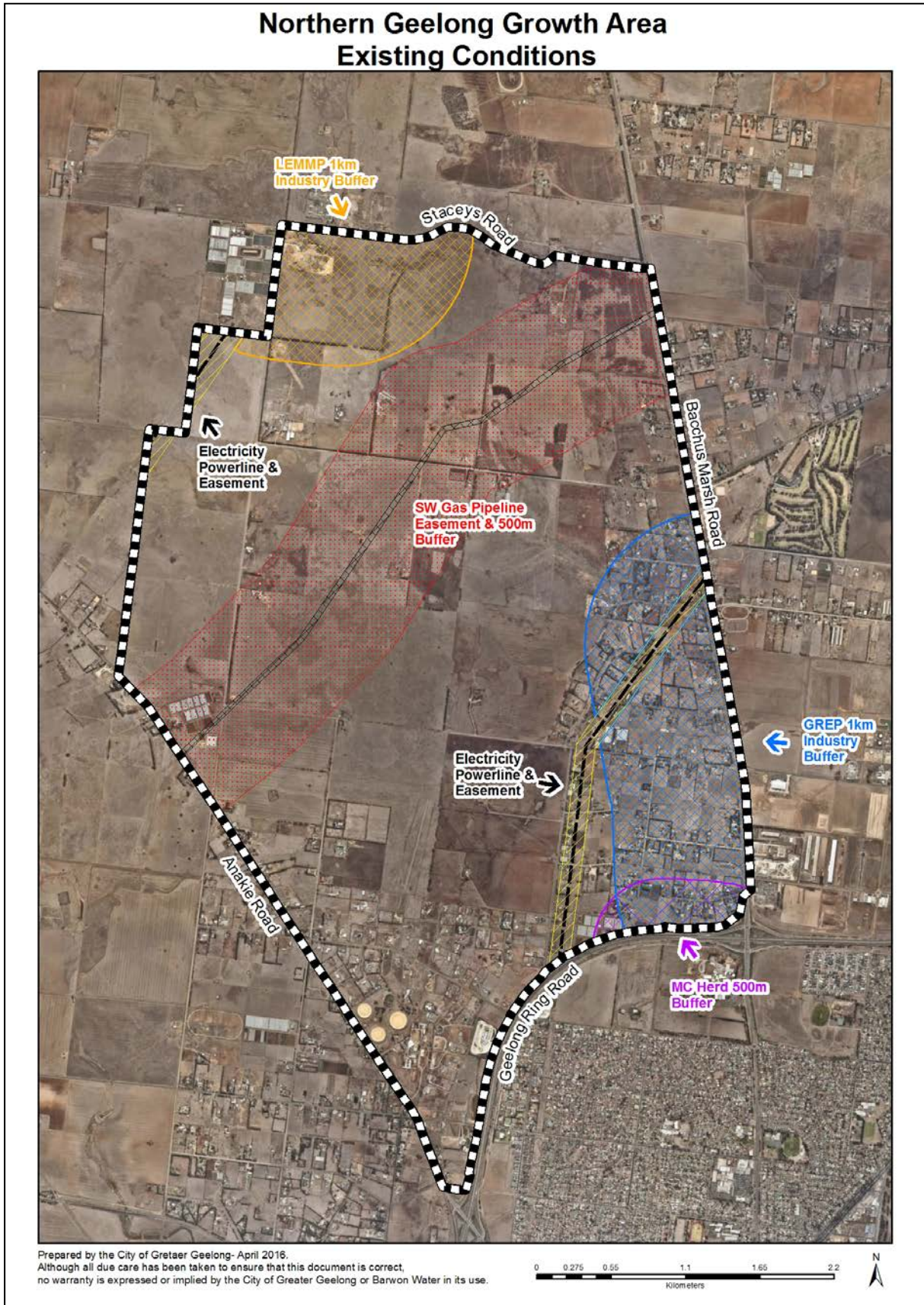


Figure 12 Northern Growth Area - Existing Conditions



### 7.1.2.2 Development Area

The key assumptions about developable land will be used to inform the initial stages of the IIDP and future Framework Plan. Assumptions about developable land in the Study Area have enabled the calculation of estimated dwelling yield and population. The purpose of providing high-level dwelling and population figures at this stage in the Project is to establish a platform from which technical consultants can initiate their assessments.

#### Undevelopable Land Assumptions

The developable land assumptions for the Northern Growth Area have been largely calculated by excluding any known key land use constraints and any undevelopable existing land uses within the Study Area. This provides a relatively high-level approach to calculating potentially developable land that is subject to further assessment as the Project progresses, primarily through the early technical reports.

The following land uses/areas have been excluded from the developable land area calculations:

- Barwon Water tanks, Anakie Road;
- Geelong Baptist College;
- BP Service Station;
- Land within the South West gas pipeline easement (20m);
- Land within the Lara Energetic Materials Manufacturing Plant (LEMMP) 1km industry buffer;
- Land within the Geelong Ring Road Employment Precinct (GREP) 1km industry buffer;
- Land within the AusNet electricity transmission powerline easements (assumed 70m-120m); and
- Land within the MC Herd 500m industry buffer (land is largely affected by the GREP 1km industry buffer).

It is also assumed that a site will be developed by Westbourne Grammar to provide a private secondary school campus.

Further discussion is provided below about some of the known key constraints in the Study Area. These include:

- South West transmission gas pipeline
- Lara Energetic Materials Manufacturing Plant (LEMMP) 1km industry buffer
- GREP 1km industry buffer

#### - South-West transmission gas pipeline

The gas pipeline is a major infrastructure asset that traverses the Northern Growth Area. It is the same gas pipeline that bisects the Lara West growth area. A Safety Management Study is required to be undertaken to inform the future planning stages and determine what uses may be acceptable within the buffer zone. As a starting point, the APA group who manage the gas pipeline, advises that a 500 metre buffer should be applied to both sides of the 20 metre gas pipeline easement to protect against the encroachment of sensitive (people intensive) land uses. It is also noted that there is an intention to construct an additional pipeline within the 20 metre easement.

#### - Lara Energetic Materials Manufacturing Plant (LEMMP) industry buffer (1km)

A minimum 1,000 metres threshold distance is required from any boundary of the LEMMP. This buffer extends into the Study Area boundary and affects a small area of Urban Growth Zone land. The Urban Growth Zone appears to have been purposely applied to land not affected by the industry buffer. Notwithstanding this, land affected by the threshold distance has been included within the Study Area boundary to ensure that a holistic approach is adopted for the broader area.

Land in this area may remain in the Farming Zone and continue to be used for existing purposes in order to protect the existing industry. However there may also be an opportunity to consider other, non sensitive land uses in this area which would not compromise the operations of the LEMMP or pose risks to the wider community. This issue will be explored as the Project progresses.

## - GREP industry buffer (1km)

The GREP industry buffer is prescribed in the Greater Geelong Planning Scheme at Clause 21.13 Lara Structure Plan. The purpose of the buffer is to protect the GREP's major industrial operations and employment role. This buffer extends into the Study Area boundary affecting a large part of the Rural Living Zone land west of Bacchus Marsh Road. It is important that this buffer is acknowledged through the Project planning process.

Land use within this buffer is an important consideration. This land has attributes which could accommodate transition to new land uses including frontage to the Bacchus Marsh Road and the opportunity to create a strong linkage between existing urban areas in Corio and the new Northern Growth Area. However, the potential for conflict is considerable if land use change is to occur. Any new land use in this area should reflect the need to protect the GREP from encroachment from incompatible land uses.

## Estimated Development Area Assumption (high-level)

The estimated development area (less the undevelopable land discussed above) is approximately **1618ha**.

It should be noted that some areas of land included in the development area figure may not be suitable/desirable for development. For example, consideration might be given to the need to provide appropriate breaks between existing urban areas/townships, additional land may be required for conservation or some land might just be unviable for urban development purposes.

## Development Area Assumptions

Based on the estimated development area, a number of assumptions are set out below which provide a high-level framework to inform the preparation of the IIDP and future Framework Plan.

Land within the Development Area comprises a range of land use zones including the Urban Growth Zone (UGZ), Farming Zone (FZ) and Rural Living Zone (RLZ). Discussion will be largely focused on the existing land use zones and their capabilities.

