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S5 Instrument of Delegation

Council to the Chief Executive Officer

S5 Instrument of Delegation – Council to Chief Executive Officer



Instrument of Delegation

In exercise of the power conferred by s11(1) of the Local Government Act 2020 (the Act) and all other powers enabling it, the Warrnambool City Council (Council) delegates to the member of Council staff holding, action or performing the position of Chief Executive Officer (CEO) the powers, duties and functions set out in the Schedule to this Instrument of Delegation,

AND declares that:

- This Instrument of Delegation is authorised by Resolution of Council passed on 4 October 2021;
- 2. The delegation:
 - 2.1. Comes into force immediately upon signing of this Instrument of Delegation,
 - 2.2. Is subject to any conditions and limitations set out in the Schedule,
 - 2.3. Must be exercised in accordance with any guidelines or policies which Council from time to time adopts; and
 - 2.4. Remains in force until Council resolves to vary or revoke it.

Signed on behalf of Warrnambool City Council by:

•	•	•	
Mayor – Cr. Vicki Jellie			
, -			
Chief Executive Officer			
Date:			
LIAIE			

S5 Instrument of Delegation – Council to Chief Executive Officer



SCHEDULE

The power to

- 1. Determine any issue;
- 2. Take any action; or
- 3. Do any act or thing

Arising out of or connected with any duty imposed, or function or power conferred on the Council by or under any Act.

Conditions and Limitations

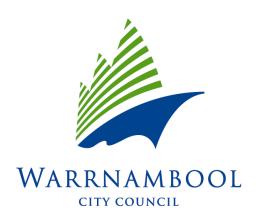
The delegate must not determine the issue, take the action or do the act or thing:

- 1. If the issue, action, act or thing is an issue, action, act or thing which involves
 - 1.1. Entering into a contract exceeding the value of \$400,000.00 (excluding GST);
 - 1.2. Making any expenditure that exceeds \$400,000.00 (excluding GST) unless it is:
 - 1.2.1. Expenditure made under a contract already entered into; or
 - 1.2.2. Expenditure which is, by or under legislation, required to make including insurance premiums, WorkCover premiums and employee superannuation payments, in which case it must not exceed \$2,000,000.00 (excluding GST);
 - 1.3. Appointing an Acting Chief Executive Officer for a period exceeding 28 days;
 - 1.4. Electing a Mayor or Deputy Mayor;
 - 1.5. Granting a reasonable request for leave under s35 of the Act
 - 1.6. Making any decision in relation to the employment, dismissal, or removal of the Chief Executive Officer;
 - 1.7. Approving or amending the Council Plan;
 - 1.8. Adopting or amending any policy that Council is required to adopt under the Act;
 - 1.9. Adopting or amending the Governance Rules;
 - 1.10. Appointing the chair or the members of a delegated committee;
 - 1.11. Making, amending or revoking a local law;
 - 1.12. Approving the Budget or Revised Budget;
 - 1.13. Approving the borrowing of money; or
 - 1.14. Subject to section 181H(1)(b) of the Local Government Act 1989, declaring general rates, municipal charges, service rates and charges and specified rates and charges;
- 2. If the issues, action, act or thing is an issue, action, act or thing which is required by law to be done by Council Resolution;
- If the issue action, act or thing is an issue, action, act or thing which Council has
 previously designated as an issue, action, act or thing which must be subject of a
 Resolution of Council;

S5 Instrument of Delegation – Council to Chief Executive Officer



- 4. If the determining of the issue, taking of the action or doing of the act or thing would or would be likely to involve a decision which is inconsistent with a policy or strategy adopted by Council;
- 5. If the determining of the issues, the taking of the action or the doing of the act or thing cannot be the subject of a lawful delegation, whether on account of s11(2)(a)-(n) (inclusive) of the Act or otherwise; or
- 6. The determining of the issue, the taking of the action or the doing of the act or thing is already the subject of an exclusive delegation to another member if Council staff.



Procurement Policy

POLICY TYPE: Council

APPROVAL DATE: [insert] October 2021

REVIEW DATE: June 2025



DOCUMENT CONTROL

Document Title:	Procurement Policy		
Policy Type:	Council		
Responsible Branch:	Legal, Strategy and Procurement		
Responsible Officer:	General Counsel, Strategy and Procurement		
Document Status:	Draft		
Approved By:	Council		
Adopted Date:	October 2021		
Review Date:	June 2025		

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1. INTRODUCTION

1.1. Purpose and scope

Council is required under section 108 of the *Local Government Act 2020 (Vic)* (**Act**) to prepare and adopt a Procurement Policy. In accordance with the Act, this Policy specifies the key principles, processes and procedures applying to the purchase of Goods, Services and Works by Council.

This Policy has been developed in consultation with the South West Regional Councils with a view to facilitating smooth collaborative procurement processes, consistent with the Act.

This Policy applies to all procurement activities undertaken by Council and applies to Councillors, Council Officers, Committees, contractors and consultants in all circumstances while engaged by Council. The role of Councillors under this Policy is not an administrative rather but limited to the final assessment of a procurement in accordance with the relevant financial delegation limits.

1.2. Definitions

Term	Definition	
Act	means the Local Government Act 2020 (Vic) or the Local Government Act 1989 (Vic) as applicable.	
Collaborative Procurement Arrangement	a contract established by Council, government or a nominated agent, such as Procurement Australasia, Municipal Association of Victoria (MAV) or a local government entity, for the benefit of numerous state, federal and/or local government entities and others that achieves best value by leveraging combined economies of scale.	
Conflict of Interest	 means a Councillor, member of a delegated committee or Council Officer has: (a) a general conflict of interest in a matter if an impartial fair minded person would consider that the person's private interest could result in that person acting in a manner that is contrary to their public duty; or (b) a material conflict of interest in respect of a matter if an affected person would gain a benefit or suffer a loss depending on the outcome of the matter, each as defined in Division 2 of the Act. 	
Committee	means a duly authorised committee of Council including delegated committees and advisory committees.	
Council	means Warrnambool City Council.	
Councillor	means a person who has been elected to the office of councillor on Council.	
Council Officer	means a current member of Council staff as well as any contractors and consultants who have the authority to engage in activities on behalf of Council.	
Emergency	means an emergency due to the actual or imminent occurrence of an event which requires immediate action including the following: (a) an earthquake, flood, wind-storm or other natural event; (b) a fire; (c) an explosion; (d) a road accident or any other accident;	

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Term	Definition		
(e) a plague, epidemic, pandemic or contamination;			
(f) a warlike act or act of terrorism, whether directed at Victoria or a part			
	Victoria or at any other State or Territory of the Commonwealth;		
	(g) a hi-jack, siege or riot; and		
	(h) a disruption to an essential service.		
Goods,	means the deliverable(s) the preferred Invitee will be required to provide to		
Services or	Council, when the conditions of contract have been agreed between the		
Works	preferred Invitee and Council.		
	means a company, person or other legal entity which submits a tender or		
Invitee	quote; and includes, where the context permits, prospective Invitees and		
	other recipients of the request for tender or request for quote.		
Local	means a commercial business with an operational premises that is physically		
Business	located within the municipal borders of the South West Regional Councils.		
Local	means the labour, materials, plant and supervision that is sourced from		
Content	within the municipal borders of the South West Regional Councils.		
South West	means the Council's of the South West region in Victoria including		
Regional	Warrnambool City Council, Moyne Shire Council, Corangamite Shire		
Councils	Council, Southern Grampians Shire Council and Glenelg Shire Council.		

1.3. Treatment of GST

All monetary values stated in this Policy include GST, unless specifically stated otherwise.

1.4. References

Council's procurement activities will be carried out in compliance with the following legislation and Council policies and procedures:

- Act;
- Competition and Consumer Act 2010
- Freedom of Information Act 1982 (Vic); Gender Impact Assessment Policy;
- Independent Broad-based Anticorruption Commission (IBAC) Act 2011 (Vic);
- Occupational Health & Safety Act 2004
 Gift and Benefits Policy; (Vic);
- Privacy Act 1988 (Cth);
- Public Records Act 1973 (Vic);
- Security of Payments Act 2002 (Vic);

- Victorian Local Government Best Practice Procurement Guideline 2013 (or as updated);
- Procurement Manual;
- · Risk Management Policy;
- · Health & Safety Policy;
- · Corporate Card Policy;
- Fraud and Corruption Control Policy;
- Councillors Code of Conduct;
- · Staff Code of Conduct;
- Instrument of Delegation: and
- Sustainable Building Policy.

2. BEST PRACTICE PRINCIPLES

Council is committed to effective procurement through adopting best practice principles, policies and procedures to support Council objectives regarding sustainable and socially responsible procurement, supporting local economy and obtaining Value for Money, which in turn, will lead to a better outcome for Council in the provision of services for the community. Each principle is detailed

2.1. Conduct of Councillors and Council Officers

2.1.1. Ethics

Councillors and Council Officers must at all times conduct themselves in ways that are and are seen to be, ethical with the highest integrity and will:

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- (a) treat potential and existing suppliers with equality and fairness;
- (b) not seek or receive personal gain;
- (c) maintain confidentiality of 'Commercial in Confidence' information such as contract prices and other sensitive information;
- (d) present the highest standards of professionalism and probity;
- (e) deal with suppliers in an honest and impartial manner that does not allow conflicts of interest;
- (f) provide all suppliers and tenderers with the same information and equal opportunity;
- (g) comply with all legal and Policy requirements; and
- (h) be able to account for all decisions and provide feedback on them.

2.1.2. Conflict of Interest

In accordance with sections 126-131 of the Act, Councillors and Council Officers have an overriding responsibility to act impartially and with integrity, avoiding a Conflict of Interest. Councillors and Council Officers, must:

- (a) at all times avoid situations in which they may have or which creates a Conflict of Interest;
- (b) not participate in any action or matter associated with the arrangement of a tender or contract where that person has a Conflict of Interest; and
- (c) when becoming aware of a conflict, promptly declare the Conflict of Interest in accordance with procedures set out in Chapter 5 of the Governance Rules, or seek advice and support from the Manager Governance, Property and Projects.

Councillors cannot participate in any aspect of the procurement process unless acting in the capacity of Council at a formally constituted Council meeting to consider the awarding of a contract.

2.2. Value for money

Value for Money is the achievement of a desired procurement outcome at the best possible price, not necessarily the lowest price, based on a set list of financial and non-financial criteria relevant to the procurement. Value for Money considers the total cost of procurement including:

- (a) contribution to Council's priorities and strategic objectives;
- (b) fitness for purpose, quality, social and environmental impacts, service and support; and
- (c) cost related factors including whole of life costs and transaction costs associated with acquiring, using, holding, maintaining and disposing the Goods, Services or Works.

Value for Money could be achieved by:

- (a) developing, implementing and managing a procurement framework that supports the coordination and streamlining of activities throughout the lifecycle;
- (b) development, implementation and management of the local procurement strategy;
- (c) undertaking competitive procurement processes;
- (d) using aggregated contracts whenever possible to group similar contracts;
- (e) identifying and rectifying inefficiencies in procurement processes;
- (f) developing cost effective tender processes including appropriate use of e-solutions; and
- (g) working with suppliers to create relationships that are professional and productive.

2.3. Fair, honest and transparent dealing

Council is committed to providing equal opportunity for all businesses to bid for work through fair, honest, open and transparent market processes. Council Officers will ensure that all prospective suppliers are treated fairly in an open and transparent manner and have access to the same information.

2.4. Accountability

Accountability in procurement allows Council Officers to explain and provide evidence of the process followed during procurement. Council Officers must be able to account for all procurement

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decisions over the life of the Goods, Services or Works in accordance with this Policy. This could mean revisiting the original intentions of the procurement during the use of the Goods, Services or Works to ensure that the Goods, Services or Works are still providing Value for Money and achieving the Council intentions.

2.5. Gender Impact Assessment

In accordance with the *Gender Equality Act 2020* (Vic), Council is committed to ensuring a gender lens is applied to all new policies, programs and services that directly and significantly impact the public and ensure that a gender impact assessment (**GIA**) is conducted as needed. Records of GIA conducted must be saved in Council's records management system with the relevant procurement in accordance with the GIA Policy.

2.6. Fraud and corruption control

Council is committed to preventing, deterring and reporting corrupt and fraudulent behaviour particularly in relation to the procurement process. Council has developed a Fraud and Corruption Control Policy which provides a framework for preventing the risk of fraud and strengthening organisational integrity.

2.7. Competition and Consumer Act compliance

Council will comply with the *Competition and Consumer Act 2010* (Cth) and other fair-trading legislation applicable to its operations and is committed to ensuring the protection of consumers and promotion of competition.

Council Officers need to be informed of their obligations under competition and consumer legislation and ensure that the following does not occur:

- (a) restrictive trade practices (including price fixing and exclusionary provisions relating to a interstate boundaries);
- (b) market sharing (including allocation of customers), anti-competitive agreements, exclusive dealing and misuse of market power;
- (c) inaccurate communication or promotion (including misleading or deceptive conduct, false claims and unsubstantiated predictions); and
- (d) unconscionable or unfair business practices.

2.8. Risk management

Risk management is to be appropriately applied at all stages of procurement to ensure procurement is properly planned and carried out in a manner that will protect and enhance Councils capability to prevent, withstand and recover from interruption to the supply of Goods, Services and Works.

Council will minimise its risk exposure by measures that:

- (a) allow sufficient planning and lead time for procurement preparation and consideration;
- (b) integrate risk identification at the earliest planning stage to inform the process;
- (c) use Council standard form or Australian Standard contracts which mitigate risk to Council;
- (d) require security deposits where appropriate;
- (e) when required, referring specifications to relevant industry experts;
- (f) ensure service providers maintain adequate insurance cover for the Goods, Services or Works;
- (g) review and negotiate contract departures and non-standard contracts prior to the award of the contract;
- (h) ensure agreements are executed prior to commencement of Goods, Services or Works; and
- (i) ongoing and timely contract management including monitoring and enforcement performance.

2.9. Probity Auditor

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Council will consider the appointment of a probity auditor for procurement based on the nature and complexity of the proposed procurement. The completion of a review and assessment of the need for the use of an external, independent probity auditor is mandated when the value of the Goods, Services or Works exceeds \$2,000,000.

2.10.Disclosure of information

Confidentiality of information provided by Invitees must be maintained in a safe and secure manner, particularly commercially sensitive material such as prices, discounts, rebates, profit, manufacturing, intellectual property and product information.

At no stage should Councillors or Council Officers have discussions with Invitees about active procurements prior to the approval process being finalised, other than authorised procurement negotiations. Councillors and Council Officers should take care that their duty to consider issues fairly and properly is not compromised by participating in discussions with suppliers where the supplier is intending to influence the outcome of the procurement. Councillors and Council Officers must ensure that they comply with the obligations in the Gifts and Benefits Policy including making reasonable enquiries as to the live tender processes prior to accepting any benefit which would otherwise be in accordance with the Gifts and Benefits Policy.

Invitees must be advised that a report on a tender process may be presented at an open meeting of Council and some information arising from the tender may be made publicly available.

2.11.Record keeping

Council Officers need to ensure that all records relating to procurements are stored in Council's electronic content management system including decisions evidencing:

- (a) the processes followed and substantiated decisions made during the procurement; and
- (b) adequate records to support contract matters or disputes.

The structure and extent of records will depend on the value and complexity of the procurement.

Records will be kept in accordance with the *Public Records Act 1973 - Public Record Standard PROS 09/05 (Retention and Disposal Authority for Records of Local Government Functions*).

2.12. Sustainable procurement

Council recognises it has an implicit role in furthering sustainability objectives, through its procurement of Goods, Services and Works. Council will maintain a procurement framework designed to support Value for Money and embed organisational environmental, social and economic development objectives.

Council Officers will consider how best to embed its sustainable procurement objectives in each procurement, whether this be as part of a specific evaluation criteria, developing a specification which reflects specific sustainable outcomes for the Goods, Services or Works or building sustainable requirements directly into the Goods, Services or Works.

Council demonstrates sustainable procurement by:

- (a) being accountable for its impacts on society, the economy and the environment including the impacts of the organisation's supply chain;
- (b) examining anticipated organisational, project and/or community needs;
- (c) continually improving sustainability specifications, practices and outcomes, and
- (d) planning and undertaking sustainability evaluations as part of contracting activities.

Council has established the following principles and objectives in relation to sustainable procurement.



Sustainable Area	Principles	Objectives
Economic	Council is committed to procurement that supports Local Business and economic diversity in the region. Where possible and applicable Council will give preference to goods manufactured or produced in Australia and will actively seek quotations and tenders from Local Business. Council's sustainable procurement will: • ensure Local Business and industry can competitively compete; • foster innovation and emerging sectors; and • consider life cycle costs.	Council's economic sustainability approach aims to: achieve Value for Money on a whole of life (including disposal) basis; ensure probity and accountability in the procurement process; commit to sourcing locally as possible; build relationships with Local Business and encourage procurement and help build capacity; and support local employment.
Environmental	Where applicable Council will purchase Goods, Services and Works that reduce air, water and soil pollution, greenhouse gas emissions, waste production, natural resource depletion and biodiversity depletion. Council's sustainable procurement will: considering the lifecycle; promote circular economy participation; manage demand to reduce procurement requirements; encourage innovation where risk is appropriately considered in the procurement; and engage suppliers who are committed to reducing their environmental impact.	Council's environmental sustainability approach aims to: improve energy efficiency; reduce greenhouse gas emissions and contribution towards Council's carbon footprint; minimise waste production; improve water efficiency; reduce air, water and soil pollution; reduce biodiversity impacts; and increase the use of recycled materials to reduce demand for raw materials and non-renewable resources.
Social	Council is committed to building stronger communities and meeting social objectives which benefit the municipality and region and commits to integration of measures in its procurement processes which promote improved social outcomes. Council's procurement will: understand of the socio-economic issues affecting the community; promote equity, diversity and equal opportunity; create training and employment opportunities for unemployed or disadvantaged residents and ratepayers in Council's municipality, and marginalised job seekers in Council's municipality, to address local socio-economic issues; and respect for human rights, the rule of law and international norms of behaviour.	Council's social sustainability approach aims to: • ensure vendors do not exploit workers and provide fair wages, including inclusive business practices; • maintain a social procurement program to increase social procurement spend across the region; • ensure sourced products are accessible by all segments of the community; • increase employment opportunities for indigenous people, people with a disability, disadvantaged people and long term unemployed; • improve gender equity; and • prevent, detect and remove modern slavery from Council's supply chain.

For more detailed information on sustainable procurement please refer to the Council's Environmental Sustainability Strategy.

2.13. Support for local content

Council can include in its evaluation criteria up to five percent for Local Content. This aims to acknowledge the suppliers whose activities contribute to the financial and social wellbeing of the region. Suggested evaluation criteria for Local Content includes:

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Local Content	Weighting
Principle place of business.	2.0%
Percentage of Goods, Services or Works sourced from within the city (including local accommodation and dining).	1.5%
Employment of trainees and apprentices from within the city.	1.0%
Sponsorship of community or sporting groups from within the city.	0.5%

With the exception of contracts that are the subject of a tender, in every instance where it is reasonable to do so. Council Officers must seek at least one quote from a local business.

2.14.Collaborative procurement

Council Officers will seek to use Collaborative Procurement Arrangements with third parties when procuring Goods, Services and Works in order to take advantage of economies of scale in accordance with section 108(3)(c) of the Act. When a report for a procurement is presented to Council for approval, it will include information relating to any collaborative arrangement opportunities that were explored as part of the procurement process.

When collaborating with other Councils, the Council will do so in accordance with the following:

- (a) working with other Councils to develop a consolidated contract register to identify joint procurement projects on an annual basis;
- (b) Council Officers must actively consider all contracts and proposed contracts to determine if the procurement would benefit from expertise, economies of scale or other strategic benefits to Council (other than projects that are unique to an individual Council (e.g. unique construction or works projects)) if it would then it must be included in the consolidated contract register for collaboration consideration;
- (c) other contracts which, due to the subject matter, nature or scope, are likely to deliver operational efficiencies if procured in collaboration with the other Councils, must be included in the consolidated contract register for consideration as a possible joint procurement opportunity:
- (d) Council Officers commit to regularly reviewing the contracts register to determine whether collaborative procurement should be considered;
- (e) where collaborative procurement is to be pursued:
 - pre-approval will be requested from each Council prior to commitment to collaboration, seeking authority to proceed with the collaboration and delegation of contract approval to the appropriate Council Officer of that Council;
 - ii. the participating Councils will establish a *Heads of Agreement* that gives authority for a lead council to act as each Council's agent in the Collaborative Procurement Arrangements;
 - iii. each of the Councils who participate will be able to enter into a contract with the preferred supplier identified though the collaborative procurement process, or may choose as a group to enter into a contract using "jump in/opt-in" contract provisions during the contract term, or with the Council which conducted the relevant procurement;
 - iv. each participating Council must be involved in:
 - a. the initial decision to undertake the Collaborative Procurement Arrangement;
 - b. preparation of, and agreement to, the specifications;
 - c. ensuring probity for the Collaborative Procurement Arrangement; and
 - d. the acceptance of tender(s) and awarding of contract(s); and
- (f) when considering the evaluation criteria for a particular Collaborative Procurement Arrangement each participating Council will prioritise Value for Money for the collaborating Council's in addition

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to its usual Procurement Policy to ensure alignment can be achieved between Council's for the evaluation criteria.

Furthermore, Council may collaborate with other Councils or other bodies such as MAV Procurement or Procurement Australasia to procure Goods, Services or Works, or utilise existing Collaborative Procurement Arrangements established through a public tender process where it provides an advantageous, Value for Money outcome for the Council.

Any Federal or State Government grant funded projects may be excluded from Collaborative Procurement Arrangements.

When entering into a Collaborative Procurement Arrangement for the purpose of the procurement delegations the obligations and liabilities under the procurement will only take into account the value which Council may ultimately be liable for, this will, in most cases, not reflect the total value of the ultimate contract.

2.15.Model of procurement

Council operates a centre-led procurement model. All purchases greater than \$300,000 (including GST) must be undertaken in conjunction with Procurement.

2.16.Procurement delegations

Delegations define the limitations within which Council Officers are permitted to work. Delegation of procurement authority allows specified Council Officers to approve certain purchases, quotations, tender and contractual processes without prior referral to Council. Delegations can be:

- (a) financial delegations which specify the amount of money Council Officers are authorised to expend on behalf of Council; and
- (b) procurement delegations which specify method of procurement which should be conducted.

2.16.1. Financial Delegations

All procurement activities require authorisation of the relevant authorised Council Officer in accordance with the financial delegation limits set out in the Procurement Manual.

2.16.2. Variations

Contract variations must be approved in accordance with Council's financial delegations. A Council resolution can include a specific delegation amount for variations for a procurement outside of those set out in the Procurement Manual.

2.16.3. Market engagement methods

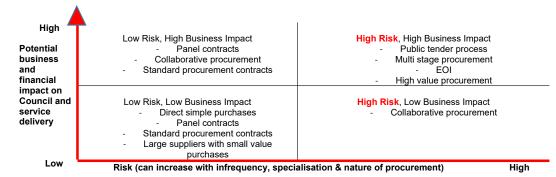
The market engagement method is determined by the nature, value and risk of the procurement. The level of risk is determined on a case by case basis by the Council Officer and Procurement.

The Procurement Value below is the total estimated cost of the procurement for the initial fixed term of the procurement. The requirements listed are the minimum thresholds to be met, best practice requires that the Council Officer consider if the circumstances require, or there would be benefit in, completing additional processes above the minimum requirements.



Procurement Value (excl. GST)	Risk	Minimum Market Engagement	Payment Method	Agreement Type	Documentation Requirements
<\$2,000	N/A	1 verbal quote	Reimbursement, purchase card or Purchase Order – refer to section 3.1	Purchase Order Conditions	Record quote.
\$2,000 to \$10,000	N/A	2 verbal quotes	Purchase card or Purchase Order – refer to section 3.1	Purchase Order Conditions	Verbal quote form attached to purchase order in finance system.
\$10,000 to \$50,000	N/A	2 written quotes	Purchase Order	Purchase Order (up to \$25,000) Contract	Quotes attached to purchase order in finance system.
\$50,000 to \$150,000	Low	3 written quotes		Contract	ECM.
	High	Public Process			
\$150,000 to \$300,000	Low	3 written quotes			
	High	Public Process			
\$300,000 +	N/A	Public Process			

Procurement Risk Assessment



It is noted that any regulation introduced which impacts the market engagement methods above, the market engagement methods are automatically amended to comply with the requirements of the regulation.

2.17. Exemptions from market engagement methods

Council Officers can conduct a procurement process outside of the market engagement requirements at the discretion of the relevant Director, in the following circumstances:

- (a) the Goods, Service or Works are of an urgent nature particularly in matters of an emergency including public health, security or safety;
- (b) only one or two suppliers could perform or supply the Goods, Service or Works due to the level of specialist expertise required (i.e. a demonstrated absence of competition for technical reasons) this also includes if a contract exists with a supplier where cumulative spend to date with that supplier

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- means that Value for Money and risk mitigation justify continuing with the existing supplier for the new or related Goods, Service or Works;
- (c) installations where a change in supplier would necessitate the procurement of Works, Goods or Services that do not meet the requirements for interoperability or interchangeability;
- (d) the Works, Goods or Service are an extension of previously approved goods, service or works and the appropriate variation has been approved and processed;
- (e) the Works, Goods or Service are required as part of a grant, funding agreement, lease or similar arrangement specifically stating how the Goods, Service or Works are to be provided or undertaken;
- (f) where an existing contract has expired and the procurement process for the new contract has not been finalised and the existing contract needs to be temporarily extended on a rolling basis for a period of not more than six weeks;
- (g) where no quotes or tenders were submitted or no quotes or tenders were submitted that conform to the essential requirements of the specification document – in this instance direct contact with the supplier of choice may be appropriate;
- (h) where a ministerial exemption has been sought and provided;
- (i) where an existing contract is novated to a supplier to complete the Goods, Services or Works on substantially similar terms following completion of suitable due diligence;
- (i) where the acquisition is of a cultural or artistic nature i.e. a live show or art piece;
- (k) where a Council panel of providers has been established using a public process any secondary procurement process under the panel for Goods, Service or Works acquired from a panel member can be established as representing Value for Money by the Council Officer (noting that the requirements for awarding Goods, Service or Works under the panel contract must still be complied with); and
- (I) where the procurement is on Council's exemption list (refer to Appendix 1).

2.18. Public process

2.18.1. Requirements

All public procurement by the Council will be published via Council's electronic portal and may be advertised in the media. Information regarding current procurements may be published on Council's website.

The Council Officer in conjunction with Procurement can consider whether the type of public procurement including an RFQ will be sufficient or the value and risks warrants a tender document.

2.18.2. Evaluation

An evaluation panel will be established to evaluate each submission against the selection criteria for the public process. Evaluation panels can include external personnel in order to ensure the best outcome for a procurement and must comprise of at least 3 people.

A Procurement Plan must be developed, approved and adhered to prior to the public process beginning. The Procurement Plan must set out the evaluation criteria to determine whether a proposed contract provides Value for Money including:

- (a) both price (whole of life) and non-price factors (risk, quality and contribution to Council's sustainability objectives);
- (b) mandatory criteria common to all procurements include: price, capability (skills, experience), capacity, methodology (approach), sustainability (local, social, economic and environmental); and
- (c) specific criteria for local, social, economic and environmental sustainability objectives are determined on a project by project basis.

2.18.3. Shortlisting and Negotiations

Council may conduct a shortlisting process during any of the public processes including EOI, tender and quotation processes. Shortlisting can be based on any criteria but only in pursuit of the most advantageous outcome for the Council. Shortlisted tenderers may be invited by the Council to submit a

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best and final offer in relation to all or certain aspects of their respective tenders. Refer to the Procurement Manual for further details.

Once one or more preferred tenderers are selected, negotiations can be conducted in order to obtain the optimal solution and commercial arrangements within the original scope and intent of the tender.

3. PROCUREMENT METHODS AND PROCESS

3.1. Procurement Methods

Council's standard methods for purchasing Goods, Services and Works are by:

- (a) reimbursement (for low value, low risk purchases which cannot be made with a purchase card);
- (b) purchase cards (recommended for procurements less than \$200);
- (c) approved purchase order; or
- (d) other arrangements authorised by Council or the CEO as required by abnormal circumstances including emergencies.

If petty cash or a purchase card is not used for the procurement, then an approved purchase order must be generated before committing to the procurement.

3.2. Procurement Processes Overview

Council's procurement processes are based on the principles outlined in this Policy. Further details of the procurement processes undertaken by Council are contained in Council's Procurement Manual. Together with this Policy, the Procurement Manual provides the complete procurement framework applicable to all Council's procurement activities.

In line with the Local Government Best Practice Procurement Guidelines 2013 (or as updated), Council may conduct negotiations in its tender documentation in order to better meet / achieve its value for money objectives. This negotiation process may include undertaking a Best and Final Offer (BAFO) process.

Council maintains an appropriate contract management framework to govern and guide its contract management activities. Council will proactively manage key contracts with a nominated Council Officer responsible for the delivery of the contracted Goods, Services or Works to ensure the Council is best placed to achieve its contract objectives.

Council recognises that in order to achieve sustainable value, appropriate relationships must be developed and maintained with suppliers. Council is committed to:

- (a) managing existing suppliers, to ensure the benefits are delivered;
- (b) developing new suppliers and improving the capability of existing
- (c) suppliers where appropriate; and
- (d) communicating to potential suppliers via its website.

4. GOVERNANCE

4.1. Owner

General Counsel, Strategy and Procurement

4.2. Review

The General Counsel, Strategy and Procurement will review the policy for any necessary amendments no later than 4 years after its formulation or after the last review.



4.3. Compliance Responsibility

Party / Parties	Roles and Responsibilities
Chief Executive	Ensure overall organisation compliance with the policy.
Managers	Ensure compliance with the policy by all Council Officers under their supervision.
General Counsel, Strategy and Procurement	Overall responsibility for the policy implementation and compliance.
General Counsel, Strategy and Procurement	Responsible for reviewing, updating and implementing policy. Primary source for procurement advice, training and guidance.
Council Officers	Compliance with the provisions of this policy.

4.4. Charter of Human Rights Compliance

It is considered that this policy does not impact negatively on any rights identified in the *Charter of Human Rights Act (2007)*.

Warrnambool City Council is committed to consultation and cooperation between management and employees. The Council will formally involve elected employee health and safety representatives in any workplace change that may affect the health and safety of any of its employees.



1. APPENDICES

Appendix 1 - Exemptions

The following procurements are either exempt from market engagement and/or the requirement for a Purchase Order. With the Chief Executive's approval, exemptions can be added or removed from this list at any time.

Category	Description	Exempt from market engagement	Exempt from purchase order	
Utilities	Electricity, gas, water and telephone services. Note: market exemption where there is only a single provider e.g. Wannonwater and Powercor.	Yes		
Insurance premiums and claims	WorkCover and other insurances.	Yes	Yes	
Prescribed contracts	Legal services	Yes	No	
Payroll expenses	Superannuation and PAYG.	Yes	Yes	
GST	Goods and Services Tax payable.	Yes	Yes	
Postage	Australia Post.	Yes	Yes	
Vehicle registrations	VicRoads vehicle registrations.	Yes	Yes	
Councillor expenses	Allowances and Reimbursements.	Yes	Yes	
Refundable trust funds	Includes Security Bonds, Contract Retentions and other funds held in trust.		Yes	
Collaborative procurement providers			No	
Levies	EPA Victoria Levy.	Yes	Yes	
Levies	Fire Services Property Levy.	Yes	Yes	
State and Federal Statutory Fees	DELWP fees and charges and Regional Roads Victoria.		Yes	
Other	Acquisition of Land and Buildings.	Yes	Yes	
Oulei	Medical expenses.	Yes	Yes	

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Category	Description	Exempt from Exem market purch engagement order	
	Venue hire.	Yes	Yes
	Fuel including Diesel (with relevant supplier).	No	Yes
	Memberships and subscriptions.	Yes	No
	External audit fees – Victorian Auditor- General's Office.	Yes	No
	Annual community grants.	Yes	Yes
	Professional workshop and conference registration fees and associated costs.	Yes	No
	Loans and investments.	Yes	Yes
	General advertising.	Yes	No
	Accommodation associated with provision of employment.	Yes	No
	Recruitment advertising.	Yes	No



Procurement Manual

POLICY TYPE: ORGANISATIONAL

APPROVAL DATE: October 2021 REVIEW DATE: June 2025



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1. INTRODUCTION

Warrnambool City Council's (Council) procurement framework, governed by the Council Procurement Policy (Policy), covers purchasing, contracting, and contract management activities and is designed to support the achievement of Council's strategic aims and objectives.

The Policy and Procurement Manual (Manual) (together, the Framework) aim to:

- ensure consistency and control over procurement activities;
- demonstrate accountability to rate payers;
- ensure ethical behaviour in public sector procurement;
- demonstrate best practice in procurement; and
- minimise risk when procuring goods and services.

This Manual applies to all procurement activities undertaken by Council and applies to Councillors, Council Officers, Committees, contractors and consultants in all circumstances while engaged by Council.

DEFINITIONS

Terms defined the Policy have the same meaning when used in this Manual unless otherwise defined. The following definitions apply throughout this Manual

	g definitions apply throughout this Manual.				
TERM	DEFINITION				
Best and Final Offer (BAFO)	A process used during a procurement process which allows Council to invite shortlisted Tenderers to submit their best and last technical and priced offer on the basis of the tender requirements. This process is designed to further assist in the demonstration of achieving the value for money principles.				
Contract Management	The process that ensures both parties to a contract fully meet their respective obligations as efficiently and effectively as possible, in order to deliver the business and operational objectives required from the contract and in particular, to provide Value for Money.				
Contract Management Plan	A plan that details the key requirements to manage the contract without needing to view the contract documentation. The level of detail is scaled depending on how complex the contract is.				
Contract Manager	The person in Council responsible for the management of the contract outcomes. This is the same role as 'Superintendent' or the "Superintendents Representative" as set out in Australian Standards works contracts. The person undertaking this role could also be referred to as Project Manager.				
Enterprise Content Management	Refers to either Councils records / document management system (the "ECM System") or function (the "ECM Unit").				
e-Procurement	The use of electronic systems to acquire goods, services and works.				
Expression of Interest (EOI)	An invitation for persons to submit an EOI for the provision of the goods, services and works which generally set out in the overview of requirements contained in the document. This invitation is not an offer or a contract.				
Purchase Order	The official Council order issued to enable payment through the Council's Financial System.				
Purchasing Card	Refers to Council's Corporate Credit Card.				
Request for Information (RFI)	The process of obtaining formal request for information to gain a more detailed understanding of the supplier market and the range of solutions and technologies that may be available. It may be used to develop documentation for a future tender.				
Request for Quotation (RFQ)	The process of inviting parties to submit a quotation followed by evaluation of submissions and selection of a successful bidder or Invitee.				



TERM	DEFINITION		
Supplier	The organisation named in the contract as the party responsible for the performance of the contractual obligations.		
Public Process	The process of inviting parties to submit a response by public advertisement, followed by evaluation of submissions and selection of a successful bidder.		
Variation	Any change to dates, deliverables, specification, pricing, performance requirements etc. within a contract that should be agreed between both parties and recorded formally which does not substantially change the scope of work or price under the contract.		

2. PROCUREMENT REQUIREMENTS

2.1. Procurement Methods

All procurement processes will be conducted in accordance with the requirements of this Framework. Any breach of this Framework by Council Officers may be dealt with under Council's Disciplinary Policy.

Council's standard methods for purchasing Goods, Services and Works are by:

- (a) reimbursement (for low value, low risk purchases which cannot be made with a purchase card);
- (b) purchase cards (recommended for procurements less than \$200);
- (c) approved purchase order; or
- (d) other arrangements authorised by Council or the CEO as required by abnormal circumstances including emergencies.

If reimbursement or a purchase card is not used for the procurement, then an approved Purchase Order must be generated when committing to the procurement.

2.2. Council Officer Roles

Council has a number of key roles and specialist areas who can provide guidance and/or assistance during the procurement process including:

- (a) Framework and legal questions General Counsel, Strategy and Procurement;
- (b) general tendering, quotation and contract management advice General Counsel, Strategy and Procurement;
- (c) purchasing system and card services advice Financial Services Department; and
- (d) archiving requirements ECM Unit, Records Management.

2.3. Responsible Financial Management

Responsible financial management will be applied to all procurement processes. The availability of existing funds within an approved budget, or source of funds, will be established prior to the commencement of any procurement action.

Council funds must be used efficiently and effectively to procure Goods, Services and Works and every attempt must be made to contain the costs of procurement without compromising this Framework.

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PROCUREMENT MANUAL

2.3.1. Expenditure process

- (a) Council Officers must ensure any Purchase Orders are generated and approved at the point of commitment to purchase the Goods, Services or Works. After a Purchase Order is approved, the Goods, Services or Works can be ordered and received.
- (b) All procurement purchases must be entered into the finance system for recording, probity and reporting.
- (c) Council Officers must not approve expenditure that relates to them personally. Expenditure of this nature must be referred to the next level of authority for approval. In the case of the Chief Executive Officer, expenditure of this nature must be referred to the Director – Corporate Strategies for approval following endorsement by the Mayor.
- (d) Expenditure must be recorded in a timely manner i.e. once the services or infrastructure have been completed, or the goods have been received, the appropriate Council Officer must ensure that the invoice is processed in a timely manner against the Purchase Order in Council's Finance system.