- **Urban Growth Zone (UGZ):** It is assumed that land affected by the UGZ will be developed for urban growth purposes and consequently largely reflect a residential led growth area supported by the necessary infrastructure and services. Associated uses that are assumed to be included in the Urban Growth Zone include retail, education, social and recreation and open space.

It is assumed that typical residential land use densities will apply to this area in the range of 20 d/ha for medium density development and 15d/ha for general residential development.

A major constraint affecting the UGZ land is the SW gas pipeline. Based on the undevelopable land assumptions discussed above, land use guidance in relation to gas pipelines and associated buffers advises that sensitive and higher density uses should be excluded from land within the buffer zone. Consequently, this means land uses such as schools and high density residential will not be acceptable within the buffer. However, as is the case within the Lara West growth area, general residential development may be acceptable within the buffer, subject to the preparation of a Safety Management Study. The SMS is expected to be undertaken during Phase 1 of the Project.

Another key consideration will be the Lovely Banks monocline in terms of potential land uses and development densities and its drainage function through the naturally formed gullies.

- **Farming Zone (FZ):** It is assumed that the land west of Evans Road adjoining the UGZ has potential for urban development in the form of residential land use at similar densities to the UGZ land. Land west of Evans Road was included in the Study Area to ensure that consideration was given to the transition of land uses on both sides of the road and to allow for the investigation of potential development of land to the west.

The pockets of FZ land at the northern and eastern extents of the Study Area could have potential for urban development. However, consideration will need to be given to the proximity of the FZ land to the LEMMP buffer, the Elcho Homestead (Heritage Overlay) adjoining Bacchus Marsh Road, and its ability to be serviced.

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The electricity transmission powerlines and associated easements that pass through the Farming Zone land directly feed into the Moorabool station. Consideration about the location of appropriate land uses proximate to these easements will be required.

- **Rural Living Zone (RLZ) (IN2Z buffer)**: Whilst not included in the Development Area calculation, this area requires discussion due to its locational attributes. It is assumed that the Rural Living Zone land affected by the GREP 1km industry buffer, west of Bacchus Marsh Road, will not be developed for sensitive land uses, including general residential development purposes.

Consideration needs to be given to the future role of this area in terms of its ongoing existing land use, its role in terms of protecting the GREP and whether there is capacity for other land uses beyond RLZ to be developed to facilitate the growth of the broader area.

It is considered that this area will come under pressure for urban development as a consequence of the adjoining Urban Growth Zone and its future development. It is important that existing land uses and resident's desires are managed through the IIDP and future Framework Planning process. Likely initial pressures will come from a desire to create road connections between the UGZ land and Bacchus Marsh Road.

- **Rural Living Zone (RLZ) (southern areas)**: It is assumed that this area will form part of a broader transition between the two Growth Areas. Consequently, it will likely come under pressure for urban development in the future given its locational attributes. The current extent of development in this area is largely rural residential in style, with more recent investment in larger houses on the land that overlooks the Geelong Ring Road.

Given multiple-landownership, rural-living/low-density style lot sizes, recent significant investment in capital improvements and likely drainage and sewer infrastructure issues, it is assumed that the potential development yield for this area will be far less than that assumed for the Urban Growth Zone and Farming Zone land. For the purposes of the Context Report and facilitating a high-level dwelling and population yield, a residential dwelling density range of 6-8 dwellings per hectare has been assumed.

### - Employment

Employment land uses could be considered in the **Rural Living Zone (RLZ) (IN2Z buffer)** area as part of a transition between the UGZ and the IN2Z land. Equally, the area could continue to act as a transition/buffer between the GREP and the growth area to the west thus facilitating both broader goals. It is assumed that given the multiple land ownerships in this area, it will largely remain as a rural living node. However, consideration should be given to potential alternative land uses such as employment, which would acknowledge the purpose of the industrial buffer and potentially provide employment land to meet the needs of the future growth area population. These considerations should form part of the technical assessments that will be prepared. Further discussion about employment land is provided in the Key Technical Report Consideration section below.

Adopting a first principles approach to planning for employment land within the Study Area, it is logical to identify a location adjoining Bacchus Marsh Road, a key arterial route, to be investigated for its suitability. **Figure 13** below provides a location map of an indicative area within the Study Area that should be investigated. Investigation should not be limited to this location.

Figure 13 North Geelong Growth Area- Employment Investigation Locations



## - Open Space

It is assumed that open space requirements through residential development will be provided in line with the provisions of the Greater Geelong Planning Scheme. The standard provision requirement is 10% (unencumbered land). Unencumbered land means that the land provided for open space is usable and not affected by encumbrances such as flooding.

Given the Study Area has limited opportunities to build on existing environmental assets, there will be a need to consider alternative ways of providing an integrated open space network.

## Estimated Dwelling and Population yields

The developable land assumptions provide a snap-shot of relatively unconstrained areas that may be suitable for or contribute to urban development, subject to more detailed technical assessment that will be prepared to inform the IIDP and Framework Plans. Urban development in this context includes typical land uses such as residential, recreation, employment, infrastructure et al.

To calculate the high level dwelling and population figures, consideration was given to the assumptions made about the potential dwelling per hectare densities for the three land use zones in the Developable Area i.e. residential densities per hectare for the UGZ, FZ and RLZ land. Also, assumptions have been made around likely encumbrances and public land provision based on the experiences with other growth areas in the municipality such as Armstrong Creek. Assumed typical average household sizes have also been borrowed from other growth areas.

It is considered necessary to provide a dwelling and population range. This will allow for technical assessments to be undertaken in a manner which is more strategic in their approach cognisant of the future planning phases that will refine eventual land use outcomes for the Growth Area.

**The assumed dwelling yield range is 16,000 - 18,000.** *(This is based on an average of 15.4 dwellings per hectare for the Farming Zone and Urban Growth Zone land. For the Rural Living Zone land, an average 6.4 dwellings per hectare has been applied.)*

**The assumed population range is 44,800 - 50,400.** *(This is based on the total dwelling yield multiplied by the anticipated average household size of 2.8.)*

### 7.1.2.3 Key Technical Report Considerations

The purpose of this section is to provide the Project consultants with direction about key technical issues. The principal reference tool for this information is the G21 RGP Implementation Plan Background Report. The key topics and issues discussed below are not exhaustive and it should be expected that individual scope of works will provide greater clarity about the background, key issues and requirements to be undertaken.

**Appendix 2** provides a snap shot of key toolkits that should be used in the preparation of technical reports. Appendix 2 is not exhaustive and it is expected that other toolkits will be utilised by the Project consultants in the preparation of their technical work.

Note: Given the Study Area boundaries are different to those contained in the G21 RGP Implementation Plan, technical reports undertaken in the past, which were used to assist preparation of the Implementation Plan Background Report, should be used as a reference tool cognisant of the fact that new studies will be required for the larger Study Area boundaries.

## - Geotechnical/Hydrogeological/Contamination

The location of the Lovely Banks monocline in the eastern part of the Study Area will require attention to be based on potential instability issues and slope. Understanding the extent of instability and slope in this area will inform future land use and subdivision i.e. appropriate land uses, development densities, and potentially undevelopable land. The role and function of this area in terms of provision of stormwater drainage pipes and detention basins will also need to be considered.

An understanding of the existing geological conditions across the site is also required to inform opportunities and constraints on constructability (including presence of rock).

## **- Flood Impact Assessment and Stormwater Management**

Land in the Study Area falls within eight drainage catchment or sub-catchment boundaries. Analysis of each catchment or sub-catchment will be fundamental to understanding the impact of urban development and how development could be integrated without worsening existing downstream or upstream conditions. The flood management and drainage matters combined with steep terrain in the Study Area are significant site constraints.

The Study Area slopes to the east with some land being above 12% and up to 18% - 20% on the gullies. This is challenging terrain around, which to design and construct a stormwater network.

The existing role and function of the RLZ west of Bacchus Marsh Road and potential future role in the growth area is important to understand. The investigation of this area as a potential employment precinct needs to be considered particularly in relation to managing surface water run-off. Broader catchment issues need to be considered if this area is to play a role in terms of drainage. Sensitivity testing will be required for different land use scenarios (as listed in Movement and Access below).

As part of the analysis of drainage and flooding in the Study Area, a Flood Impact Assessment and Stormwater Management Strategy will be required which includes key water quality considerations. The strategy is to be formulated in the context of a broader Integrated Water Cycle Management (IWCM) approach.