2.3.2. Order or contract splitting

The process of splitting orders or contracts is a major breach of Council probity requirements and this Framework. In no circumstances should Council Officers split their financial commitment to avoid a process or requirement within this Framework including:

- a) two or more related purchases from the same Supplier just under competitive bidding thresholds;
- b) unjustified separation of contract components (e.g. labour and materials) to avoid competitive bidding thresholds; and
- c) bid packages just below procurement thresholds.

2.3.3. Separation of duties

Council Officers, who in the past 12 months have previously been employed by a supplier on the Council database, must have no influence (direct or indirect) over any procurement process associated with that organisation. The relevant Manager must notify the General Counsel, Strategy and Procurement (in writing) when a Council Officer has identified such a relationship.

2.3.4. Supplier prequalification

The Financial Services Department has overall responsibility for managing Council's prequalified Suppliers, including deactivation from the Technology One system. For all new Suppliers a "Request for the Creation of a New Record" form and the "Name & Address Register (NAR)" will need to be completed by Supplier. The completed form needs to be sent to the Financial Services Department.

2.4. Community Managed Group Projects

Council has the ability and right to permit community groups to manage capital works projects on Councils' behalf. This means that the community group manage the end to end process including financial arrangements.

Community group managed projects will be expected to comply with the best practice principles in this Framework. It is Councils' expectation that the community group can demonstrate that their procurement processes represent Value for Money to Council. Council is not required to undertake the market engagement methods in the Framework prior to authorising a community managed project. This is not the case if Council is managing the project.

All community group managed project requests are to be reviewed, evaluated and approved by the Executive Management Team. Prior to a community group managed project proceeding, an appropriate project agreement will need to be entered into between Council and the relevant group.



3. DELEGATIONS

Council has established a set of delegations for procurement which define the limitations within which Council Officers are permitted to work. Delegation of procurement authority allows specified Council Officers to approve certain purchases, quotations, tender and contractual processes without prior referral to Council. Delegations can be:

- a) financial delegations which specify the amount of money Council Officers are authorised to expend on behalf of Council; and
- b) procurement delegations which specify the method of procurement which should be conducted.

3.1. **Financial Delegations**

All procurement activities require authorisation of the relevant authorised Council Officer in accordance with the financial delegation limits set out in the Framework.

Limit of Financial Delegation (Excl. GST)	Authorised Council Officer
\$400,000 +	Council
\$400,000	Chief Executive Officer (Level 1)
\$200,000	Director (Level 2)
\$100,000	Manager (Level 3)
\$25,000	Service Manager / Coordinator (Level 4)
\$5,000	Service Coordinators (and roles reporting to Level 1 or Level 2)

Despite the Financial Delegations and Variations listed in the Framework, the following processes are exempt and payments may be approved by either the CEO or a Director:

- a) superannuation;
- b) taxation;
- c) loan repayments in accordance with loan repayment schedules;
- d) WorkCover; and
- e) Council insurance premiums.

It is also acknowledged that some of the exempt processes above would not be considered a procurement under the Act.

Variations

Contract variations must be approved in accordance with Council's financial delegations. A Council resolution can include a specific delegation amount for variations for a procurement outside of those set out in the Framework. This specific delegation could include specific authorised values or percentages for a Superintendent to authorise in accordance with the contract.

Limit of Financial Delegation (ex. GST)	Authorised Council Officer
\$200,000 +	Chief Executive Officer (Level 1)
\$200,000	Director (Level 2)
\$100,000	Manager (Level 3)
\$25,000	Service Manager / Coordinator (Level 4) / Superintendents Representative



Note: all the above figures represent the aggregate of all variations for the specific contract. For contracted works, once delegated approval has been obtained the Contract Manager / Superintendent will issue the approval letter to the Contractor. Any financial variation to a contract must be recorded in Technology One and the ECM System with the Purchase Order amended to reflect the variation.

For major contracts, Directors (or specific officers e.g. Superintendent's as specified above) can seek a specific delegation to increase their variation limit for the specific contracts.

4. PROCUREMENT METHODS

This section of the Framework outlines the key aspects of a Purchase Order, RFI, EOI, RFT or RFQ process from the time a decision is made to invite an RFI, EOI, RFT or RFQ to the stage where the contract is awarded and the contract documentation is finalised.

4.1. Options

Council has a number of procurement method options for Council Officers to utilise. The Council Officer can consider in accordance with this Framework and as necessary in consultation with the General Counsel, Strategy & Procurement, whether the procurement process should be a public or private process. Outside of the Purchase Order, each process can be undertaken publically or privately depending on the procurement and the requirements of the Framework. The primary options available to Council are:

Purchase Order	Request for	Expression	of	Request	for	Request	for
(PO)	Information (RFI)	Interest (EOI)		Tender (RFT)		Quotation (F	RFQ)

Any alternative methods to Councils procurement methods addressed in this Manual will need to be discussed with the General Counsel, Strategy and Procurement. Each option is discussed below.

4.2. Request for information

RFIs may be sought where:

- a) Council is uncertain as to what goods and services it requires; and
- b) it wishes to establish:
 - i. available technologies, products or services in the marketplace that meet council needs;
 - ii. whether terms and conditions or deliverable expectations are acceptable in the marketplace; or
 - iii. whether budgets are adequate to meet non-standard procurement needs inadequate budgets should not become apparent when tenders are opened.

An RFI process does not replace the need to conduct an additional procurement process (usually RFT) and can be undertaken either by selectively inviting known suppliers or by an open publically advertised process. If an RFI has not been publically advertised, the RFT process may need to be publically tendered.

4.3. Expression of interest

EOIs may be sought where:

- a) the extent of the market is unknown;
- b) there is uncertainty as to the interest of Suppliers or vendors or their capacity to offer the potential products or services or to undertake the proposed works;
- c) large number of tenders are expected; or
- d) an EOI process will assist in gaining information which would assist in the development of a specification for the subsequent RFT.

An EOI process usually does not replace the need to conduct an RFT process. EOI generally precedes the calling of tenders and results in the selection of an approved shortlist of parties to be



invited to lodge formal tenders.

The process for calling an EOI is the same as calling an RFT process; with the following key differences:

- a) usually no pricing is provided as part of the EOI process;
- b) specification detailing the scope of works will be of limited;
- contract documentation may not be included during an EOI process:
- d) the process usually concludes at the selection of the shortlist of tenderers who will be invited to provide a tender response via the subsequent RFT process and notifications to both the shortlist and unsuccessful tenderers; and
- e) any subsequent RFT process is not required to be publically advertised.

A decision on the utilisation of either an EOI or RFI process will need to be taken in conjunction with the relevant Director and the Procurement Department.

The following are the key steps in an EOI process:

Expression of Interest (EOI) Process



Note: bold red content above indicates process control points.

Request for Quote

All quotations (including oral) must be recorded and key documentation captured on the ECM System. All written quotations must be recorded on the Finance system.

The following is an outline for Council Officers on how to conduct a quotation process.





Note: Bold red content above indicates process control points.

The process outlined for a tender is the same for the RFQ subject to some minor differences outlined below. Note: If an existing panel or schedule of rates contract is in place for Goods, Service or Works, Council Officers can access these contracts without the need to undertake a full RFQ process however a secondary procurement process in the form of an RFQ is recommended.

Council's expectations for RFQs is that at least two Council Officers are involved in the RFQ decision making process. The minimum requirement is for one Council Officer to undertake the Contract Manager role and another Council Officer to assume the approver role in line with the Financial Delegations. Consideration should be given to appointing an independent Council Officer to facilitate the Market Engagement phase of the RFQ.

Given the diverse range of procurement thresholds covered via RFQ, an appropriate evaluation methodology that is both commensurate with the cost and risk profile of the intended procurement that is also compliant with this Framework should be used for the evaluation of quotations.

Additional processes following responses and evaluation could include:

- a) interviews with Suppliers;
- b) reference checks on shortlisted / selected Suppliers;
- c) recording important discussions with Suppliers;
- d) if the Supplier selected is not the lowest conforming quotation, does the approval document address the reasons for not selecting this provider; and
- e) confirmation the decision provides Value for Money.

Individual Council Officers cannot approve the acceptance of a quotation process they have managed and must forward the RFQ recommendation to their immediate superior or appropriately delegated officer for approval. All Council Officers raising Purchase Orders must ensure that the order is approved in accordance with Council's Financial Delegations.

4.5. Request for tender

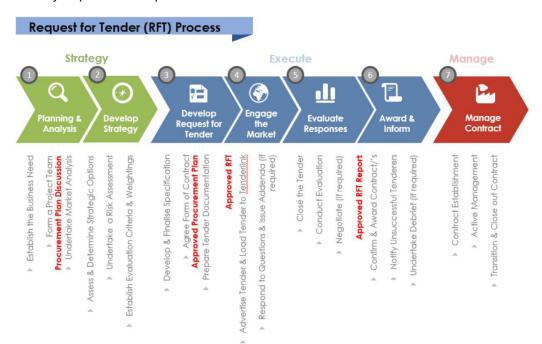
RFTs may be used for procurement where the procurement value or risk proposed requires it and



no existing contract is in place. This is usually a Public Process.

Responsibility for the facilitation of all RFTs rests with the relevant Contract Manager. Support during this process can be provided by the General Counsel, Strategy and Procurement, the Infrastructure Development and Projects Department when required. All tenders are to be conducted in accordance with the provisions of this Framework.

The key steps of an RFT process are outlined in the table below:



Note: bold red content above indicates process control points.

5. PROCUREMENT PROCESS

Council may, at their discretion and based on the complexity and cost of the project, conduct one stage or multi-stage procurement processes. These can be Public Process or private depending on the requirements of the Framework. The procurement process should consider each of the steps outlined below to determine the best procurement method.

5.1. Establish Council need

Council Officers are required to assess what is the Council need which will be met by the proposed procurement and whether there are alternatives available to undertaking a procurement process for the particular good, service or works proposed e.g. are there alternative solutions / models available such as in-house delivery, are there viable second-hand options or is there a need to undertake a procurement process at all.

Once a decision is made to proceed with a procurement process, the core business needs are required to be determined. Consideration needs to be given for the categories short, medium and long term objectives and what are the issues and challenges that these objectives present.



5.2. Complete the Contract Request Form

The Contract Manager must complete the Contract Request Form. The Contract Request Form must be authorised by the relevant Council Officer, copied to the General Counsel, Strategy and Procurement and forwarded to the City Infrastructure Support Team for processing.

5.2.1. Establish and manage the contract file

The Contract Manager will request the Contracts Administration Officer for a Register Number. The Contracts Administration Officer will enter the proposed contract details in the Contracts Register, allocate the Register Number, prepare the Contract File and set up the particular contract folders in the S:/Drive, in Council's ECM System and contract management system.

The Contract File is the hard copy file which contains all primary tender documents and correspondence from the initial `RFT" up until the "Manage Contract" phase of the procurement process. It is the responsibility of the Contract Manager to ensure that all relevant documents are captured in the Contract File. This will require communication between the Contract Manager and the Contracts Administration Officer to ensure that the file is kept up to date.

The Contract File shall include the following items:

- a) Evaluation Criteria (including order of importance);
- b) tender documentation;
- c) Procurement Plan (T);
- d) advertisement (T);
- e) final copy of tender documents;
- f) Addendum's:
- g) copy of tender closing documents (T);
- h) late tender letters (if applicable);
- i) Conflict of Interest Declarations (T);
- j) evaluation matrix (T);
- (T) Denotes template available.

- k) TEP Report (T);
- I) Council minutes (if applicable);
- m) successful tender submission;
- n) letters of acceptance and unsuccessful letters (T);
- o) response to Letter of Acceptance and/or signed Instrument of Agreement;
- p) copy of Bank Guarantee (if applicable);
- q) any other correspondence in date order.

All files related to the preparation of tender documents should be worked on, and saved in the appropriate electronic folder set up by the Contract Administration Officer in the S:/Drive.

When the RFT is advertised, all documents in relation to the RFT must then be saved to the applicable folder set up by the Contracts Administration Officer in the ECM System, in accordance with Council's Records Management Policy as well as in Council's contract management software package There is no need to save files post-award in the S:/Drive.

5.3. Establish an evaluation panel

The Tender Evaluation Panel ("TEP") must be established and approved at the commencement of the RFT process however each procurement method will require an evaluation process. The following table outlines the required composition of the TEP and will guide a general evaluation process for lower value and risk procurements.

Value*	Tender Evaluation Panel Composition
< \$250,000	Contract Manager; at least two other relevant Council Officers; Independent Member if an In-house Bid is involved; and Others as deemed necessary.
\$250,000 to \$500,000	As per contracts < \$250,000; and Manager of Department proposing the Project.



Value*	Tender Evaluation Panel Composition
>\$500,000	Directors are to determine who will make up the panel and whether they need to be involved in the TEP. In general, the panel will consist of the Contract Manager, Manager of the Department proposing the Project, and a second Manager or Director. The addition of an Independent Probity Advisor may be considered.

^{*}Values are total project cost.

Independent persons used on the TEP can be selected on the basis of their industry expertise. They must not have a Conflict of Interest and will be required to declaration.

Probity of the procurement process is the responsibility of all members of the TEP and stakeholders involved in confidential discussions or preparing confidential documentation. It is their duty to ensure that the process is conducted at a high ethical standard.

All persons, including Non-Voting Panel Members, involved in the procurement process need to adhere to core procurement principles stated in the Framework.

The following is a summary of the key roles and associated responsibilities for Council procurement activities.

5.3.1. Roles and responsibilities of TEP members

The roles and responsibilities of the TEP Members (excluding Non-Voting TEP Members) are to:

- a) treat bids and potential bidders in a fair and equitable way, providing bidders with the same information and avoiding preferential treatment, consistent with the approved procurement process and the evaluation criteria;
- b) ensure all bids are evaluated on the same basis;
- c) ensure all tender information, both paper and electronic, is to be kept securely at all times with access only for authorised persons;
- d) disclose any conflicts of interest arising during the procurement process and adhere to relevant policies;
- e) actively contribute to the evaluation of tender/quotation responses according to the evaluation criteria by providing comments and scoring;
- f) sppropriately and adequately test and verify the claims made by Tenderers in relation to the evaluation criteria;
- g) recommend the preferred Tenderer/'s, based on the outcome of the evaluation process;
- h) ensure no discussion is held with any Tenderer about the selection process in relation to any aspect of the procurement process without the prior approval of the Chair, or at their direction;
- routine business meetings and social activities continue as usual, but evaluation panel members
 must exercise caution, and must not discuss the evaluation, selection procedures, or contents of
 the procurement process;
- j) where any party in an unrelated business meeting or social situation seeks to raise issues in respect of the procurement process, the person should indicate that it is not appropriate to discuss such matters;
- k) ensure Tenderers are advised to deal directly with the selected panel member for matters relating to the procurement process. Refusal to enter discussions of this nature is required;
- I) refer matters concerning probity and communication with Tenderers or potential Tenderers during the procurement process to the relevant Director; and
- m) consider and recommend variations to the original procurement documentation that may arise during the procurement process.

5.3.2. Role of the TEP Chairperson

The TEP Chairperson will be the primary contact for the tender process. The TEP Chairperson is



required to abide by the roles and responsibilities of the TEP Members listed above as well as:

- a) chair the TEP and to take responsibility for the conduct of the team ensuring compliance with the evaluation processes:
- b) make TEP Members aware of their roles and responsibilities during the procurement process;
- c) coordinate any contact with Tenderers during the procurement process;
- d) ensure that all Tenderers have access to the same information and that commercial-inconfidence information is only available to those who need it:
- e) maintain records throughout the process which should provide enough information to enable independent review if requested;
- f) close and register tender/quotation submissions; and
- g) notify success and unsuccessful Tenderer/'s.

5.3.3. Role of Non-voting TEP

The roles and responsibilities of the Non-voting TEP Members are to:

- a) the same as those for TEP members as well as;
- b) ensure Tenderers are advised to deal directly with the TEP Chairperson for matters relating to the procurement process. Refusal to enter discussions of this nature is required; and
- c) Refer matters concerning probity and communication with Tenderers or potential Tenderers during the procurement process to the relevant Director.

5.4. Procurement Plan Discussion

The TEP is required to meet at the early stages of the procurement planning process to establish the Procurement Plan. The Procurement Plan explains how the procurement activity is to be undertaken and is a documented record of Councils decision making process for the stated RFT. Even if not undertaking a RFT it may still be relevant to prepare a Procurement Plan.

5.4.1. Access and Determine Strategic Options

The TEP are required to discuss and agree what objectives they should have and develop the strategy for reaching the agreed objectives. Some potential strategies may include:

- a) Supplier development;
- b) variable contract length;
- c) changing the number of suppliers;
- d) bundling or unbundling products/services;
- e) partnering with suppliers on other projects;
- f) possible technology solutions;

- g) collaboration with other parties;
- h) re-engineering the specification;
- i) incentivising suppliers to reduce cost;
- i) social procurement;
- k) local economic development; and
- I) sustainable procurement.

Once the TEP have discussed the options they are required to agree on the strategy and update the Procurement Plan to reflect this agreement.

5.4.2. Undertake a Risk Assessment

The TEP (or Council Officers as relevant) are required to map and understand the risks associated with the RFT so tasks can be set to minimise or manage the risk and these can be included in the specification, evaluation, contract and contract management.

A risk assessment for the RFT is to be addressed and documented as part of the Procurement Plan. Key areas of risk that are required be addressed are:

- a) commercial risk (quality, safety, capacity);
- b) contractual risk;
- c) probity risk; and
- d) operational risk.



5.4.3. Establish Evaluation Criteria

Each procurement process needs to consider the outcome they are seeking and determine what would represent Value for Money and develop a clear evaluation criteria to reflect this.

The Procurement Plan establishes the original setting and weighting of the evaluation criteria. The evaluation criteria will comprise both mandatory and comparative criteria. If a Tenderers submission fails the mandatory criteria, they will be deemed a non-conforming tender. Consider whether a fail of mandatory criteria means the submission is excluded immediately. If a Tenderers submission passes this stage, they will be assessed against the comparative criteria.

For the comparable criteria, define what will be assessed and the associated weightings with this criteria. The criteria and weightings should demonstrate what Value for Money looks like to Council for the particular procurement and should capture sufficient detail to allow independent evaluators to obtain the same assessment outcome.

Mandatory Criteria					
	I Health & Safety (OHS); specific essential criteria for a particular bund which allows water play or delivery date				
Comparative Criteria	Comparative Criteria				
Criteria	Sub Criteria				
Financial Assessment	Total Acquisition Cost (Whole of life costs, including costs of disposal)				
Technical capability to meet specification	 Previous performance of Tenderer Delivery times offered Quality offered Experience of Tenderer and personnel proposed Capability of Tenderer, including technical, management, human resource and organisational capability and capacity 				
Financial Capacity	Financial capability and capacity of Tenderer				
Quality, Environment and Risk Management	Tenderer's quality management practices and performance Tenderer's environmental management practices and performance Tenderer's risk management practices and performance				
Human Resource Management	 Tenderer's human resources management practices and performance Tenderer's workplace and industrial relations management practices and performance Tenderer's community relations practices and performance Skills acquisition and retention, and knowledge management 				
Customer Service	Tenderer's customer service practices and performance				
Local Benefit	Tenderer's ability to impact local economy				
Social Procurement	Tenderer's support for social objectives which will benefit regional community				
Sustainable Procurement	Tenderer's consideration for environmentally sustainable procurement alternatives				



	Innovation offered
Value Adding	Value adding components such as economic, social and environmental development initiatives, if appropriate, and relevant to the procurement and conformity with tender requirements.

The scoring of the criteria of each tender should be undertaken broadly by using the risk rating table below. In addition, an evaluation rubric which sets out the score for each response should be considered to enable consistent evaluation.

Grading	Response Assessment	Score
Excellent	Highly convincing and credible. Response demonstrates superior capability, capacity and experience relevant to, or understanding of, the requirements of the evaluation criterion. Comprehensively documented with all claims fully substantiated. Insignificant risk.	9-10
Very good	Response complies, is convincing and credible. Response demonstrates very good capability, capacity and experience relevant to, or understanding of, the requirements of the evaluation criterion. Some minor lack of substantiation but the Tenderer's overall claims are supported. Low risk.	7-8
Good	Response complies and is credible but not completely convincing. Response demonstrates adequate capability, capacity and experience, relevant to, or understanding of, the requirements of the evaluation criterion. Tenderer's claims have some gaps. Low risk.	5-6
Average	Barely convincing. Response has shortcomings and deficiencies in demonstrating the Tenderer's capability, capacity and experience relevant to, or understanding of, the requirements of the evaluation criterion. Medium risk.	3-4
Poor	Unconvincing. Response has significant flaws in demonstrating the Tenderer's capability, capacity and experience relevant to, or understanding of, the requirements of the evaluation criterion. High risk.	1-2
Unacceptable	Tenderer was not evaluated as it did not provide any requested information relevant to the tender and/or contravened nominated restrictions. High risk.	0

Example Evaluation Rubric:

Score	10	8	6	4	2	
	Indicates extensive Tenderer experience in 3 similar relevant projects. Exceptional experience has been demonstrated an the offer has little or no risk	Indicates experience on 3 similar relevant projects. Experience has been well demonstrated and the offer has little risk.	Indicates experience on 3 similar relevant projects. Experience has been demonstrated and the offer has acceptable risk	Indicates experience on 2 similar relevant projects. Experience is limited and offer has some element of risk.	Indicates experience on a minimum of 1 similar relevant project. Offer is difficult to assess against the criteria and is high risk	Falls to indicate any similar relevant experience.

The scores are then multiplied by the relative weighting of each criterion to arrive at a rating. These ratings, when totaled, identify the order of merit of each tender on against the comparative evaluation.

The final weighted score is then used to arrive at a Value for Money Ratio for each tender response. The preferred Tenderer was the Tenderer with the highest Value for Money Ratio. An Evaluation Matrix and Rubric is available from Procurement.



It is important to note that lowest price doesn't necessarily represent Value for Money. The evaluation criteria and weightings should be determined with this in mind.

5.4.4. Develop Documentation and Specification

The Contract Manager is responsible for drafting the specification. Council's standard procurement document methodology have been designed to assist in the development of specifications. The following are the key types of specifications which will be used by Council.

Specification Type	Details
Technical	 Defines the technical and physical characteristics The Contractor does not have any input to the design and is not responsible for the outcome of the design It may be needed to define your requirement adequately Where the specifier is the expert and/or a non-expert is to be asked to tender This makes the evaluation process relatively straight forward, as you should be comparing apples with apples
Performance	 Defines the performance required and is a brief of what the organisation expects The Contractor is responsible for the design, ensuring that the system will meet the criteria in the manner set out in the Performance Specification This will maximise the creativity opportunity for the Tenderers Different technical solutions may be proposed it can make evaluating offers more difficult
Functional	 Defines the function to be performed by the product or service The Contractor is responsible for the whole process and would normally submit their design criteria when tendering This would be translated into performance criteria which would then be built into the contract It is possible to conceive of this process as a gradual transition from conceptual design, through to detailed design, with the Contractor gradually increasing the detail of their response to the client's brief.

There is no "template" for this as the Goods, Services and Works vary considerably. Nevertheless, some aspects are required in most cases and these include:

- a) Cover Page the cover sheet should identify who is calling the tender (Council), show the title of the service (e.g. provision of cleaning services) and the contract number (available from the Contract Administration Officer);
- b) Table of Contents;
- c) Introduction the introduction should contain a brief statement as to the scope of the tender, preferably with some quantitative information relevant to the contract;
- d) Background it may be useful to indicate whether the service is an existing one, a variation of a current one or a new program. If there is a current service, this section should also indicate whether the service is provided "In-house" by Council Officers or outsourced:
- e) Definitions Warrnambool's other tender documents (Conditions of Tender and Conditions of Contract) contain definitions relating to commonly used terms. If additional terms specific to the service need to be included, these should be included in the specification;
- f) Scope and Purpose this section should provide enough detail to enable potential Tenderers to

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gain a clear understanding of the service required and enable them to submit a conforming tender. The information should include qualitative and quantitative data, expressed, where possible, by:

- area
- volume
- frequency
- time
- standards
- reporting requirements
- g) List of Documents: The Conditions of Tender and Conditions of Contract will make reference to "generic" requirements including legislation, insurance and the need for a bank guarantee (if required). If there are other documents (e.g. Standards, Codes, Council policies) that are relevant to the service being tendered, these should be referred to in the specification and a copy provided if appropriate:
- h) Source of funds: in some cases, non-Council funds (e.g. a federal or state government grant) could be involved and if so, this should be disclosed;
- i) Particular materials or other requirements;
- j) Particular finishes/requirements to be attained;
- k) Performance to be achieved and/or methodology to be employed;
- I) Sequence of operations relative to other work;
- m) Timeline requirements;
- n) Standards / quality of work;
- o) Occupational Health and Safety requirements. (Note: The Conditions of Tendering include an OH&S Questionnaire);
- p) Risk Management: (Note: The Conditions of Tendering include a Risk Management Questionnaire); and
- q) Emergency requirements.

When the specification has been drafted, it is recommended to be referred to another relevant Council Officer for a peer review to ensure that it adequately addresses Councils stated requirements in the Procurement Plan and is suitable for sending to the market.

5.4.5. Agree form of Contract

The Procurement department has standard Conditions of Contract in various forms according to the complexity of the service, goods or works being procured. The Procurement department will, in consultation with the Contract Manager, prepare the Conditions of Contract by finalising aspects such as:

- a) the contract commencement date;
- b) the initial contract term;
- c) any extension of the initial contract term;
- d) insurance requirements; and
- e) any requirement for a bank guarantee.

Please reach out to Contract Administration Officer for a guide to the standard documents available including:

- a) Complex Works
- b) Simple Works
- c) Panel contract
- d) Goods Services Ongoing
- e) Goods & Services Project.

5.4.6. Approved Procurement Plan

Prior to the RFT being advertised and released via Councils preferred tender software provider, the Procurement Plan needs to be completed and signed by all TEP Members.

The signed Procurement Plan is to be stored by the Contract Manager in the Contract File. All TEP



Members should have an electronic copy of the approved Procurement Plan.

5.4.7. Prepare documentation

The Procurement department can assist the Contract Manager in preparing the Conditions of Tender. The Contract Manager must ensure the finalisation of aspects such as:

- a) evaluation criteria;
- b) tender closing date and time;
- c) other relevant dates including, if required, any tender briefing sessions which may be held to simplify the scope of goods, works or services so that prospective Tenderers fully understand Council's requirements;
- d) form of Tender requesting the Tenderer's price (e.g.: lump sum, hourly rates or schedule of rates

 including GST), either for the full contract term or for an initial period with subsequent periods determined by indexation or negotiation;
- e) a statutory declaration on collusive tendering;
- f) legal identification details of the Tenderer, its sub-contractors and/or consortium partners;
- g) financial viability;
- h) corporate capability;
- i) personnel details (numbers, skills and qualifications, support staff);
- j) facilities, vehicles, plant, equipment and systems;
- k) systems and processes to support its operation (including risk management, OH&S plan, Quality plan, complaints handling procedure, industrial relations);
- I) systems to support information exchange including reporting; and
- m) details of referees, previous relevant work history.

5.4.8. Quality Management

Quality management is a requirement for the procurement of most goods, works and services. Councils standard Conditions of Tendering and Conditions of Contract contain the necessary references.

5.4.9. Occupational Health and Safety

Suppliers must comply with all legislative and regulatory requirements in relation to OH&S. Councils standard Conditions of Contract include this requirement.

Where appropriate, Conditions of Tender will include a comprehensive questionnaire for Tenderers to complete to identify the systems, policies and practices operating within their workplaces that ensure the health and safety of their employees, customers and the general public. This requirement typically applies to major contracts, building construction contracts, other works contracts and instances where the Contractor will have contact with the public. Where these criteria do not apply, the requirement can be omitted.

In addition, the specification and Conditions of Contract must include requirements, if any, that will be imposed on the Contractor during the contract term.

5.4.10. Risk Management

Contractors must comply with Councils requirements in relation to risk management. Warrnambool's standard Conditions of Contract include appropriate references to risk management and its Conditions of Tendering include a risk management questionnaire for Tenderers to complete to identify the systems, policies and practices.

5.4.11. Approved Tender

If approval for the releasing of an RFT is required and noted in the Procurement Plan, the Contract Manager must gain this approval prior to progressing through to release of the tender.



5.5. Engaging the market

5.5.1. Advertising

Advertising of tenders is a statutory requirement, and is an important process to promote competition. Generally, advertisements should be placed on Saturday ("The Standard" or "The Age"). However, consideration may be given for advertising mid-week to meet urgent requirements (e.g., Wednesday Tender Section "Herald Sun"). The tender can also be publically uploaded on Council's tendering website and advertised on Council's website.

The timeframes are dependent on the estimated cost, type and complexity of the tender. Tender periods must be agreed by the TEP but the following guidelines apply:

Description	Minimum Period
Quotations	Two weeks
Tenders (up to \$5M)	Three weeks
Tenders (greater than \$5M)	Six weeks

Advertising at times of major holidays such as Christmas and early January should be avoided if possible and if not avoidable should be advertised for an extended period.

The draft advertisement will be prepared by the Contract Manager in consultation with the Communications Department by completing the Advertising Template. The advertisement will include details of:

- a) the title of the tender;
- b) contract number;
- c) a short description of the goods, services or works;
- d) closing time and date; and
- e) details of any pre tender briefing.

The Contract Manager must ensure that a copy of the advertisement is attached to the Contract File.

5.5.2. Responding to Respondents Questions

After the release of tender documentation, potential Tenderers may have queries or raise matters for clarification. All enquiries are to be directed to and facilitated through Councils preferred tender software provider. The Contract Manager will be responsible for monitoring this online forum and responding to questions received seeking further assistance from the TEP if required.

Any clarifications of information or addendum issued to a Tenderer must be provided to all Tenderers.

5.5.3. Tender Lodgement

All tenders are to be lodged via Councils approved tender system. The closing time and date for tenders is generally 2pm on a Friday. The date must be selected such that:

- a) there has been a minimum tender period as described above, which should be extended if the period spans a major public holiday period (e.g. Christmas/New Year, Easter, etc.);
- b) it does not occur following a public holiday; and
- c) it is at least one week after a recognised major public holiday period, not being a public a public holiday or RDO.

5.5.4. Closing and opening tenders

All tenders received via Councils preferred tender software provider will be registered with the details of Tenderers and key pricing data to be recorded, signed and dated by the officers opening the

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tenders and the record placed on the Contract file. Tenders will be securely stored and forwarded to the TEP Chairperson. The tender submissions can be distributed on the agreement of the TEP Chairperson.

5.5.5. Dealing with late tenders

Late tenders will not be considered and are to be returned by the Contract Manager to the Tenderer within a reasonable time after the closing time. The TEP is to be notified of the late tender(s).

5.6. Evaluation

The tender evaluation must produce a visible, clear and auditable process that is able to withstand the rigour of any challenge. A structured approach to comparing proposals is required and the basis of this structure is the determination of evaluation criteria.

Each TEP Member is to evaluate the tender without reference to other assessors. They should apply their own judgement and follow the guidance provided on how to evaluate the RFT and their roles and responsibilities. Once all TEP Members have completed evaluating the areas allocated to them, they should convene to compare and agree scores based upon the interpretations they made.

5.6.1. Omissions, errors or ambiguities

The evaluation may uncover omissions, errors or ambiguities, which will impact on the evaluation. In such cases, the TEP must decide what action is appropriate. Any action being considered should be tested against the principle of avoiding any action that could result in material changes to tenders after the closing date.

Each case should be judged on its merits, the important consideration being that the probity of the process is not placed in jeopardy. In seeking clarification from a Tenderer, the TEP must ensure that questions are framed in such a way that they are not leading Tenderers and are not giving them an advantage or special insight. These requests are not an opportunity for Tenderers to submit additional information to the TEP but are exclusively used for Tenderers to elaborate or explain inconsistencies or errors in the original proposal. All matters associated with requesting or receiving information from respondents should be submitted to the TEP Chairperson for consideration and cleared with the Probity Adviser, where one is appointed.

5.6.2. Alternative proposals

Tenderers may propose more than one technical option to meeting the business requirement. Given that each alternative may attract a different risk assessment and involve different costs, each needs to be considered as a separate response subject to a separate evaluation.

5.6.3. Non-confirming tenders

Any tender that does not comply with the Conditions of Tendering will be deemed non-conforming. The TEP must then review the degree of non-conformance to determine whether the tender may be considered. Generally, minor non-conformance may be resolved with the TEP Chairperson liaising with the Tenderer to rectify the problem. If a tender has multiple non-conformances the tender will be deemed non-conforming and may not be considered. A tender without a price must be rejected without further consideration.

5.6.4. Council tenders

In instances where an in-house tender may be received, the TEP will be required to:

- a) disclose to all potential Tenderers that an in-house bid may be submitted;
- b) take action to clearly separate Councils role as a purchaser from that of a provider of services;
- c) ensure that those involved with the preparation of the In-house tender do not participate in the TEP; and

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d) apply the same conditions of tendering to the in-house Tenderer as it does to an external Tenderer, except for any modifications necessary to reflect the fact that the In-house team is part of Council, rather than a separate legal entity.

5.6.5. Due Diligence

Consideration should be given to due diligence activities such as Tenderer interviews, site visits, reference checks etc. Verification of Contractor references is an important component of Councils tender evaluation process. The TEP Chairperson must ensure referees are contacted and reviewed as part of the evaluation process.

Reference checking should be restricted to the referees nominated within the tender submission.

A Council Officer should not be a referee for a tender submitted to Council. If a tender submitted to Council includes a reference from an internal officer the reference must be ignored.

Consideration also needs to be given to the verification of the preferred Tenderers financial capacity. For high value (major) and high risk tenders, provision should be made for short listed Tenderers to provide detailed financial information. For standard tenders, only the preferred Tenderer would be required to have their financial capacity verified. Tender documentation must advise Tenderers of the likely prospect of providing audited financial statements for review by Council.

It is Councils expectation that the TEP is satisfied it has fully explored all due diligence options in assessing tenders and subsequently making its recommendation. All due diligence activities undertaken are required to be recorded and kept on the Contract File.

5.6.6. TEP Recommendation

At the conclusion of due diligence activities and in order to correct any potential bias, the TEP should conduct a consistency check by reviewing the earlier assessments and adjusting scores where appropriate. Once the final scores are determined the TEP Members are required to all formally sign off on the recommendation (via email sent to TEP Chairperson and kept on the Contract File).

5.7. Negotiation with tenderers

The goal of the tender evaluation process is to select the tender(s) which will best meet Council's objectives. This may mean that Council needs to conduct negotiations with a Tenderer in order to better meet/achieve its objectives. Negotiation is the responsibility of the TEP however the relevant Director must be engaged in this process.

5.7.1. Best and Final Offer (BAFO)

Council may, if it receives sufficient tenders which, in its absolute discretion, it considers acceptable, select two or more Tenderers (Short-Listed Tenderers) to negotiate (and if desired by the relevant Tenderer, revise) their tender and provide to Council a best and final offer in relation to all or certain aspects of their tender.

This process is established as an option for Council to gain further value for money out of its tendering processes. It is to be used primarily for major capital projects but can be used for other tenders with the agreement of the relevant Director.

The following are the key steps in the process:

- a) set Evaluation Criteria;
- b) issue / receive tender;
- c) evaluate responses;
 - a. shortlist;
 - b. set strategy;
 - c. clarifications meeting (major projects only);

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- d. BAFO letter;
- e. BAFO response from Tenderer; and
- f. final evaluation against criteria; and
- d) award contract.

The agreed changes are to be recorded in the final drafted contract.

5.8. Award and Inform

When the TEP has completed the evaluation, the TEP Chairperson is required to prepare the RFT Report. The TEP Report takes into account the full possible length of the contract term e.g. the initial contract and all subsequent extensions available. The TEP Report should be signed by all TEP Members then submitted to the delegated officer.

Major contracts and contracts exceeding the CEO's delegation are awarded by the Council. Under no circumstances is the TEP or the TEP Chairperson to "award" the contract.

If there is an In-house tender, a TEP Report on the award of the contract will be presented to Council for their approval.

5.8.1. Confirm and award contract

Once the TEP Report is authorised, the TEP Chairperson or Contract Manager will advise the successful Tenderer verbally and in writing of the outcome of the RFT process. The Contract Manager will then draft and provide the contract to the successful Tenderer/'s advising them when they need to be signed to ensure the activity occurs on time. Details provided to the successful Tenderer/'s at this time including arrangements for a contract kickoff meeting (if applicable) and who will be the Council contact for contract management purposes.

The Contract Manager will prepare all contract documents including the Letter of Acceptance. The Contract Manager must check to ensure the contract documents incorporate the final outcomes of any negotiations with the successful Tenderer. The contract documents are to be forwarded to the successful Tenderer for their authorisation then subsequently returned signed to the Contract Manager. Once Council has executed the contract documents, the Contract Manager must return one copy to the successful Tenderer.

A Purchase Order must be raised and forwarded to the successful Tenderer as soon as possible. The Contract File is closed once the contracts have been signed by both parties.

At the end of the evaluation process, there will be EOI or tender submissions that were unsuccessful. These documents must be stored for seven years to comply with the *Public Records Act* 1973. The TEP Chairperson must ensure that one copy of each unsuccessful tender is forwarded to the ECM Unit and that additional copies are destroyed.

5.8.2. Notify unsuccessful tenderers

Council must ensure Tenderers remain informed of the process at key stages in the tender cycle. Following the award of a contract, the Contract Manager must forward a letter advising all unsuccessful Tenderers of Council's decision. The letter should contain the name of the successful Tenderer, key reasons why the tender was unsuccessful and contact details of the Contract Manager should the Tenderer wish to seek further details of their unsuccessful submission.

6. Purchase Orders

Purchase Orders generated through Council's purchasing system are the predominant and preferred method of ordering Goods, Services and Works for Council. Irrespective of what procurement method is used to purchase Goods, Services or Works, a Purchase Order must be raised, approved



by the relevant Manager/Supervisor and forwarded to the selected supplier. This Framework sets out the only exception to this including corporate credit cards are utilised or an exemption exists.

6.1. Purchase Order Terms and Conditions

A properly executed Purchase Order will become a legally binding document and commits Council to the purchase of the Goods, Services or Works. The Purchase Order can be overridden by the terms of a Contract awarded by Council under this Framework.

6.2. Raising a PO

To create a Purchase Order, those staff undertaking the purchasing function need to be authorised to access the system by the relevant Director. It is the responsibility of the person raising the requisition to ensure the following:

- a) adherence to required procedures, including quotation requirements;
- b) accuracy of requisition details; and
- c) funds are available within the relevant cost centre

The Purchase Order number must be provided to the supplier for use on all invoices provided to Council. Every invoice relating to the procurement should be *drawn down* against the original Purchase Order. Where there is a variation to an approved procurement, that variation should be made to the original Purchase Order.

6.3. Invoice Matching

Invoices must be directed to Accounts Payable with the relevant Purchase Order number and entered in the accounts payable module. A payment will be made following online approval.

Suppliers can email their tax invoice to accounts@warrnambool.vic.gov.au and the invoice must include:

- a) ABN;
- b) GST price and GST amount;
- c) The words 'tax invoice' on the page;
- d) Date of issue;
- e) Item description;
- f) Purchase Order Number/Contract Number; and
- g) Name of council employee or contact for services or goods.

6.4. Perpetual orders

Perpetual orders relate to entering into an agreement with a supplier to deliver a Good or Service until being told to stop. This type of order is issued to cover Goods or Services required by Council on a continual basis throughout the financial year (e.g. newspaper deliveries) and should be very limited.

These orders must be reviewed by the Council Officer responsible for managing them annually in line with each financial year and a new Purchase Order should be raised on 1 July. Perpetual orders with a value above \$5,000 per annum must be discussed with the General Council, Strategy and Procurement prior to being created.

A Purchase Order is entered into in accordance with the purchasing procedures. The Purchase Order specifically states that the order is on a continued basis for the entire financial year, until requested by Council to stop.

When determining the value of the order for authorisation and quotation purposes, the total value over a three year period of the perpetual agreement should be determined as accurately as possible. Council Officers should maintain their own records of the delivery of Goods and Services to assist



in the matching of goods received and authorisation of invoices for payment.

7. Debrief

Advice on the RFT outcome and the opportunity for a debriefing will be made available for all unsuccessful Tenderers. Any debriefs should primarily provide valuable feedback to the Tenderer including areas for improvement for future submissions. The debrief session will also enable any concerns about the procurement process to be identified and hopefully resolved.

Feedback to unsuccessful Tenderers is initially undertaken by Contract Manager, the TEP Chairperson or another relevant nominated Council Officer.

Tenderers should be made aware of the debrief protocols at the start of the debrief. The feedback provided during the debrief should adhere to the following protocols:

- a) feedback should be focused on the Tenderers submission with no references made to the successful Tenderer other than who they are;
- b) no discussion will be entered into regarding any other Tenderers submission;
- c) comments in relation to their submissions strengths and areas for improvement should be restricted to each evaluation criteria only;
- d) the evaluation criteria weightings should not be disclosed to Tenderers; and
- e) point scores should not be disclosed to Tenderers unless generic to ensure identification is not possible.

Feedback should be restricted to written panel comments only. It is recommended that panel comments are not read verbatim but a succinct summary of the comments is provided.

8. Manage Agreement

The key provisions of the Contract Management phase of the procurement process are listed in the "Contract Management" section of this Manual.

9. Complaints Management

Council recognises and acknowledges the right of the community to complain regarding any aspect of its operations. Complaints are a vital form of feedback that must be captured and addressed to ensure that that appropriate processes are followed and service levels maintained.

Council has adopted and adheres to clear and transparent processes to support all of its tender preparation, evaluation and contract management processes. Complaints will be dealt with in accordance with Council's Complaints Management Processes.

9.1. Cancelling a tender

An RFT process should not be commenced if there is no genuine intention to enter a contract. If at any time during the procurement process Council determines that proceeding with the procurement process will not provide a beneficial outcome, then it may recommend that the process be terminated or that no tender be accepted.

Termination of a procurement process is a serious step with potential legal and management risks that should be considered and addressed before any decision is made. Cancellation may harm Council's credibility with Tenderers and the market generally and in turn may discourage participation in future processes. Termination may be necessary in order to protect the integrity of the process.

9.2. Breaches of tendering process

Despite best endeavours to maintain a robust RFT process, some breaches may occur. If any staff member becomes aware of any inappropriate and/or undocumented communication, they are to immediately report this to the General Counsel, Strategy and Procurement. If a Probity Advisor is

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engaged, then that person is to be clearly briefed on the matter.

9.3. Agency arrangements

Council should consider existing agency arrangements for example MAV Procurement or Procurement Australia options for Value for Money. Council accesses a number of agency contracts. For details on available contracts refer to General Counsel, Strategy and Procurement.

9.4. Victorian Government Purchasing Board

The Victorian Government Purchasing Board has released a number of State Purchasing Contracts (SPC's) to local government. The SPC's and Construction Suppliers Register enable council to leverage off the buying power of the State Government and benefit through lower prices. Council is not required to conduct its own tender if accessing an approved Local Government VGPB supplier. For details on available contracts refer to Councils Contract Register or General Counsel, Strategy and Procurement.

9.5. Panel arrangements

In some cases, a panel of Contractors will be appointed on an "annual supply" or multi-year basis. Where possible, the panels should be structured with specialist sub-panels. The standard documentation specifies that these Contractors will not be guaranteed any work but that they may be called on at any time to supply services, goods or works.

In these cases, the Contractors may be engaged by:

- a) using the schedule of rates submitted in their tender; or by
- b) requesting quotations.

Panels have advantages in that:

- a) any expenditure with the Contractor will comply with the Framework;
- b) a formal contract is in place; and
- c) contractors can be called upon at short notice.

Once a panel is established, care should be taken in relation to the engagement of one or more of the Contractors on the panel. Some aspects to consider are:

- a) which panel member can best provide the service;
- b) if all members of the panel are offering a similar service, the contractor offering the lowest price may be the best option; and
- c) avoiding situations where, over the contract term, one or two members of the panel are allocated the majority of the work.

Following the appointment of a panel, a best practice process is recommended whereby quotations should be invited from panels for each project. Note: If an existing panel or schedule of rates contract is in place for Goods, Service or Works, Council Officers can access these contracts without the need to undertake a full RFQ process however a secondary procurement process in the form of an RFQ is recommended.

9.6. Reimbursements

Council has established a reimbursements process to cover low value, low risk purchases that could not be made through a purchase card or the purchase order system. The processing of reimbursements will be facilitated through the Technology One system utilising an internal invoice.

All reimbursements must be approved by an authorised person within their financial delegation. Reimbursement forms must be submitted electronically via accounts@warrnambool.vic.gov.au.

9.7. Purchasing Card

Council has established a Purchasing Card Policy to form a core component of its procurement framework. Refer to Councils "Corporate Card Policy" which provides a set of rules for the use of

Policy Type: Procurement Manual | Responsible Branch: General Counsel | Approved Date: Oct 2021 | Review Date: Jun 2025



Council's Purchasing Card Facility under Council's Purchasing Card Program.

9.8. Overseas Purchasing

Council is permitted to engage overseas based suppliers if an Australian or New Zealand based Supplier option is not available. Council Officers are required to adhere to Councils standard procurement processes as far as practicable when engaging overseas based Suppliers. Overseas based Suppliers are to provide pricing in Australian dollars and are expected to include both freight and insurance costs in their pricing.

10. Insurance

Suppliers providing services for Council are required to take responsibility for managing the risks involved in delivering the services. Consequently, they are required to have appropriate insurance policies in place to cover them should an incident occur. The insurance requirements for each contract must be clearly spelt out in the request documents (e.g. RFQ, tender etc.).

The most common types of insurance policies are explained in the table below:

Insurance Type	Event(s) Covered
Public Liability	Death or injury attributable to the work Loss or damage to property attributable to the work
Products Liability	Death or injury, or loss of, or damage to property caused by defects in goods
Insurance of the Works	Loss or damage to constructional plant, temporary works or materials relating to the work
Professional Indemnity	Loss or damage resulting from faulty design or professional negligence
Motor vehicle	Normal motor vehicle comprehensive insurance
WorkCover	Work related death or injury of employee or sub-contractor

The minimum insurance cover required should be based on a risk assessment process which looks at the loss likelihood, the loss severity and the resulting impact on the Contractor and Council.

The following table provides guidance on recommended minimum cover related to the impact resulting from the risk assessment.

	Minimum Level of Cover Based on "Impact" following a Risk Assessment		
Type of Insurance	Low/Medium Impact	High Impact	
Public Liability	\$10 million	\$20 million	
Products Liability	\$10 million	\$20 million	
Professional Indemnity	\$5 million	\$10 million	



The next table indicates the type of policies required for different types of services that Council may contract out and provides a guide for the minimum level of insurance cover recommended.

Contracted			Ins	surance policy		
service	Public liability	Product liability	Insurance of Works	Professional Indemnity	Motor vehicle	WorkCover
Civil or building works on Council managed property or road reserves	\$20 m (high impact)	No	Yes	No (unless there is a design component)	Comprehensive	Yes
Civil works or building on private property where public access is restricted	\$10 m (medium impact)	No	Yes	No (unless there is a design component)	Comprehensive	Yes
Meals on Wheels	\$10 m (medium impact)	\$20 m (high impact)	No	No	Comprehensive	Yes
Supply and delivery of materials (e.g. pipes, fencing, concrete)	\$10 m (medium impact)	\$10 m (medium impact)	No	No	Comprehensive	Yes
Supply and delivery of high risk materials (e.g. playground equipment)	\$10 m (medium impact)	\$20 m (high impact)	No	\$10m (high impact)	Comprehensive	Yes
Clean services	\$10 m (medium impact)	No	No	No	Comprehensive	Yes
Design consultancy for building or facility	\$10m (low impact)	No	No	\$10m (high impact)	Comprehensive	Yes
Consultancy	\$10m (low impact)	No	No	\$10m (high impact)	Comprehensive	Yes

When a contact is awarded it is the Contract Manager's responsibility to obtain copies of certificates of currency for the Contractor's insurance policies. Copies should be forwarded to the Contracts Administration Officer who will set up an alarm system in the contract management system so that there is an automatic notification produced when a Contractor's policy is due to expire. It is the Contract Administrative Officer's responsibility to seek evidence from the Contractor that the appropriate policies remain current for the life of the contract.

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11. Contract Management

Below are the Contract Management Guidelines (**Guidelines**) which provide a comprehensive guide for the Council's requirements for the establishment, execution, related documents and ongoing management of all contracts. It applies to all Council Officers and Contractors that are involved in the management of contracts.

11.1. Contract Management Framework

While contract management has set documents and procedures to be followed, if you have any concerns, please discuss with General Counsel, Strategy and Procurement.

All contracts with a value over \$25,000 must be entered into the Contract Management System by the Contract Manager.

Contract Managers are to classify each contract based on its value and associated risk assessment. Contracts will be classified as follows:

Contract Classification	Details
Routine	 Low value, low risk and usually transactional in nature. Brief Contract Management Plan should be prepared and saved within the ECM System.
Leveraged or Focused	 Covers all contracts not classified as Routine or Strategic. Typically they will be higher risk or higher value than routine contracts. They will require a more detailed Contract Management Plan with activities focused on the increased risk aspects of the contract, e.g. Value – monitor spend, leakage, application of rebates, volume discounts or Risk. Monitor performance closely, regular reporting and meetings.
Strategic	 High value and high risk. These contracts require the most rigour and attention and should be allocated to experience Contract Managers. A detailed Contract Management Plan is required and stored within the ECM system.

The level of Contract Management applied to a Contract should be based on the table above and the level of importance to Council.

At the highest level there are three stages of Contract Management. These commence after the finalisation of the procurement phase and appointment of a Contractor/'s.



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Council uses different levels of process and different tools to manage contracts. This recognises category, complexity, value and risk requirements of different contracts. All levels of contract management fit within the framework, however the type and complexity of activity will vary.

Contract Management Quick Guide to assist Contract Managers through the process.

11.2. Contract Establishment

Council Officers must:

- a) confirm all required documents are present and the latest versions are available;
- b) confirm the contract is correctly signed by an authorised delegate of the Council and the Contractor, insurance and other certificates are current;
- establish the contract file and ensure it captures records of all prior processes e.g. it contains a copy of the agreed contract specification, the successful tender submission and the signed contract:
- d) ensure contract is captured in Council's Contract Management System;
- e) if relevant obtain a verbal brief from the TEP Chairperson who managed the tender, if not, check documentation to ensure:
 - a. the objectives of the contract are clear;
 - b. KPIs are defined if they have been developed by prior processes; and
 - c. the governance structure and roles are clear; and
- f) develop or update the Contract Management Plan.

11.3. Contract Management Plan

The development of a Contract Management Plan is a key phase for relevant contracts. Prior to any contract becoming operational, a Contract Management Plan must be prepared and approved by the Contract Manager and their relevant Manager. The Plan should be located and managed within the ECM System.

Contract Managers are to complete the relevant parts of the Contract Management Plan based on the complexity of the contract. Information in the Contract Management Plan should be sufficient to allow a new Contract Manager to take over the contract if needed.

The plan should identify the following key components:

- a) contracting parties names, ABN, addresses;
- b) contractor details account manager, phone/fax numbers, profile of organisation and contact details such as who has the authority to approve changes;
- c) Contract Manager / User;
- d) contact details, key responsibilities
- e) contract details complete copy of information contained in the contract for each of the headings below:
 - objectives;
 - risk (including controls and mitigations);
 - scope of work;
 - service standards;
 - · pricing arrangements;
 - length of the contraction and renewal periods;
 - asset or document register;
 - key conditions such as insurances, permits or licences required, audit, variation provisions, warranties and security;
 - · dispute resolution process;
- f) performance monitoring and reporting
 - reasons for any variation from performance targets
 - · critical success factors
 - · key performance indicators (KPI's)

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- · necessary statistics
- milestones
- · monitoring methodology and schedule
- g) statutory / regulatory requirements
 - Occupational Health & Safety;
 - Environmental:
 - Financial:
 - Industrial Relations;
 - Human Resources;
 - Commonwealth, State and Local Government Licences and Approvals;
- h) review and evaluation:
 - detail requirements for review and evaluation of the project against objectives, plans, prescribed processes, customer satisfaction and audit requirements;
 - documentation of lessons learnt and project completion report requirements;
- i) project schedule / implementation plan;
- j) future improvements;
- k) other relevant information:

depending on the type and scope and the contract this could include:

- · Service Level Agreements;
- Site plans;
- · Site diaries;
- · Final works schedule;
- Assets register updating;
- User / client survey questionnaire;

The Contract Management Plan is a living document that is updated to reflect any changes throughout the term of the contract.

11.3.1. Superintendent's role

The Superintendent is appointed by the Principal, to be responsible for exercising defined powers and duties associated with administration of a contract. The exercise by the Superintendent of the powers conferred on that person by the contract is binding on both parties. The Superintendent will act fairly towards the Contractor failure to do so may constitute a breach of contract by the Principal.

The Superintendent is normally a senior employee who is experienced in contract administration and the type of work to be undertaken. The Superintendent can also be an external consultant specifically appointed by Council to undertake the duties and responsibilities of the Superintendent.

If the Superintendent or Superintendent representatives are changed, Council must:

- formally notify the Contractor of the change;
- record the change on the Contract File and Contract Register.

The Superintendent responsibilities can include:

- · certification of payments to the Contractor;
- · certification that work is completed in accordance with the contract;
- active involvement in service planning;
- negotiation and certification of contract variations;
- assessment of claims under the contract (e.g. latent conditions);
- monitoring the contractors' performance against the requirements of the contract;
- resolution of issues raised by the Contractor and Council or residents;
- provision of advice to the Contractor and any developments that may impact on the contract;
- · taking action to address unsatisfactory work; and
- provide direction and assistance to Contract Managers.



The Superintendents Representative responsibilities may include:

- management of the operational or day to day activity of the contract;
- responding to correspondence of an operational or routine nature;
- provision of advice to the Superintendent regarding the performance of the Contractor, any disputes or breaches of contract;
- conducting regular contract meetings and service reviews;
- assisting to negotiate variations with the Contractor and assessing maters such as latent conditions;
- work cooperatively with the Contractor to address issues relating to the service or service specification;
- ensure compliance to the contract in line with Council policies;
- approval of contract payments;
- maintenance of accurate records;
- ensuring all documentation is correctly filed;
- customer liaison and complaints management;
- assist in conducting contractor audits;
- · conduct audit program, produce analysis or results and report to Superintendent; and
- act within power of delegation.

11.4. Information Management System

Each contract will require data to be populated into:

- Technology One (for payment); and
- The contract management system.

Data may be required for insurance, qualifications/certifications, induction and other compliance requirements.

11.5. Initial contractor meeting (kickoff meeting)

The initial meeting is critical to setting the tone and importance of the contract to Council. Key activities are:

- send an agenda at least one week prior to the meeting;
- where possible, have the sponsor attend to stress the importance of the contract to the provider;
- ensure you take minutes;
- ensure the meeting is a two-way conversation;
- · establish the agreed KPIs; and
- record all actions.

11.6. Active management

Managing contracts is not necessarily a linear process. Contract Managers must juggle parallel activities in order to manage the outcome. The tasks depend on the type of contract. The tasks should be outlined in the Project Management Plan.

A works contract will normally have a project plan associated with it and some service contracts will too. The Contract Manager will be required to monitor progress against the planned milestones, monitor any KPIs, assess payment claims (scheduled payments and variations), monitor risks, record any lessons learned, manage any disputes; and develop the Contractor where opportunities present. Much of this will be managed or coordinated through Contractor meetings.

The frequency of Contractor meetings should be listed in the Contract Management Plan. This will depend on the complexity of the contract, the level of activity, confidence in the Contractor and the level of communication needed. Meetings can be set around regular periods or key milestones.

For panel contracts and contracts without clear milestones the Contract Manager may be using



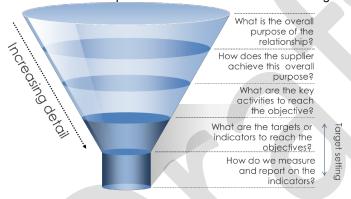
utilisation or spend data to govern the frequency of monitoring. Meetings are more likely to be at set periods such as monthly, quarterly, annually etc. Contract Managers still need to manage KPIs, risks, record lessons learned, manage disputes and develop suppliers. Much of this will be managed by desktop data, feedback from stakeholders and Contractor meetings.

11.7. Value for money

Performance management is primarily about tracking and measuring the performance of the provider to ensure Council is receiving the outcome it contracted to achieve. The Contract Manager may have been assisted by development of KPIs in the procurement process, however may need to develop, define or update proposed measures to ensure a clear picture of performance is achieved.

The Contract Manager should map the outcomes required and what would be needed to measure these. Then any data sources should be mapped to define how they contribute to these measures. Care must be taken to make sure that only a manageable number of measures are monitored and that the effort in gathering the measures is justified by their usefulness and accuracy.

The KPI funnel below provides a suitable method for defining these KPIs.



Progress tracking is normally measured against an agreed Project Management Plan. The Contract Manager must identify the critical path as any delay in the critical path impacts the final project completion date.

11.8. Financial Management

Financial management is predominantly tracking payments due and ensuring payments are made on time in accordance with the contract. This will involve examining and verifying that invoices are correct, challenging unclear or incorrect invoices, recording and/or tracking total payments, and managing price issues. Where the contract is silent on the method and timing of payments, the provisions of the *Building and Construction Industry Security of Payment Act 2002 (as amended)* will apply.

Variations may be needed due to unforeseeable circumstances, opportunities to benefit Council, known risks eventuating, or poor management by Council. Where a contract has an approved allowance for variations, the Contract Manager must understand the circumstances and process required to approve variations and must challenge the cost of any variations to ensure Council receives sound value. No variations should occur without prior approval from the Contract Manager and any approval structure in place. At all times the Contract Manager should be able to identify the value of paid and committed variations. The Contract Manager must ensure variations do not change the scope of the project in a material way that may have meant the best Contractor was not selected.

Variations should be approved in line with the delegations stated in the Contract Variations section above. All variations are to be documented and recorded on the Contract File and Technology one.



Contract Managers may find they are required to manage retained funds or bank guarantees. These will be outlined in the contract and the value and method or obtaining and releasing them. Contract Managers must ensure the contract is complied with. Funds are retained and released in the correct amount and at the correct time; or bank guarantees are obtained in the correct form and for the correct amount. Normally funds or guarantees will be partially released at the end of contract works or delivery, and the final portion released at the end of a stated warranty period. Contract Managers may be working on new contracts by this time, so must establish procedures to allow funds release at the appointed time.

11.9. Contract Administration

Contract administration may be complex or simple depending on the type of contract and activity. Refer to the Contract Management Quick Guide for an outline of the tasks to be undertaken for different types of contracts.

The Contract Manager provides key oversight and management of communications, documentation, risks and progress. Prior to the end of a contract and/or before each team member departs the contract management team, the Contract Manager must ensure that lessons learned are captured and filed. This is not an activity that only occurs as the end of the contract and should be an active process throughout the contract life.

12. Relationship management

Relationship management takes effort, however assists in achieving delivery of the required outcomes. Contract Managers should always adopt a friendly but professional approach to all communications.

Contractor meetings should always have an agenda developed well before the meeting and distributed to all attendees. Council should take and distribute the minutes. These minutes should be acknowledged by the Contractor so they form a clear record.

In the management of disputes the Contract Manager must follow the processes defined in the contract. Notices should be issued for all breaches even if the problem is resolved amicably. This is to ensure a record is maintained.

Most contracts will have an escalation process through negotiation, mediation, arbitration, and finally litigation. The negotiation phase may have escalation points and processes to avoid further escalation. A Contract Manager must ensure these processes are followed.

13. Transition and close out of contract

13.1. Planning the transition

Transition may mean transferring to a new contract, transferring to business as usual or ceasing the activity. Each process presents different risks that need to be managed by the Contract Manager as highlighted below:

Task/Activity	New Contract	BAU	Ceasing
Define what comes after the contract	•	~	×
Map critical issues	•	•	~
Identify ownership	•	•	>
Incentivise the provider	~	•	~
Coordinate handover	•	,	×
Stakeholder communication	•	•	•
Risk management	~	~	~

Policy Type: Procurement Manual | Responsible Branch: General Counsel | Approved Date: Oct 2021 | Review Date: Jun 2025



As a contract approaches its end the main difficulty for the Contract Manager will be maintaining the performance of the existing Contractor. With no ongoing contract the Contractor may be losing or redeploying team members and focusing on new clients. Administrative effort may need to increase to maintain performance.

13.2. Final performance reviews

In local government many Contractors are repeatedly engaged either by the same council or by several different Councils. The final performance review can be used by:

- · Council, for future assessments and to provide references for other Councils; and
- the Contractor, to make any changes they view as necessary to maintain or improve services to
 other clients and to assist in winning new clients.

The final performance review is filed with the performance data gathered throughout the contract.

13.3. Close out meeting

The close out meeting confirms the finalisation of the contract. Final assets can be exchanged, warranties, instruction manuals, operating manuals and other documentation can be exchanged and contract completion can be recorded. Retained funds can be released if they are due (or partially due) at practical completion. If a defects liability period has been agreed, then it can commence at this time.

Final performance review information should be provided to the Contractor and discussed and all outstanding tasks finalised.

If the outcome of the contract is to be passed to another department for ongoing management, that department should attend the close out meeting and have been engaged and briefed prior to the meeting.

13.4. End of contract report

A report is created to record information that may be needed after the contract has closed. Not all contracts need an end of contract report. The report, if raised, should cover any relevant details to explain the cause and outcome/performance or other data needed to clarify the events surrounding the following circumstances.

- contracts that experienced variations greater than planned or exceeding 20% in value;
- contracts with Contractor that Council expects to use again within 12 months;
- · contracts that were terminated under dispute; and
- contracts where Council is to manage the service going forward the report is to cover all aspects
 of assets, processes, warranties and operating instructions as well as defining any defects liability
 periods.

In all other circumstances a report is optional.

13.5. Document finalisation

Documents will normally be finalised as part of the close out meeting. These documents need to be stored in a manner that allows them to be located when needed. "As constructed" drawings must be registered and provided to the Contracts Administration Officer for processing.

The Bank Guarantee is likely to be the final piece of documentation to be administered after the completion of a contract. Contract Managers must ensure either they retain responsibility for releasing the Bank Guarantee, or this responsibility is passed to a suitable Council Officer.



Useful Document Links [to be linked from intranet as controlled documents]

- Probity Policy
- Contract Request Form
- Procurement Plan
- Risk Assessment
- Advertisement
- Registration Form
- Evaluation Matrix
- TEP Report
- Letter of Acceptance
- Unsuccessful Letter
- Creating a New Quotation Cheat Sheet (Technology One System)
- Request for the Creation of a New Record Form
- Contract Management Quick Guide
- Contract Management Plan
- Contract Variation Form

WARRNAMBOOL PLANNING SCHEME

19/01/2006 VC37

SCHEDULE 2 TO THE DEVELOPMENT PLAN OVERLAY

Shown on the planning scheme map as **DPO2**

LOW DENSITY RESIDENTIAL DEVELOPMENT PLAN

1.0 19/01/2006 VC37

Requirement before a permit is granted

A Development Plan is required to be submitted and approved by the responsible authority prior to subdivision of the land into more than two lots. The Development Plan will:

- Include a Site Analysis which shows the topography of the land, and the location of any existing
 vegetation, drainage lines, existing buildings, sites of conservation, heritage or archaeological
 significance and other features.
- Include a Soil and Water Report if reticulated sewerage infrastructure is not available. The Soil
 and Water Report must demonstrate that the lot sizes proposed are capable of adequately treating
 and retaining all wastewater within the boundaries of the lot, in compliance with the relevant
 State Environment Protection Policies namely Code of Practice Septic Tanks (EPA 1996).
- Identify the means by which sites of conservation, heritage or archaeological significance will be managed during the construction phase of the subdivision.
- Identify Appropriate Building Areas on the site and within individual lots that are suitable for the construction of dwellings or other buildings, which are not affected by constraints such as slope, potential for inundation, or presence of remnant vegetation. If there are no constraints affecting the site all lots on the Development Plan should be notated as Appropriate Building Areas.
- Include a Landscaping Plan including the location of existing vegetation to be retained and proposed vegetation.
- Show suitable road and pedestrian linkages between the site and adjacent areas.
- Outline arrangements for the provision and funding of physical infrastructure.
- Identify the staging of the subdivision.

2.0 19/01/2006 VC37

Conditions and requirements for permits

Where possible all residential development should be serviced with reticulated water and sewer.

Any constraints on subdivision or particular requirements identified in the preparation of the Development Plan should be reinforced by the placement of appropriate conditions on the permit for subdivision of the land.

Where reticulated sewerage infrastructure is not available all lots proposed must be shown to be capable of adequately treating and retaining wastewater within the boundaries of the lot by the submission of soil percolation tests, if required by the responsible authority. The responsible authority must require the submission of soil percolation tests in an area affected by an Environmental Significance Overlay. Should the soil percolation tests not correspond with information provided in the preparation of the Development Plan, the Development Plan should be amended accordingly.

All roads which provide direct access to the site must be sealed. Should such a road be identified as Road Zone Category 1 or 2 the responsible authority will determine the standard of road construction.

A permit application for a building proposed to be located in an area which is not nominated as an Appropriate Building Area must be accompanied by supporting information which shows the proposed dwelling will not cause a significant impact on the local environment. This information may address management of remnant vegetation, soil stability, drainage disposal or similar matters as considered appropriate by the responsible authority.

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WARRNAMBOOL PLANNING SCHEME

No permit is required for the construction of a dwelling or associated outbuilding within an Appropriate Building Area nominated on the Development Plan.

APPENDIX D - ASSESSMENT OF DEVELOPMENT PLAN AGAINST THE DPO2

The following table details:

- Objectives and requirements in schedule 2 to the Development Plan Overlay (DPO2) under the Warrnambool Planning Scheme.
- Council officer discussion and comments.
- An assessment on whether the DPO2 objective / requirement has been satisfied.

Objective / Requirement	Officer discussion and comments	DPO objective / requirement satisfied YES/NO
existing buildings, sites of conservation,	The DP report does not contain details of existing drainage within site analysis. A Stormwater Plan prepared by SITEC Pty Ltd, February 2021 has informed the DP but the content is not included within the principle report. A CHMP has been prepared.	Yes
Include a Soil and Water Report if reticulated sewerage infrastructure is <u>not available</u> . The Soil and Water Report must demonstrate that the lot sizes proposed are capable of adequately treating and retaining all wastewater within the boundaries of the lot, in compliance with the relevant State Environment Protection Policies namely Code of Practice - Septic Tanks (EPA 1996).	A Land Capability Assessment (LCA) prepared by SITEC) has been submitted in place of the required soil and water report. The LCA details, with the benefit of a 'letter of advice' prepared by Landech that the lot sizes are capable of treating and retaining wastewater. Further independent advice sought by Council has confirmed that the site is able to retain wastewater, subject to individual site assessments at subdivision application stage, and subject to the EPA best practice guidelines #275 and #1834. For future reference the following considerations should be given to Wannon Water who have suggested the implementation of integrated water management options.	Yes
conservation, heritage or archaeological significance will be managed during the	A CHMP #17142 has been prepared by Urban Colours and obtained statutory approval by the Department 16 November 2020. There are no specific measures required.	Yes

Objective / Requirement	Officer discussion and comments	DPO objective / requirement satisfied YES/NO
Identify Appropriate Building Areas on the site and within individual lots that are suitable for the construction of dwellings or other buildings, which are not affected by constraints such as slope, potential for inundation, or presence of remnant vegetation. If there are no constraints affecting the site all lots on the Development Plan should be notated as Appropriate Building Areas.	Appropriate building areas (ABA) have been provided on the indicative plan providing a 10m setback from a road (internal only) and 2m setback from side boundaries and demonstrated ability to accommodate 2 x 600m2 effluent disposal areas. It should be noted that flexibility has also been provided for within the DP in relation to final lot sizes – which will reflect adequate effluent disposal areas.	Yes
Include a Landscaping Plan including the location of existing vegetation to be retained and proposed vegetation	A landscape plan has been provided with particular emphasis on road reserve planting. One (1) tree per lot has been suggested consistent with Council's street tree policy. City Sustainability has been referred the DP and provided the following comments:	Yes
Show suitable road and pedestrian linkages between the site and adjacent areas.	Access to Bridge Road designed to meet Vicroads requirements. Internal roads designed to meet relevant standards- either 20/30m 'entry road' and 20m 'access street'. Footpath along site frontage and crossing points identified on Bridge Road having regard to ESR Transport Plan Assessment.	Yes
Outline arrangements for the provision and funding of physical infrastructure.	All costs will be borne by the developer. It is noted that public open space contribution will apply at subdivision/planning permit stage.	Yes
Identify the staging of the subdivision.	Staging has been identified with this DP only providing for Stages 1 & 2. Future Stages 3, 4 & 5 subject to a separate Development Plan.	Yes

Yes	Meets DPO requirements
No	Does not meet DPO requirements

WOODFORD HEIGHTS ESTATE NORTHERN DEVELOPMENT PLAN

119 Bridge Road, Bushfield

Bushfield | Victoria

September 2021



Quality Information

Title	Version	Date	Authors
Draft Development Plan (Final)	1.7	23 September	SM / DP

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1. Introduction

The Woodford Heights Estate Northern Development Plan has been prepared by Myers Planning Group on behalf of BTH Pty Ltd.

The Woodford Heights Estate encompasses approximately 20 hectares of land and is part of the largest rural residential growth area within the City of Warrnambool i.e. the Bushfield-Woodford Rural Residential Growth Area.

Warrnambool is an important city within the Great South Coast Region in terms of its role as a service and retail centre which supports established industries including farming and food manufacturing. Further, Warrnambool's established education presence and other supporting industries makes it a focus for employment in the region. Warrnambool is the western gateway to many of the region's tourist destinations.

Having regard to the strategic role of Warrnambool to the broader region, the purpose of the Woodford Heights Estate Northern Development Plan is to guide the future land use and development of land at Lot 1 on Title Plan 829725T known as 119 Bridge Road, Bushfield.

The planning for the Woodford Heights Estate Low Density Residential Zone area will be undertaken in two phases. The first phase comprises the planning and development of part of the existing Low Density Residential Zone land as laid out in this document. The second phase will comprise the planning and development of the remaining Low Density Residential Zone.

Accordingly, the Woodford Heights Estate Northern Development Plan has been prepared in accordance with Schedule 2 to the Development Plan Overlay (Low Density Residential Development Plan). It provides guidance for rural residential development on part of the land at 119 Bridge Road, Bushfield within the Low Density Residential Zone, to ensure a cohesive and integrated development that is appropriate for the area.

This Development Plan identifies where housing lots, roads, reserves and physical infrastructures should be located within the northern extent of the subject site.

The Development Plan is responsive to site conditions including topography, drainage, wastewater disposal, vegetation and abuttals to neighbouring uses and other site opportunities and constraints.

The Development Plan has been prepared following consultation with Council and authorities throughout the development plan process.

A number of consultant reports have also been prepared for the site, which influence the approach to the design and layout of development.

These reports can be found in the attached appendices and include:

- Engineering Services Report
- Land Capability Assessment
- Stormwater Management Plan
- Infrastructure Layout Diagram
- Transport Impact Assessment Report

- Approved Cultural Heritage Management Plan
- Landscape Plan
- Biodiversity Assessment

1.1 Development vision

The Woodford Heights Estate Northern Development Plan vision is as follows:

"Bushfield and Woodford are thriving communities with a distinctive pastoral feel. Residents will have the advantages afforded by both urban and rural environments, benefiting from proximity to the City of Warrnambool whilst being part of a thriving rural community, living, socialising and recreating in the rural surrounds of a contemporary rural residential estate.

The lifestyle qualities of Bushfield and Woodford are enriched by a strong connection to their natural surrounds, which encompass the Merri River, and associated hilltops, lowlands and surrounding pastoral landscapes. The Woodford Primary School, Bushfield Community Hall, Jubilee Park, Jellie's Reserve, Bushfield Recreation Reserve and other public spaces are places greatly valued by residents.

Bushfield and Woodford are great places to live with a unique rural lifestyle atmosphere. Most services are close by and residents will have the choice of walking and cycling to access education and open space infrastructure and short commute's to major activity districts for higher-order employment, retail, health and recreation services."

1.2 Design Intent

The Woodford Heights Estate environs comprise a number of features unique to the area, including:

- picturesque pastoral and hinterland views;
- direct access to key arterial roads and close proximity to pedestrian routes;
- proximity to community infrastructure; and
- a large property in a single land holding.

These features provide a natural framework of opportunities and constraints from which to base a site-responsive design. This framework will naturally unveil the structure and staging of lots, infrastructure services, location of building envelopes and open spaces which strongly influence the form of development on the site. Distinctive stages will arise in response to natural elements and infrastructure opportunities.

The design intent for the Woodford Heights Estate is to create an integrated and harmonious rural residential development with high quality built form and landscaping appropriate for its rural context, linked to nearby open space assets and accessible pedestrian routes which integrate well within the surrounding community. The Woodford Heights Estate will provide:

- Housing forms and lot sizes which integrate well within their rural surrounds.
- Additional population which will make a positive contribution to Bushfield-Woodford's unique sense of community.
- Housing lots which respond to topography and vistas, and an overall subdivision that contains lot sizes appropriate to the area's rural context.

- Lot layout and appropriate building areas designed to achieve optimal northern orientation.
- A network of accessible pedestrian and cycling paths;
- A picturesque public reserve, incorporating neighbourhood scale recreational facilities connected to cycling and pedestrian pathways.
- Quality landscaping to create a high degree of visual amenity, vegetated backdrops to housing and soft edges to built form where seen from key viewing locations;
- Building envelopes to ensure development:
 - is oriented appropriately to key roads and streets;
 - is set-back from the street and between buildings to create a distinct rural character; and
 - allows for adequate on-site wastewater disposal areas.

1.3 Structure of the Development Plan

The Woodford Heights Estate Northern Development Plan is structured in a format which responds to the features of the area and requirements of Schedule 2 to the Development Plan Overlay (Low Density Residential Development Plan). The development plan is structured as follows:

- **Site description** which provides an overview of the subject site and location.
- **Planning context** which provides an overview of the Planning Policy Framework, the Municipal Planning Strategy, zones and overlays affecting the development plan area.
- **Site analysis** which explores surrounding land uses, topography, views and vistas, areas of environmental and cultural significance and existing infrastructure services.
- **Design response** which details the proposed movement network, landscaping plan, open space, lot sizes, appropriate building areas, infrastructure and staging.