The Strategy must demonstrate no adverse impact within the catchment upstream and downstream (under developed conditions) within the Study Area. The strategy is to investigate opportunities to rationalise the method of conveying and delivering storm flows across Bacchus Marsh Road to the GREP and the Rural Living developments east of Bacchus Marsh Road. The limits of the Flood Impact Assessment (existing and developed conditions) will be provided by Council. A whole of catchment approach must be considered and provision in the modelling is to be made for the ultimate development of Lara West and the GREP noting the very flat catchment for Hovells Creek. Existing flood studies need to be considered. Council will provide the extents of the Flood Impact Assessment required.

Input into the development of a sequencing strategy is required in order to facilitate efficient and sustainable development and assess the effects of out-of-sequence development.

## **- Movement and Access**

Bacchus Marsh Road provides a key north-south route and connection to the Geelong Ring Road and the broader city. Consideration should be given to the need for additional access points off Bacchus Marsh Road into the Study Area. Similar to Bacchus Marsh Road, Anakie Road is the other key route that will provide access to the broader growth area via the Geelong Ring Road.

The movement and access strategy must address active transport including opportunities to connect to existing shared paths external to the Study Area. Consideration should be given to the identification of public transport options and corridors to key locations such as the GREP, Corio Village shopping centre, Lara and North Shore railway stations and Central Geelong. Such opportunities should inform land use planning.

The movement and access strategy must consider the role of different areas in the Study Area including the Urban Growth Zone land, Rural Living Zone land (west of Bacchus Marsh Road) and the Rural Living Zone land (all other areas). For example, scenario testing should be undertaken for the RLZ land west of Bacchus Marsh Road to consider potential land use options, such as:

- the area remains as a rural living area with no growth area development role,
- the area provides for a mix of uses in addition to rural living such as employment along key additional access routes into the broader growth area; or
- the total area incrementally becomes an employment node.

Input into the development of a sequencing strategy is required in order to facilitate efficient and sustainable development and assess the impacts of out-of-sequence development.

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## **- Flora and Fauna**

The Study Area is largely affected by Schedule 4 of the Environmental Significance Overlay (ESO4), with the exception of a pocket of Rural Living Zone land to the southern extent. The areas within the overlay form part of the Victorian Volcanic Plains Bioregion.

There is a need for a detailed assessment of land within the revised Study Area boundary. The G21 RGP Implementation Background Report states that a vegetation assessment of remnant vegetation assessment and identification of offsets is required to inform land use and open space planning and subdivision layouts. The Background Report notes that this work should be undertaken in consultation with DEPI (now DELWP) and could be used to inform the future extent of the ESO4.

There is also a need to determine the likelihood of significant fauna species occurring in the Growth Area. This includes investigation of Growling Grass Frog, Striped Legless Lizard and Golden Sun Moth, of which are listed under the Flora and Fauna Guarantee Act 1988. Investigation should also be undertaken to determine the potential for habitat for these species.

## **- Activity Centre and Employment**

One of the key considerations for this technical report is whether the Growth Area has the ability to provide employment opportunities, primarily through activity centre and commercial nodes to achieve a one job per household benchmark.

Consideration must be given to Council's adopted Retail Strategy (2006) including the provisions contained in the Greater Geelong Planning Scheme such as the retail activity centre hierarchy. Ensuring the primacy of existing and planned centres identified in the retail activity centre hierarchy is important. The preparation of an activity centre and employment strategy for the Northern Growth Area must have regard to these objectives and strategies contained in the Planning Scheme.

Key existing retail centres proximate to the Growth Area include the Corio sub-regional shopping centre, the newly developed neighbourhood activity centre at Lara Town Centre with a new Woolworths supermarket currently under construction, the planned neighbourhood activity centre and local activity centre at the Lara West Growth Area.

Note: Council is currently reviewing the adopted Retail Strategy 2006. The status of the review is near completion and is expected to be completed during Phase 1 of the Project. Consequently, it is expected that the updated Strategy will provide the underlying context to the technical report. The Project team will provide an update on the review at the time of preparing the scope of works for the technical report.

Given the lack of detailed analysis about employment land requirements within the Northern Growth Area and cognisant of surrounding employment nodes, it is challenging to assume at this stage what provision will be required. Notwithstanding this, an indicative figure of 160ha (10% of the net developable area (1618ha)) is a logical starting point.

In terms of potential employment locations within the Study Area, consideration should be given to the locational attributes of the Rural Living Zone land west of Bacchus Marsh Road, as an option for the provision of employment land as discussed previously. The importance of nearby existing employment nodes, not least the GREP and Avalon Airport, must be considered in any employment provision strategy.

## **- Cultural Heritage**

The Northern Growth Area includes little in the way of known heritage constraints. A single registered Aboriginal Heritage Place (Pre-contact) located north of Elcho Road while a number of other registered sites are located to the southern extent of the Study Area boundary adjoining the Geelong Ring Road. Further investigation should be undertaken to determine the status of these areas and subsequent planning processes including Cultural Heritage Management Plan. The Elcho Homestead on Bacchus Marsh Road and Barwon Water tanks represent Post-contact cultural heritage within the Study Area.

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## 7.1.3 Western Geelong Growth Area- Key Assumptions

### 7.1.3.1 Study Area

The need to revise the notional Western FIA boundary identified in the G21 RGP Implementation Plan was based on a desire to provide a logical study area that could be used to inform the necessary technical work that will be prepared to input to the preparation of the IIDP and Framework Plans.

**Figure 14** below shows the Western Geelong Growth Area Study Area. The revised boundary has been drawn based on the consideration of a range of inputs, including the RGP Implementation Plan and Background Report and other resources available to Council officers.

The Study Area is approximately 3,240 hectares in size.

The Study Area reflects a larger boundary to that used in the RGP Implementation Plan. The principal reason for this was to ensure that a holistic approach was adopted for not only the land included in the RGP Implementation Plan Western FIA boundary but also, nearby key land uses. Land that has been added to the Study Area includes the Batesford township, surrounding Rural Living Zone land, and land to the north of the Batesford Township Zone adjoining the eastern boundary of the Moorabool River. Additional land has also been included which extends as far down as the Barwon River adjoining the Geelong Ring Road. The role of the Batesford township and its immediate environs are a key consideration in the strategic planning for the growth area. Acknowledging the role of adjoining land uses in terms of facilitating a better land use outcome is key to the success of this area.

**Importantly, the Study Area does not represent the ultimate development extent of the growth area. Land within the Study Area may or may not be suitable for urban development depending on the extent of constraints and subject to further analysis.**