2. Site Description

2.1 Site location and context

Warrnambool is Victoria's largest coastal regional city and the fastest growing population centre in southwest Victoria. Warrnambool's population is expected to grow by 24% between 2019 and 2031, with an additional 8,442 residents. To accommodate forecast population growth, Warrnambool City Council requires land within its greenfield residential growth areas to be developed.

Bushfield-Woodford is located approximately 2.5 kilometres north of Warrnambool. The Bushfield-Woodford localities are bound by rural residential lots adjoining the Hopkins Hwy and Barries Road (east), Quinns Road, Merri View Road, Cilmery Court and The Hill Court (north), Plummers Hill Road and Bridge Road (west) and Mill Street, Brodies Lane and Rodger Place (south).

Primary access to the area is provided via:

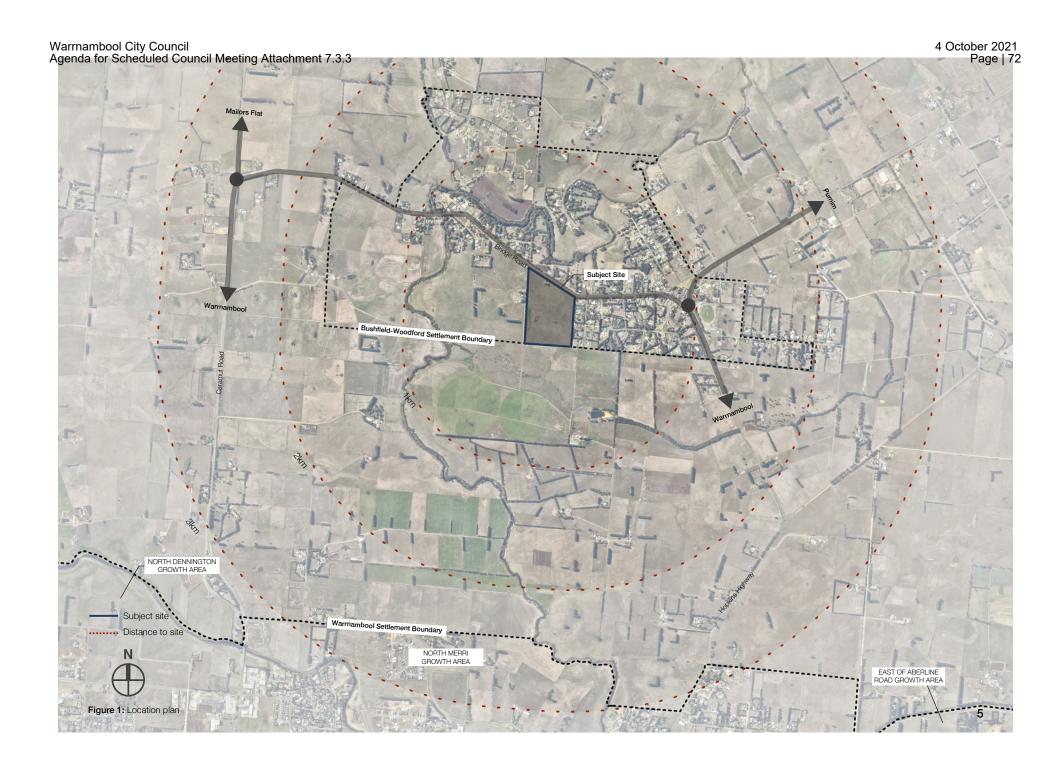
- Hopkins Highway (east), which continues through to North Warrnambool (south) and Purnim (north east);
- via Bridge Road (west), which continues through to Dennington (south west) and Mailors Flat (north west) via Caramut Road.

The Warrnambool City-Wide Housing Strategy (2013) recommended a structure plan project be undertaken for Bushfield-Woodford within 2 years of the adoption of the Strategy. No structure plan or strategic framework plan has been progressed for Bushfield-Woodford at the time this report was written.

Development within Bushfield-Woodford has been guided by the zoning regime put in place prior to the 1998 new format planning scheme, comprising vast areas of Rural Living Zone and Low Density Residential Zone land. Opportunistic development of infill and broadacre rural residential lots has occurred over time within these zones on lots in close proximity to essential services, as the supply of available vacant lots has been taken up by local demand. Most recently, this has included land within the Climery and Jellie Estates.

This development plan relates to a property at 119 Bridge Road, Bushfield within part of the Low Density Residential Zone area. The development plan area is bound by Bridge Road to the north, a partially developed road reserve to the west (Brodies Lane), developed rural residential lots to the east and vacant Low Density Residential Zone Land and Rural Living Zone land to the south (within the same property). In total, this area comprises approximately 9.64 hectares.

For completeness, technical assessments prepared in support of this development plan have included the remaining Low Density Residential Zone Land and balance Rural Living Zone land within their scope of assessment. Relevant matters pertaining to the servicing of this area, land capability, and infrastructure are discussed in this report to demonstrate how the logical sequencing of development within this area may be carried out in future without making any assumptions for this land. It is noted that these areas are not included within the development plan boundary.



3. Planning context

3.1 Planning Policy Framework

The Planning Policy Framework comprises general principles for land use and development in Victoria. The following clauses of the Planning Policy Framework are relevant to this development plan:

Clause 11 'Settlement' sets out that:

Planning is to recognise the need for, and as far as practicable contribute towards:

- Health, wellbeing and safety.
- Diversity of choice.
- Adaptation in response to changing technology.
- Economic viability.
- A high standard of urban design and amenity.
- Energy efficiency.
- Prevention of pollution to land, water and air.
- Protection of environmentally sensitive areas and natural resources.
- Accessibility.
- Land use and transport integration.

Planning is to facilitate sustainable development that takes full advantage of existing settlement patterns and investment in transport, utility, social, community and commercial infrastructure and services.

Clause 11.01-1S 'Settlement' seeks to promote the sustainable growth and development of Victoria and deliver choice and opportunity for all Victorians through a network of settlements. In addition to focusing investment and growth to places of state significance in Metropolitan Melbourne, investment and growth is also directed to major regional cities (such as Warrnambool).

Building upon this policy, Clause 11.01-1R 'Settlement - Great South Coast' supports the role of Warrnambool as the key population and employment centre within the region.

The proposed development responds to this objective and seeks to provide for low density residential opportunities that are generally consistent with the local area and within a township closely located to the City of Warrnambool. It will also increase the available supply of serviced lots and further advance housing growth for the City of Warrnambool.

Clause 11.02-3S 'Sequencing of development' seeks to ensure that new development is coordinated with the provision of appropriate infrastructure. The proposed development plan will ensure that the development is appropriately staged, particularly with regard to water supply, sewerage and drainage works. While there is no structure plan for the area, there is a clear strategic intention to prepare such a plan for the Bushfield-Woodford area.

Clause 11.03-3S 'Peri-urban areas' encourages development of residential areas at the residential-rural interface in a manner that will protect the values of the rural setting and the surrounding productive agricultural landscape.

Clause 12 'Environment and landscape values' set out that:

Planning should help to protect the health of ecological systems and the biodiversity they support (including ecosystems, habitats, species and genetic diversity) and conserve areas with identified environmental and landscape values.

Clause 13.01-2S 'Bushfire Planning' must be applied to all planning and decision making under the Planning and Environment Act 1987 relating to land that is within a designated bushfire prone area. The preparation of the development plan has considered the risk of bushfire with regard to the future subdivision and development of dwellings.

The subject site is within a designed bushfire prone area but is not included within the Bushfire Management Overlay. The subject site is considered to be within Landscape 'Type 1' (BMO Technical Guide - DELWP 2017) on the basis that:

- There is little vegetation beyond 150 metres of the site (except grasslands and low threat vegetation).
- Extreme bushfire behaviour is not possible.
- The type and extent of vegetation is unlikely to result in neighbourhoodscale destruction of property.

- Immediate and open access is available to relocate to other parts of the township (Woodford and Bushfield) or to relocate to Warrnambool via Bridge Road-Hopkins Highway or Bridge Road-Caramut Road.
- The subject land is located in close proximity to roads and buildings.
- The topography of the land surrounding the subject site is relatively flat, with gentle slopes descending from Bridge Road towards the Merri River (north) and Sawpit Creek (south).

In addition, the majority of lots have access to Low fuel/BAL LOW areas in accordance with the definition contained in Australian Standard AS3959 Building in a Bushfire Prone Area and there is ample space within each individual lot to manage defendable space to a BAL 12.5 standard.

Clause 14 'Natural resource management' sets out that:

Planning is to assist in the conservation and wise use of natural resources including energy, water, land, stone and minerals to support both environmental quality and sustainable development.

Clause 14.02-1S 'Catchment planning and management' seeks to minimise the impacts of stormwater upon waterways. The development plan is accompanied with a Stormwater Management Plan (SITEC) which sets out measures to maximise the quality of stormwater runoff from the development plan area. Stormwater will be filtered of sediment and waste and detained sufficiently to discharge at pre-development flows.

Clause 15 'Built environment and heritage' sets out that:

Planning is to recognise the role of urban design, building design, heritage and energy and resource efficiency in delivering liveable and sustainable cities, towns and neighbourhoods.

Planning should ensure all land use and development appropriately responds to its surrounding landscape and character, valued built form and cultural context.

Planning should protect places and sites with significant heritage, architectural, aesthetic, scientific and cultural value.

Planning must support the establishment and maintenance of communities by delivering functional, accessible, safe and diverse physical and social environments, through the appropriate location of use and development and through high quality buildings and urban design.

Planning should promote development that is environmentally sustainable and should minimize detrimental impacts on the built and natural environment.

Planning should promote excellence in the built environment and create places that:

- Are enjoyable, engaging and comfortable to be in.
- Accommodate people of all abilities, ages and cultures.
- Contribute positively to local character and sense of place.

- Reflect the particular characteristics and cultural identity of the community.
- Enhance the function, amenity and safety of the public realm.

As encouraged by Clause 15.01-1S 'Urban design', the proposed subdivision and road layout responds to natural features. Proposed landscape treatments, building setbacks and guidelines for outbuildings, will ensure development responds to the surrounding landscape, natural features and the existing character of the area. The public realm has been designed to be attractive with safe access to walking and cycling paths. The proposed development also seeks to integrate with the existing transport network and encourages walking and cycling through the provision of footpaths and road crossing linkages to the wider pedestrian network.

Of relevance to this development plan, Clause 15.01-3S 'Subdivision design' sets out:

In the development of new residential areas and in the redevelopment of existing areas, subdivision should be designed to create liveable and sustainable communities by:

- Creating compact neighbourhoods that have walkable distances between activities.
- Creating urban places with a strong sense of place that are functional, safe and attractive.
- Creating landscaped streets and a network of open spaces to meet a variety of needs with links to regional parks where possible.

- Protecting and enhancing native habitat.
- Facilitating an urban structure where neighbourhoods are clustered to support larger activity centres served by high quality public transport.
- Reduce car dependency by allowing for:
 - Convenient and safe public transport.
 - Safe and attractive spaces and networks for walking and cycling.
 - Subdivision layouts that allow easy movement within and between neighbourhoods.
- A convenient and safe road network.
- Being accessible to people with disabilities.
- Creating an urban structure and providing utilities and services that enable energy efficiency, resource conservation, integrated water management and minimisation of waste and air pollution.

The development plan implements this policy in the following ways:

- The development plan promotes a permeable movement network with a focus on safe and efficient walking and cycling paths. Residents will have the choice of walking or cycling to local points of interest and commuting by private vehicle to major activity centres.
- Proposed lot sizes are consistent with the surrounding area and are appropriate to the site's rural setting. Infrastructure services are provided and contribute to the scarce supply of serviced rural residential land for current and future residents.

- The proposed development adds to the variety of lot sizes across the City and provides rural residential properties within close proximity to infrastructure, education and community services.
- The development plan incorporates passive open space areas and linkages
 which extends across the estate and connect to the surrounding pedestrian
 network. Landscape treatments within the streetscape will reinforce the
 distinctive rural 'feel' of the estate.
- Ecological values are protected and enhanced. The development plan includes appropriate vegetation links along internal roads and within private property and encourages the planting of native species throughout the development plan area.
- The development is unlikely to have any adverse environmental impacts, including any impacts on threatened flora, fauna or areas of aboriginal cultural heritage.
- The proposed development provides an appropriate stormwater drainage strategy and informal/passive outdoor recreation areas, which will directly service the estate.

Clause 15.01-4S 'Healthy neighbourhoods' seeks to ensure neighbourhoods are designed to foster community interaction and make it easy for people of all ages and abilities to live healthy lifestyles and engage in regular activity.

The development plan has a strong emphasis on fostering community interaction and encouraging physical activity. The development plan establishes a continuous system of pedestrian and bicycle paths along all streets, linking to open space and public transport within the development plan area and beyond.

Clause 15.01-6S 'Design for rural areas' seeks to ensure development respects valued areas of rural character. Of relevance to this development plan, this clause sets out to:

- Ensure that the siting, scale and appearance of development protects and enhances rural character.
- Protect the visual amenity of valued rural landscapes and character areas along township approaches and sensitive tourist routes by ensuring new development is sympathetically located.
- Site and design development to minimise visual impacts on surrounding natural scenery and landscape features including ridgelines, hill tops, waterways, lakes and wetlands.

The development plan has a strong emphasis on protecting immediate approaches to the site by setting development back behind service roads, planted out with native vegetation as to maintain the rural 'feel' of the area. The style of infrastructure (including roads, drainage and footpaths) is designed to maintain a rural feel by utilising rural materials. Views through the development to pastoral lands south of the area are strategically placed throughout the development to ensure continued enjoyment of the rural landscape and to maintain the area's rural character.

Clause 15.03-2S 'Aboriginal cultural heritage' seeks to ensure the protection and conservation of places of Aboriginal cultural heritage significance. The development plan is accompanied by a Cultural Heritage Management Plan,

which identified no indigenous cultural materials or artefacts were located during the site assessment.

Clause 16 'Housing' sets out that:

Planning should provide for housing diversity, and ensure the efficient provision of supporting infrastructure.

Planning should ensure the long-term sustainability of new housing, including access to services, walkability to activity centres, public transport, schools and open space.

Planning for housing should include the provision of land for affordable housing.

The development plan is consistent with these objectives as it will increase the supply of developed rural residential zoned land to contribute to short and medium term demand for rural residential development, and will integrate new proposed infrastructure and services with surrounding infrastructure.

The development plan implements policy at Clause 16.01-2S 'Location of residential development' which seeks to locate new housing in designated areas which offer good access to jobs, services and transport.

Clause 16.01-5S 'Rural residential development' seeks to identify land suitable for rural residential development. Of relevance to this development plan, this clause sets out to:

- Manage development in rural areas to protect agriculture and avoid inappropriate rural residential development.

- Encourage the consolidation of new housing in existing settlements where investment in physical and community infrastructure and services has already been made.
- Ensure planning for rural residential development avoids or significantly reduces adverse economic, social and environmental impacts by (overleaf):
 - Maintaining the long-term sustainable use and management of existing natural resource attribute in activities including agricultural production, water, mineral and energy resources.
 - Protecting existing landscape values and environmental qualities such as water quality, native vegetation, biodiversity and habitat.
 - Minimising or avoiding property servicing costs carried by local and state governments.
 - Maintaining an adequate buffer distance between rural residential development and animal production.

Of relevance to this development plan, Clause 16.01-5R 'Rural residential development - Great South Coast' seeks to support rural residential development in locations that:

- Are adjacent to towns with limited growth demand to sustain population levels and communities.
- Are not strategically identified for standard density urban growth.

Clause 18 'Transport' sets out that planning should ensure an integrated and sustainable transport system. Clause 18.01-1S 'Land use and transport planning' seeks to integrate public transport services and infrastructure into new

development. Clause 18.02-1S 'Sustainable personal transport' seeks to ensure the development of new neighbourhoods provides opportunities to promote more walking and cycling. The development plan promotes a highly permeable movement network with a focus on safe and efficient walking and cycling paths. Residents will have the choice of walking, cycling or using public transport for their daily needs.

The objective of Clause 19.02-6S seeks to establish, manage and improve a diverse and integrated network of public open space that meets the needs of the community.

The proposed development is generally consistent with the strategies of this clause as the development will provide public open space areas linked to the wider pedestrian network, and a mix of natural features (i.e. landscaped areas and a drainage wetland) amongst passive outdoor recreation areas.

The development plan implements key policy within Clause 19 'Infrastructure' such as Clause 19.03-2S 'Infrastructure design and provision', Clause 19.03-3S 'Water supply, sewerage and drainage', Clause 19.03-4S 'Stormwater', and Clause 19.03-5S 'Telecommunications'. The development plan encourages the provision of infrastructure in a way that is efficient, accessible and timely.

3.2 Municipal Planning Strategy

Building on the Planning Policy Framework, the Municipal Planning Strategy sets out the local and regional strategic policy context for Warrnambool. It comprises the Municipal Strategic Statement and specific local planning policies.

Clause 21.01 'Municipal Profile, Council Vision and Strategic Directions' provides an overview of the drivers for growth and change within the City of Warrnambool. The municipality includes the major centre of Warrnambool (residential, commercial and industrial land uses) and the surrounding rural hinterland. Warrnambool is Victoria's largest coastal regional city and is the main service centre for south-western Victoria.

The city is a popular retirement and tourist destination and provides support to the region in the fields of commerce, governance, social services, health, education, the arts and recreation.

The municipality has a steadily growing population. The estimated resident population of Warrnambool is expected to increase to approximately 43,700 people by 2031. The majority of the City's population is concentrated in Warrnambool, Dennington, Allansford, Bushfield and Woodford.

Landscape character and environmental values are key planning issues relevant to this proposal.

Clause 21.01-4 'Strategic directions' sets out that Council is committed to creating a sustainable city, which allows people to walk or cycle to access their everyday needs and that fosters community interaction and encourages physical

activity. In order to achieve this, Council has established a clear strategic direction to provide a network of activity centres, and open space, and a diverse range of housing options including Woodford and Bushfield's rural residential setting. Strategic directions pertaining to environment and landscape values (including inland hilltops and ridgelines) and rural character and agricultural are also relevant to this proposal.

Clause 21.02 'Settlement' seeks to direct urban growth to growth areas in order to protect productive rural areas and to achieve a more compact sustainable urban area.

Clause 21.02-2 'Urban growth' seeks to ensure that rural living and low density residential development are environmentally sustainable. The following strategies relevant to this proposal include:

- Discourage rural living and low-density residential subdivision where it would prejudice long-term residential development.
- In Bushfield, Woodford and Allansford, limit rural living development and low-density residential development to existing zoned land.

Clause 21.02-02 'Urban growth' also seeks to manage land use conflicts at the urban/rural interface and development pressures at the edge of Warmambool's settlement boundary. The strategy to, 'Ensure agricultural uses in urban/rural interface areas are protected from non-agricultural uses', is relevant to this proposal.

This Clause also outlines that Strategic Framework Plans should be completed for Bushfield and Woodford. A Strategic Framework Plan has not been progressed for Bushfield or Woodford at the time this report was written.

Clause 21.03-2 'Significant environments and landscapes' sets out:

Warrnambool contains areas of great natural beauty. The community values the city's landscape character. The ocean, the Merri River, the Hopkins River, inland hilltops and ridgelines, and surrounding rural areas can be viewed from numerous public areas and private dwellings throughout the city. Respect for the sharing of views, rather than necessarily the retention of all existing views, is an important issue.

Clause 21.03-2 seeks to ensure development sustains and enhances water quality and sediment loads. With regards to development of ridgelines and hilltops, Clause 21.03-4 encourages the protection of distinct hilltops and ridgelines.

Clause 21.04-5 'Bushfire' identifies that grassland landscapes surrounding Warrnambool and smaller townships present a fire risk, and that grassland upslopes present areas for grassfire penetration into these towns.

Of relevance to this application, is the strategy to direct development to locations of lower bushfire risk and to avoid development in locations of high bushfire risk.

Clause 21.05 'Natural Resource Management' identifies the importance of appropriate management of the urban-agricultural interface to protect farming operations and to maintain greenbelts around settlement boundaries.

Clause 21.06 'Built Environment and Heritage' identifies the importance of protecting the appearance of the city's residential areas, natural environment and built form. The following strategies to are relevant to this proposal:

- Encourage limited rural living and low-density residential development within existing zoned areas around Bushfield and Woodford.
- Limit the impact of residential development upon adjacent farmland, with the Rural Living Zone being maintained as an effective buffer between residential areas and surrounding farms in Bushfield and Woodford.

Clause 21.09 'Transport' identifies that Warrnambool residents are reliant on personal motor vehicles for transport and seeks to encourage residents and visitors to use viable transport modes and public transport.

Clause 21.10 'Infrastructure' identifies that the settlements of Bushfield and Woodford are not connected to reticulated sewerage services, and that the soils in these townships have limited capacity to carry much further growth in septic services. This Clause also encourages the use of water sensitive urban design and the use of open spaces to act as floodways to minimise stormwater runoff into catchments. The following strategies are relevant to this proposal:

- Require new development to include water sensitive urban design techniques.
- Establish artificial wetlands, retention basins and stormwater pollution traps and other waster sensitive design features as a means of controlling the quality and quantity of stormwater run-off from urban areas.

- Defer growth within Bushfield and Woodford pending resolution of sewerage and effluent management options.
- Undertake a sewerage and effluent management strategy for Bushfield and Woodford, examining options and making recommendations regarding the most effective and cost beneficial way to enable growth to occur without environmental degradation.

At the time of writing this report, a sewer and effluent management strategy for Bushfield and Woodford has not been developed.

The development plan includes an assessment of the subject site's capability to cater for on-site wastewater disposal and provides appropriately sized lots capable of treating domestic wastewaters on-site (see **Appendix D** for a copy of the Land Capability Assessment).

3.3 Zones

Low Density Residential Zone

The development plan area is zoned for rural residential purposes (Low Density Residential Zone) which seeks to:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- To provide for low-density residential development on lots which, in the absence of reticulated sewerage, can treat and retain all wastewater.

Use of land for a dwelling

Under the Low Density Residential Zone, a planning permit is not required to use land for a 'Dwelling'.

A lot may be used for one or two dwellings provided the following requirements are met:

- All wastewater from each dwelling must be treated and retained within the lot in accordance with the State Environment Protection Policy (Waters of Victoria) under the *Environment Protection Act 1970*.
- Each dwelling must be connected to a reticulated potable water supply or have an alternative potable water supply, with appropriate storage capacity, to the satisfaction of the responsible authority.

 Each dwelling must be connected to as reticulated electricity supply or have an alternative energy supply to the satisfaction of the responsible authority.

These requirements also apply to a dependent person's unit.

Subdivision

A planning permit is required to subdivide land. An application to subdivide land must meet the following requirements of the Warrnambool Planning Scheme:

- Each lot must be at least 0.4 hectare for each lot where reticulated sewerage is not connected.
- The application must be accompanied by a report that includes a land assessment, which demonstrates that each lot is capable of treating and retaining all wastewater in accordance with the State Environment Protection Policy (Waters of Victoria) under the *Environment Protection Act* 1970.
- The application must show for each lot:
 - A building envelope and driveway to the envelope.
 - Existing vegetation.
 - In the absence of reticulated sewerage, an effluent disposal area.
- The application must show how the proposed subdivision relates to the existing or likely use and development of adjoining and nearby land.
- If a staged subdivision, the application must show how the balance of the land may be subdivided.

 An application must demonstrate how the requirements of Clause 56.07-1 to 56.07-4 have been considered.

Buildings and works

A permit is required to construct or carry out any of the following:

- A building or works associated with a use in Section 2 of Clause 32.03-1.
- An outbuilding which has dimensions greater than those specified in a schedule to this zone (none apply).

This does not apply to structural changes to a dwelling provided the size of the dwelling is not increased or the number of dwellings is not increased.

Road Zone, Category 1

Bridge Road is included within the Road Zone, Category 1. The purpose of the Road Zone is to identify significant existing roads.

3.4 Overlays

Development Plan Overlay

The development plan area is currently included within Schedule 2 to the Development Plan Overlay (**DPO2**).

The purpose of this overlay is to ensure that the form and conditions of future use and development within 'low density' areas are shown on a development plan prior to subdivision and development occurring on the land.

As noted in **Section 1**, the planning for the Woodford Heights Estate will be undertaken in two 'phases'. The planning for the Woodford Heights Estate Low Density Residential Zone area will be undertaken in two phases. The first phase comprises the planning and development of part of the existing Low Density Residential Zone land as laid out in this document. The second phase will comprise the planning and development of the remaining Low Density Residential Zone.

A list of items covered by **DPO2** is outlined in the next section.

4. Schedule 2 to the Development Plan Overlay

A list of requirements for development within Schedule 2 to the Development Plan Overlay before a permit is granted is outlined below. It is noted that the development plan comprised within this report is sought under Schedule 2 to the Development Plan Overlay.

Requirements before a permit is granted (Schedule 2 to the Development Plan Overlay)		
Plan, assessment and/or matter to be considered		
A development plan is required to be submitted and approved by the responsible authority prior to subdivision of the land into more than two lots.		
Site Analysis	Topography.	
	Existing vegetation.	
	Drainage lines.	
	Existing buildings.	
	Sites of conservation, heritage or archaeological significance.	
	Other features.	
Soil and Water Report	Demonstrate that the lot sizes proposed are capable of adequately treating and retaining all wastewater within the boundaries of the lot.	

Requirements before a permit is granted (Schedule 2 to the Development Plan Overlay)	
Appropriate Building Areas	Suitability for the construction of dwellings and other buildings.
	Slope.
	Inundation.
	Remnant vegetation.
	Proximity to neighbouring properties used for farming purposes.
Landscaping Plan	Location of existing vegetation to be retained and proposed vegetation.
Management of sites of conservation, heritage or archaeological significance during construction phase of subdivision.	
Suitable road and pedestrian linkages between the site and adjacent areas.	
Arrangements for the provision and funding of physical infrastructure.	
Staging of subdivision.	

A consolidated list of conditions and requirements for permits is outlined in the table contained below.

Conditions and requirements for permits (Schedule 2 to the Development Plan Overlay)

Plan, assessment and/or matter to be considered

Constraints on subdivision or particular requirements identified in the preparation of the Development Plan should be reinforced by the placement of appropriate conditions on the permit for subdivision of the land.

Where reticulated sewerage infrastructure is not available all lots proposed must be shown to be capable of adequately treating and retaining wastewater within the boundaries of the lot by the submission of soil percolation test, if required by the responsible authority. The responsible authority must require the submission of soil percolation tests in an area affected by an Environment Significance Overlay. Should the soil percolation tests not correspond with information provided in the preparation of the Development Plan, the Development Plan should be amended accordingly.

All roads which provide direct access to the site must be sealed. Should such a road be identified as Road Zone Category 1 or 2 the responsible authority will determine the standard of road construction.

A permit application for a building proposed to be located in an area which is not nominated as an Appropriate Building Area must be accompanied by supporting information which shows the proposed dwelling will not cause a

Conditions and requirements for permits (Schedule 2 to the Development Plan Overlay)

significant impact on the local environment. This information may address management of remnant vegetation, soil stability, drainage disposal or similar matters as considered appropriate by the responsible authority.

No permit is required for the construction of a dwelling or associate outbuilding within an Appropriate Building Area nominated on the Development Plan, unless a permit is required by another clause of the Warrnambool Planning Scheme.

These aforementioned items have guided the preparation of the development plan (this report) and the following reports and assessments which have informed the preparation of the development plan:

Concept Plan of Subdivision

Joseph Land Surveying Pty Ltd, February 2021

Approved Cultural Heritage Management Plan

Urban Colours Art and Cultural Heritage Consultant, January 2021

Engineering Services Report

SITEC Pty Ltd, February 2021

Land Capability Assessment

SITEC Pty Ltd, February 2021

Letter of Advice - Land Capability Assessment

Landtech Consulting Pty Ltd, February 2021

Stormwater Management Plan

SITEC Pty Ltd, February 2021

Functional Design and Layout Plan

SITEC Pty Ltd, February 2021

Transport Impact Assessment Report

ESR Transport Planning Pty Ltd, September 2020

Biodiversity Assessment

Landtech Consulting Pty Ltd, April 2021

5. Site analysis, issues and opportunities

5.1 Land uses

The development plan area comprises one landholding of approximately 20 hectares. Approximately 15 hectares of this land is located within the Low Density Residential Zone (LDRZ). This development plan applies to approximately 9.64 hectares of this area.

The planning for the Woodford Heights Estate Low Density Residential Zone area will be undertaken in two phases. The first phase comprises the planning and development of part of the existing Low Density Residential Zone land as laid out in this document. The second phase will comprise the planning and development of the remaining Low Density Residential Zone.

The property currently comprises perimeter fencing of post and wire construction and has been historically used as a farming property.

The development plan interfaces comprises:

- a frontage to Bridge Road of approximately 451 metres to the north, which is an arterial road. Land beyond the Bridge Road road reserve to the north comprises small residential lots in the Rural Living Zone;
- a boundary to Brodies Lane of approximately 450 metres to the west. A
 landholding beyond the Brodies Lane road reserve to the east comprises
 55 hectares of land used for farming. This land contains two dwellings
 and comprises land partially contained in the Low Density Residential
 Zone and Rural Living Zone;

- a boundary to four developed lots in the Low Density Residential Zone of approximately 280 metres to the east.
- a boundary to Rural Living Zone land of approximately 385 metres to the south.

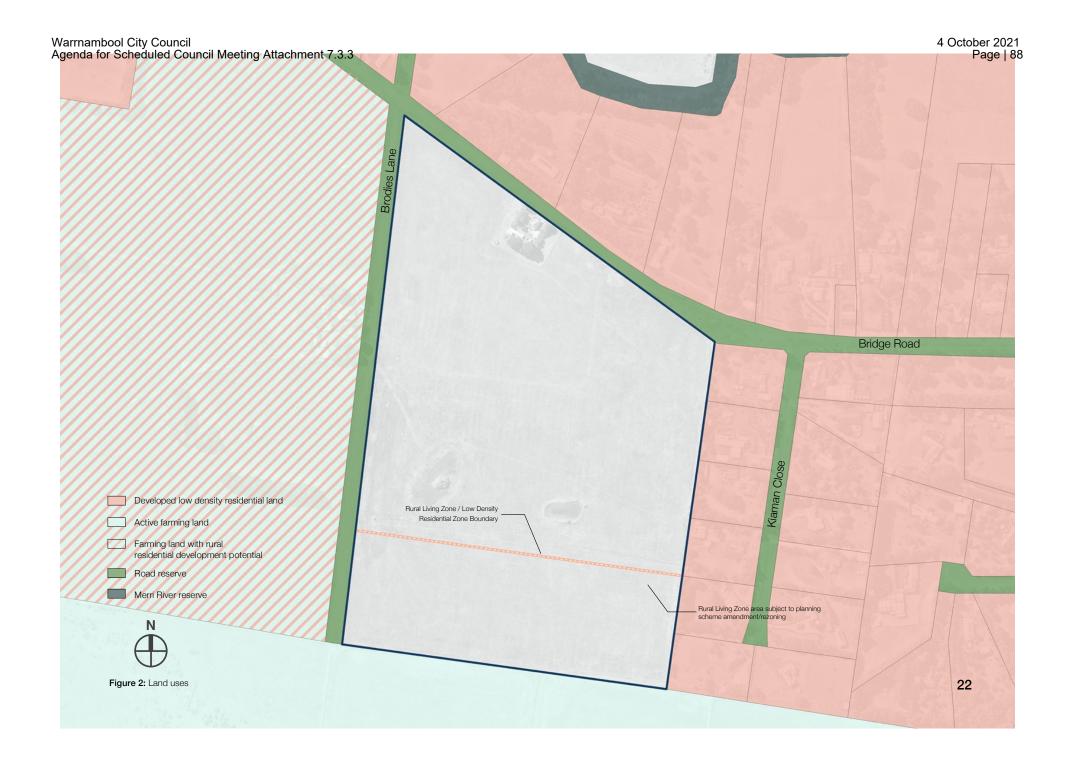
A number of other significant land uses are located beyond these direct interfaces. These include the Woodford Primary School (located 720 metres northeast of the subject site's northern boundary) and the Bushfield Community Hall and Recreation Reserve (located 960 metres east of the subject site's eastern boundary).

No easements or encumbrances affect the subject site.

A historical, and now redundant, dashed vinculum across Bridge Road is shown on the relevant copy of title.

Design considerations:

- The development plan provides an attractive interface to existing rural residential lots and to the main thoroughfare of the township (Bridge Road).
- The development plan provides opportunities (within the road network and private gardens) for landscaping to assist in integrating the development with the rural surrounds and existing rural residential development.
- The development plan provides opportunities to coordinate land development within the existing Low Density Residential Zone, without compromising the desired development outcomes for areas beyond the development plan area and the subject site.
- The development plan provides opportunities to link the subject site to undeveloped Low Density Residential land to the west and south of the development plan area.
- The development plan provides linkages with the existing pedestrian and bicycle network.



5.2 Topography and views

The subject site adjoins a ridgeline which falls from the Bridge Road road reserve in a generally southern direction towards Sawpit Creek (south of the subject site). The highest point on the subject site is located east of centre on the northern boundary at approximately 45 metres AHD, while the lowest point is located approximately 370 metres south-east of this point at approximately 30.5 metres (AHD). These figures equate to a slope of approximately 2 degrees. Land continues to graduate gently to its lowest point within the surrounding catchment on land adjoining the site to the south, towards Sawpit Creek. Land to the south, southeast and southwest of the site rises gradually to a vegetated ridgeline located approximately 800 metres from the southern boundary of the subject site.

Because of these elevations, the subject site contains desirable long-distance panoramic views of predominantly grazed and irrigated farmland.

Figure 3 (overleaf) shows view lines along Bridge Road towards key aspects.

The development plan area is visible from the Bridge Road road reserve and from cleared farmland to the west of the site. It is noteworthy that most dwellings on the northern side of the Bridge Road road reserve have landscaped this aspect out of view in favour of view lines north of the ridge toward the Merri River. Similarly, adjoining rural residential lots to the east have heavily landscaped their rear boundary and have oriented residential buildings in favour of aspects to the east and south of the subject site.

Design considerations:

- Lots should be oriented to capture key views. Open spaces should be located to take advantage of key vantage points.
- Lots should be designed to achieve optimal northern orientation.
- Building heights have been limited to ensure dwellings nestle within a vegetated setting and do not dominate the landscape character of the area.
- Roads should incorporate wide nature strips to allow for canopy tree plantings.
- Road access should be located for optimal site lines and vehicle and pedestrian safety.
- Extensive planting will be provided within private gardens (minimum of three canopy trees per lot) to assist integrate development within the rural surrounds and existing rural residential development.



5.3 Drainage, waterways and vegetation

Land within the development plan area has been subject to extensive clearing and modification through agricultural use and is dominated by exotic vegetation (open pasture) and exotic weeds. Eight (8) recently planted Silver Banksia's (*Banksia marginata*) are located on the adjoining Bridge Road road reserve near the north-eastern boundary of the site. No native vegetation is located on the subject site. See **Appendix K** (Biodiversity Assessment) for further details.

No natural or man-made water courses are located on the subject site. A manmade stock dam is located within the mid-section of the subject site.

Collection and discharge of urban stormwater from within the development plan area will need to be treated through Water Sensitive Urban Design measures to ensure appropriate treatment of run-off arising from future rural residential development. The existing dam area is located on a suitable point for stormwater capture for development located north of this area.

The Stormwater Management Plan (SITEC, February 2021) which accompanies this development plan, identifies that this area and land directly south of the dam toward the southern boundary of the property comprises a suitable area for a drainage basin and wetland system.

This area also contains a key vantage point to views to the south and offers high amenity for active and passive recreation opportunities.

Design considerations:

- Roads will be aligned to allow for overland flows along natural drainage lines.
- Water sensitive urban design infrastructure and techniques will be utilised in road reserves, pubic reserves and elsewhere to appropriately treat stormwater before discharge.
- The final stormwater drainage discharge option/s will be determined in the approved Stormwater Management Plan.
- Rooftop stormwater discharge will be minimised through a requirement for each house to retain stormwater as drinking water in fresh water tanks and for fire-fighting purposes.
- Roads incorporate wide nature strips to allow for extensive substantial vegetation.

Guidelines for planning permit applications:

 Applications for subdivision must be accompanied with a Stormwater Management Plan which identifies drainage requirements (including interim measures) for each stage of subdivision, generally consistent with the Development Plan.



5.4 Bushfire

The land is within a designated Bushfire Prone Area but is not included within the Bushfire Management Overlay.

All planning and decision making under the Planning and Environment Act 1987 relating to land that is within a designated bushfire prone area must consider Clause 13.01-2S 'Bushfire Planning', as appropriate.

Accordingly, an assessment of risk (landscape and site) commensurate with the scale and location of the proposal is discussed below.