Figure 14 Western Geelong Growth Area- Study Area

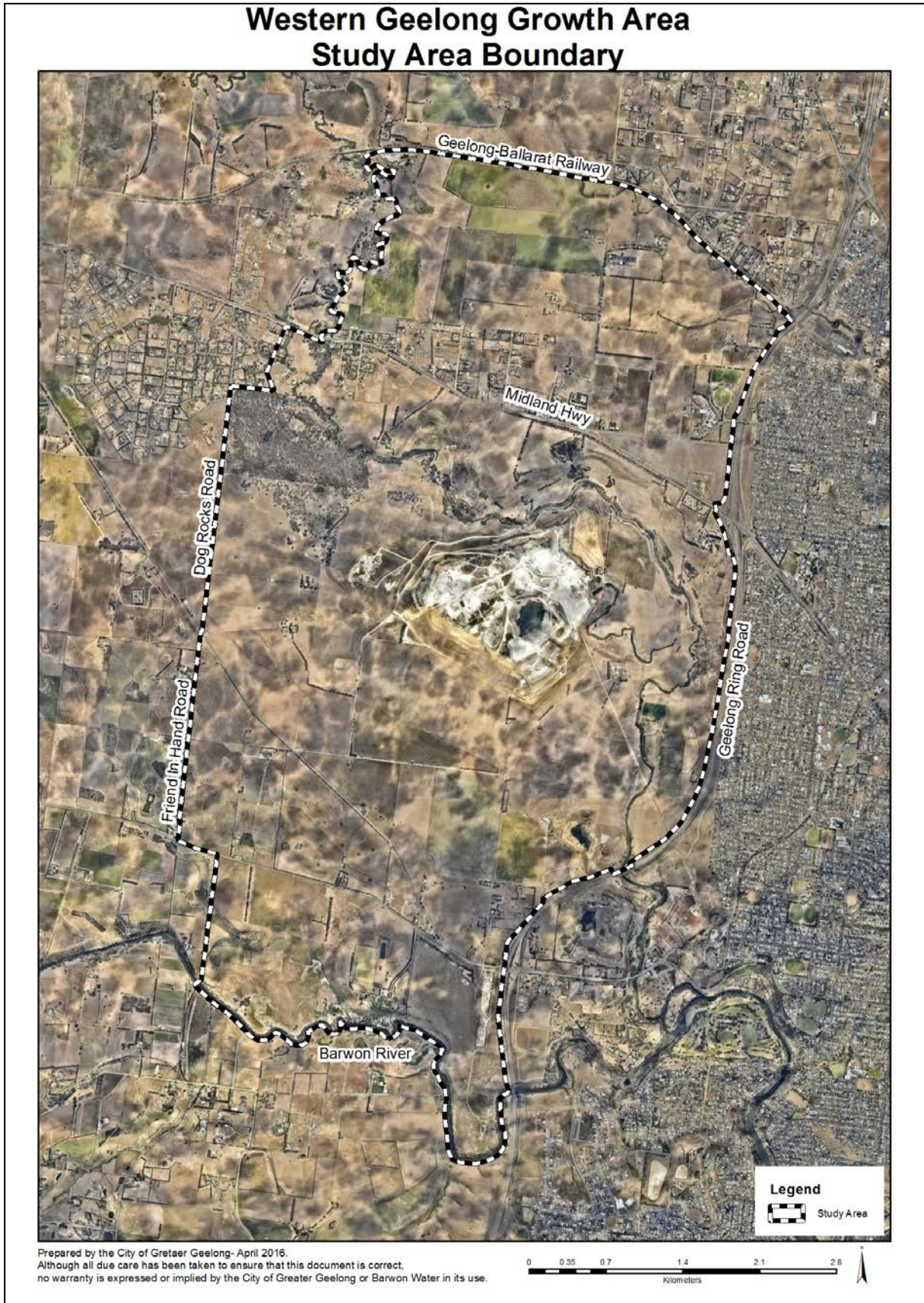


Figure 15 Western Geelong Growth Area- Planning Zones

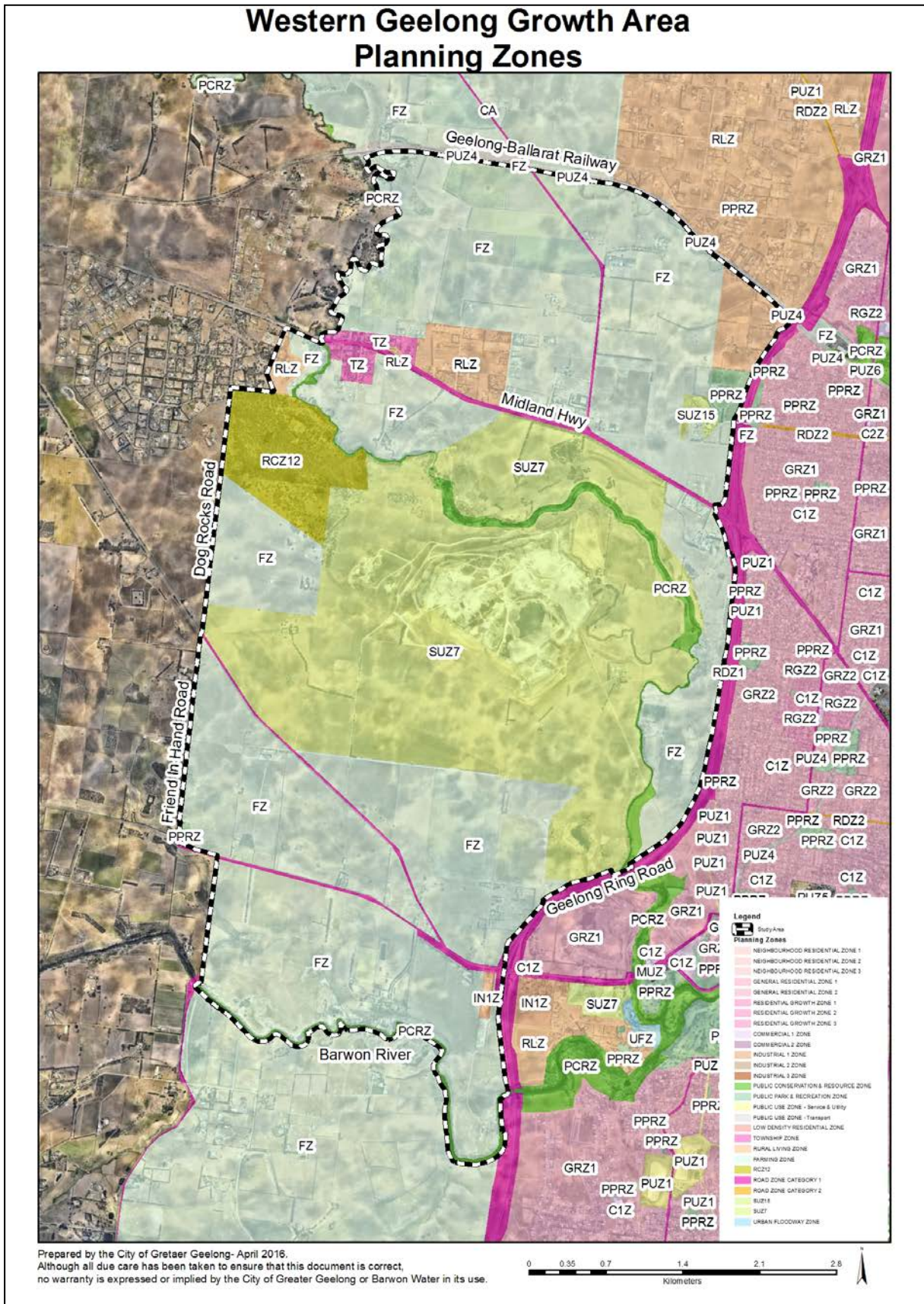
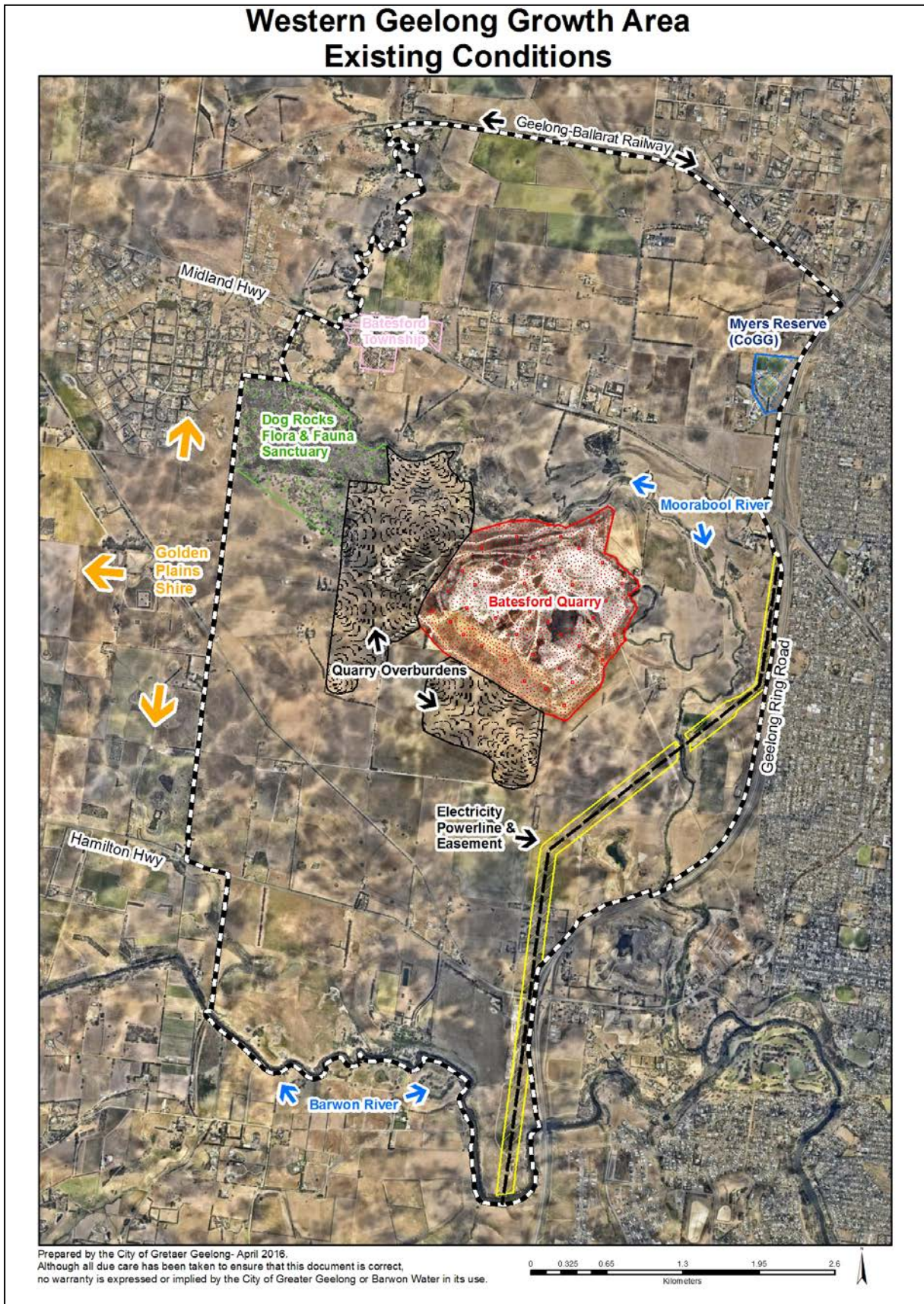