Landscape bushfire risk

The subject site is considered to be within Landscape 'Type 1' (BMO Technical Guide - DELWP 2017) on the basis that:

- There is little vegetation beyond 150 metres of the site (except grasslands and low threat vegetation).
- Extreme bushfire behaviour is not possible.
- The type and extent of vegetation is unlikely to result in neighbourhoodscale destruction of property.
- Immediate and open access is available to relocate to other parts of the township (Woodford and Bushfield) or to relocate to Warrnambool via Bridge Road-Hopkins Highway or Bridge Road-Caramut Road.
- The subject land is located in close proximity to roads and buildings.

 The topography of the land surrounding the subject site is relatively flat, with gentle slopes descending from Bridge Road toward Sawpit Creek (south) and the Merri River (north).

Site Assessment

- The land is located within a Bushfire Prone Area.
- There is no Bushfire Management Overlay present on the site or surrounding grassland.
- Within 150 metres of the subject land, the predominant vegetation type is grassland or low threat vegetation (see Figure 5).
- The topography of the land surrounding the subject site is relatively flat, with gentle slopes towards the Merri River (north) and Sawpit Creek (south), with an approximate slope of 2 degrees across the subject site.
- Buildings will be required to be set back at least 19 metres from grassland on adjoining properties to ensure a radiant heat exposure of less than 12.5kW/m2.
- Along the southern and western boundary this setback will need to be from the boundary of the site as grassland directly abuts these interfaces.
- A road reserve adjoins the western boundary of the subject site with a
 partially constructed road, which is considered to be low threat vegetation
 and can be incorporated into these setbacks. Beyond this land to the
 west, is a dwelling on land zoned Low Density Residential Zone and Rural
 Living Zone, which also contains an agricultural use.

To the east of the subject site adjoins developed Low Density Residential
 Zone land. Vegetation within these sites is considered to be low threat
 vegetation and can be incorporated into these setbacks.

The above withstanding, the fire risk from ember attack and management of grassland during the fire danger period should be considered as part of the management of subsequent lots to be developed.

Design considerations

- Ensure all lots are designed to manage defendable space requirements within each individual lot to no more than a BAL 12.5 rating.
- Ensure all lots are capable of supplying 10,000 litre reserve capacity within on-site water tanks.



5.5 Geology and soils

The site's geology and soils have been assessed for their suitability for onsite wastewater management as part of the Land Capability Assessment prepared by SITEC Pty Ltd (see **Appendix D**).

This report identifies that the subject site is suitable for on-site wastewater disposal subject to wastewater conditions relating to required buffers, treatment system design, land application areas, stormwater management and ongoing monitoring, operation and maintenance.

Further advice on the parameters for the design of wastewater treatment systems has been sought from Landtech Consulting Pty Ltd (see **Appendix E**) as part of a review of the Land Capability Assessment by SITEC Pty Ltd and wider review of the development plan against the Warrnambool Domestic Wastewater Management Plan 2020-2025. The findings demonstrate that the proposed subdivision will not result in likely adverse cumulative impacts subject to detailed wastewater design and management at the septic permit/installation stage.

Design considerations:

- Ensure lots are adequately sized and designed to contain, treat and dispose of all domestic wastewater within individual lots on the subject site.
- Lot sizes should be informed by a Land Capability Assessment prepared by a suitably qualified professional.

Guidelines for permit applications:

 Applications for subdivision must include land application areas, wastewater system design and management informed by a Land Capability Assessment.

5.6 Cultural Heritage

The subject site is within an area of cultural heritage sensitivity as described in the Aboriginal Heritage Regulations 2018. A Cultural Heritage Management Plan is required to be prepared and approved by the relevant Registered Aboriginal Party (or the Office of Aboriginal Victoria) prior to land being subdivided or developed.

A Cultural Heritage Management Plan has been approved for the development plan area. No aboriginal cultural heritage archaeological sites were identified within the development plan area.

The management plan sets out actions in the event any Aboriginal cultural heritage sites are located during construction which will be followed during construction of the development. See **Appendix I** (Approved Cultural Heritage Management Plan) for further details.

5.7 Access and linkages

The subject site has two road frontages as follows:

- a 450 metre frontage along the northern boundary to Bridge Road; and
- a 620 metre frontage to the Brodies Lane road reserve, which contains a 300 metre length of gravelled road.

Bridge Road is classified as an Arterial Road subject to a 60kph speed limit, while Brodies Lane is classified as a gravelled and unkerbed access road.

There are no public transit connections to Woodford or Bushfield, aside from school bus services, placing a great reliance on vehicle and pedestrian transport connections to journey within and beyond the townships.

A 1.5 metre footpath is located on the north side of the Bridge Road road reserve, between the Albert Street-Bridge Road Street intersection and the Bridge Road-Reddie Road intersection. This footpath connects the Woodford Primary School and Bushfield Community Hall and Recreation Reserve with other parts of the Woodford-Bushfield township.

A number of on and off-road trail projects are planned within the Bushfield and Woodford townships, as per the Warrnambool Sustainable Transport Strategy 2010-2020. These projects will effectively provide a pedestrian network which links the Caramut Road-Bridge Road intersection and Wangoom Road-Hopkins Highway intersection, once completed.

Design considerations:

- The development plan provides a permeable network of roads within the development area, and walking and bicycle paths which enable people to access local points of interest internal and external to the site.
- The development plan should provide opportunities to connect planned pedestrian and bicycle assets with existing and future development areas.
- Access arrangements to the site from Bridge Road have been designed to ensure there is no likely adverse impact on road safety with basic right-turn treatment intersections to be constructed with north side slip lane (eastbound traffic) and left turn lane (westbound traffic).
- Direct vehicle access should be limited to Bridge Road, with restricted vehicle access to Brodies Lane.



6 Design response

The Woodford Heights Estate Northern Development Plan provides a cohesive design which responds to the Design Considerations contained in the site analysis section of this report.

The development plan seeks to:

- Provide an attractive interface to existing rural residential lots and to the main thoroughfare of the township (Bridge Road).
- Provide opportunities (within the road network and private gardens) for landscaping to assist in integrating the development with the rural surrounds and existing rural residential development.
- Provide opportunities to develop land within the Low Density Residential
 Zone and Rural Living Zone independently of each other, without compromising the desired development outcomes for the site.
- Provides opportunities to link the subject site to undeveloped Low Density Residential land to the west and remaining Low Density Residential Zone land and balance of Rural Living Zone land to the south.
- Provide for the staging of open spaces and recreational assets, to be colocated with interim and future wetland drainage reserves to provide a unique recreational experience for the community.
- Incorporate wide nature strips to allow for canopy tree plantings.
- Ensure building forms are nestled within a vegetated setting and do not dominate the landscape character of the area.

- Ensure lots are adequately sized and designed to contain, treat and dispose of all domestic wastewater on site.
- Provide a permeable network of roads and walking and bicycle paths to enable people to access local points of interests internal and external to the site.
- Ensure access arrangements from Bridge Road are designed to ensure there is no adverse impact on road safety.
- Restrict vehicle access to Brodies Lane.
- Ensure key infrastructures are provided in a timely and efficient manner.



6.1 Movement network and road hierarchy

The development plan area adjoins the Bridge Road road reserve to the north and Brodies Lane road reserve to the west.

The primary vehicle and pedestrian access will be via Bridge Road, with potential for the provision for a future pedestrian access via Brodies Lane to be determined through future stages of development.

Internally, the proposed movement network has been designed not solely for motor vehicles, but also for pedestrians and cyclists. The movement network includes two streetscapes and cross sections, which create a clear road hierarchy for the 'entrance' road and internal roads.

This proposed movement network provides convenient access and efficient movement to encourage walking and cycling throughout the development plan area. The street network also ensures future dwellings are located within walking distance to local open space areas, with all properties located within 500 metres of the planned open space/recreation reserve.

Specifically, a 2.5 metre shared path is planned along the frontage of the estate on the southern side of Bridge Road and around the proposed 'looped' road network. The shared path links with planned open space areas and the southern extent of the estate, with the potential to continue the shared path network into the area to the south of the proposed development plan area. This shared path network will also link with Bridge Road (north) in order to encourage permeability and the use of active transport for daily needs and recreation.

The design and interconnection of paths and existing pedestrian assets will allow people to safely move within and beyond the estate to the surrounding network of existing and planned paths linking the Woodford Primary School, Merri River open space corridor, Jubilee Park and Bushfield Recreation Reserve.

An eastern and western pedestrian link to Bridge Road will provide a safe and convenient crossing point for pedestrians to and from the estate and for other users.

Allowance has been made for a future connection to Brodies Lane should opportunities to create a connection arise in the future.

Roads are aligned with the natural topography of the land and (where possible) are aligned to provide best orientation for passive solar performance for future dwellings.

Another major feature of the movement network and road hierarchy is the entrance proposed to the Woodford Heights Estate. It incorporates a gateway treatment within a large landscaped median strip that runs parallel with the northern boundary of the development plan area. This will create a unique entrance and contribute to the character of the development plan area.

Great care has been taken in the initial design and will continue through detailed design to ensure wide roads incorporate traffic calming devices to limit traffic speed. In addition, landscaping at street entrances will be used to create greater intimacy and street softening through integration of vegetation within road reserves.

Guidelines for planning permit applications:

Applications for subdivision must be accompanied with a Transport Impact
Assessment Report, which identifies existing traffic conditions, assesses
suitability of proposed internal movement network and access arrangement
and evaluates traffic impact on the surrounding road network.



Cross-section A - Entry Road (Latitudinal Road)

The entry road consists of a 20-30 metre reservation which incorporates a 6.2 metre pavement, landscaped median and 2.5 metre footpath, predominantly, on the south side of the road reserve.

The proposed Entry Road cross-section is set out in Figure 8.

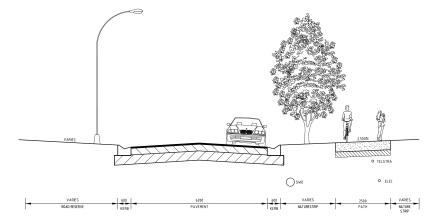


Figure 9: Entry Road Section

Cross-section B - Access Street (Longitudinal Road)

The Access Street consists of a 20-metre reservation which incorporates a 6.2 metre pavement, landscaped nature strip and footpath on <u>one</u> side of the street.

The proposed Access Street (20 metre) cross-section is set out in Figure 9.

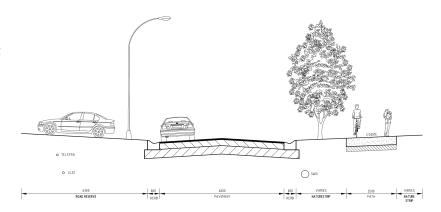


Figure 10: Access Street Section

Pedestrian / Bicycle Network

As set out in the above cross-sections, the development plan identifies a shared path network, linking open spaces, active recreation areas and drainage reserves, resulting in a network of walking and cycling paths.

Pedestrian access to, and throughout the Woodford Heights Estate has been carefully planned. The design of paths and the interconnection of paths will allow people to safely walk throughout the estate, enjoying the public spaces and rural surrounds. The design creates high quality pedestrian permeability linking to the existing pedestrian network and allowing for future linkages to rural residential estates west of Brodies Lane.

6.2 Open space and landscaping

Open Space

The design of the open space network responds to the site conditions, drainage infrastructure requirements and open space requirements of the development.

A feature of the estate are the pedestrian 'pause points' and linking spaces at the eastern and western pedestrian entrances to the estate and the pedestrian access to Brodies Lane. These 'pause points' and linking spaces will feature a combination of hard and soft landscape treatments including shared paths, seating and canopy shade trees to provide pleasant places for safe planned and chance encounters with community members and neighbours.

Future stages of the Woodford Heights Estate (stages 3-4) will incorporate a 0.75 hectare reserve located within the southern extent of the site, at a key vantage point. This space is focused on providing for active and passive recreational uses, which can adapt and respond to changing community recreational preferences over time. The reserve will comprise a wetland area designed to hold water (while allowing for adequate storm water detention), coupled with a rotunda and linked paths for passive recreation, to be constructed in latter stages.

Beyond the site, improvements will be made to allow safe crossing of Bridge Road near the entrance road.

Landscaping

Significant landscaping of road reserves, public areas and private land is critical to achieving the vision for an aesthetically attractive, community focussed estate. The objective is to gradually immerse the built form with vegetation using a combination of planting on public land, road reserves and private lots. Key to achieving this objective is the regime of native and exotic 'landscape zones', which provide for native landscaping along the Bridge Road median and the proposed drainage reserves and a boulevard of exotic canopy trees and underplanting's along north-south access streets within the estate.

Road reserves are of sufficient width to accommodate significant tree planting in nature strips. The open space areas are designed and located to incorporate extensive vegetation which will enhance the local environment.

The main entrance median strip provides a great space for additional tree planting and vegetation. See **Appendix J** (Landscape Plan) for details.

Guidelines for planning permit applications:

Applications for subdivision must be generally in accordance with the
 Development Plan and Landscape Plan.



6.3 Design intent

In order to ensure that the vision and objectives of the Woodford Heights Northern Development Plan are achieved and that any future development of this land is consistent with the context and setting of the area, the following residential design guidelines will apply to future development and will be controlled by a covenant, memorandum of common provisions or similar provision:

Building Setbacks & Appearance

- Dwellings must be sited within Appropriate Building Areas (see Appendix B), which comprise a 10 metre setback to road frontages and a 2 metre setback to rear and side boundaries, except for:
 - eaves (being the part of a roof extending beyond the wall of the building and including gutters and facias) which extend into the airspace outside the building envelope by a maximum of 600mm;
 - chimneys which do not extend more than 600mm outside the building envelope.
- Sheds and other outbuildings are not permitted within the front setback area and must be located at a minimum at the rear building line of the dwelling.
- External building colours should reflect muted earthy tones which will blend with the rural setting.
- The maximum area of any outbuildings must not exceed a combined floor area greater than 150 square metres.

 Outbuildings must not exceed 4 metres above natural ground level or the height of the highest point of the roof structure of the dwelling (whichever is the lesser).

Landscaping

- A rainwater tank with a capacity of not less than 60,000 litres should be provided unless specified otherwise. The water is to be used for toilet flushing and other suitable internal and external uses with a 10,000 litre reserve for fire fighting purposes. The colour of the rainwater tank should complement the dwelling and be located so that it is not readily visible from the street or neighbouring properties.
- All lots must contain at least three (3) canopy trees. Canopy trees must include indigenous species suited to the rural setting. Appropriate species are outlined in Table 1 (overleaf).

Botanical name	Common name
Acacia melanoxylon	Blackwood
Allocasuarina verticillata	Drooping She-oak
Banksia marginata	Silver Banksia
Eucalyptus ovata	Swamp Gum
Eucalyptus viminalis subsp. viminalis	Manna Gum
Corymbia ficifolia	Red Flowering Gum

Siting and landscape requirements will be registered on title at the time of subdivision via a covenant, memorandum of common provisions or similar provision.

6.4 Utilities and drainage

The development plan area is capable of being serviced by required rural residential development services.

Water supply

Wannon Water is the responsible authority for the provision of water supply. Reticulated water supply is not available within the development plan area. It is recommended that rainwater tanks be used to store enough water to service each lot's water needs. The proposed lot sizes allow adequate space to contain on-site domestic water supply. A rainwater tank with a capacity of not less than 60,000 litres should be provided unless specified otherwise.

Electricity

Powercor is the responsible authority for the provision of electricity supply to service the development plan area.

Electricity supply can be provided to the site from existing underground low voltage power supply from a power substation located in the Bridge Road reserve. transmission lines.

<u>Telecommunications</u>

Telstra is the responsible authority for the provision of telecommunication facilities to service the development plan area. An existing underground cable network is located on the southern side of Bridge Road. Connection is proposed to be made via an extension from the underground cable network.

Drainage

Warrnambool City Council is the responsible authority for stormwater drainage within the development plan area.

A Stormwater Management Plan setting out the existing drainage constraints and proposed stormwater infrastructure is provided with this development plan. The Stormwater Management Plan identifies stormwater will be collected and treated via underground storm water pipes located throughout the development plan area and into a series of proposed wetlands, and ultimately discharged south of the subject site at pre-development flow rates.

It is proposed to create a berm like system in the southern future reserve that will recreate a sheet flow type scenario, at 20% AEP pre-development levels, prior to entering the private property to the south. This will ensure that the property to the south will not have increased flows entering from the proposed subdivision.

Storage from the 1% AEP Storm event will be shared between the basins, details of which will be provided with the detailed design. See **Appendix F** for further details on the proposed stormwater strategy.

Wastewater

Wannon Water is the responsible authority for the provision of sewer services. Reticulated sewer is not available to service the development. Accordingly, the proposed development will be required to treat and dispose of domestic wastewater on site.

The Land Capability Assessment (see **Appendix D**) accompanying this development plan identifies wastewater can be treated and disposed of within the boundary of each proposed lot in accordance with the requirements of the EPA Code of Practice – Onsite Wastewater Management.

Land application areas are provided on each lot and are approximately 600 square metres in area. The final location and configuration of the irrigation systems will be flexible, provided they remain within the land application areas (see **Appendix D** for details).

The Land Capability Assessment (SITEC Pty Ltd) and Letter of Advice – Woodford Heights Estate – Wastewater Management (Landtech Consulting Pty Ltd) also consider relevant cumulative impacts and outline how these will be managed as part of the proposed lot layout, density, treatment and management of wastewater systems. These assessments conclude that the proposed lot layout and density is appropriate for on-site domestic wastewater treatment subject to detailed wastewater management design. Final lot size and land application areas will be determined at time of subdivision.

6.5 Staging

The staging of the development plan area will revolve around the roll out of required development services.

The northern section will be the first area to be developed comprising 10 lots, and will provide initial primary access upgrades to the site. Stage 2 will follow within the mid-section of the site comprising 9 lots. The remaining Low Density Residential Zone Land and balance of Rural Living Zone land will be considered as part of a separate development plan process.

Temporary wetlands and drainage infrastructure will be located within the interim drainage reserves from the commencement of Stage 1, with the final infrastructure regime constructed following a separate development plan process for the remainder of the site.

Stages 1 and 2 do not include any open space reserves. The open space reserve detailed in the Woodford Heights Estate Northern Development Plan (to be integrated with the drainage detention basin and wetland) will be held as an interim drainage basin until further work has been undertaken to confirm the layout of the remainder of the site as part of a separate development plan process.

Guidelines for planning permit applications:

 Applications for subdivision must be accompanied with a Servicing Report which sets out likely servicing and infrastructure requirements and staging of proposed drainage infrastructure.



4 October 2021

Warrnambool City Council
Agenda for Scheduled Council Meeting Attachment 7.3.3

APPENDIX B

APPROPRIATE BUILDING AREA **PLAN**







Department of Environment, Land, Water & Planning

Electronic Instrument Statement

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Status Registered Dealing Number AS936892K

Date and Time Lodged 29/01/2020 11:22:03 AM

Lodger Details

Lodger Code 19457U

Name DWYER LEGAL WARRNAMBOOL

Address Lodger Box Phone Email Reference

TRANSFER

Jurisdiction VICTORIA

Privacy Collection Statement

The information in this form is collected under statutory authority and used for the purpose of maintaining publicly searchable registers and indexes.

Land Title Reference

10742/385

Transferor(s)

Given Name(s) LOIS JOYCE Family Name MORSE

Given Name(s) MALCOLM JAMES

Family Name BRODIE

Given Name(s) MARJORIE JUNE Family Name ANDERSON

Given Name(s) NEVILLE WAYNE

Family Name BRODIE

Estate and/or Interest being transferred

Fee Simple

Consideration \$AUD 754038.00

Transferee(s)

6892K Page 1 of 3

Reference: LAND USE VICTORIA, 2 Lonsdale Street Melbourne Victoria 3000 GPO Box 527 Melbourne VIC 3001, DX 250639

AS936892K



Department of Environment, Land, Water & **Planning**

Electronic Instrument Statement

Tenancy (inc. share) Sole Proprietor BTH PTY LTD ACN 162121637

Address

Street Number 56 VINCENT Street Name **DRIVE** Street Type

MOUNT HELEN Locality

State VIC Postcode 3350

Duty Transaction ID

4754723

The transferor transfers to the transferee their estate and/or interest in the land specified for the consideration, subject to any restrictive covenant set out or referred to in this transfer.

Execution

- 1. The Certifier has taken reasonable steps to verify the identity of the transferor or his, her or its administrator or
- 2. The Certifier holds a properly completed Client Authorisation for the Conveyancing Transaction including this Registry Instrument or Document.
- 3. The Certifier has retained the evidence supporting this Registry Instrument or Document.
- 4. The Certifier has taken reasonable steps to ensure that this Registry Instrument or Document is correct and compliant with relevant legislation and any Prescribed Requirement.

Executed on **NEVILLE WAYNE BRODIE** behalf of LOIS JOYCE MORSE MALCOLM JAMES BRODIE

MARJORIE JUNE ANDERSON Signer Name MARCUS MONTEITH MALSEED JELLIE MCDONALD SOLICITORS Signer

Organisation

Signer Role AUSTRALIAN LEGAL PRACTITIONER

Execution Date 29 JANUARY 2020

Execution

- 1. The Certifier has taken reasonable steps to verify the identity of the transferee or his, her or its administrator or
- 2. The Certifier holds a properly completed Client Authorisation for the Conveyancing Transaction including this Registry Instrument or Document.
- The Certifier has retained the evidence supporting this Registry Instrument or Document.
- 4. The Certifier has taken reasonable steps to ensure that this Registry Instrument or Document is correct and compliant with relevant legislation and any Prescribed Requirement.

Executed on behalf of BTH PTY LTD

Signer Name JAMES MICHAEL RYAN Signer Organisation DWYER LEGAL WARRNAMBOOL Signer Role AUSTRALIAN LEGAL PRACTITIONER

Execution Date 29 JANUARY 2020

AS936892K

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19 LOT DEVELOPMENT WOODFORD HEIGHTS ESTATE BUSHFIELD

ENGINEERING SERVICES REPORT



Author: Lachlan MacDougall Assoc. Deg Eng (Civil)

Project Number: 19-299
Date: 30th July 2020

Client: Bryan & Petersen Quality Builders

Revision	Description	Date
Α	Development to be staged	22-02-21

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1. INTRODUCTION

This report provides engineering infrastructure servicing advice for the proposed 19 lot development at 119 Bridge Road in Bushfield. The overall subdivision will be called Woodford Heights Estate and will comprise of 38 lots over 4 stages. This report is referring to the 19 lots in stages 1 & 2 only.

Shown in the locality map below (*Figure 1*), the proposed development is situated on Bridge Road, Bushfield. The Eastern boundary abuts six (6) low-density residential zoned property, the Southern boundary abuts one (1) farming zoned property, the Western boundary abuts one (1) rural living zoned property and one (1) low-density residential zoned property, and the Northern boundary abuts the Bridge Road road reserve.

Figure 1 provides a locality plan indicating the entire site (Stages 1-4).



FIGURE 1: LOCALITY PLAN

2. ROADWORKS

VicRoads is the responsible authority for Bridge Road.

Photo 1 below shows Bridge Road fronting the subject site.



PHOTO 1: Bridge Road (viewed West)

Bridge Road is located in an approx. 20.0m road reserve. The road pavement is approx. 9.0m wide from edge to edge. A 6.0m approx. grassed verge on the development side and a 2.2m approx. grassed verge and approx. 2.0m wide spray-sealed footpath on the other side.

A works agreement will need to be sought from VicRoads for any works proposed in the road reserve. This agreement will list all the fees, charges, special conditions and hold points for the project.

3. DRAINAGE.

Warrnambool City Council is the responsible authority for stormwater discharge. A Stormwater Management Plan will be required as part of the Planning Permit conditions.

The stormwater management plan will detail how much stormwater can leave the site and at what flow rate. It will also provide computations on the amount of stormwater that needs to be detained on site. A treatment system will need to be installed in order to achieve best practice Water Sensitive Urban Design guidelines.



FIGURE 2: ROAD VIEW OF SITE (VIEWED SOUTH-WEST)

4. SEWERAGE

Wannon Water is the responsible authority for the provision of sewerage facilities to the site. Currently there is no reticulated sewer in the vicinity of the site.

SITEC has been engaged to perform a Land Capability Assessment (LCA) test to determine if the site is suitable for onsite wastewater management systems. The LCA report will document site and soil conditions. It will also include a conceptual design for a suitable onsite wastewater management system, with recommendations on monitoring and management requirements.

5. WATER SUPPLY

Wannon Water is the responsible authority for the provision of water supply facilities to the development.

Currently there is no water supply in the area to service the site. It is recommended that rainwater tanks are used to store enough water to service each lot's water needs. Calculation of water requirements per lot is specific to each individual household and outside the scope of this report.

6. ELECTRICITY

Powercor is the responsible authority for the provision of electricity supply to service this development.

Electricity supply can be provided to the site from an existing underground low voltage power supply from a power substation located in the Bridge Road reserve.

Figure 3 below shows the power substation located in the Bridge Road reserve which feeds low voltage around the existing lots.

Supply would be subject to normal supply policy and a development agreement with Powercor.

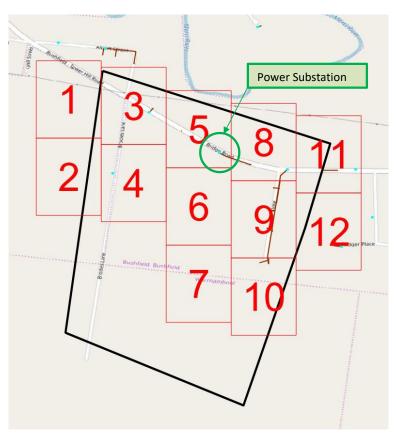


FIGURE 3: POWERCOR SUBSTATION LOCATED BESIDE LOT 3.

7. TELECOMMUNICATIONS

Telstra is the responsible authority for the provision and management of new telecommunication facilities to service the proposed development.

An existing underground cable network is located on the development (southern) side of the Bridge Road reserve, while an overhead cable network is on the northern side – see Figure 4 below.

Application will be made via the standard procedures at the civil construction stage of the development.

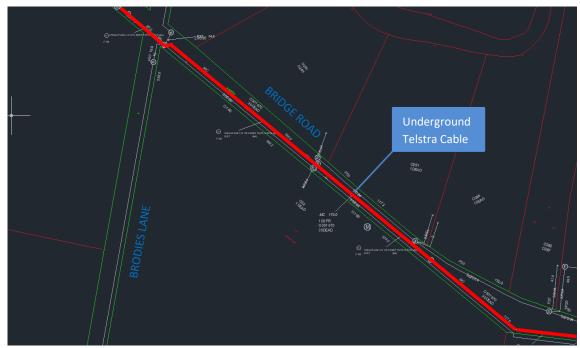


FIGURE 4: TELSTRA LAYOUT ALONG BRIDGE ROAD

8. GAS SUPPLY

Ausnet are the principle provider of natural gas to the Bushfield area.

Currently there is no reticulated gas supply network in the area. If gas is required for any of the properties, bottled gas could be brought in for each household. This would need to be arranged through a local supplier.

Lachlan MacDougall Assoc. Deg Eng (Civil) 21st of February 2021

REF: 19-299 - ESR - Rev A



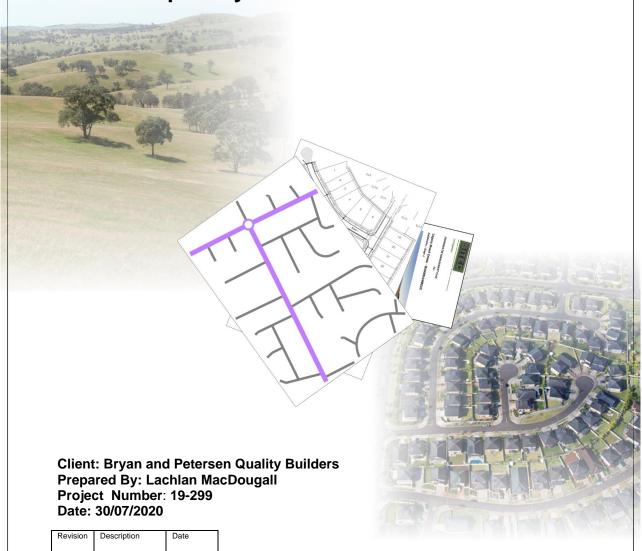
119 Bridge Rd, Bushfield

Land Capability Assessment

Location: 184 Fairy Street ABN 72 079 362 717

Postal Address: 184 Fairy St Warrnambool Vic 3280

Ph: 03 5561 3939 Email: info@sitecvic.com.au



Revision	Description	Date
Α	Updated lot layout	16/10/2020
В	Revised LCA	15/02/2021

1. Introduction

Sitec Pty Ltd has been engaged to undertake a Land Capability Assessment (LCA) for a septic system at 119 Bridge Road, Bushfield. The field investigation and report have been undertaken and prepared by suitably experienced staff. Sitec Pty Ltd has appropriate professional indemnity insurance for this type of work. Our professional indemnity insurance is available on request.

This report will accompany an application submitted to the Warrnambool City Council for a 38 lot subdivision at 119 Bridge Rd, Bushfield which will use on-site wastewater systems. This document provides information about the site and soil conditions. It also provides a detailed LCA for the approximately 20.03 Ha area, and includes a conceptual design for a suitable onsite wastewater management system, including recommendations for monitoring and management requirements.

We provide recommendations for both the treatment system and land application area (LAA)

2. Description of the Development

Table 2 Site Description

Table 2 Site Description	
Site Address:	119 Bridge Rd, Bushfield VIC 3281
Owner / Developer:	Bryan and Petersen Quality Builders
Postal Address:	3/1051 Raglan Parade, Warrnambool, Vic 3280
Contact:	0487 654 264
Council Area:	Warrnambool City Council
Allotment Size:	Approx. 20.03Ha to be subdivided into 38 lots; minimum lot size = 4,027m ²
Domestic Water Supply:	The site does not have water supply
Anticipated Wastewater Load:	Assume one 4-bedroom residence, @ 6 people per residence maximum occupancy. Design wastewater load is 150L/person/day. This design load is sourced from AS/NZS 1547:2012.
Availability of Sewer:	The area is unsewered and unlikely to be sewered in the short to medium term future.

3. Site Key Features

Lachlan MacDougall undertook site investigations on the 22th of July 2020. A range of site features were assessed in terms of the degree of limitation they present for a range of onsite wastewater management systems.

Table 3 summarises the key features in relation to effluent management at the site.

Figure 1 provides a locality plan and indicates the location of the site of the proposed development.

Appendix A provides a site plan describing the location of the proposed development works and physical site features and location of percolation tests and soil sampling.

Figure 1 - Locality Plan



Feature			
Climate	The site has a temperate climate with a warm summer and mild/cool winter. The site experiences an average annual rainfall of 731 mm (Warrnambool Airport NDB 090186 gauge) and an average of 117 rain days per year. Average annual pan evaporation is taken as 1300 mm.		
Exposure	The site is mostly cleared and has some large trees, with a southern aspect and has high sun exposure.		
Vegetation	Grass with large trees on the Eastern boundary, with some large trees near centre of site		
Slope	The proposed effluent management area is moderately sloping, with gradients between 2% to 8% falling to the South.		
Fill	Natural soil profiles were observed throughout the site. No fill was observed and no filling is proposed in the effluent management area.		
Rocks and Rock Outcrop	No surface rocks or outcrop evident at the site.		
Erosion Potential	No evidence of sheet or rill erosion. The erosion hazard is low.		
Surface Water	The site is moderately sloping allowing water to drain.		
Flood Potential	The house site and area available for application of treated effluent lies above the 1:100 year flood level.		
Stormwater run-on and upslope seepage	Due to the slope of the land there is a risk of stormwater run on. This will be mitigated by following recommendations within this report.		
Groundwater	There are no signs of shallow groundwater tables below 1.5m depth. There is no use of groundwater for domestic purposes within 50m of the proposed effluent management area.		
Site drainage and Subsurface Drainage	The site may experience stormwater run-on and has a negligible run-off hazard.		
Recommended Buffer Distances	All buffer distances recommended in Table 4.6 of EPA (2016) are achievable.		

Soil Assessment and Constraints

The site's soils have been assessed for their suitability for onsite wastewater management by a combination of soil survey and desktop review of published soil survey information as outlined below.

Published Soils Information

Reference to the geological survey of Victoria map sheet Colac SJ-54-15, indicates that the underlying site consists of Quaternary period olivine basalts.

Soil & Survey Analysis

A soil survey was carried out at the site to determine suitability for application of treated effluent. 38 bore holes were drilled to ensure that the soil profile was consistent across the whole site. It was determined that the soil on-site was divided into two different (albeit similar) soil profiles, therefore two test sites were chosen, with seven test holes established and excavated using a mechanical auger to the depth of 540mm for the North-west site, and six test holes established and excavated using a mechanical auger to the depth of 530mm for the East site.

The first site (North-west) was found to consist of dark brown slightly moist, soft silty topsoil overlying brown/red/orange, slightly moist firm medium plastic clay overlying red mottled brown/grey/orange, slightly moist, firm, medium plastic clay. The second site (East) was found to consist of dark brown slightly moist, soft, gravelly, silty topsoil overlying brown/dark red, slightly moist, firm, highly plastic, gravelly clay overlying brown mottled orange, slightly moist, firm medium plastic clay.

The location of boreholes are shown in **Appendix A**. Full profile descriptions are provided in **Appendix D**.

Appendix A shows testing locations

The indicative K_{sat} value is taken as 0.07 m/day for both sites. **Appendix B** shows the percolation data.

After analysis of the soil structure and drainage characteristics the soil category has been determined to be Category 5b in accordance with Table 5.2 AS/NZS1547:2012

Land Capability Assessment Matrix

The Land Capability Matrix has been developed for the local area under investigation.

	Ī					
LAND CAPABILITY CLASS RATING				COMMENTS		
FEATURES		2) Good	3) Fair	4) Poor	5) Very Poor	Site Value
GENERAL CH	GENERAL CHARACTERISTICS					
Site drainage/ Run off	No visible sign of dampness	Moist soil, but no standing water in soil pit		Visible signs of dampness, such as moisture- tolerant plants	Water ponding on surface	2
Flooding (% AEP)	<u>Never</u>	,	< 1 in 100	< 1 in 30	< 1 in 20	1
Grade %	0 – 2	2 – 8	8 – 12	12 – 20	20 >	2
Landslip	Exempt Not present	Low	M0 – M1	M2	H Present	1
Rainfall (mm/yr)	< 450	450 - 650	650 - 750	750 - 1000	> 1000	3
Pan Evap (mm/yr	> 1500	1250 – 1500	1000 – 1250	< 1000	-	2
Seasonal Water Table	> 5m	5 – 2.5m	2.5 – 1.5m	1.5 – 1m	< 1m	3
SOIL PROFILE CHARACTERISTICS						
Soil Structure	Cat. 2 & 3 Soils	Cat. 4 Soils		Cat. 5 Soils	Cat. 1 & 6 Soils	4
Profile Depth	> 2m	1.5 – 2m		1.0 – 1.5m	< 1m	2
Modified Emerson * test	1 4,6,8	5	2 7	3 2,3	4 1	-
Stoniness* (%)			③	10 - 20	> 20	1
Percolation (mm/hr)	>500	300-500	150-300	75-150	50-75	3

QA89a OVERALL SITE RATING 4

4.1 Land capability classes - generalised definitions

Rating 1

The effluent envelope is suitable for on-site disposal of septic tank discharge. The limitations or environmental hazard from long-term use are considered very slight. Standard performance measures for design, installation and management should prove satisfactory.

Rating 2

The site has been identified as generally suitable for on-site effluent disposal but there is a slight associated environmental hazard expected. One or more land limitations are present, which may not be compatible with "straight forward" conventional on-site disposal. The wastewater management program will require careful planning, adherence to specifications and adequate supervision.

Rating 3

The site has only a fair capability for on-site effluent disposal with a moderate associated environmental risk always present. Very careful site selection, preparation and specialised design will be required to address the identified land constraints. A management program should be delivered to the responsible authority with the development application and prior to earthworks commencing.

It is recommended that, in order to achieve BPEM, waste water processing systems which can attain a higher level of treatment with basic monitoring should be considered as an alternative to standard conventional trench disposal.

Rating 4

Areas have a poor capability rating with a high associated environmental risk. Considerable difficulties are expected during siting and installation of the wastewater treatment system and during routine operation. A very high engineering input and close supervision would be needed to minimise the environmental impact.

Alternative wastewater processing systems capable of consistently producing a high quality secondary effluent (such as aerated wastewater treatment plants) together with a close monitoring program should be seriously investigated and adopted.

Rating 5

Areas have a very poor capability and there is a severe associated environmental risk. The areas are not generally considered suitable for disposal of septic tank effluent by trench systems. The high levels of engineering input and management needed at all stages are unlikely to adequately address the identified land constraints and achieve a sustainable outcome.

It is strongly recommended that consideration be given to connecting the subdivision to a nearby sewer network. If this is not possible, a substantially larger-than-average land application area is usually the only alternative.

5. The Management Program

This LCA has been prepared to accompany a development application to Warrnambool City Council for a proposed 38 lot subdivision with wastewater treatment systems. As such, this report provides recommendations for treatment and land application systems that are appropriate to land capability. The following sections provide an overview of a suitable system, with sizing and design considerations and justification for its selection. Detailed design for the system is beyond the scope of this study but should be undertaken at the time of building application and submitted to council.

5.1 Treatment System

Reference to the Land Capability Assessment Matrix above shows that the site has been assigned an overall site rating of 4.

Due to this rating, we strongly recommend that the treatment system provides secondary treatment to meet Environmental Protection Authority requirements for irrigation.

The system must be approved by the EPA and issued with a numbered Certificate of Approval. The local council must also issue a permit prior to the installation of the unit. To treat all waste, septic tanks must have a minimum capacity of 3000 litres. It is recommended that an aerated wastewater treatment system (AWTS) be used to achieve the desired level of performance.

5.2 Land Application

The preferred system is pressure compensating subsurface or spray irrigation in combination with the selected secondary treatment system. Subsurface or spray irrigation will provide even and widespread dispersal of highly treated effluent loads within the rootzone of plants. Subsurface or spray irrigation will provide beneficial reuse of wastewater and will also ensure that the risk of effluent being transported off the site will be negligible.

The area must be subdivided into at least two separate fields (minimum 300m² each) that can be watered alternately. An automatic indexing valve generically known as a 'roto-valve' can be used to allow alternation between the areas with each pump cycle.

5.3 Sizing the Land Application Area

To determine the necessary size of the irrigation area water and nutrient balance modelling has been undertaken in accordance with EPA Publication 891.4 (2016) *Code of practice – onsite wastewater management.* The results show that the required irrigation area is 600m², the larger of the areas calculated by the water and nutrient balance.

Balance Calculation	Area required		
Water Balance	600m ²		
Nitrogen Balance	358m ²		
Phosphorous Balance	392m ²		

The calculations are summarised below, with full details in Appendix. C.

Water Balance

The water balance can be expressed by the following equation:

Precipitation + Effluent Applied = Evapotranspiration + Percolation

Data used in the water balance includes:

- Mean monthly rainfall, mean monthly pan evaporation (Warrnambool Airport NDB 090186 gauge);
- Average daily effluent load 900 L;
- Design loading rate (DLR) 3.0 mm/day; (Imperfectly drained)
- Crop factor 0.8; and
- Retained rainfall 80%. (some natural runoff due to slope)

The nominated area method is used to calculate the area required to balance all inputs and outputs, without the need for wet weather storage. As a result of these calculations, at least 600 m² of area is required to achieve zero wet weather storage. A backup system of the same size (600m²) should also be installed to prevent the design irrigation system from becoming overloaded during times of peak usage, resulting in a total area of 1200m².

Nutrient Balance

A nutrient balance has been undertaken to check that the LAA is of sufficient size to ensure nutrients are assimilated by the soils and vegetation. The model used here is based on simplistic methodology, but improves on this by incorporating more variables in the respective nutrient cycles to more accurately model actual processes. It acknowledges that a proportion of nitrogen will be retained in the soil through processes such as mineralisation (the conversion of organic nitrogen and ammonia) and volatilisation (Geary and Gardner 1996). It also accounts for crop growth rates (and hence nutrient uptake rates) for a typical pasture.

Some assumptions used in the modelling follow:

- Hydraulic loading 900 mg/L [1];
- Nitrogen concentration in effluent 30 mg/L [1];
- Nitrogen percentage lost to soil processes 20%
- Phosphorus concentration in effluent 10 mg/L [1];
- Critical nutrient loading rates 220 kg/ha/year (60 mg/m²/day) for nitrogen and 50 kg/ha/year (14 mg/m²/day) for phosphorus ^[2];
- Soil phosphorus sorption capacity 3375 kg/ha of soil [3];
- Proportion of phosphorus sorption capacity utilised 50%; and
- Design life of system 50 years.

The area required for nitrogen assimilation is 358 square metres, while phosphorus requires 392 square metres.

Summary and Discussion

The preferred irrigation area is based on the larger of the water and nutrient balance calculations. An area of at least 600 square metres plus a backup area of equal size must be provided, for a total area of 1200 square metres. It is worth noting that the modelling includes several significant factors of conservatism:

- Hydraulic load (900 I/day) this assumes 6 people will permanently occupy a 4-bedroom residence. It is likely that the actual occupancy will be less than this;
- From the nutrient balances, in the absence of site-specific data very conservative estimates of crop nutrient uptake rates and total nitrogen lost to soil processes have been adopted.
- A reserve land application area of 600m² has been provided in the event that the design irrigation area becomes overloaded;

5.4 Siting and Configuration of the Land Application Area

The land application area should be isolated from high pedestrian and/or vehicle traffic areas, be excluded from areas where livestock have access to and be protected from rainwater runoff/run-on by a diversion drain configured like the one designated on the site plan in **Appendix A**.

The overall subdivision will have a fully design underground stormwater system to cater for the runoff from lots and roads. This will mitigate the risks of stormwater runoff on each individual lot affecting the land application area.

Appendix A shows an indicative envelope of land that is suitable for effluent management. The individual clients will be allowed flexibility in selecting the final location and configuration of the septic system when applying for their on-site wastewater application through council providing it remains in accordance with the EPA Publication 891.4 (2016) Code of practice – onsite wastewater management & Australian Standards.

Appendix A shows an indicative area, to scale, of the minimum area required according to the water and nutrient balance.

It should be noted that according to the *Visualising Victoria's Groundwater* website, two groundwater bores are supposed to be located on-site: Bore 88933 and Bore 99906 - see **Appendix A** for approx. location. It is proposed to capped these bores.

It is recommended that the owner consult an irrigation expert familiar with wastewater irrigation equipment, to help design and install the irrigation system. The irrigation plan must ensure good, even application of effluent.

Irrigation lines should be installed along the contour where possible. When irrigation lines need to be installed down a slope then non leakage emitters must be installed to manufactures specifications. For slopes greater than 10% the DIR value should be reduced by the figure shown in Table M2 AS/NZS 1547:2012.

5.5 Irrigation System Description

Secondary treatment systems (treats all household wastes) which are commercially available are one option which complies with all requirements. Sand filters are also available assuming that they produce effluent that complies with all requirements.

The irrigation area shall be located away from vehicle crossings and vehicle access points.

Proposed landscaping & vegetation plans should be submitted as part of the on-site wastewater application & approved by council.

Effluent shall not be used for irrigating fruit or vegetables.

An adequate cover of fertile and porous topsoil material will be provided and vegetation will be established when the irrigation areas have a low soil permeability.

DN25 and DN12 class 12 poly feeder pipes are to be used to distribute the effluent around the irrigation area. A minimum coverage of 250mm is needed.

All irrigation fittings and pipe work must comply with AS1477 or AS2698.2. and must be able to withstand at least 150% of the shut off head of the pump.

5.6 Buffer Distances

Buffer distances from LAAs are required to help prevent human contact, maintain public amenity and protect sensitive environments. Council generally adopts the following nominal buffers, described in EPA Publication 891.4 (2016) *Code of practice – onsite wastewater management*.

- 20 metres from potable or non-potable groundwater bores
- 60 metres from watercourses that are non potable; and
- 100 metres from watercourses in a potable water supply catchment.
- 6 metres if area up-gradient and 3 metres if are down-gradient of property boundaries, swimming pools and buildings.

All nominal buffers are achieved.

Buffer distance may be reduced by 50% if the effluent is treated through a secondary treatment system.

6 Monitoring, Operation and Maintenance

Maintenance is to be carried out in accordance with the certificate of approval and Council's permit conditions. The system proposed above will only function adequately if appropriately maintained. Residents will be required to carry out maintenance as discussed below.

To ensure the treatment system functions adequately, residents must:

- Restrict the use of germicides (such as strong detergents, disinfectants, toilet cleaners and bleaches) as they will kill the bacteria which makes the septic work.
- Inspect the system at least annually and desludge the tank at least once every three
 years, or as otherwise directed by the council.
- Keep a record of all maintenance (including tank pump-outs and the location of the system, tank inspection and access openings) and send copies of the maintenance reports to the local council in accordance with the septic tank permit and Certificate of Approval.
- Do not add or alter any part of your system without council approval.
- Ensure that only suitable trained persons work on the system.
- Check sludge level, pumps and alarms regularly.
- Arrange for an inspection of the system, at least annually.
- Pump out the tank in accordance with the permit conditions.

To ensure the land application system functions adequately, residents must:

- Regularly harvest (mow) vegetation within the LAA and remove this to maximise
 uptake of water and nutrients.
- Monitor and maintain the subsurface irrigation system following the manufacturer's recommendations, including flushing of irrigation lines.
- Regularly clean in-line filters;
- Not erect any structures over the LAA;
- Minimise vehicle access to the LAA, to prevent compaction; and
- Ensure that the LAA is kept level by filling any depressions with good quality topsoil (not clay).

Good water conservation is an important aspect in the overall management of onsite systems. It will be important for the ongoing performance of both the treatment and land application system that they are not overloaded hydraulically. AAA rated plumbing is recommended for all future water fixtures.

7. Stormwater Management

As mentioned in section 5.4, due to the overall subdivision involving an underground stormwater system to cater for runoff from lots and the new roads the overall risk to runoff between lots has been reduced. While some stormwater runoff may occur between lots the construction and maintenance of a diversion drain will mitigate this risk.

8. Cumulative Effect

While the cumulative effect of larger subdivisions like these are somewhat under researched, SITEC believes we are taking the appropriate steps throughout this report to ensure any cumulative issues will be contained as per the current guidelines (AS/NZS 1547:2012 & the EPA's Code of Practice 891.4).

Additional conservative factors that have been taken into controlling the cumulative effect are:

- We have assumed 6 people per home in a 4-bedroom house when we are required to only allow for 5. This would have reduced the load from 900L/Person/Day (6 people) to 750L/Person/Day (5 Person).
- Additionally, the code could have allowed for the load of 150L/Person/Day to be reduced to 120L/Person/Day as the subdivision will require on-site rainwater tanks to supply the required amount of water for the dwellings.
- The subdivision will have its own stormwater system that will cater for runoff from the roads and roof areas reducing the overall load on the LAA's.
- Reserve areas have been provided on each lot, which have also been sized to cater for 6 people at 150L/Person/Day.
- The lots will be using secondary treatment systems.

9. Conclusions

As a result of our investigations, we recommend that a sustainable onsite wastewater management system can be built at 119 Bridge Road, Bushfield.

Specifically, we recommend the following:

- Installation of septic tanks with a minimum 3000L capacity;
- Secondary treatment of wastewater in either an Aerated Wastewater Treatment System (AWTS), or intermittently-dosed single-pass sand filter (either system will need to be EPA approved);
- Land application of wastewater within a 600 m² subsurface irrigation area subdivided into at least two separate fields (300m²) for each lot. A water rotor will be used to dose load the two fields alternately
- A backup area of the same size (600m²) must be provided for each lot in the event that the design irrigation area fails;
- Installation of water saving devices in the new building to reduce the effluent load for onsite disposal;
- Use of low phosphorus and low sodium (liquid) detergents to improve effluent quality and maintain soil properties;
- Operation and management of the treatment and disposal system in accordance with manufacturer's recommendations and the recommendations made in this report; and
- Construction of diversion drains on the upslope side of the LAA to divert stormwater.

SITE CLASSIFIER: Lachlan MacDougall

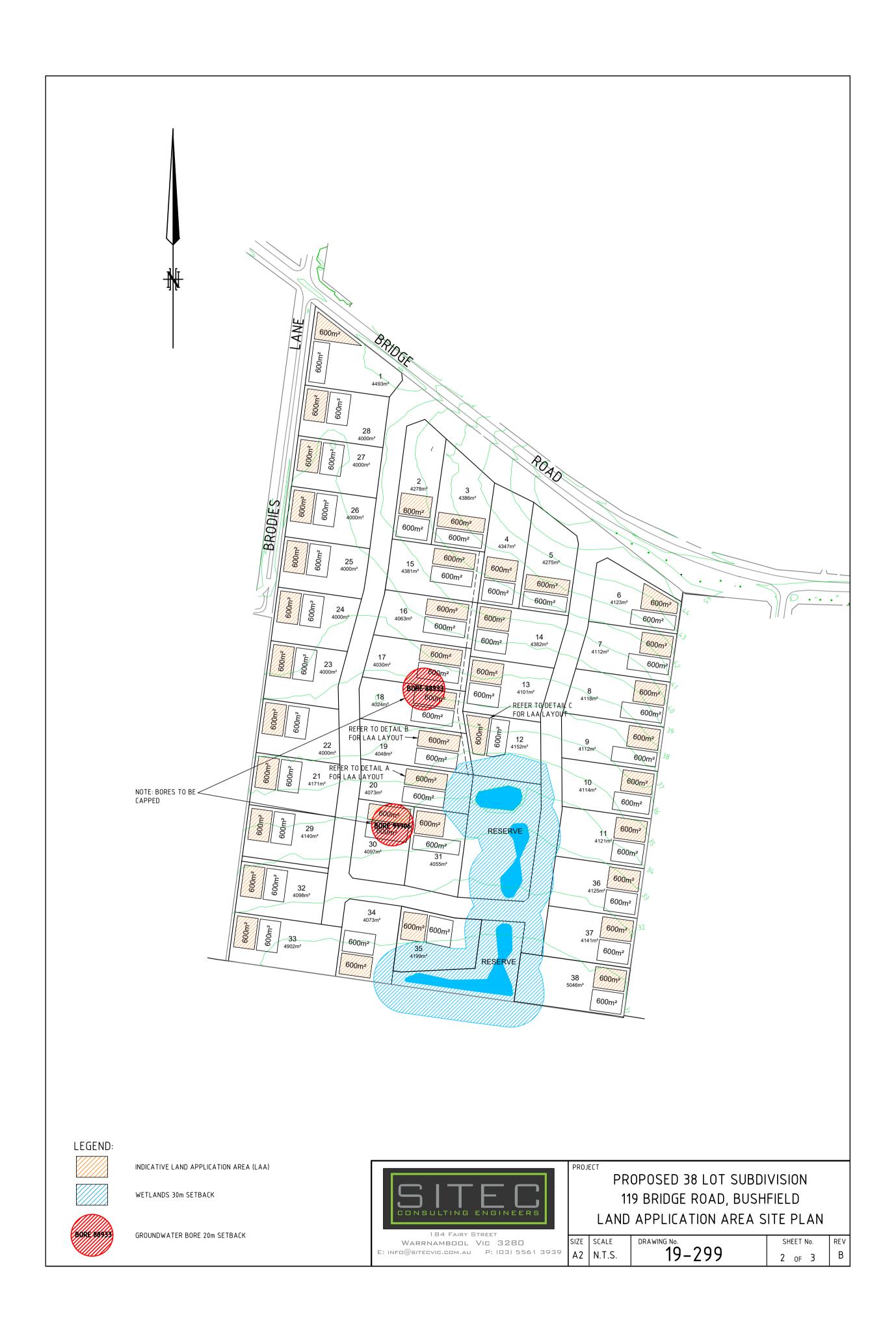
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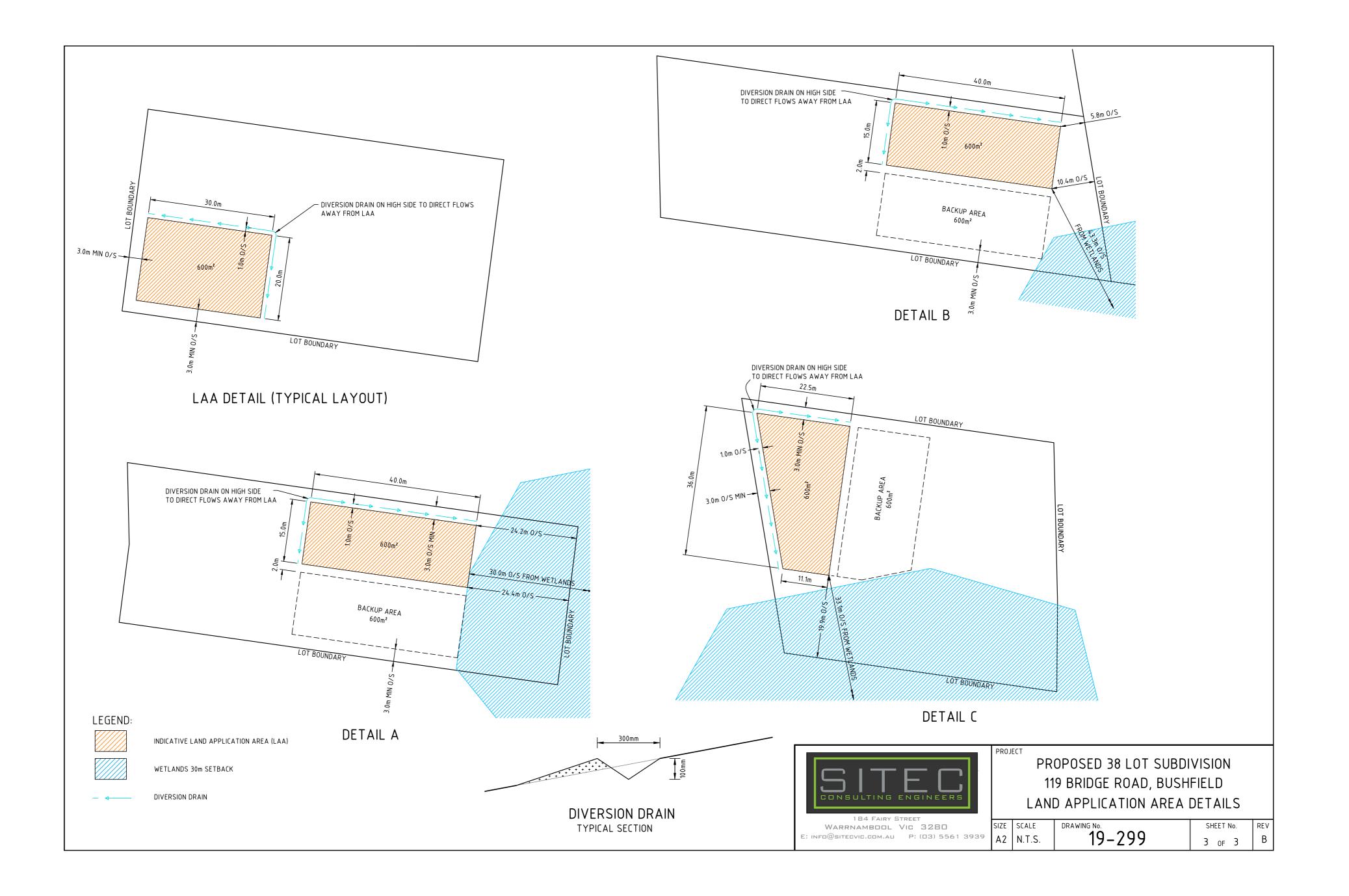
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APPENDIX A

Site Plan







APPENDIX B

Percolation Data

SOIL PERCOLATION TEST RECORD

NORTH-WEST SITE

Location: 119 Bridge Road, Bushfield VIC 3281

Test Conducted By: SITEC Date: 22/07/2020

 Auger Radius=
 5.5
 cm

 Ave Depth of Hole=
 54
 cm

 Ave Depth of Water=
 51.5
 cm



HOLE 1	
MINUTES	DROP IN WATER LEVEL (cm)
10	3.1
20	2.7
30	2.5
40	2.4
50	2.2
60	2.2
Total Drop	<u>15.1</u>

HOLE 4	
MINUTES	DROP IN WATER LEVEL (cm)
10 20	2.4 2.3
30 40	2.1
50 60	1.9 1.9
Total Drop	<u>12.6</u>

HOLE 7	
MINUTES	DROP IN WATER LEVEL (cm)
10	3
20	2.9
30	2.7
40	2.5
50	2.4
60	2.4
Total Drop	<u>15.9</u>

H	HOLE 2	
MINUTES	DROP IN WATER LEVEL (cm)	
10	4.8	
20	4.1	
30	3.5	
40	3.1	
50	2.9	
60	2.9	
Total Drop	<u>21.3</u>	

HOLE 5	
	DROP IN
MINUTES	WATER LEVEL
	(cm)
10	3.1
20	3
30	2.7
40	2.5
50	2.4
60	2.4
Total Drop	<u>16.1</u>

HOLE 3	
MINUITEO	DROP IN
MINUTES	WATER LEVEL (cm)
10	4.8
20	4.4
30	4
40	3.9
50	3.6
60	3.6
Total Drop	<u>24.3</u>

HOLE 6	
	DROP IN
MINUTES	WATER
	LEVEL (cm)
10	2.8
20	2.6
30	2.4
40	2.3
50	2.2
60	2.2
Total Drop	<u>14.5</u>

0.000001

Average Drop in Water Level 2.51428571 cm

Average Rate of Loss 23.89 cm³/min

K_{sat} 0.004539 cm/min

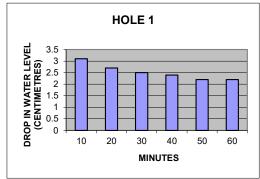
_{at} 0.07 m/d

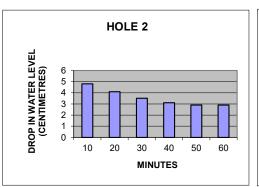
 $K_{sat} = \frac{4.4Q \left[0.5 sinh^{-1} \left(\frac{H}{2r} \right) - \sqrt{\left\{ \left(\frac{r}{H} \right)^2 + 0.25 \right\} + \frac{r}{H}} \right]}{2\pi H^2}$

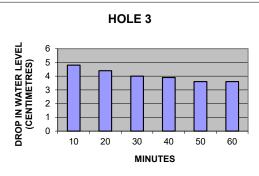
As per AS/NZ 1547:2012

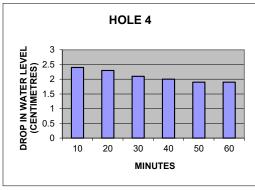
NORTH-WEST SITE

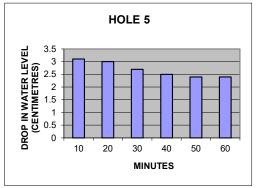


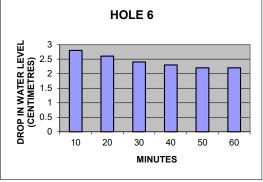


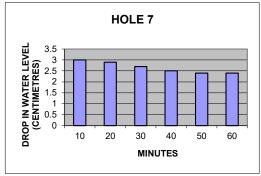












SOIL PERCOLATION TEST RECORD

EAST SITE

Location: 119 Bridge Road, Bushfield VIC 3281

Test Conducted By: SITEC
Date: 22/07/2020

 Auger Radius=
 5.5
 cm

 Ave Depth of Hole=
 53
 cm

 Ave Depth of Water=
 50.7
 cm



HOLE 1	
	DROP IN
MINUTES	WATER
	LEVEL (cm)
10	2.6
20	2.5
30	2.4
40	2.3
50	2.2
60	2.2
Total Drop	<u>14.2</u>
•	

HOLE 2	
MINUTES	DROP IN WATER LEVEL (cm)
10	3.5
20	2.8
30	2.3
40	2.2
50	2
60	2
Total Drop	<u>14.8</u>

HOLE 3	
MINUTES	DROP IN WATER
	LEVEL (cm)
10	7.8
20	6
30	5
40	4.7
50	4.2
60	4.2
Total Drop	<u>31.9</u>

HOLE 4	
MINUTES	DROP IN WATER LEVEL (cm)
10	2.9
20	2.8
30	2.7
40	2.3
50	1.9
60	1.9
Total Drop	<u>14.5</u>

HOLE 5	
MINUTES	DROP IN WATER LEVEL (cm)
10	3.3
20	3
30	2.7
40	2.6
50	2.4
60	2.4
Total Drop	<u>16.4</u>

HOL	_E 6
MINUTES	DROP IN WATER LEVEL (cm)
10 20	2.9 2.7
30 40	2.6
50	2.4
60 Total Drop	2.4 <u>15.5</u>
30 40 50 60	2.6 2.5 2.4 2.4

Average Drop in Water Level 2.51666667 cm

Average Rate of Loss 23.91 cm³/min

 K_{sat} 0.004646 cm/min

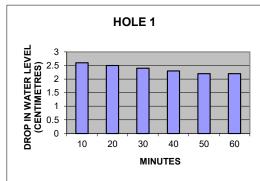
K_{sat} 0.07 m/d 0.000001

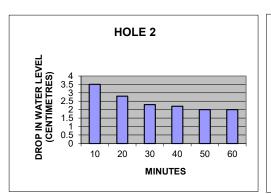
 $K_{sat} = \frac{4.4Q \left[0.5 sinh^{-1} \left(\frac{H}{2r} \right) - \sqrt{\left\{ \left(\frac{r}{H} \right)^2 + 0.25 \right\} + \frac{r}{H} \right]}}{2\pi H^2}$

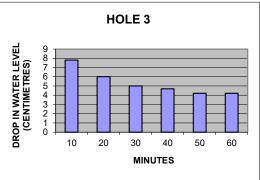
As per AS/NZ 1547:2012

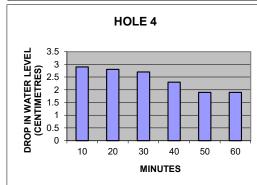
EAST SITE

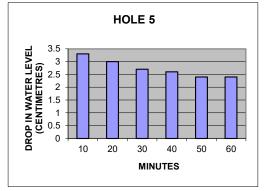


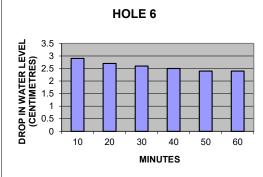












APPENDIX C

Water & Nutrient Balance

Crop Factor

Retained Rainfall

Nominated Area Water Balance & Storage Calculations Site Address 119 Bridge Road, Bushfield

Job No: 19-299

Design Wastewater Flow (L/day)
Design DLR (mm/week)
Daily DIR (mm/day)

Nominated Land Application Area (m²)

NOTES

Based on 4br/6 person house @ 150 L/p/day
Poorly drained

3

lication Area (m²) L 600 C 0.7-0.8 Rf 0.8 Assume some natural runoff from site due to slope

Rainfall Data Warrnambool Airport NDB - 090186
Evaporation Data BOM Average - West Coast



(Table 4) EPA 891.3 (Table H2) AS/NZS 1547:2012 Table M1 AS/NZS 1547:2012

Parameter	Symbo Formula	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Days in Month	D	Days	31	28	31	30	31	30	31	31	30	31	30	31	365
Rainfall - Average	R	mm/month	32.9	32.2	47.9	53.3	75.2	77.1	85.7	95	73.7	61.8	50.4	46.1	731.3
Evaporation - Average	E	mm/month	180	175	140	90	60	35	45	55	70	125	140	170	1300
Crop Factor	С		8.0	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	
OUTPUTS															<u> </u>
Evaportransporation	ET	mm/month	80	65	50	35	30	30	30	30	45	75	90	85	645
Percolation	В	mm/month	93.0	84.0	93.0	90.0	93.0	90.0	93.0	93.0	90.0	93.0	90.0	93.0	1095.0
Outputs		mm/month	173.0	149.0	143.0	125.0	123.0	120.0	123.0	123.0	135.0	168.0	180.0	178.0	1740
INPUTS															
Retained Rainfall	RR	mm/month	26.32	25.76	38.32	42.64	60.16	61.68	68.56	76	58.96	49.44	40.32	36.88	585.04
Effluent Irrigation	W	mm/month	46.5	42.0	46.5	45.0	46.5	45.0	46.5	46.5	45.0	46.5	45.0	46.5	547.5
Inputs		mm/month	72.8	67.8	84.8	87.6	106.7	106.7	115.1	122.5	104.0	95.9	85.3	83.4	1132.54
STORAGE CALCULATIONS															
Storage remaining from previous month															
Storage from month	S	mm/month	-100.2	-81.2	-58.2	-37.4	-16.3	-13.3	-7.9	-0.5	-31.0	-72.1	-94.7	-94.6	(adjust until <0

MINIMUM AREA REQUIRED FOR ZERO STORAGE (m2) =

19-299



Job No:

Nitrogen Balance

Site Address 119 Bridge Road, Bushfield

Daily N Load

Effluent concentration N 30 mg/l
Daily Hydraulic Load 900 l/day
Daily Load 27000 mg/day

Annual N Load 9855000 mg/year

Losses

Estimate losses through denitrification, volatilization, microbial attack

Loss 20%

Annual N Load 7.884 Kg/year

Allow for uptake by plants 220 kgN/Ha/yr maintained grass

Minimum Area Required 358 m2

Phosphorus Balance

Daily P Load

Effluent concentration P 10 mg/l
Daily Hydraulic Load 900 l/day
Daily Load 9000 mg/day

Annual N Load 3285000 mg/year

Losses

Determine P sorption each year for 50 years

33.75 actual field sorption multiplier

Allow for uptake by plants 50 kgN/Ha/yr maintained grass

Minimum Area Required 392 m2

APPENDIX D

Borehole Logs



Engineering Bore Logs

Borehole No: 1 Sheet No: 1 Job No: 19-299

Cliant	Durious & Dotomores Overlity D	uilala na Dé	. 14.				Data	22.7.20		
Client: Project:	Bryan & Peterson Quality B LCA Borelogs	uliders Pt	y. Lic	1.			Date: Logged By:	22.7.20 S. Uwland		
Location:	Bridge Road, Bushfield						Logged by.	3. Owland		
	: Truline trailer mounted	Slope		90 d	ea		RL Surface:	N.A		
	eter: 100mm	Bearing		- de			Datum:	N.A		
	laterial Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist, soft, gravelly, silty topsoil				SM		< 100 kPa			
CLAY	Brown/dark red, slightly moist, soft, medium plasticity, gravelly clay	200 			SM		< 100 kPa			
REFUSAL	Brown mottled orange, slightly moist, firm, medium plasticity, clay on suspected basalt	900			SM		> 100 kPa			



Engineering Bore Logs

Borehole No: 2
Sheet No: 2
Job No: 19-299

01: 1	D 0 D 1 0 11 D	". D						00700		
Client:	Bryan & Peterson Quality B	uilders Pt	y. Lto	d			Date:	22.7.20		
Project: Location:	LCA Borelogs Bridge Road, Bushfield						Logged By:	S. Uwland		
	: Truline trailer mounted	Slope		90 d	lea		RL Surface:	N.A		
	eter: 100mm	Bearing		- d			Datum:	N.A		
N	Material Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist, soft, gravelly, silty topsoil	_			SM	OL	< 100 kPa			
CLAY	Brown/dark red, slightly moist, soft, medium plasticity, gravelly clay	200			SM	CI	< 100 kPa			
CLAY	Brown, slightly moist, soft, medium plasticity, gravelly clay	650 			SM	CI	< 100 kPa			
CLAY	Light red, slightly moist, soft, high plasticity, clay	1000			SM	СН	< 100 kPa			
CLAY	Light red mottled grey, slightly moist, firm, medium plasticity, clay	1350			SM	CI	> 100 kPa			
TERMINA	TED AT	2000 								



Engineering Bore Logs

Borehole No: 3
Sheet No: 3
Job No: 19-299

Client	Prior 9 Determen Ouglitic	uildara Dt	. 1 4-	1			Data	22.7.20		
Client: Project:	Bryan & Peterson Quality B LCA Borelogs	uliders Pt	y. Lic	J.			Date: Logged By:	22.7.20 S. Uwland		-
Location:	Bridge Road, Bushfield						Logged By.	J. Owland		\dashv
Drill mode	: Truline trailer mounted	Slope		90 d	leg		RL Surface:	N.A		
	eter: 100mm	Bearing		- d			Datum:	N.A		
N	Material Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist, soft, gravelly, silty topsoil	_ _ _			SM	OL	< 100 kPa			
CLAY	Brown/dark red, slightly moist, firm, high plasticity, gravelly clay	200 			SM	СН	> 100 kPa			
CLAY	Brown mottled orange, slightly moist, firm, medium plasticity, clay	400 			SM	CI	> 100 kPa			
CLAY	Dark brown mottled red/ grey, slightly moist, firm, medium plasticity, clay	1000 			SM	CI	> 100 kPa			
CLAY	Brown mottled grey, slightly moist, firm, medium plasticity, clay	1400 			SM	CI	> 100 kPa			
CLAY	Light brown mottled grey/ white, moist, firm, high plasticity, clay	1700 — — —			М	СН	> 100 kPa			
TERMINA	TED AT	2000 								



Engineering Bore Logs

Borehole No: 4
Sheet No: 4
Job No: 19-299

							JOD INO.	19-299		
Client:	Bryan & Peterson Quality B	uilders Pt	v. Lto	<u>.</u>			Date:	22.7.20		
Project:	LCA Borelogs						Logged By:			
Location:	Bridge Road, Bushfield									
	: Truline trailer mounted	Slope		90 d			RL Surface:	N.A		
Hole Diam	eter: 100mm	Bearing		- de	eg		Datum:	N.A		
	Material Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist, soft, silty topsoil	_ _ _			SM	OL	< 100 kPa			
CLAY	Brown, slightly moist, firm, medium plasticity, clay	200 —			SM	CI	> 100 kPa			
CLAY	Light red, slightly moist, firm, high plasticity, clay	400			SM	CH	> 100 kPa			
CLAY	Light red mottled grey, slightly moist, firm, high plasticity, clay	1700 — — —			SM	СН	> 100 kPa			
TERMINA	TED AT	2000 								



Engineering Bore Logs

Borehole No: **5**Sheet No: 5
Job No: 19-299

Oi: 1	D 0 D 1 0 1" D	5						00700		
Client: Project:	Bryan & Peterson Quality B LCA Borelogs	uliders Pt	y. Lto	J			Date: Logged By:	22.7.20 S. Uwland		-
Location:	Bridge Road, Bushfield						Logged by.	3. Uwlanu		
	: Truline trailer mounted	Slope		90 d	lea		RL Surface:	N.A		
	eter: 100mm	Bearing		- d			Datum:	N.A		
V	/laterial Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist, soft, silty topsoil	_ _ _ _			SM	OL	< 100 kPa			
CLAY	Dark brown, slightly moist, soft, medium plasticity, clay	300			SM	CI	< 100 kPa			
CLAY	Brown mottled orange, slightly moist, firm, medium plasticity, clay	700			SM	CI	> 100 kPa			
CLAY	Light red mottled grey, slightly moist, firm, medium plasticity, clay	1300			SM	CI	> 100 kPa			
CLAY	Light red/grey, dry, firm, medium plasticity, clay	1700 			D	CI	> 100 kPa			
TERMINA	TED AT	2000 								



Engineering Bore Logs

Borehole No: **6**Sheet No: 6
Job No: 19-299

Client:	Bryan & Peterson Quality B	uilders Pt	y. Lto	d.			Date:	22.7.20		
Project:	LCA Borelogs						Logged By:	S. Uwland		
Location:	Bridge Road, Bushfield Truline trailer mounted	Clana		00 4			DI Cumfo co	NI A		
	eter: 100mm	Slope Bearing		90 d			RL Surface: Datum:	N.A N.A		
Tible Diame	ster. Toomin	Dearing		- u			Datuiii.	IN.A		
М	laterial Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
	Dark brown, moist, soft,				SM	OL	< 100kPa			
	silty topsoil		v.							
	Brown mottled orange, slightly moist, firm, medium plasticity, clay	300			SM	CI	> 100 kPa			
	Light red, slightly moist, firm, medium plasticity, clay	1600 			SM	CI	> 100 kPa			
TERMINAT	ED AT	2000 								



Engineering Bore Logs

Borehole No: 7
Sheet No: 7
Job No: 19-299

Or 1	D 0 D 1 0 1"1 D	5						00 7 00		
Client: Project:	Bryan & Peterson Quality B	uilders Pt	y. Lto	1.			Date:	22.7.20		
Location:	Bridge Road, Bushfield						Logged By:	S. Uwland		
	: Truline trailer mounted	Slope		90 d	lea		RL Surface:	N.A		
Hole Diam	eter: 100mm	Bearing		- d			Datum:	N.A		
D.a							2444			
	Material Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist,									
	soft, silty topsoil	_ _ _	•							
CLAY	Dark brown mottled brown, slightly moist, firm, high plasticity, silty clay	300 400								
CLAY	Light brown, dry, firm, high plasticity, sandy clay	_ 400								
		_								
		_								
		<u> </u>								
		_								
		<u>-</u>								
		_								
REFUSAL	on suspected basalt	1400								
		- -								
		_								
		_								
		<u>-</u> -								
		<u> </u>								



Engineering Bore Logs

Client:	Bryan & Peterson Quality B	uilders Pt	y. Lto	d			Date:	22.7.20		-
Project: Location:	LCA Borelogs Bridge Road, Bushfield						Logged By:	S. Uwland		
	: Truline trailer mounted	Slope		90 c	lea		RL Surface:	N.A		-
	eter: 100mm	Bearing		- d			Datum:	N.A		\neg
N	Material Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist, soft, silty topsoil	_			SM	OL	< 100kPa			
CLAY	Brown mottled light brown, slightly moist, firm, high plasticity, clay	_ 100 _			SM	СН	> 100 kPa			
CLAY	Light brown, slightly moist, firm, medium plasticity, clay with 15 to 20mm gravels present	350			SM	CI	> 100 kPa			
CLAY	Light grey/brown, dry, firm, medium plasticity, gravelly clay	650 			D	CI	> 100 kPa			
SAND	Light brown/grey, dry, medium density, well graded, clayey sand	950 			D	SC	> 100 kPa			
TERMINA'	Light red, dry, medium density, well graded, clayey sand	1450			D	SC	> 100 kPa			
		<u> </u>								