Figure 17 Western Geelong Growth- Existing Conditions



### 7.1.3.2 Development Area

The key assumptions about developable land will be used to inform the initial stages of the IIDP and future Framework Plan. Assumptions about developable land in the Study Area have enabled the calculation of estimated dwelling yield and population. The purpose of providing high-level dwelling and population figures at this stage in the Project is to establish a platform from which technical consultants can initiate their assessments.

#### Undevelopable Land Assumptions

The developable land assumptions for the Western Growth Area have been largely determined by excluding any known key land use constraints and any undevelopable existing land uses within the Study Area. This provides a relatively high-level approach to calculating potentially developable land that is subject to further assessment as the Project progresses, primarily through the early technical reports.

It has been determined that the following land uses/areas are undevelopable for the purposes of growth area development (this list is not exhaustive and may be subject to change as the Project progresses):

- Batesford Quarry;
- Basaltic quarry (inoperative)- proximate to Geelong Ring Road;
- Overburdens;
- Areas with steep slopes;
- Land within the AusNet electricity transmission powerline easements (assumed 70m);
- Significant areas of land designated flood prone e.g. land north of the Barwon River and land east of the Moorabool River at the northern extent of the Study Area;
- Natural waterways (Barwon River and Moorabool River) and associated riparian corridors (50m buffer zones on both sides);
- Batesford township (land within the Township Zone);
- Dog Rocks Reserve (land within the Rural Conservation Zone);
- Council owned/managed land (land within the Public Park and Recreation Zone); and
- Covenant College.

#### Estimated Development Area Assumption (high-level)

The estimated development area (less the undevelopable land discussed above) is approximately **1793ha**.

It should be noted that some areas of land included in the development area figure may not be suitable/desirable for urban development. For example, consideration might be given to the need to provide appropriate breaks between existing urban areas/townships, additional land may be required for conservation, provision of buffers or some land might just be unviable.

#### Development Area Assumptions

Based on the estimated development area, a number of assumptions are set out below which provide a high-level framework to inform the preparation of the IIDP and future Framework Plan.

Land within the development area comprises a range of land use zones including the Special Use Zone (SUZ), Farming Zone (FZ), and Rural Living Zone (RLZ).

#### - Batesford Quarry

The Batesford Quarry is a significant consideration in terms of planning for its use once operation has ceased. The lifetime of the quarry is expected to be in the order of 10-20 years. As part of the wider development of the Growth Area, there is a need to consider the role of the quarry in terms of its future land use. The quarry presents a significant opportunity to create a distinctive growth area with a unique sense of place.

Both Council and the Land Consortium Group (Batesford South) should work closely together to determine an appropriate use/s for the quarry as part of the future strategic planning for the area. It is envisaged that the management model is unlikely to involve a public land manager. Under a

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development scenario there is an opportunity to transform the quarry into a potential regionally significant asset. There is a need to undertake an analysis of the quarry in terms of its future use including whether it could be used for commercial and/or recreational ventures, or a multitude of economic ventures. This analysis needs to be undertaken during the early phases of the Project to inform the future land use planning stages at Phase 2.

There are a number of considerations that must be addressed in the early phases of the Project. These include: to what extent will the rehabilitation plan go to ensure the quarry will be a usable asset in the future; what will be the likely use of the quarry pit once the rehabilitation plan has been completed; are there recreational benefits to the quarry once it has filled with ground water which is expected to take in excess of 20 years; are there any other land use or infrastructure benefits that might be gained by the quarry once it has filled with groundwater; could the quarry groundwater be used a regional source of water supply connected into the broader infrastructure network.

Further detailed discussion is provided on this issue in the G21 RGP Implementation Background Report (Pages 79-84).

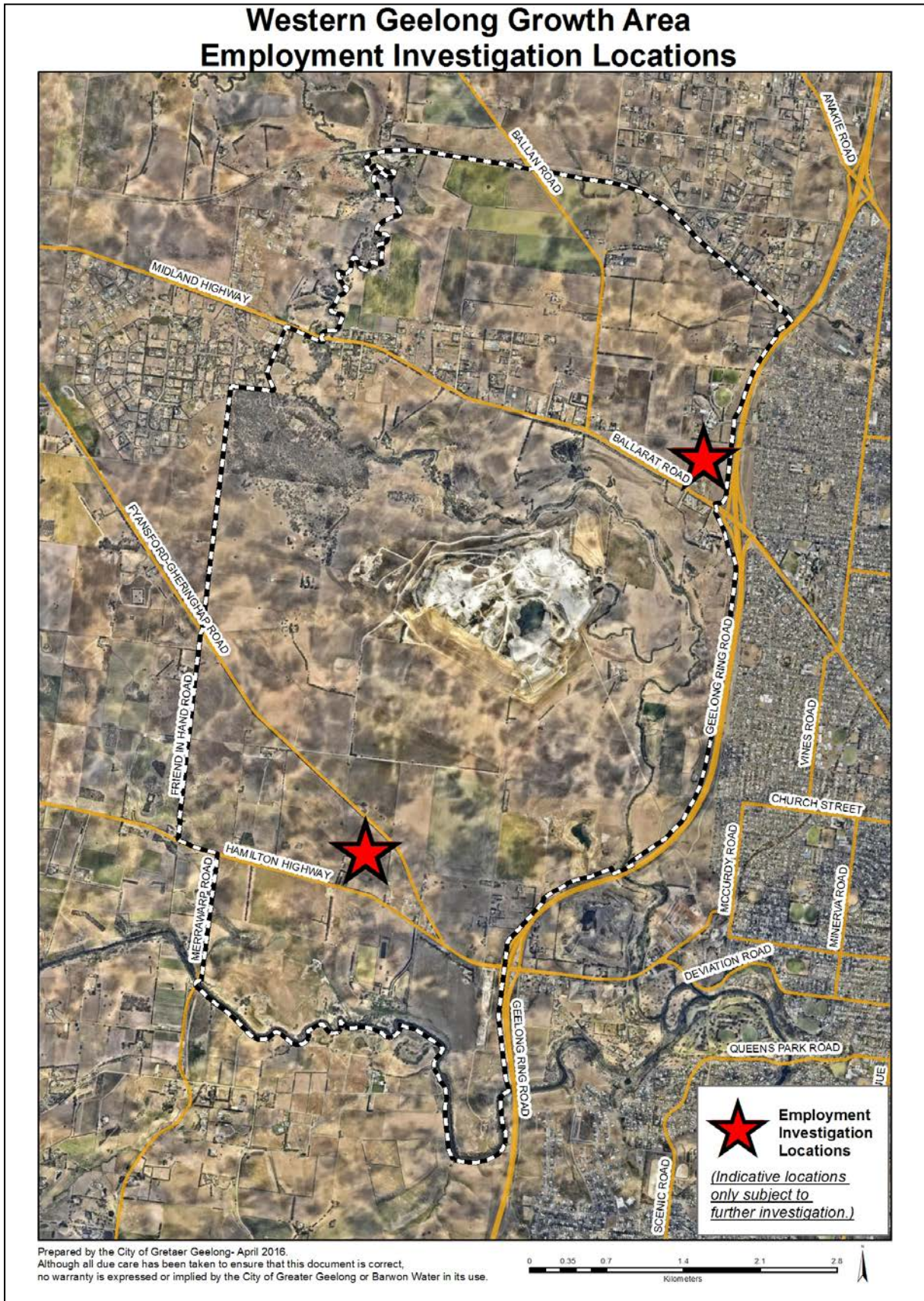
### **- Employment**

There is a requirement to determine the need for employment land within the Study Area given its peripheral location to urban Geelong and existing employment nodes and importantly, whether the Growth Area has the ability to or needs to achieve a one job per household benchmark.