Engineering Bore Logs

Borehole No: 9
Sheet No: 9
Job No: 19-299

011 1	D 0 D 1 0 1" D	". D						00700		
Client:	Bryan & Peterson Quality B	uilders Pt	y. Lto	d			Date:	22.7.20		
Project: Location:	LCA Borelogs Bridge Road, Bushfield						Logged By:	S. Uwland		
	: Truline trailer mounted	Slope		90 d	ea		RL Surface:	N.A		
Hole Diam	eter: 100mm	Bearing		- d			Datum:	N.A		
N	/laterial Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
	Dark brown, slightly moist, soft, gravelly, silty topsoil				SM	OL	< 100 kPa			
CLAY	Dark brown mottled red, slightly moist, firm, medium plasticity, clay				SM	CI	> 100 kPa			
CLAY	Grey mottled red/brown, slightly moist, firm, medium plasticity, clay	1300			SM	CI	> 100 kPa			



Engineering Bore Logs

Borehole No: 10
Sheet No: 10
Job No: 19-299

Client:	Bryan & Peterson Quality B	uilders Pt	y. Lto	<u>.</u>			Date:	22.7.20		
Project:	LCA Borelogs						Logged By:	S. Uwland		
Location:	Bridge Road, Bushfield									
	: Truline trailer mounted	Slope		90 d			RL Surface:	N.A		
Hole Diam	eter: 100mm	Bearing		- de	eg		Datum:	N.A		
N	Material Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist, soft, gravelly ,silty topsoil				SM	OL	< 100 kPa			
CLAY	Brown mottled orange/red, slightly moist, firm, medium plasticity, clay	200			SM	CI	> 100 kPa			
CLAY	Red mottled brown, slightly moist, firm, medium plasticity, clay	800 			SM	CI	> 100 kPa			
CLAY	Red mottled grey/brown, slightly moist, firm, medium plasticity, clay	1100			SM	CI	> 100 kPa			
CLAY	Red mottled grey, slightly moist, firm, medium plasticity, clay	1500 			SM	CI	> 100 kPa			
TERMINA	TED AT	2000 								



Engineering Bore Logs

Borehole No: 11 Sheet No: 11 Job No: 19-299

Client:	Bryan & Peterson Quality B	uilders Pt	y. Lto	d			Date:	22.7.20		
Project: Location:	LCA Borelogs Bridge Road, Bushfield						Logged By:	S. Uwland		
	: Truline trailer mounted	Slope		90 d	lea		RL Surface:	N.A		
Hole Diam	eter: 100mm	Bearing		- d			Datum:	N.A		
	Aaterial Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist, soft, silty topsoil				SM	OL	< 100 kPa			
CLAY	Brown mottled orange/red, slightly moist, firm, medium plasticity, clay	300			SM	CI	> 100 kPa			
CLAY	Red/brown/grey, slightly moist, firm, medium plasticity, clay	1000			SM	C	> 100 kPa			
CLAY	Red mottled grey, slightly moist, firm, medium plasticity, clay	1600 			SM	CI	> 100 kPa			
TERMINA	TED AT	2000 								



Engineering Bore Logs

Borehole No: 12
Sheet No: 12
Job No: 19-299

Ol: 1	D 0 D 1 0 131 D	". D.						00.7.00		
Client: Project:	Bryan & Peterson Quality B LCA Borelogs	uilders Pt	y. Lto	d			Date:	22.7.20		
Location:	Bridge Road, Bushfield						Logged By:	S. Uwland		
	l: Truline trailer mounted	Slope		90 d	lea		RL Surface:	N.A		
Hole Diam	eter: 100mm	Bearing		- d			Datum:	N.A		
							2444			
	Material Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist, soft, silty topsoil				SM	OL	< 100 kPa			
CLAY	Dark brown, slightly moist, soft, high plasticity, clay	100			SM	СН	< 100 kPa			
CLAV	light brown dry firm	600			D	CI	> 100 kDo			
REFUSAL	light brown, dry, firm, medium plasticity, sandy clay on suspected basalt					C	> 100 kPa			



Engineering Bore Logs

Borehole No: 13
Sheet No: 13
Job No: 19-299

Client	Prion & Dataroon Quality P	uildara Dt	v 1 +				Data	22.7.20		
Client: Project:	Bryan & Peterson Quality B LCA Borelogs	uliders Pt	y. Li	J.			Date: Logged By:	22.7.20 S. Uwland		
Location:							Logged by.	3. Owland		
	: Truline trailer mounted	Slope		90 d	ea		RL Surface:	N.A		
	eter: 100mm	Bearing		- d			Datum:	N.A		
N	Material Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist, soft, silty topsoil	- - - -			SM	OL	< 100 kPa			
CLAY	Dark brown, slightly moist, soft, high plasticity, silty clay	300 			SM	СН	< 100 kPa			
CLAY	Dark brown mottled orange, slightly moist, firm ,medium plasticity, clay	500 	•		SM	CI	> 100 kPa			
CLAY	Grey mottled red/brown, slightly moist, firm, medium plasticity, clay	1000			SM	CI	> 100 kPa			
CLAY	Red, slightly moist, firm, medium plasticity, clay	1700 — — —			SM	CI	> 100 kPa			
TERMINA	TED AT	2000 			_					



Engineering Bore Logs

Borehole No: 14
Sheet No: 14
Job No: 19-299

							JUD INU.	19-299		
Client:	Bryan & Peterson Quality B	uilders Pt	v I to	1			Date:	22.7.20		
Project:	LCA Borelogs	undolo i t	y. <u>_</u>				Logged By:			
Location:	Bridge Road, Bushfield						33 7	-		
Drill mode	l: Truline trailer mounted	Slope		90 d	leg		RL Surface:	N.A		
Hole Diam	neter: 100mm	Bearing		- d	eg		Datum:	N.A		
	Material Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist, soft, silty topsoil	_			SM	OL	< 100 kPa			
CLAY	Dark brown, slightly moist, soft, medium plasticity, clay	_ 400			SM	CI	< 100 kPa			
SAND	Light brown/yellow, dry, medium density, clayey sand	600 			D	SC	> 100 kPa			
REFUSAL	on suspected basalt	800								



Engineering Bore Logs

Borehole No: 15
Sheet No: 15
Job No: 19-299

Client:	Bryan & Peterson Quality B	uilders Pt	y. Lto	d.			Date:	22.7.20		
Project:	LCA Borelogs						Logged By:	S. Uwland		
Location:	Bridge Road, Bushfield : Truline trailer mounted	Slope		90 d	log		RL Surface:	NI A		
	eter: 100mm	Bearing		- d			Datum:	N.A N.A		
Tiole Blain	ctor. Toomin	Dearing			_		Datain.	14.74		
N	Material Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist, soft, silty topsoil				SM	OL	< 100 kPa			
CLAY	Dark brown, slightly moist, firm, medium plasticity, clay	150 			SM	CI	> 100 kPa			
CLAY	Brown mottled red/orange, slightly moist, firm, medium plasticity, clay	350			SM	CI	> 100 kPa			
CLAY	Red mottled grey, slightly moist, firm, medium plasticity, clay	950 			SM	CI	> 100 kPa			
CLAY	Red/grey, slightly moist, firm, medium plasticity, clay	1250 			SM	CI	> 100 kPa			



Engineering Bore Logs

Borehole No: 16 Sheet No: 16 Job No: 19-299

- ·	D 0 D 1 0 111 D	5								
Client:	Bryan & Peterson Quality B	uilders Pt	y. Lto	d			Date:	22.7.20		
Project: Location:	LCA Borelogs Bridge Road, Bushfield						Logged By:	S. Uwland		
	: Truline trailer mounted	Slope		90 d	lea		RL Surface:	N.A		
	eter: 100mm	Bearing		- d			Datum:	N.A		
	/laterial Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist, soft, silty topsoil	_ _ _			SM	OL	< 100 kPa			
CLAY	Brown/red, slightly moist, firm, medium plasticity, clay	200			SM	СІ	> 100 kPa			
CLAY	Red/grey/brown, slightly moist, firm, medium plasticity, clay	1000 			SM	CI	> 100 kPa			
CLAY	Red mottled grey, dry, firm, medium plasticity, clay	1300 			D	CI	> 100 kPa			
TERMINA	TED AT	2000 								



Engineering Bore Logs

Borehole No: 17
Sheet No: 17
Job No: 19-299

0	D 0 D 1 0 11 D	5								
Client:	Bryan & Peterson Quality B	uilders Pt	y. Lto	d			Date:	22.7.20		
Project: Location:	LCA Borelogs Bridge Road, Bushfield						Logged By:	S. Uwland		
	: Truline trailer mounted	Slope		90 d	lea		RL Surface:	N.A		
	eter: 100mm	Bearing		- d			Datum:	N.A		
					_					
	Material Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist,	_			SM	OL	< 100 kPa			
	soft, silty topsoil	_ _ _ _								
CLAY	Light red mottled dark red, slightly moist, loose, well graded, clayey gravel	400 			SM	GC	< 100 kPa			
CLAY	Brown mottled red, slightly moist, firm, medium plasticity, clay	700			SM	C	> 100 kPa			
CLAY	Red mottled grey, slightly moist, firm, medium plasticity, clay	1300 			SM	CI	> 100 kPa			
CLAY	Grey mottled red, slightly moist, firm, medium plasticity, clay	1600			SM	CI	> 100 kPa			
7 ETCHINA	1-2-A1	2000 								



Engineering Bore Logs

Borehole No: 18
Sheet No: 18
Job No: 19-299

							•			
Client:	Bryan & Peterson Quality B	uilders Pt	y. Lto	d.			Date:	22.7.20		
Project:	LCA Borelogs						Logged By:	S. Uwland		
	Bridge Road, Bushfield			00			DI 0 (
	d: Truline trailer mounted neter: 100mm	Slope Bearing		90 d			RL Surface: Datum:	N.A N.A		
noie Diaii	leter. 100mm	Беаппу		- u			Dalum.	IN.A		
	Material Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist, soft, silty topsoil	11			SM	OL	< 100 kPa			
CLAY	Dark brown, slightly moist, firm, medium plasticity, clay	150 			SM	CI	> 100 kPa			
CLAY	Light brown, slightly moist, firm, high plasticity, clay	400			SM	СН	> 100 kPa			
CLAY	Light brown mottled red/ orange, slightly moist, firm, high plasticity, clay	700 			SM	СН	> 100 kPa			
CLAY	Brown/red/grey, slightly moist, firm, medium plasticity, clay	1000 			SM	CI	> 100 kPa			
CLAY	Grey mottled brown/red, slightly moist, firm, medium plasticity, clay	1300 			SM	CI	> 100 kPa			
TERMINA	TED AT	2000 								



Engineering Bore Logs

Borehole No: 19
Sheet No: 19
Job No: 19-299

01: 1	D 0 D 1 0 1" D	5						00.7.00		
Client: Project:	Bryan & Peterson Quality B LCA Borelogs	uliders Pt	y. Lto	a.			Date: Logged By:	22.7.20 S. Uwland		
Location:	Bridge Road, Bushfield						Logged by.	3. Owland		
	: Truline trailer mounted	Slope		90 c	lea		RL Surface:	N.A		
Hole Diam	eter: 100mm	Bearing		- d			Datum:	N.A		
	Material Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist, soft, silty topsoil				SM	OL	< 100 kPa			
CLAY	Dark brown, slightly moist, firm, medium plasticity, clay	_ 150 _ _			SM	CI	> 100 kPa			
CLAY	Brown, slightly moist, firm, medium plasticity, clay	_ 400 			SM	CI	> 100 kPa			
SAND	Brown, dry, medium density, well graded, clayey sand	700			D	SC	> 100 kPa			
REFUSAL	on suspected basalt	1300								



Engineering Bore Logs

Borehole No: 20
Sheet No: 20
Job No: 19-299

011 1	D 0 D 1 0 1"1 D	". D						00 7 00		
Client:	Bryan & Peterson Quality B LCA Borelogs	uilders Pt	y. Lto	d			Date:	22.7.20		
Project: Location:	Bridge Road, Bushfield						Logged By:	S. Uwland		
	: Truline trailer mounted	Slope		90 d	ea		RL Surface:	N.A		
	eter: 100mm	Bearing		- d			Datum:	N.A		
N	Material Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
	Dark brown, slightly moist, soft, silty topsoil				AM	OL	< 100 kPa			
CLAY	Dark brown/brown, slightly moist, firm, medium plasticity, clay	200			AM	CI	> 100 kPa			
CLAY	Dark yellow, dry, firm, medium elasticity, sandy clay	600			D	CI	> 100 kPa			
CLAY	Brown/red/grey, slightly moist, firm, high plasticity, sandy clay	1200 			SM	СН	> 100 kPa			
TERMINA	TED AT	1900 								



Engineering Bore Logs

Borehole No: 21 Sheet No: 21 Job No: 19-299

Cliant	Davier & Determine Overlity D	ilalana Di	. 14.				Deter	22.7.20		
Client: Project:	Bryan & Peterson Quality B LCA Borelogs	uliders Pt	y. Lto	1.			Date: Logged By:	22.7.20 S. Uwland		
Location:							Logged by.	3. Uwlanu		
	l: Truline trailer mounted	Slope		90 d	lea		RL Surface:	N.A		
	eter: 100mm	Bearing		- d			Datum:	N.A		
٨	Material Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist, soft, silty topsoil				SM	OL	< 100 kPa			
CLAY	Brown/red/orange, slightly moist, firm, medium plasticity, clay	150 			SM	CI	> 100 kPa			
CLAY	Red mottled brown/grey/ orange, slightly moist, firm, medium plasticity, clay	400			SM	CI	> 100 kPa			
CLAY	Red mottled grey, slightly moist, firm, medium plasticity, clay	1000			SM	CI	> 100 kPa			
CLAY	Grey/red, slightly moist, firm, medium plasticity, clay	1600 			SM	CI	> 100 kPa			
TERMINA	TED AT	2000 — — —								



Engineering Bore Logs

Borehole No: 22
Sheet No: 22
Job No: 19-299

Oli t-	Down 0 Determine Overlite D		1.4.				Dete	00 7 00		
Client: Project:	Bryan & Peterson Quality B LCA Borelogs	uliders Pt	y. Lto	J			Date: Logged By:	22.7.20 S. Uwland		
Location:	Bridge Road, Bushfield						Logged by.	3. Uwlanu		
	l: Truline trailer mounted	Slope		90 d	lea		RL Surface:	N.A		
	neter: 100mm	Bearing		- d			Datum:	N.A		
N	Material Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist, soft, silty topsoil	_ _ _			SM	OL	< 100 kPa			
CLAY	Brown, slightly moist, firm, medium plasticity, clay	200 —			SM	CI	> 100 kPa			
CLAY	Brown mottled red, slightly moist, firm, medium plasticity, clay	350 			SM	CI	> 100 kPa			
CLAY	Red/brown/grey, slightly moist, firm, medium plasticity, clay	650 			SM	CI	> 100 kPa			
CLAY	Red mottled grey/brown, slightly moist, firm, medium plasticity, clay	1250 			SM	CI	> 100 kPa			
CLAY	Grey mottled brown, slightly moist, firm, high plasticity, clay	1750 			SM	СН	> 100 kPa			
TERMINA	TED AT	1950 — — —								



Engineering Bore Logs

Borehole No: 23
Sheet No: 23

Job No: 19-299

011 1	D 0 D 1 0 1"1 D							00700		
Client: Bryan & Peterson Quality Builders Pty. Ltd. Project: LCA Borelogs							Date: 22.7.20 Logged By: S. Uwland			
Location:	Bridge Road, Bushfield						Logged by.	S. Uwland		
Drill model: Truline trailer mounted Slop				90 deg			RL Surface: N.A			
Hole Diameter: 100mm		Bearing		- d			Datum:	N.A		
N	Material Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist, soft, silty topsoil	_ _ _ _			SM	OL	< 100 kPa			
CLAY	Brown/dark brown, very moist, soft, high plasticity, clay	300	•		VM	СН	< 100 kPa			
CLAY	Brown, very moist, soft, high plasticity, clay	800 			VM	СН	< 100 kPa			
CLAY	Brown, moist, firm, high plasticity, clay	1300			M	СН	> 100 kPa			
TERMINA	TED AT	1900 								



Engineering Bore Logs

Borehole No: 24
Sheet No: 24
Job No: 19-299

Client	Prior & Dotoroon Ouglitic	uildoro Dt	, 14-	1			Detail	22.7.20		
Client: Bryan & Peterson Quality Builders Pty. Ltd. Project: LCA Borelogs						Date: 22.7.20 Logged By: S. Uwland				
Location:	Bridge Road, Bushfield						Logged By.	J. Owland		
	Slope		90 d	eq		RL Surface:	N.A			
Drill model: Truline trailer mounted Hole Diameter: 100mm		Bearing		- d			Datum:	N.A		
٨	Material Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist, soft, silty topsoil	_			SM	OL	< 100 kPa			
CLAY	Dark brown, slightly moist, soft, high plasticity, silty clay	100 			SM	ОН	< 100 kPa			
CLAY	Brown/light brown, slightly moist, firm, medium plasticity, clay	400			SM	CI	> 100 kPa			
CLAY	Red mottled grey/brown, slightly moist, firm, medium plasticity, clay	1000			SM	CI	> 100 kPa			
CLAY	Red mottled brown, dry, firm, medium plasticity, clay	1400 			D	CI	> 100 kPa			
CLAY	Grey mottled red, slightly moist, firm, medium plasticity, clay	1700 — —			SM	CI	> 100 kPa			
TERMINATED AT		2000 								



Engineering Bore Logs

Borehole No: 25
Sheet No: 25
Job No: 19-299

Bryan & Peterson Quality Builders Pty. Ltd. 22.7.20 Client: Date: Project: LCA Borelogs Logged By: S. Uwland Bridge Road, Bushfield Location: Drill model: Truline trailer mounted 90 deg RL Surface: N.A Slope Hole Diameter: 100mm Bearing Datum: N.A - deg oisture Condition Graphic Log Classification Unified Notes Support Method Depth Structure, additional Water Material Description Samples (mm) observations Tests TOPSOIL Dark brown, slightly moist, SM OL < 100 kPa soft, silty topsoil CLAY 100 М ОН < 100 kPa Dark grey/dark brown, moist, soft, high plasticity, silty clay CLAY Dark grey/dark brown, 400 SM СН > 100 kPa slightly moist, firm, high plasticity, clay CLAY 800 Brown/dark brown, slightly SM CI > 100 kPa moist, medium plasticity, clay CLAY Brown, slightly moist, firm, 1000 SM CI > 100 kPa medium plasticity, clay CLAY Light brown/orange, dry, 1300 D CI > 100 kPa firm, medium plasticity, clay CLAY Brown, dry, firm, medium 1500 D CI > 100 kPa plasticity, sandy clay REFUSAL on suspected limestone 1800



Engineering Bore Logs

Borehole No: 26
Sheet No: 26
Job No: 19-299

Bryan & Peterson Quality Builders Pty. Ltd. 22.7.20 Client: Date: Project: LCA Borelogs Logged By: S. Uwland Bridge Road, Bushfield Location: RL Surface: Drill model: Truline trailer mounted 90 deg N.A Slope Hole Diameter: 100mm Bearing Datum: N.A - deg oisture Condition Classification Graphic Log Unified Notes Support Method Depth Structure, additional Water Material Description Samples (mm) observations Tests TOPSOIL Dark brown, slightly moist, SM OL < 100 kPa soft, clayey, silty topsoil CLAY Dark brown, slightly moist, 400 SM CH > 100 kPa firm, high plasticity, clay CLAY Brown/dark brown, slightly 800 > 100 kPa SM СН moist, firm, high plasticity, clay CLAY Brown, dry, firm, medium 1000 D CI > 100 kPa plasticity, sandy clay REFUSAL on suspected limestone 1300



Engineering Bore Logs

Borehole No: 27
Sheet No: 27

Job No: 19-299

Bryan & Peterson Quality Builders Pty. Ltd. 22.7.20 Client: Date: Project: LCA Borelogs Logged By: S. Uwland Bridge Road, Bushfield Location: RL Surface: Drill model: Truline trailer mounted N.A Slope 90 deg Hole Diameter: 100mm Bearing Datum: N.A - deg oisture Condition Classification Graphic Log Notes Unified Support Method Depth Structure, additional Water Material Description Samples (mm) observations Tests TOPSOIL Dark brown, slightly moist, SM OL < 100 kPa soft, silty topsoil CLAY Brown/dark brown, slightly 200 SM СН > 100 kPa moist, firm, high plasticity, clay CLAY Dark grey mottled brown, 400 SM > 100 kPa CI slightly moist, firm, medium plasticity, clay Brown/light brown, slightly CLAY 900 SM CI > 100 kPa moist, firm, medium plasticity, clay CLAY Grey, slightly moist, firm, 1300 SM CH > 100 kPa high plasticity, clay TERMINATED AT 2000



Engineering Bore Logs

Borehole No: 28
Sheet No: 28
Job No: 19-299

01: 1	D 0 D 1 0 1" D	". D						00700		
Client:	Bryan & Peterson Quality B	uilders Pt	y. Lto	d			Date:	22.7.20		
Project: Location:	LCA Borelogs Bridge Road, Bushfield						Logged By:	S. Uwland		
	: Truline trailer mounted	Slope		90 d	lea		RL Surface:	N.A		
Hole Diam	eter: 100mm	Bearing		- d			Datum:	N.A		
	/laterial Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, very most, soft, silty topsoil	_			VM	OL	< 100 kPa			
CLAY	Brown mottled orange/red, slightly moist, firm, medium plasticity, clay	150 			SM	CI	> 100 kPa			
CLAY	Brown/grey mottled red/ orange, slightly moist, firm, medium plasticity, clay	700			SM	CI	> 100 kPa			
CLAY	Grey/red mottled brown, slightly moist, firm, medium plasticity, clay	1100			SM	CI	> 100 kPa			
CLAY	Grey mottled brown, slightly moist, firm, high plasticity, clay	1500 			SM	СН	> 100 kPa			
CLAY	Grey mottled orange/ yellow, slightly moist, firm, high plasticity, clay	1700 — — —			SM	СН	> 100 kPa			
TERMINA	TED AT	2000 								



Engineering Bore Logs

Borehole No: 29
Sheet No: 29
Job No: 19-299

Bryan & Peterson Quality Builders Pty. Ltd. 22.7.20 Client: Date: Project: LCA Borelogs Logged By: S. Uwland Bridge Road, Bushfield Location: RL Surface: Drill model: Truline trailer mounted N.A Slope 90 deg Hole Diameter: 100mm Bearing Datum: N.A - deg oisture Condition Classification Graphic Log Notes Unified Support Method Depth Structure, additional Water Material Description Samples observations (mm) Tests TOPSOIL Dark brown, slightly moist, SM OL < 100 kPa soft, silty topsoil CLAY Brown mottled orange, 150 SM CI > 100 kPa slightly moist, firm, medium plasticity, clay CLAY Brown/red mottled grey, 500 SM CI > 100 kPa slightly moist, firm, medium plasticity, clay CLAY Grey/red mottled brown, 1300 SM CI > 100 kPa slightly moist, firm, medium plasticity ,clay CLAY Grey mottled light red, 1600 SM CH > 100 kPa slight moist, firm, high plasticity, clay TERMINATED AT 2000



Engineering Bore Logs

Borehole No: 30 Sheet No: 30 Job No: 19-299

01: 1	D 0 D 1 0 1"1 D	". D						00700		
Client:	Bryan & Peterson Quality B	uilders Pt	y. Lto	d			Date:	22.7.20		
Project: Location:	LCA Borelogs Bridge Road, Bushfield						Logged By:	S. Uwland		
	: Truline trailer mounted	Slope		90 d	lea		RL Surface:	N.A		
	eter: 100mm	Bearing		- d			Datum:	N.A		
					_		2444			
N	Material Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
	Dark brown, slightly moist, soft, silty topsoil				SM	OL	< 100 kPa			
CLAY	Dark brown, slightly moist, firm, high plasticity, clay	100 			SM	СН	> 100 kPa			
CLAY	Dark brown/brown, slightly moist, firm, medium plasticity, clay	400 			SM	CI	> 100 kPa			
CLAY	Brown, slightly moist, firm, medium plasticity, clay	700 — — —			SM	CI	> 100 kPa			
CLAY	Grey/red/brown, slightly moist, firm, medium plasticity, clay	1000 			SM	CI	> 100 kPa			
CLAY	Grey/red, slightly moist, firm, high plasticity, clay	1600 			SM	СН	> 100 kPa			
TERMINA	IED Aſ	2000 								



Engineering Bore Logs

Borehole No: 31 Sheet No: 31 Job No: 19-299

- ·	D 0 D 1 0 111 D	5								
Client:	Bryan & Peterson Quality B	uilders Pt	y. Lto	d			Date:	22.7.20		
Project: Location:	LCA Borelogs Bridge Road, Bushfield						Logged By:	S. Uwland		
	: Truline trailer mounted	Slope		90 d	ea		RL Surface:	N.A		
	eter: 100mm	Bearing		- d			Datum:	N.A		
	Material Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist, soft, silty topsoil				SM	OL	< 100 kPa			
CLAY	Dark brown, slightly moist, soft, high plasticity, silty clay	200 			SM	ОН	< 100 kPa			
CLAY	Brown mottled orange, slightly moist, firm, medium plasticity, clay	400			SM	CI	> 100 kPa			
CLAY	Brown/grey/red, slightly moist, firm, medium plasticity, clay				SM	CI	> 100 kPa			
TERMINA	TED AT	2000 								



Engineering Bore Logs

Borehole No: 32
Sheet No: 32
Job No: 19-299

Client:	Bryan & Peterson Quality B	uilders Pt	y. Lto	d.			Date:	22.7.20		
Project:	LCA Borelogs						Logged By:	S. Uwland		
	Bridge Road, Bushfield	01		00			DI 0 (
	I: Truline trailer mounted neter: 100mm	Slope		90 d	eg		RL Surface: Datum:	N.A		
Hole Dian	leter: 100mm	Bearing		- a			Dalum:	N.A		
	Material Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist,	_			SM	OL	< 100 kPa			
	soft, silty topsoil	_ _ _								
CLAY	Brown mottled orange, slightly moist, firm, high plasticity, clay	300			SM	СН	> 100 kPa			
CLAY	Brown/red/grey, slightly moist, firm, medium plasticity, clay	700 — — — —			SM	CI	> 100 kPa			
CLAY	Grey/red mottled brown, slightly moist, firm, medium plasticity, clay	1300 			SM	CI	> 100 kPa			
CLAY	Grey/red, slightly moist, firm, medium plasticity, clay	1600			SM	CI	> 100 kPa			
LINWIINA		2000 								



Engineering Bore Logs

Borehole No: 33
Sheet No: 33
Job No: 19-299

Client	Prion & Dataroon Quality P	uildara Dt	. 1 +				Data	22.7.20		
Client: Project:	Bryan & Peterson Quality B LCA Borelogs	uliders Pt	y. Li	J.			Date: Logged By:	22.7.20 S. Uwland		
Location:							Logged by.	3. Owland		
	: Truline trailer mounted	Slope		90 d	lea		RL Surface:	N.A		
	eter: 100mm	Bearing		- d			Datum:	N.A		
N	Material Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist, soft, silty topsoil				SM	OL	< 100 kPa			
CLAY	Dark brown/brown, slightly moist, firm, high plasticity, clay	150 			SM	СН	> 100 kPa			
CLAY	Brown/red, slightly moist, firm, medium plasticity, clay	400			SM	CI	> 100 kPa			
CLAY	Brown/red/grey, slightly moist, firm, medium plasticity, clay	1000 			SM	CI	> 100 kPa			
CLAY	Red/grey, slightly moist, firm, medium plasticity, clay	1700 — — —			SM	CI	> 100 kPa			
TERMINA	TED AT	2000 — — —								



Engineering Bore Logs

Borehole No: 34
Sheet No: 34
Job No: 19-299

- ·	D 0 D / 0 II/ D	5								
Client:	Bryan & Peterson Quality B	uilders Pt	y. Lto	d			Date:	22.7.20		
Project: Location:	LCA Borelogs Bridge Road, Bushfield						Logged By:	S. Uwland		
	: Truline trailer mounted	Slope		90 d	ea		RL Surface:	N.A		
	eter: 100mm	Bearing		- d			Datum:	N.A		
					_					
	Material Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist,				SM	OL	< 100 kPa			
	soft, clayey, silty topsoil	_ _ _ _								
CLAY	Dark brown/dark grey, moist, soft, high plasticity, clay	400			M	СН	< 100 kPa			
CLAY	Brown mottled dark grey, slightly moist, firm, high plasticity, clay	1100			SM	CH	> 100 kPa			
CLAY	Brown, slightly moist, firm, medium plasticity, clay	1700 — — —			SM	CI	> 100 kPa			
TERMINA	TED AT	2000 								



Engineering Bore Logs

Borehole No: 35
Sheet No: 35
Job No: 19-299

Client:	Bryan & Peterson Quality B	uilders Pt	y. Lto	d.			Date:	22.7.20		
Project:	LCA Borelogs						Logged By:	S. Uwland		
	Bridge Road, Bushfield	01		00			DI 0 (
	: Truline trailer mounted eter: 100mm	Slope		90 d			RL Surface:	N.A		
Hole Dian	eter: 100mm	Bearing		- d			Datum:	N.A		
N	laterial Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist,				SM	OL	< 100 kPa			
	soft, silty topsoil	_								
CLAY	Dark brown, slightly moist, soft, high plasticity, clay	200			SM	СН	< 100 kPa			
CLAY	Brown/dark red, moist, soft, high plasticity, gravelly clay	600 			М	СН	< 100 kPa			
CLAY	Dark yellow/brown, dry, firm, medium plasticity, clay	1000			D	CI	> 100 kPa			
CLAY	Brown/red, slightly moist, firm, medium plasticity, clay	1300			SM	CI	> 100 kPa			
CLAY	Red mottled brown, slightly moist, firm, medium plasticity, clay	1700 			SM	CI	> 100 kPa			
TERMINA	TED AT	2000 								



Engineering Bore Logs

Borehole No: 36
Sheet No: 36
Job No: 19-299

0" (D 0 D 1 0 1" D	". D						00700		
Client:	Bryan & Peterson Quality B	uilders Pt	y. Lto	d			Date: Logged By:	22.7.20		
Project: Location:	LCA Borelogs Bridge Road, Bushfield						Logged by.	S. Uwland		
	: Truline trailer mounted	Slope		90 c	lea		RL Surface:	N.A		
	eter: 100mm	Bearing		- d			Datum:	N.A		
N	/laterial Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist, soft, silty topsoil	_			SM	OL	< 100 kPa			
CLAY	Light brown, slightly moist, soft, high plasticity, clay	100			SM	СН	< 100 kPa			
CLAY	Light brown, slightly moist, firm, high plasticity, clay	300			SM	СН	> 100 kPa			
CLAY	Brown mottled red, slightly moist, firm, medium plasticity, clay	1000			SM	CI	> 100 kPa			
CLAY	Red/brown, dry, firm, medium plasticity, clay	1300	*		D	СІ	> 100 kPa			
CLAY	Red/grey/brown, dry, firm, medium plasticity, clay	1700 — —			D	CI	> 100 kPa			
TERMINA	TED AT	2000								



Engineering Bore Logs

Borehole No: 37
Sheet No: 37
Job No: 19-299

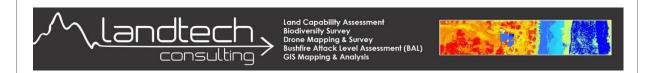
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Client:	Bryan & Peterson Quality B	uilders Pt	y. Lto	d			Date:	22.7.20		
Project: Location:	LCA Borelogs Bridge Road, Bushfield						Logged By:	S. Uwland		
	: Truline trailer mounted	Slope		90 d	ea		RL Surface:	N.A		
Hole Diam	eter: 100mm	Bearing		- d			Datum:	N.A		
	Material Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist, soft, silty topsoil				SM	OL	< 100 kPa			
CLAY	Dark brown, slightly moist, firm, high plasticity, clay	200 			SM	СН	> 100 kPa			
CLAY	Brown, slightly moist, firm, medium plasticity, clay	400			SM	CI	> 100 kPa			
CLAY	Brown, dry, firm, medium plasticity, clay	1300 			D	CI	> 100 kPa			
REFUSAL	on suspected limestone	1600 								



Engineering Bore Logs

Borehole No: 38
Sheet No: 38
Job No: 19-299

- I	D 0 D / 0 II/ D	5								
Client:	Bryan & Peterson Quality B	uilders Pt	y. Lto	d.			Date:	22.7.20		
Project: Location:	LCA Borelogs Bridge Road, Bushfield						Logged By:	S. Uwland		
	: Truline trailer mounted	Slope		90 c	lea		RL Surface:	N.A		
	eter: 100mm	Bearing		- d			Datum:	N.A		
٨	Aaterial Description	Depth (mm)	Graphic Log	Water	Moisture Condition	Unified Classification	Structure, additional observations	Notes Samples Tests	Method	Support
TOPSOIL	Dark brown, slightly moist, soft, silty topsoil				SM	OL	< 100 kPa			
CLAY	Dark brown, slightly moist, firm, medium plasticity, clay	200 —			SM	CI	> 100 kPa			
CLAY	Brown mottled orange, slightly moist, firm, medium plasticity, clay	400			SM	CI	> 100 kPa			
CLAY	Light brown mottled orange, slightly moist, firm, high plasticity, clay	700 			SM	СН	> 100 kPa			
CLAY	Light brown, dry, firm, high plasticity, clay	1000			D	СН	> 100 kPa			
CLAY	Dark yellow, dry, firm, medium plasticity, clay	1300 			D	CI	> 100 kPa			
CLAY	Grey mottled dark yellow, dry, firm, medium plasticity, clay	1600 			D	CI	> 100 kPa			
TERMINA	TED AT	2000 								



LAND CAPABILITY ASSESSMENT

WOODFORD HEIGHTS ESTATE - WASTEWATER MANAGEMENT

LETTER OF ADVICE

Client: Myers Planning Group

Project: Letter of Advice - Woodford Heights Estate (onsite wastewater management analysis)

119 Bridge Road Bushfield VIC

Date: 15 February 2021

Contact: Steve Myers <u>steve@myersplanninggroup.com.au</u>

Landtech: Peter Austin peteraustin.landtech@hotmail.com

161 Skene St, Warrnambool.Vic.3280.

0408-615677.



Figure 1 - Proposed 38-lot site to be completed in stages

Peter Austin (B.Sc., Grad. Dip - Env Health, Dip Horticulture, Dip VET, Cert IV TAE) Member: Environmental Health Victoria & Environmental Health Professionals Australia. Trading as Landtech Consulting, ABN: 4531 2192 419 Ph. 0408-615677 Web www.landtechconsulting.com.au Email peteraustin.landtech@hotmail.com



Job: Letter of Advice; Myers Planning Group; Woodford Heights Estate	
Client: Myers Planning Group	

Document control

Assessment	Review of LCA and Letter of Advice regarding Council response to initial planning negotiation for 119 Bridge Road Woodford VIC (based on AS1547 & EPA CoP 891.4).
Address	Proposed Woodford Heights Estate 119 Bridge Road Bushfield VIC
Project number	617
Project manager	Peter Austin (Landtech Consulting)
Mapping	Peter Austin (Landtech Consulting)
Client	Myers Planning Group
Council	Warrnambool City Council

Acknowledgements

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Figures 2 & 3 – True colour and infrared image depicting existing land cover features (2013 imagery).

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1. PROJECT SUMMARY

Landtech Consulting has been approached by Myers Planning (Warrnambool) for the provision of a 'Letter of Advice' (based on wastewater management) regarding the proposed unsewered subdivision project; Woodford Heights Estate at 119 Bridge Road, Bushfield.

The following attachments were referred to for reference:

- Woodford Heights Northern Development Plan (28-lot subdivision) and corresponding Town Planning Report:
- Woodford Heights Southern Development Plan (10-lot subdivision) and corresponding Town Planning Report.

The subject area is part of Bushfield (west), a key unsewered village 5km to the north of Warrnambool that includes rural and residential-type lifestyle lots, with varied age dwellings, and related often aged onsite wastewater systems. The area has constraint issues based on groundwater buffer risk, lot size, soil texture, and wastewater system density.

Ridgeline, riverine, and floodplain landscapes dominate the area, especially proximal to the village precinct, influenced by flood and watercourse setback constraints within sometimes sloping sites and proximal to the Merri River and tributaries. The subject area is also part-dominated by ex-volcanic and highly weathered clay-based light to medium soil textures, forming part of a cluster of integrating wastewater constraints listed above.

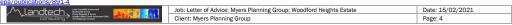
Sustainability of onsite wastewater management within the Bushfield area is also strongly influenced by housing age, with recent-decade developments within the Climery Crescent (Woodford) area including more sustainable lot sizes and increased treatment quality (within large Rural Living-zoned lots) that support optimum wastewater management outcomes.

SITEC (Warrnambool) have provided initial land capability assessment (LCA) for the entire development (38 lots) which included requisite assessments of soil, slope, groundwater, bores etc., and recommended wastewater treatment system designs for each lot. The report suggests that such wastewater systems have been designed for compliance with the relevant EPA Code of Practice (2016).