Given the lack of technical analysis into the need for employment land in the Study Area, there will be a requirement for a detailed assessment of potential employment land requirements including location analysis.

Notwithstanding its peripheral location, the Study Area benefits from a number of key arterial routes that traverse the boundary. The major routes include the Midland Highway and the Hamilton Highway both of which have direct access to the Geelong Ring Road and urban Geelong. Adopting a first principles approach to planning for employment land within the Study Area, it is logical to assume a number of locations adjoining these key arterial routes are investigated for their suitability. **Figure 18** below provides a location map of indicative areas within the Study Area that should be investigated. Investigation should not be limited to these locations. Notwithstanding this, there is logic to the direction of employment nodes in these areas.

Figure 18 Western Geelong Growth Area- Employment Investigation Locations



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### **- Batesford Township and surrounds**

The Batesford township has been included in the Study Area to ensure that due consideration is given to its role as a township, existing resident population and location on the Midland Highway.

Including the township within the Study Area will ensure that the future land use planning stages as part of Phase 2 of the Project has regard to this area and its immediate environs. The township requires a strategic approach, which considers the future role of the township in the context of the broader Growth Area.

It is assumed that future land use planning stages will have regard to the potential impacts of encroachment on the township and the potential need for key access routes into the broader growth area either side of the township from the Midland Highway.

The G21 RGP Implementation Report provides discussion in relation to interface considerations. This includes the need to maintain the rural character of Batesford and the Dog Rocks Road area and preserve a distinct visual break between urban development and the Batesford/Dog Rocks rural residential areas.

### **- Rural Living Zone land- east of the Batesford township**

It is assumed that this pocket of Rural Living Zone land will come under pressure for more intensive urban development as a consequence of the broader growth area planning in the Study Area. The area provides a rural living edge to the eastern boundary of the Batesford township and consideration needs to be given to the extent of development that could be achieved in this area without encroaching on the township, notwithstanding any potential limitations within the rural living node itself.

The land in this area has been included in the Development Area calculations. However, given its multiple-landownership, rural-living style lot sizes, and likely drainage and sewer infrastructure issues, it is assumed that the potential development yield for this area will be far less than that assumed for typical growth area development. For the purposes of the Context Report and facilitating a high-level dwelling and population yield, a residential dwelling density range of 6-8 dwellings per hectare has been assumed.

### **- Farming Zone land**

It is assumed that the numerous areas of Farming Zone land within the Study Area have the potential for urban development in the form of residential land use and associated uses. Consideration will need to be given to the interface treatments between the Farming Zone areas and known constraints, this may impact on the amount of land in the Development Area.

The Farming Zone land north of the Midland Highway has good opportunities to provide for urban development with limited land use constraints. Its proximity to the Midland Highway, the Geelong Ring Road and the outer edge of urban Geelong provide a good context for the future land use planning of the area. It is assumed that this area will largely be developed for residential purposes. Additionally, the role of the Midland Highway must be considered in terms of potential location of employment land, as discussed in the previous section.

The Farming Zone land south of the Hamilton Highway is largely constrained by the flooding associated with the Barwon River. This encumbered land has been excluded from the Development Area. Consequently, assumptions will need to be made about the use of the flood prone land and whether there is opportunity to connect to the broader Barwon River open space network. Consideration about the land between the Hamilton Highway and the flood prone land is important in so far as connectivity to the broader growth area, its suitability for residential development or other land uses such as employment and the Hamilton Highway in terms of its known capacity issues further east of the Geelong Ring Road.

### **- Special Use Zone land**

Land that is included in the Special Use Zone principally contains the quarry pit and associated land uses including overburdens. For those areas not directly associated with the active quarry pit and associated overburdens, it is assumed that they will be investigated for urban development.

The lifetime of the quarry and the role of associated land uses such as key service vehicle routes to the quarry pit need to be considered. This will ensure that future land uses do not prejudice the active quarry operations nor sensitive land uses are located close to these industrial activities. Development scenarios whereby sensitive land uses such as residential development are located proximate to these areas need to consider the potential impact of industrial operations including such matters as noise and air pollution. A key tool that should be used is the implementation of a staging plan for the broader growth area. A staging plan could consider development phases in the outer areas of the Study Area moving inwards as the quarry operation starts to downgrade or the rehabilitation plan nears completion.

### - Open Space

It is assumed that open space requirements through residential development will be provided in line with the provisions of the Greater Geelong Planning Scheme. The standard provision requirement is 10% (unencumbered land). Unencumbered land means that the land provided for open space is usable and not affected by encumbrances such as flooding.

Given the unique characteristics of land within the Study Area, either through natural or man-made processes, it is assumed that there will be large areas of encumbered land provided as open space. (Note- these areas will not contribute to the standard 10% open space provision requirements discussed above.) Such areas within the Study Area include the overburdens or land affected by flooding/drainage issues along the main river/creek corridors. Land within the Moorabool River, Barwon River and Cowies Creek riparian corridors will need to be considered for their contribution towards the open space network, the ability to connect to broader open space networks around the Study Area, and the need to maintain their biodiversity values. Existing reserves within the Study Area should also be incorporated into the natural/passive open space network allowing for the creation of links to these highly valued natural assets.

### Estimated Dwelling and Population yields

The developable land assumptions provide a snap-shot of relatively unconstrained areas that may be suitable for or contribute to urban development, subject to more detailed technical assessment that will be prepared to inform the IIDP and Framework Plans. Urban development in this context includes typical land uses such as residential, recreation, employment, infrastructure et al.

To calculate the high level dwelling and population figures, consideration was given to the assumptions made about the potential dwelling per hectare densities for the three land use zones in the Development Area i.e. residential densities per hectare for the SUZ, FZ and RLZ land. Also, assumptions have been made around likely encumbrances and public land provision based on the experiences with other growth areas in the municipality such as Armstrong Creek.

Assumed typical average household sizes have also been borrowed from other growth areas. It is considered necessary to provide a dwelling and population range. This will allow for technical assessments to be undertaken in a manner which is more strategic in their approach cognisant of the future planning phases that will refine eventual land use outcomes for the Growth Areas.

**The assumed dwelling yield range is 18,000 – 22,000.** (*This is based on an average of 15.4 dwellings per hectare for the Farming Zone and Special Use Zone land. For the Rural Living Zone land, an average 6.4 dwellings per hectare has been applied.*)

**The assumed population range is 50,400 – 61,600.** (*This is based on the total dwelling yield multiplied by the anticipated average household size of 2.8.*)

### 7.1.3.3 Key Technical Report considerations

The purpose of this section is to provide the Project consultants with direction about key technical issues. The principal reference tool for this information is the *G21 RGP Implementation Plan Background Report*. The key topics and issues discussed below are not exhaustive and it should be expected that individual scope of works will provide greater clarity about the background, key issues and requirements to be undertaken.

**Appendix 2** provides a snap shot of key toolkits that should be used in the preparation of technical reports. Appendix 2 is not exhaustive and it is expected that other toolkits will be utilised by the Project consultants in the preparation of their work.

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Note: Given the Study Area boundaries are different to those contained in the G21 RGP Implementation Plan, technical reports undertaken in the past, which were used to inform the Implementation Plan Background Report should be used as a reference tool cognisant of the fact that new studies will be required for larger Study Area boundaries.

### **- Geotechnical/Hydrogeological/Contamination**

The geotechnical and groundwater conditions of the site are numerous and complex due to the existing quarry and stockpiles as well as other areas of steep topography and significant geological features. The proposed rehabilitation works (including ceasing dewatering to create a lake) at the quarry will introduce further aspects for consideration.

An understanding of the extent of potential instability, potential contamination, geological features and characteristics, steep slopes, groundwater levels, maintenance and erosion risks is key to informing future land use planning.

The scope of work for the geotechnical/hydrogeological/contamination study requires comprehensive identification and analysis of such risks, building upon work already completed, in order to provide additional confidence in the planning process. This work will also include identification of further investigation work required on areas of significant uncertainty.

### **- Flora and Fauna**

The G21 RGP Implementation Plan Background Report (P.69) states that it is highly likely the Study Area supports a range of ecological values including nationally and Victorian listed threatened flora and fauna, other native flora and fauna, remnant native vegetation, National and State listed grassy woodland and grassland communities. These values can be largely attributed to the Dog Rocks Flora and Fauna Sanctuary, the Moorabool River, Barwon River and Cowies Creek riparian corridors. Other important biodiversity adjoining the Study Area west of Dog Rocks Road include the Dog Rocks Reserve and Red Gums Reserve.

Schedule 1 to the Environmental Significance Overlay affects the Dog Rocks Flora and Fauna Sanctuary, land to the north of the sanctuary including the Batesford township and Moorabool River corridor and also land adjoining the Geelong Ring Road. The ESO1 recognises the significance of the habitat and areas of natural or geological interest.

A comprehensive ecological assessment of the Study Area is required, including targeted seasonal flora and fauna surveys to ascertain the biodiversity assets and ecological values present. The methodology used in the assessment should be designed in consultation with the relevant State Government body (G21 RGP Implementation Plan Background Report; P. 69).

There is also a need to consider the likely range of environmental approvals at local, state and commonwealth levels.

### **- Flood Impact Assessment and Stormwater Management**

Land in the Western Growth Area falls within more than ten drainage catchments or sub-catchments. Analysis of each catchment or sub-catchment will be fundamental to understanding the impact of urban development and how development could be integrated without worsening existing downstream or upstream conditions. The flood management and drainage matters combined with steep terrain in the Study Area are significant site constraints.

As part of the analysis of drainage and flooding in the Western Growth Area, a Flood Impact Assessment and a Stormwater Management Strategy will be required which include key water quality considerations. The flooding and drainage strategy is to be formulated in the context of a broader Integrated Water Cycle Management (IWCM) approach.

The Moorabool River diversion channel in parts resembles a formed urban drain rather than a natural water course even though abutting landscaping of the artificial riparian zone is quite successful and aesthetic. The option of modifying the existing or re-establishing the remainder of the original bed and banks is to be considered.

During the modelling of the Barwon and Moorabool Rivers and Cowies Creek, the opportunity exists for integration with the upcoming/concurrent CCMA Lower Barwon Catchment Flood Investigation.

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Careful consideration needs to be taken when considering drainage solutions for the large and relatively flat area around the south east end of the Hamilton Highway.

The Strategy must demonstrate no adverse impact within the catchment upstream and downstream (under developed conditions) within the Study Area. The limits of the Flood Impact Assessment (existing and developed conditions) will be provided by Council. A whole of catchment approach must be considered and provision in the modelling is to be made for the ultimate development of the nearby Fyansford Green area. Existing flood studies need to be considered. Council will provide the extents of the Flood Impact Assessment required.

Input into the development of a sequencing strategy is required in order to facilitate efficient and sustainable development and assess the effects of out-of-sequence development.

#### **- Movement and Access**

The Midland Highway provides a key east-west route and connection to the Geelong Ring Road and the broader city. To the south, Hamilton Highway is the other key route that will provide access to the broader growth area via the Geelong Ring Road and Deviation Road/Hyland Way.

The movement and access strategy must address Active Transport, including opportunities to connect to existing shared paths external to the study area (e.g. Barwon River pathways).

The report needs to carefully analyse connections to the east. This includes upgrade opportunities for the Midland Highway (to tie in with other external strategic regional upgrade plans) and existing constraints on capacity and upgrade opportunities for Deviation Road and Hyland Street which would connect the Growth Area with Central Geelong. Full development of the nearby Fyansford Green area is to be assumed.

The Ballarat-Geelong railway line abuts the northern site boundary which provides potential public transport opportunities as does the disused rail spur east of the Ring Road. The report needs to investigate opportunities and feasibilities for longer term rail connections as well as for bus corridors in the short and long term.

Input into the development of a sequencing strategy is required in order to facilitate efficient and sustainable development and assess the effects of out-of-sequence development.

#### **- Flora and Fauna**

The G21 RGP Implementation Plan Background Report (P.69) states that it is highly likely the Study Area supports a range of ecological values including nationally and Victorian listed threatened flora and fauna, other native flora and fauna, remnant native vegetation, National and State listed grassy woodland and grassland communities. These values can be largely attributed to the Dog Rocks Flora and Fauna Sanctuary, the Moorabool River, Barwon River and Cowies Creek riparian corridors. Other important biodiversity adjoining the Study Area west of Dog Rocks Road include the Dog Rocks Reserve and Red Gums Reserve.

Schedule 1 to the Environmental Significance Overlay affects the Dog Rocks Flora and Fauna Sanctuary, land to the north of the sanctuary including the Batesford township and Moorabool River corridor and also land adjoining the Geelong Ring Road. The ESO1 recognises the significance of the habitat and areas of natural or geological interest.

A comprehensive ecological assessment of the Study Area is required, including targeted seasonal flora and fauna surveys to ascertain the biodiversity assets and ecological values present. The methodology used in the assessment should be designed in consultation with the relevant State Government body (G21 RGP Implementation Plan Background Report; P. 69).

There is also a need to consider the likely range of environmental approvals at local, state and commonwealth levels.

## **- Activity Centre and Employment**

A key consideration for this technical report is whether the Growth Area has the ability to provide employment opportunities, primarily through activity centre and commercial nodes to achieve a one job per household benchmark. Consideration needs to be given to the need for employment land uses beyond retail.

Consideration must be given to Council's adopted Retail Strategy (2006) including the provisions contained in the Greater Geelong Planning Scheme such as the retail activity centre hierarchy. Ensuring the primacy of existing and planned centres identified in the retail activity centre hierarchy is important. The preparation of an activity centre and employment strategy for the Western Growth Area must have regard to these objectives and strategies contained in the Greater Geelong Planning Scheme. The strategy will also need to take into account relevant Golden Plains planning policy, notably retail activity in the Bannockburn township.

Given the peripheral location of the Study Area, proximity to existing retail centres is limited. The closest retail activity centres to note would be located on Shannon Avenue, Highton and the Corio sub-regional shopping centre. A new activity centre will be developed at Fyansford (on land between Hyland Street and Deviation Road) as part of the ongoing residential development in the area. Notwithstanding this, there will be a need to consider the impact of any new retail provision within the growth area on the existing retail activity centre hierarchy.

Note: Council is currently reviewing the adopted Retail Strategy 2006. The status of the review is near completion and is anticipated to be completed during Phase 1 of the Project. Consequently, it is expected that the updated Strategy will provide the underlying context to the technical report. The Project team will provide an update on the review at the time of preparing the Scope of Works for the technical report.

Beyond the provision of retail activity centres, employment land will be required within the growth area to serve the residential population. Indicatively, a figure of 10% of the net developable area is a logical starting point for the provision of employment land.

It is assumed that the technical report will consider need and demand for employment land, including the different types of sectors that could be delivered. The importance of existing employment nodes around the Western Growth Area must be considered in any employment provision strategy (this includes employment areas in the City of Greater Geelong and Golden Plains Shire). The technical report will need to consider the employment investigation locations identified in the previous section.

## **- Cultural Heritage**

Given the course of the Moorabool River, Barwon River and Cowies Creek through the Study Area, there is potential for pre-contact cultural heritage. Areas within 200 metres of these waterways are included within areas of cultural heritage sensitivity. It should also be noted that there are 26 registered Aboriginal Heritage Places within the Study Area, generally confined to the Moorabool River environs. Confirmation of these sites and any additional areas must be identified and considered in the technical assessment.

Multiple Heritage Overlay's affect land within the Study Area reflecting the broad range of post-contact (European) heritage. There will be a need to undertake relevant survey work to identify whether there are any other sites of heritage value within the Study Area.

## **7.2 Cross- Growth Area Technical Considerations**

### **- Social Infrastructure Report**

Social infrastructure is generally understood to mean infrastructure of a communal, human or social nature that is required progressively as a community grows. Social infrastructure provides for both informal and formal places and spaces providing physical resources that are used substantially for community activities and services. Social infrastructure includes both facilities and services and is provided by the public and private sector.

A key component for both Growth Areas is to ensure that these areas are not remote and isolated from other communities, services and facilities.

Council will manage the delivery of a Social Infrastructure Report across both Growth Areas. The Report will identify what services and facilities are required, where these should be located, principles for their location and inform how services and facilities will be delivered including investment requirements for various tiers of government and relevant agencies.

### **- Environmentally Sustainable Design (ESD)**

The G21 RGP Implementation Plan includes a number of sustainability outcomes that are considered important to growth area planning including:

- Zero carbon
- Zero waste
- Sustainable water
- Sustainable transport
- Improved environmental outcomes
- Community infrastructure provision

Council will manage preparation of a technical report that will consider and make recommendations in relation to ESD opportunities for both Growth Areas which will be further developed during Phase 2 and 3 of the Project to test the feasibility of options.

### **- Integrated Water Cycle Management Plan (IWCM)**

The preparation of the IWCM Plans will be coordinated by Council and Barwon Water with involvement from key stakeholders.

The IWCM Plan should provide a high level concept plan for whole-of-water-cycle management solutions within the Growth Areas, providing a firm basis for urban liveability and water cycle system functionality, ahead of development pressures. It is assumed the preparation of IWCM Plans for the areas will provide a unique opportunity to ensure that Council is leading the agenda with respect to highlighting the role of the urban water cycle in contributing to long term benefits for residents, the local community and the environment.

Given the differences in landscape between each of the Growth Areas, it is assumed that two separate IWCM Plans will be prepared, whilst taking into account any impacts and issues that may be relevant to both areas.

The project aims should include:

- Identifying IWCM solutions at a high level that will provide for greater public amenity and liveability, enhance environmental values, reduce the use of potable water and increase use of alternative, fit for purpose water sources; and
- Improving processes for embedding IWCM in framework planning and enhance collaboration between urban water cycle stakeholders and developers.

## **8. CONCLUSION**

### **8.1 Conclusion**

The Context Report symbolises the initiation of the Northern and Western Geelong Growth Areas Project. It should be used as a “go-to” document for all parties involved in the planning for both Growth Areas. Importantly, the Context Report has drawn heavily on the suite of G21 documents referred to in this report. The G21 RGP Implementation Plan and Implementation Plan Background Report will continue to be of significance in the future planning stages of this Project.

As the NWGGA Project progresses, the initial considerations and assumptions included in the Context Report are likely to change. Notwithstanding this, the main benefit of the Context Report is to provide a baseline framework from which technical consultants can carry out their respective survey work. This technical work will input directly to the preparation of the initial phases of the IIDP and subsequent framework planning stages of the Project.

It is expected that the Northern and Western Geelong Growth Areas will benefit greatly from the preparation of an IIDP and respective Framework Plans, thus ensuring the creation of liveable, vibrant and cohesive communities.

## **Appendices**

## Appendix 1 Armstrong Creek Urban Growth project- Lessons Learned

The Armstrong Creek Urban Growth Project represents one of the most significant strategic planning and implementation projects within the City of Greater Geelong, and has been included as a Council priority project.

The growth area as a whole represents close to \$20 billion in investment in infrastructure, subdivision, residential, commercial and industrial development.

The project required a rigorous framework for innovative planning, best practice infrastructure and development, supported by a strong advocacy framework to ensure timely and appropriate investment.

The project commenced with a series of visioning workshops in 2005 and in the intervening time has seen the delivery of a high quality urban development, supported by strong investment from infrastructure agencies and State Government.

The Armstrong Creek project provides an ideal case study for the NWGGA Project, and a perfect opportunity to reflect back on some of the lessons learnt during the first 10 years of the Armstrong Creek Urban Growth Project.

### Looking Back, before Looking Forward

In early 2016, a survey was conducted with current and former project team members who worked on various components of the Armstrong Creek Urban Growth Project.

The staff contacted were all current or former members of the Armstrong Creek Project team, including staff from State Government who formed part of the Project's planning partnership,

The focus of the survey questions related to the planning and delivery of:

- Armstrong Creek Urban Growth Plan (ACUGP);
- Armstrong Creek Integrated Infrastructure Delivery Plan (IIDP);
- Precinct Structure Plans (PSPs); and
- General on-ground works, housing and infrastructure.

The survey and discussion also focus on potential opportunities for the NWGGA Project relating to gaps or learning from the Armstrong Creek projects.

### Armstrong Creek Lessons- Major Themes

The first area of feedback involved the major lessons from the Armstrong Creek Urban Growth Project.

The feedback from staff identified eight major themes listed below.

- a) Strong Vision
  - Must be embedded in everything right down to detailed implementation
- b) Strong Governance
  - MoU
  - ICCC audit criteria (Integrated Control, Capability and Capacity demonstrated by developers prior to initiating Precinct Structure Plans processes).
  - Project champions.
  - Strong / structure communication with Government Departments, developers and politicians.
- c) Strong Political Support
  - Councillors and State and Federal Government.
- d) Infrastructure delivery
  - Strong planning via Integrated Infrastructure Delivery Plan (IIDP).
  - Good outcomes – Recycled Water, Bannip Bld, Waurn Ponds Train Station.
  - Poor outcome – Delay in community facilities and services.

- 
- e) Employment – Planning, Implementation and Realisation (1 job / household)
    - Is one of the most significant challenges in all greenfield growth urban planning.
    - Ideally employment areas should get a head start on residential development due to their long start-up periods and development horizons.
  - f) Housing diversity and neighbourhood character
    - Limited variation in residential block size and housing typology.
    - Struggling to realise true medium / high density housing.
  - g) Open Space and Trees – Public and Private
    - Great public open space outcomes.
    - Undesirable private open space outcomes due to small lots size, large houses and limited housing diversity.
  - h) Challenges of Fragmented Land Ownership
    - Places large responsibility on Council to facilitate development (through infrastructure and land acquisition)

### **Opportunities for the NWGGA Project**

In addition to the general feedback provided above, all staff were given an opportunity to provide further feedback or suggest any opportunities that would be beneficial for the NWGGA Project, particularly drawing upon their Armstrong Creek experience and/or new innovations and policy trends.

The feedback from staff identified four major themes relating to areas of opportunity for the NWGGA Project. These are listed below.

- a) Early/Upfront Developer Agreements
  - Ability to facilitate early rights of access to land and easement creation for critical infrastructure and early community / recreation infrastructure provision.
- b) State Government *Back to Work Plan 2014*
  - Need to leverage this policy to attract early investment to provide employment outcomes for the two Growth Areas and broader Geelong.
- c) Project Champions
  - Early engagement and ownership (Councillors, Government Departments, Developers, Agencies, Officers, Politicians, etc.).
- d) Environmental Policy
  - Major progress with Local Government Environmental Sustainable Development (ESD) policy initiatives. Reflective of international trends in sustainability policy, technology and community expectations.
  - Heat Island effect – strong link to urban development outcomes.

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## Appendix 2 Planning Tools and Checklists

There are a number of best practice strategic land use and infrastructure planning industry tools available to assist in the planning, design and implementation of innovative and high quality infrastructure outcomes. These tools will be used during the planning process for the NWGGA Project.

These tools include, but are not limited to:

- **Urban Water Planning Guide**

<http://www.urbanwaterplanner.com.au/about/what-is-the-urban-water-cycle-planning-guide>

Initiative by the G21 Council's that was aimed at capturing total water management within urban planning (particularly early and integrated consideration of these issues).

- **Bicycle Network Victoria – Planning Checklist for Cycling and Practice Note**

<https://www.bicyclenetwork.com.au/general/for-government-and-business/3372/>

An easy guide and checklist for bicycle planning / active transport within new communities, suburbs, etc.

- **Victoria Integrated Transport Model (VITM)**

An adopted state wide transport model that provides a powerful tool for State and Local Government to plan future transport assets and services.

- **VicRoads:**

- **Guidance for Planning Road Networks in Growth Areas (Nov 15); and**
- **Road Network Operating Plans**

<http://consult.vicroads.vic.gov.au/road-networks-growth-areas>

These documents provide guidance on the development of effective road networks and corridors within / through growth areas and ensuring a balanced approach to the needs of various user groups and land uses.

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