Table 1 - Woodford Heights Estate - Letter of Advice report - summary

Assessment	Landtech Consulting has been requested by Myers Planning for the provision of a Letter of Advice (based on wastewater management) regarding the proposed major subdivision project; Woodford Heights Estate (at 119 Bridge Road, Bushfield).
Methods	A field assessment was undertaken on the 23 rd December 2020 to obtain general information on land capability of the selected study area and an assessment of potential wastewater systems able to be used sustainably within the subdivision. ArcMap and GlobalMapper GIS and mapping software was used to assist in the interpretation of site constraints and provision of proposed wastewater design location and infrastructure.
Wastewater issues and constraints	Soil texture (Light Clay – Category 5b)
Recommended Onsite Wastewater Systems	 Secondary treatment recommended for all lots (AWTS, Sand Filter, or Reedbed-based system) (as per LCA reviewed);¹ Pressurised subsurface irrigation should be used to increase disposal area use and location flexibility(as per LCA reviewed);
Additional recommendations	 secondary treatment and pressurised subsurface irrigation within all lots (as per LCA reviewed); re-use of wastewater to planted gardens, screen plantings etc; critical within lot drainage designed for all lots to avoid cross site drainage (into lower elevated lots) in intense rain events (when wastewater systems can fail with surface discharge in such events) – completed at wastewater system application stage; strict system maintenance reporting to include vegetated effluent disposal fields; flow-meters should be fitted to all systems to encourage monitoring and awareness of use; secondary system provision with encouraged use of sand filter systems (SFS) to reduce maintenance cost/service frequency (encourages increased compliance); and strict report to Council servicing/effluent testing/reporting system for the estate to mitigate risk and potentially enforced by a Section 173 agreement).
Density issues, lot configuration, site drainage	Whole of lot drainage should be considered/designed during the wastewater permit approval process. Lot width is maximised for effective potential onsite wastewater management.

¹ EPA Victoria; EPA Code of Practice 891.4 (2016). Table 4: Minimum daily wastewater flow rates and organic loading rates; Accessed from: https://www.epa.vic.gov.au/about



2. SCOPE OF WORKS

The level of commentary and guidance within this 'Letter of Advice' report will provide information to mitigate environmental impact (cumulative or otherwise) arising from the use of onsite domestic wastewater treatment facilities to service the proposed number and density of lots proposed on the subject site. This report also includes:

- 1. A review of the LCA, Stormwater Management Plan and Plan of Subdivision, with conclusions about the appropriateness of the design and density of lots and wastewater treatment systems.
- 2. A review of relevant physical and environmental constraints.
- Determination of whether the proposed allotment density and lot design is an appropriate outcome, based on the level of risk/suitability of the site to cater for on-site domestic wastewater treatment systems, in line with Council's DWMP, and whether the proposal is able to avoid compounding wastewater issues within Bushfield and Woodford.
- 4a. Recommendations on improvements to be made to the design of wastewater treatment systems and associated lot drainage.
- 4b. Clarification as to whether the proposal merits further investigation into a sewerage scheme based on the site's suitability to cater for on-site domestic wastewater treatment.



Figure 4 – Subject site and proximity to Warrnambool, including surrounding land use patterns (Source: Google 2020).

3. LAND CAPABILITY ASSESSMENT - REVIEW

Landtech reviewed the LCA² completed by SITEC Warrnambool (dated 30.7.2020) and suggests it addressed all key wastewater management issues based on EPA Code 891.4 (2016).³

The following items applicable to the report require attention:

- The LCA completed by SITEC includes indicative effluent and reserve fields which demonstrate there is sufficient area on each lot to contain wastewater within each property, and necessary buffers to achieve compliance with the EPA Code 891.4 (subject to more detailed siting to be undertaken at the wastewater application stage).
- Each lot should have the LAA sited individually, to consider whole of lot stormwater drainage, the use of
 diversion drainage and downslope within-lot fenceline to street (or other) drainage. Reserve areas have
 also not been shown on any proposed lot configuration maps subject to more detailed siting to be
 undertaken at the wastewater application stage).
- The LCA completed by SITEC includes plans showing indicative effluent fields and reserve fields for
 proposed lots, which demonstrate there is sufficient area on each lot to contain wastewater within each
 property, and necessary buffers to achieve compliance with the EPA Code 891.4.
- To ensure a consistent approach to best-practice in the design of onsite wastewater systems within the development at the wastewater application stage, it is recommended that the following items be considered for inclusion within a S.173 Agreement to be applied to rural residential lots:
 - all proposed lots require within-lot drainage application-stage
 - all proposed lots may require diversion drainage (application-stage)
 - all proposed lots require vegetating and maintaining such vegetation within and/or around effluent disposal fields
 - all proposed lots require Cross-contour LAA siting application-stage
 - show siting/location and long-term protection (no build) of reserve fields application-stage
 - vegetating and maintaining such vegetation within and/or around effluent disposal fields
 - all proposed lots require secondary treatment (20:30:10 or 10:10:10) and pressurised subsurface irrigation (to garden beds, screening plantings, planned fruit tree orchard etc);
 - reporting strict quarterly/annual report to Council of service events;
 - use of low water use fittings for all dwellings, water saving appliances, quarterly system and disposal;
 - treatment system, disposal system, disposal areas, pumps, and alarm systems installed should require maintenance, management, and performance monitoring completed quarterly (based on EPA Code of Practice 891.4 guidelines) and to include strict service/maintenance report to Council procedures;
 - pump size used within AWTS's and pump-well's must be matched to suit pumping requirements with alarm systems wired to the central power supply; and
 - each lot development to include installation WELLS & AAA-rated appliances, plumbing fixtures, and water-saving appliances to minimise effluent load.

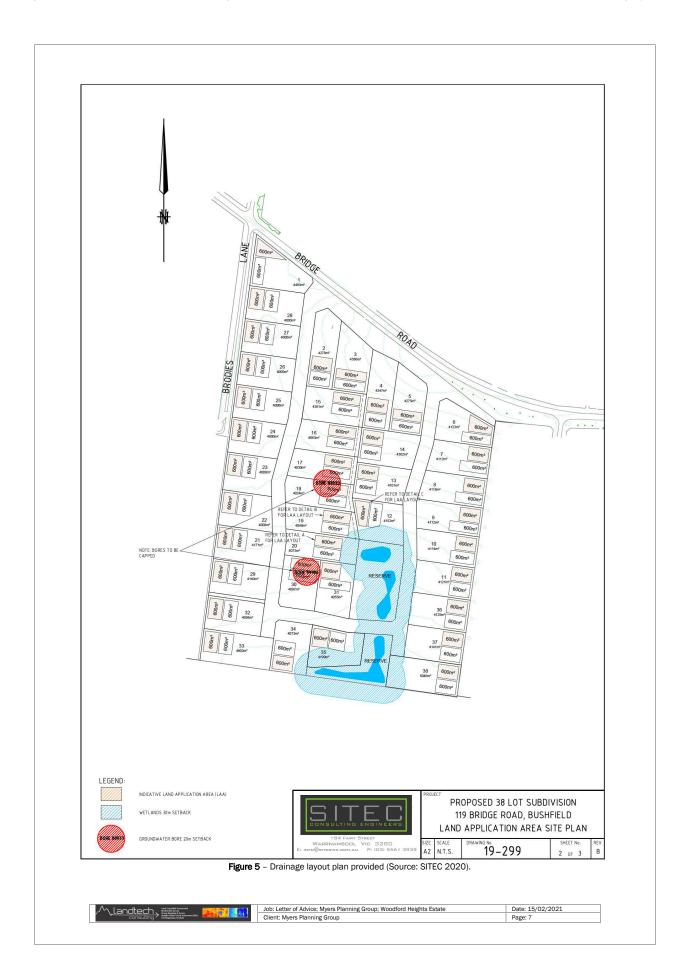
³ EPA Victoria; EPA Code of Practice 891.4 (2016). Table 4: Minimum daily wastewater flow rates and organic loading rates; Accessed from: https://www.epa.vic.gov.au/about-



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² SITEC Warrnambool 2020; Land Capability Assessment for Woodford Heights Estate.



4. MEDIUM RISK SITE CONSTRAINTS

Landtech reviewed the Plan of Subdivision and completed a risk-based analysis for onsite domestic wastewater management, based on provisions to mitigate/avoid significant impacts of site/proximal environmental assets.

Appendix 1 details key risk-based parameters used within the analysis, parameter weighting, and how each parameter influences final risk score.

This review of relevant physical and environmental constraints of the site and identification of key parameters that potentially differentiate this site as reduced risk compared to proximal areas within the Woodford/Bushfield settlement.

LAND CAPABILITY RISK

As can be seen from *Figure* 6, groundwater bore setbacks impact lots 17 – 20. Management of setback from groundwater bores (50m) can be achieved by negotiating the capping of such infrastructure and/or increasing treatment to 10:10:10 quality (tertiary treatment) to enable reduction of buffer setbacks (to 20m).

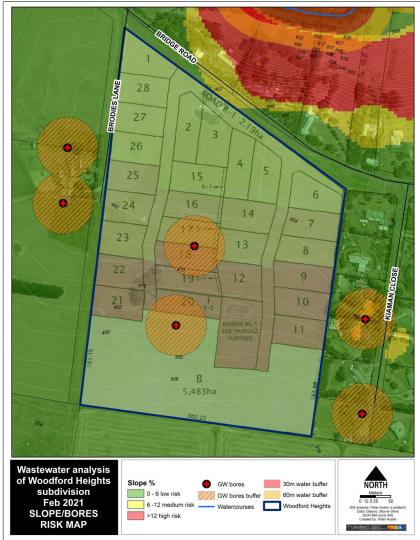


Figure 6 - Current slope and groundwater bore buffer analysis for the proposed Woodford Estate.

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LOT SIZE RISK

The potential for sustainable and suitable onsite wastewater system options is dependent on the amount of adequate protected areas within each lot available for the entire system. It is also critically based on the effective and sustained servicing and maintenance of the system (as is prescribed in this report).

This useable lot area for effluent management broadly refers to available area (not impacted by built infrastructure footprints) where the onsite wastewater system will not be unduly constrained by site and soil characteristics. The smaller the lot, the more difficult it is to treat and retain wastewater onsite in accordance with current EPA Code of Practice requirements.

A properly-sized land application area provides long term and sustainable effluent loading rates that match the assimilative capacity of the soil and vegetation systems. Conversely, improperly designed or undersized land application areas are more likely to fail and lead to potential adverse impacts on both human health and the environment.

The recent Warrnambool City Council DWMP (2020-2025) land capability risk assessment mapping deemed the proposed site at moderate risk. No minimum lot size is mandated in Victoria by the EPA or WCC in their 2020

Landtech has completed a risk mapping process based on the proposed Woodford Heights site with the same result. Lots proposed are greater than 4000m² which to date appears to be the default small lot size based on EPA and planning scheme requirements. It will inevitably be up to Council as to the lot size threshold or size they choose subsequent to the implementation of the 2020-2025 DWMP.

The proposed lot configuration (wide frontage) is currently supportive of optimum wastewater disposal and should be retained.

The site is relatively free of key constraint impediments including water setback and groundwater issues with groundwater bores on site to be capped.

5. CONSTRAINTS - LOT (WASTEWATER SYSTEM) DENSITY

The impact of onsite wastewater systems and degradation of the downstream environment is increased by elevated concentrations of wastewater disposed to land, and the cumulative effects of numerous systems operating within an area.

In New Zealand, research suggests that the quality of the effluent discharged has a significant impact on minimum lot size. Critical to the suitability of varying lot sizes is based on the impact of nitrogen.⁴

The number of dwellings (therefore systems) per square kilometre becomes the important consideration when assessing the potential sustainability of future subdivision wastewater system densities.

Minimum lot sizes and wastewater system densities are an integrated aspect of onsite wastewater design specifically for subdivisions.⁵ Warrnambool City Council would be aware that considerable opportunities for growth in both Low Density and Rural Living housing within the broader Woodford/Bushfield unsewered areas exist.

Intergenerational equity principles dictate that future generations must have the same access to living standards enjoyed by their forebears. This influences the requirement for housing in close proximity to economic centres such as Warrnambool that drives economic activity and opportunity.

It therefore must be accepted that even where wastewater system densities increase, if systems are proposed to be maintained and use a higher than average treatment standard that the risks are reduced.

Current research^{6 7 8} suggests a threshold of 40-50 onsite wastewater systems (per square kilometre) are known to impact groundwater. Areas proximal to the proposed subdivision site within both Woodfield and Bushfield are already at such a critical threshold, requiring conservative, maintained, and monitored wastewater system operation into the future (such as that prescribed by this report).



⁴ Hill J & Lowe H 2008. Determining minimum lot areas for sustainable on-site wastewater discharge; New Zealand Land Treatment Collective: Proceedings for the 2008 Annual

RECOMMENDATIONS

FURTHER INVESTIGATION INTO A SEWERAGE SCHEME

It is important that Council and Water Authorities collaborate to forward plan sewer and water assets for townships and settlements where growth is expected and encouraged (i.e. Bushfield and Woodford). In-lieu of sewer, strict compliance with the EPA Code of Practice and high standards of ongoing management should be encouraged while long term planning of sewer assets is underway.

In circumstances where connecting sewer to settlements is viable, consideration should be given to planning and coordinating sewer connections to residential lots toward the end of the life cycle of existing and approved on-site domestic wastewater treatment systems. Review of current Wannon Water projects indicates no information on future Bushfield and Woodford sewer infrastructure.

Clustered decentralised treatment solutions could be environmentally and economically sustainable however ownership, management, and related financial and legal issues will need to be addressed and developed.9 Evidence of sustainability of clustered systems within Australia and New Zealand suggests long-term outcomes are poor as responsibility for continued funding and maintenance plagues sustainable and cost-effective wastewater management.

The expectation that the proposed Woodford Heights development should consider funding major sewer infrastructure is not practical or applicable due to the scale of infrastructure, and cost required to sustainably and equitably implement the project, which is inevitably the responsibility of Wannon Water.

Rather the Woodford Heights proposal provides well-designed and sustainable wastewater management solutions and high standards of ongoing wastewater management as recommended in this report and the LCA prepared by SITEC.

WASTEWATER MANAGEMENT RECOMMENDATIONS - GENERAL

Myers Planning Group is advised that:

- → no constraint should prevent the development of lots if wastewater prescriptions are used as listed below;
- as suggested by the SITEC LCA, all proposed lots require secondary treatment via AWTS (refer Appendix 2) or Sand Filter System (SFS) (refer Appendix 3);
- each system should include secondary treatment (20:30:10 or 10:10:10) with pressurised subsurface irrigation application of re-usable effluent (garden beds, screening plantings, planned fruit tree orchard etc);
- in-built subdivision-wide wastewater management prescriptions such as treatment level, disposal type, withinlot drainage, disposal system re-use, vegetating disposal fields, diversion drainage, protecting reserve fields and reporting strict quarterly/annual report to Council of service events;
- potential Section 173 agreement on all titles to mitigate risk and provide surety to Council that enforcement mechanisms are in place to maintain and monitor such proposed systems;
- use site as benchmark for environmental responsibility regarding onsite wastewater management and focus design on re-suing higher quality effluent to plants, landscaped areas, and woodlots etc;
- within-lot drainage design for each lot (to be completed at wastewater permit to install stage) should be completed - with the aim to decrease potential for overland flow of discharge in intense rainfall events, both within and beyond lot boundaries, and may consist of lower fenceline diversion drainage to street and/or within-lot diversion drainage to such a release point.

9 Dubber D & Gill L 2014: Application of On-Site Wastewater Treatment in Ireland and Perspectives on Its Sustainability: Department of Civil, Structural and Environmental

Trinity College Dublin, Ireland; Accessed from https://www.mdpi.com/2071-1050/6/3/1623
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WASTEWATER MANAGEMENT RECOMMENDATIONS - WASTEWATER SYSTEM DESIGN

- 1. At wastewater permit stage, each lot should be individually assessed for within-lot surface water drainage patterns with the aim to reduce future cross-boundary discharge of effluent in intense rain events (such as rain event on January 2, 2021).
- 2. Provide future onsite system owners (subdivision) with information relating to system maintenance and operation and also how to reduce both nitrogen and phosphorus inputs to the system.
- If sewer is extended closer to the site in the medium-term, maintained (and reported to Council) secondary treatment systems can continue to be used if such maintenance occurs during the expected 15-20 year life span of the system. After such a period the lot must be connected to sewer.
- Suggested permit condition vegetate and actively maintain effluent disposal and reserve areas (see Appendix 5), vegetation plantings to be designed into all land application areas; where multiple rows of indigenous tussock grasses and sedges should be located around the base and sides of the entire effluent disposal area. Such plantings could increase interception of effluent in the soil profile.
- 5. Reserve land application areas provide long-term alternative effluent disposal areas if the proposed effluent disposal area fails. The current lot proposal configuration will allow provision of reserve areas within all lots.
- 6. Sustainable wastewater treatment and disposal Integrated mitigation requirements should be followed such as low water use fittings for all dwellings, water saving appliances, quarterly system and disposal field maintenance and report to Council (Health Unit), provision and protection of reserve fields, use of best-practice subsurface irrigation to strategically vegetated effluent disposal areas.
- 7. Performance monitoring Field tests are an integral part of any treatment plant operation as they provide the operator with a simple way to assess the performance of all facets of the treatment process. As per EPA Code and wastewater system manufacturer's warranty compliance, annual effluent quality performance testing must be undertaken with results forwarded to the regulating Council's annually.
- 8. The treatment systems installed should require maintenance, management, and performance monitoring completed quarterly (and report to Council procedures).
- System maintenance and report to Council prescriptions should be built into the Council Permit to Alter/Use (with conditions such as strict quarterly servicing of AWTS and effluent disposal areas, pumps, and alarm systems).
- 10. Operation, maintenance, and management (se Appendix 4) of the treatment and disposal system must be in accordance with the manufacturer's recommendations, the EPA Certificate of Conformity, the EPA Code of Practice 891.4 (2016), Council permit conditions, and the recommendations made in this report.
- 11. Gate valves must be placed before and after all system components (and raised to ground level inspection) so they can be isolated when maintenance is required.
- 12. Pump size used within AWTS's and pump-well's must be matched to suit pumping requirements with alarm systems wired to the central power supply.
- 13. Utilise any availlable land bordering subsurface irrigation sub-fields such as native Sedge and Tussock grass species.
- 14. Use of low phosphorus and low sodium (liquid) detergents to improve effluent quality and maintain soil properties for growing plants.
- 15. A Permit to Install an all waste system must be lodged and approved by the Responsible Authority prior to the commencement of wastewater system install on any proposed lot. Such systems shall be designed and installed to the satisfaction of the Responsible Authority before a Permit to Use the system can be issued.
- 16. Future accommodation development to include installation WELLS & AAA-rated appliances, plumbing fixtures, and water-saving appliances to minimise effluent load.



Alternative disposal methods (ETA-beds and raised garden beds with drip system) must be utilised as part of a site by site analysis of lot wastewater requirements which increases reuse options on an essentially greenfield site requiring additional Summer irrigation water. Plumbers with knowledge of installing such systems should work with Myers Planning to develop sustainable wastewater disposal. Expertise exists both locally and Geelong with Landtech able to provide further information.



Figures - 7-9 - ETA beds can be used with septic tanks to reduce and concentrate affluent disposal area; another useful upgrade option for small lots and aging systems (Source: Hydroscape 2019, William Cromer 2019, Mornington Peninsula Shire Council 2015).

Pressurised subsurface irrigation of secondary treated effluent (AWTS or Sand Filter System (SFS)) can be utilised in a grid formation or designed into garden beds typically raised for enhance drainage. Alternative uses exist such as in *Figures 10-16* where effluent is disposed of to multiple fields to water new screen plantings or fruit tree planting). These methods if maintained contribute to effective surface water quality across the planned subdivision and enhanced public health.



Figures 10-11 – Utilisation of cross-contour pressurised subsurface irrigation to tussock and sedge-dominated indigenous plantings.



Figures 12-13 – Utilisation of cross-contour pressurised subsurface irrigation to tussock and sedge-dominated indigenous plantings.

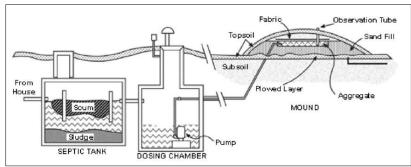


Figure 14 – Soil mounded disposal system for primary and secondary treated effluent (Source: SCA 2019).



FIGURES 15-16 - Potential disposal solution (Rhizopod containment system) within constrained sites.

APPENDIX 1 - RISK-BASED ANALYSIS

Risk-based analysis of key onsite wastewater constraints involve the integration of site and environmental factors to produce risk profiles of each lot including the following:

Eight discrete constraint parameters when consolidated determine the bio-geophysical capability of each lot and the overall land capability of each site to sustainably assimilate wastewater.

Table 2 - Land capability risk parameters used

PARAMETERS	PARAMETERS PARAMETER DETAIL	
	>5000m ² – Low risk	1
Lot size	2000-5000m ² – Medium risk	2
	<2000m ² – High risk	3
	No part of system within 1 in 20-year flood level	1
Flood inundation	Part system within 1 in 20-year flood level	2
	Entire system within 1 in 20-year flood level	3
	No part of system within water setback	1
Water setback	Part system within water setback	2
	Entire system within water setback	3
	No part of system within bore setback	1
Bore setback	Part system within bore setback	2
	Entire system within bore setback	3
	GW depth >5m	1
Groundwater depth	GW depth 2m-5m	2
·	GW depth < 2m	3
	<6% slope	1
Slope	6%-12%	2
•	>12%	3
	Sandy loam, Clay Loam	1
Soil texture	Light to Medium Clay	2
	Sand, Heavy Clay	3
	Soil depth >2m	1
Call danabet	Soil depth 1.5m-2m	2
Soil depth*	Soil depth less than 1.5m to impeding layer	_
	*(most effective treatment 0.5m-1-5m depth)	3
	Category 2, 3	1
Soil category	Category 4	2
Category from soil texture, inferred from EPA COP 2016	Sand/Heavy Clay (Cat 1/6), Medium Clay (Cat 5)	3
	Total scores = combined score method	of 27
TOTAL RISK	Reclassified score = divide by 9 parameters = 1-3 rating scale	1-3

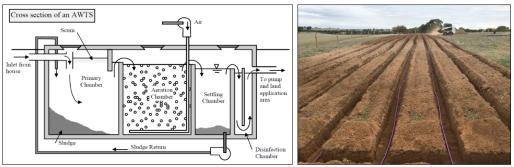
APPENDIX 2 - AERATED WASTEWATER TREATMENT SYSTEMS (AWTS)

Commercial AWTS's are prefabricated, mechanically aerated wastewater treatment systems, designed to treat wastewater flows of >2,000L/day. AWTS's are tank-based systems, comprising either one or two discrete tanks that typically employ the following processes:10

- Settling of solids and flotation of scum in an anaerobic primary chamber or separate primary tank (effectively operating as a septic tank). This stage is omitted in some models.
- Oxidation and consumption of organic matter through aerobic biological processes using (active or passive) mechanical aeration.
- Clarification secondary settling of solids.
- Disinfection usually by chlorination but occasionally using ultraviolet irradiation.
- Regular removal of sludge to maintain the process.

AWTS's treat wastewater through a combination of biological treatment and aeration, resulting in a higher standard of wastewater effluent. This provides greater options for the disposal of treated effluent, although AWTS will require power to operate, and be subject to regular quarterly maintenance.

Treated effluent is normally disposed of via pressure compensating sub-surface irrigation to a suitably sized and vegetated area, although dosed soil absorption trenches can be used in certain situations.



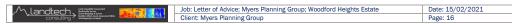
Figures 19 & 20 - Cross-sectional view of an aerated wastewater treatment system (AWTS) (Source: EHPA 2017); grid-based subsurface irrigation installation

The extra treatment provided by an aerated septic tank reduces pathogen levels, (and can sometimes reduce nutrients) as long as the system is kept well maintained and the disinfection unit is functioning properly. AWTS's may also be used to treat greywater to a standard suitable for garden watering of non-food plants.

AWTS are typically supplied as stand-alone, proprietary systems. They require regular maintenance in accordance with the EPA Certificate of Approval for the specific model (usually quarterly) to ensure satisfactory performance and adequate disinfection.

The operating (power) costs of AWTS are relatively high compared to more passive systems such as trickling filters and reed beds, as the aerobic treatment phase requires air blowers to be run for several hours each day. 11

AWTS's must not be switched off when not in use as the deprivation of oxygen will kill the aerobic bacteria within a few days and populations can take weeks to be re-established when the system is turned on and wastewater supply resumes. Some AWTS models have a low-flow switch which re-circulates effluent to keep aerobic bacteria alive when not in use.



¹⁰ Corangamite Shire Council (2014). Corangamite Shire Council Domestic Wastewater Management Plan; Accessed from nent-Plan-DWMP-2014

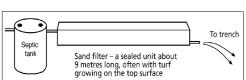
https://www.corangamite.uic.gov.au/Property/Building/Wastewater-systems/Domestic-Wastewater-Management-Plan-DWMP

1 Colac Otway Shire (2016). Colac Otway Shire Council Domestic Wastewater Management Plan - Technical Document, Access http://www.colacotway.vic.gov.au/files/assets/public/trimfiles/my-property/domestic-wastewater-management-plan/dwmp-w

APPENDIX 3 - SAND FILTER SYSTEMS (SFS)

If secondary treatment of wastewater is required, a septic tank in combination with a sand filter can be an effective option. In a sand filter effluent percolates through the filter and is collected for disposal. Sand filters capture suspended solids and provide an aerobic environment which encourages friendly bacteria that digest waste and reduce pollution.







Figures 21-23 - Above and below ground sand filter bed options.

Sand filters are a secondary treatment system installed <u>after a conventional septic tank</u> and prior to the pumpwell and effluent disposal system. Sand filters distribute effluent from a septic tank across a bed of sand. Sand filters shall only be used to treat effluent that has been subject to either primary or secondary treatment.

When installing a sand filter system, the sand filter needs to be sized (m²) according to the hydraulic and organic load for the proposed system (see below).

Table 3 - Sand filter system sizing for domestic dwellings.

DWELLING SIZE	1 bedroom house	2 bedroom house	3 bedroom house	4 bedroom house	5 bedroom house
Standard fixtures	8 m ²	11 m ²	15 m ²	18 m ²	22 m ²
Full water-reducing facilities	6 m ²	9 m²	12 m²	15 m²	18 m²

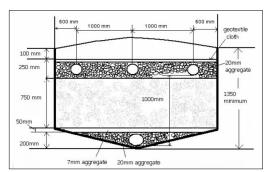
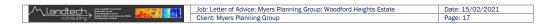


Figure 24 - Cross-section of sand filter.



Figures 25-26 – Sand Filter System components; Rhizopod system supporting upgrade options on small lots where the Rhizopods are added post-septic tank to reduce effluent disposal area required (Source: Arris Wastewater Technologies 2019). (Source: Golden Plains Shire Council 2015, EPA 2016).



APPENDIX 4 - MONITORING, OPERATION AND MAINTENANCE

Maintenance is to be carried out in accordance with the EPA Certificate of Approval/Conformity of the selected wastewater system, manufacturer's warranty, and Council's permit conditions. The system will only function adequately if appropriately and regularly maintained.

To ensure the system functions adequately, residents must:

- Use household cleaning products that are suitable for wastwater systemms;
- Keep as much fat and oil out of the system as possible; and
- Conserve water (AAA rated fixtures and appliances ar recommended).

To ensure the land application system functions adequately, residents must:

- Regularly harvest (mow) vegetation within the Land Application Area (LAA) and remove this to maximise
 uptake of water and nutrients;
- Not erect any structures and paths over the LAA;
- Avoid vehicle and livestock access to the LAA, to prevent compaction and damage; and
- Ensure that the LAA is kept level by filling any depressions with good quality topsoil (not clay).

Table 4 - Monitoring and Maintenance suggested scheduling.

Item	System components	Service regularity	Details	Report to EPA and Council
1	5K AWTS	3 months	Desludge Blowers	Yes
1	3.2K - 5K septic tanks	3 months	Electrical Disinfection (if applicable)	ies
2	Pump-wells	3 months	Electrical Operation Desludge if required	Yes
3	Indexing valve	3 months	Check operation and manufacturer service requirements	Yes
4	Subsurface irrigation fields	6 months	Wetting patterns Blockages System flushing Effectiveness	Yes
5	Alarms	3 months	Electrical Operation Off-site signalling	Yes
6	Performance testing	3 months	Series of tests detailed in EPA Publication 500	Yes
7	Maintenance report	Annual	Report annual tests/service completed to Council	Yes

WATER CONSERVATION, WATER QUALITY, AND STORMWATER MANAGEMENT

Effective water conservation is an important aspect in the overall management of onsite systems. It will be important for the ongoing performance of both the treatment and land application system that they are not overloaded hydraulically.

Stormwater run-on may be a moderate concern for the proposed land application area. An upslope (of LAA) diversion drain should be installed during the construction of the system.

Stormwater from roofs and other impervious surfaces must not be disposed of into the wastewater treatment system or onto the effluent management area.



APPENDIX 5 - SUGGESTED SEDGE AND TUSSOCK SPECIES SUITABLE FOR EFFLUENT DISPOSAL

Rotanical Name	Common Name	Soil Types	Height (wature Plant)
Trees & Shrubs			
Leptospermum lanigerum	Woolly Tea-tree	Most wet soils	To 6m
Melaleuca squarrosa	Scented Paperbark	Most wet soils	To 3m
Goodenia ovata	Hop Goodenia	Most soils	To 2m
Leptospermum continentale	Prickly Tea-tree	Most wet soils	To 2m
Atriplex cinerea	Coast Saltbush	Light, free draining	To 1.8m
Atriplex paludosa	Marsh Saltbush	Light, free draining	To 1.6m
Indigofera australis	Austral Indigo	Most soils	To 1.5m
Leptospermum myrsinoides	Heath Tea-tree	Most soils	To 1.5m
Atriplex semibaccata	Creeping Saltbush	Light, free draining	To 40cm
Sedges, Rushes, Lilies			
Poa labillardierei	Tussock Grass	Most soils	To 60cm
Lepidosperma longitudinale	Common Sword-sedge	Light, free draining	To 2m
Eleocharis sphacelata	Tall Spike-rush	Heavy, wet soils	To 2m
Gahnia clarkei	Tall Saw-sedge	Most wet soils	To 1.5-4m
Juncus procerus	Tall Rush	Most wet soils	To 1.8m
Carex appressa	Tall sedge	Most soils	To 1.5m
Dianella longifolia	Pale Flax-lily	Most soils	To 1.3m
Juncus kraussii	Sea Rush	Most wet soils	To 1.2m
Lepidosperma filiforme	Common Rapier-sedge	Light, free draining	To 1m
Isolepis nodosa	Knobby Club-rush	Most wet soils	To 1m
Gahnia filum	Saw-sedge	Most wet soils	To 1m
Lomandra longifolia	Spiny-headed Mat-rush	Light, free draining	To 1m
Dianella tasmanica	Tasman Flax-lily	Most soils	To 1m
Lepidosperma semiteres	Wire Rapier-sedge	Light, free draining	To 1m
Baumea juncea	Bare Twig-sedge	Most soils	To 90cm
Patersonia occidentalis	Long Purple-flag	Most wet soils	To 80cm
Schoenus brevifolius	Zig-zag Bog-rush	Most wet soils	To 80cm
Eleocharis acuta	Common Spike-rush	Heavy, wet soils	To 60cm
Patersonia fragilis	Short Purple-flag	Most wet soils	To 60cm
Baumea acuta	Pale Twig-sedge	Most soils	To 50cm
Schoenus lepidosperma	Slender Bog-rush	Most wet soils	To 45cm
Schoenus tesquorum	Soft Bog-rush	Most wet soils	To 45cm
Isolepis inundata	Swamp Club-sedge	Most wet soils	To 40cm
Carex breviculmis	Common Grass-sedge	Most soils	<u>To</u> 30cm



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Concept

Stormwater Management Plan

Woodford Heights Estate
Bushfield

Project Number: 19-299

Date: 27th of July 2020

Revision	Description	Date
-	Concept Storm Water Management Plan	27/07/20
Α	Site staging included	22/02/21







QUALITY ISO 9001 SAFETY AS/NZS 4801 ENVIRONMENT ISO 14001

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Introduction

SITEC has been engaged to compile a concept Storm Water Management Plan for the Woodford Heights Estate development at 119 Bridge Rd, Bushfield on behalf of Bryan and Petersen Quality Builders.

This report is to accompany the planning permit application submitted to Warrnambool City Council for the subdivision and development of the land into 19 residential allotments, stages 1 & 2.

The overall site will consist of 38 lots and will be developed in stages 1 to 4. The purpose of this report is to provide information about how the development will drain and the way in which storm water run-off will be conveyed to the nominated outfall points.





Council Requirements

Throughout the design and approval process, and in accordance with the current Infrastructure Design Manual, Warrnambool City Council will require the following minimum drainage design criteria:

- Conveyance of the 1% AEP storm event must be managed to ensure flows to private property is not increased.
- The underground drainage network must allow for the conveyance of a 20% AEP storm event without surcharge or flooding.
- Water Sensitive Urban Design Best Practice Principles must be adopted.
- Post-development flows must not exceed pre-development flows.

The Urban Drainage Network

Initial Assumptions for Drainage Design

Initial assumptions regarding design parameters for the residential subdivision, determined that the drainage system must cater for a minimum 20% AEP storm event.

The current proposal is only for stages 1 & 2, but the details of this report will relate to the whole subdivision including stages 3 & 4.

The site has a number of sub-catchments and each catchment has had a specific runoff coefficient applied as per the current edition of the IDM (Version 5.30). Each catchment will be assigned a discharge point into the proposed stormwater network, to be collected and conveyed to the existing discharge points. The catchments were derived in order to manage the Minor Storm event. A catchment plan is provided as **Attachment A**.

A layout plan has also been included in Attachment B.

The site naturally flows overland in a sheet flow type scenario to the south in the formed valley, through private property, and into Sawpit Creek. This can be seen on **Attachment B** through the contours on the property.

It is proposed to create a berm like system in the southern reserve that will recreate a sheet flow type scenario, at 20% AEP pre-development levels, prior to entering the private property to the south. This will ensure that the property to the south will not have increased flows entering from the proposed subdivision.

Storage from the 1% AEP Storm event will be sharded between the basins, details of which will be provided with the detailed design.

Calculations

Pre-Development Flows

The catchment is made up from the undeveloped 119 Bridge Road, Bushfield.

The underground drainage system has been designed using the following Parameters:

- Frequency = 20% AEP
- Region = Bushfield
- Method = Manning's
- Calculated time of concentration 20% AEP = 73.69 minutes (See **Attachment C**)

1% AEP = 48.29 minutes (See **Attachment C**)

- Co-efficient of runoff, as per the IDM (Version 5.30)

The flow path for the time of concentration calculation can be seen on Attachment B

Calculating Pre-development flow for total area is:

$$Q = \frac{C \times I \times A}{360}$$

A = 20.0462ha

C = 0.3

I 20% AEP = 17.3 (Tc = 73.69) (See Attachment D for Bushfield Rainfall Data)

I 1% AEP = 49.8 (Tc = 48.29) (See **Attachment D** for Bushfield Rainfall Data)

Q 20% AEP Pre - development = 0.2890 m³/sec

Q 1% AEP Pre - development = 0.8319 m³/sec

Post-development Effective Area

The effective area of the catchment post development:

Lots 1-38

A = 15.8780 ha

 $C = 0.40 \text{ (LDRZ -Lot area > } 4000 \text{ m}^2 \text{ to 1ha)}$

 A_e = 6.3512ha

Public Open Space

A = 1.2838 ha

C = 0.35 (Public Open Space = 0.35)

A_e= 0.4493ha

Road Reserve

A = 2.8844 ha

C = 0.75 (Residential Road Reserve)

A_e= 2.1633ha

Total Effective Area

 $A_e = 8.9638$

Storage Calculations

Using Boyd's Storage calculations to determine the required storage for the site we require, for the 20% AEP storm event, 897m³ of storage at 29 minutes time of concentration & 1736m³ of storage at 20 minutes time of concentration for the 1% AEP storm event discharging at the 1% AEP predevelopment flow rate.

See Attachment E for calculations.

It is proposed to supply the storage for the site in the wetlands located in the reserves shown in the layout plan (*Attachment B*). The design of these wetland will be provided in the detailed design.

Containment of the 1% AEP Flow

In the event of a 1% AEP (Annual Exceedance Probability) storm event it is assumed that the underground drainage system will be temporarily running above its capacity.

The roads within the development will be designed so that the during a major flood event, the overland flows will be intercepted by the road and conveyed along the road reserve. The roads for the subdivision will be designed to create a low spot approximately between the two reserves at the southern end of the subdivision.

The reserve to the north will store the 20% AEP storm event to the 20% AEP pre-development levels it will also provide some additional storage for the 1% AEP storm event. The pipe under the road connecting the northern basins and the south basin will be sized to the 20% AEP pre-development flow rate. The south basin will have a low flow pipe sized to the 1% AEP pre-development flow rate as shown on **Attachment B**.

The low flow pipe will feed into a long basin with a berm, set at designed levels, on the south side. As the basin with the berm slowly fills, at pre-development levels, the berm will reach the designed levels height and flow over in a sheet flow type scenario and flow towards Saw Pit Creek via the natural fall of the land to the south.

Water Sensitive Urban Design

Water quality performance objectives will need to comply with the minimum standards as stated in 'Urban Storm Water – Best Practice Environmental Management Guidelines', as shown in the table below.

Pollutant	Performance Objective
Total Suspended Solids	80% retention of the typical urban load
Total Phosphorus	45% retention of the typical urban load
Total Nitrogen	45% retention of the typical urban load
Gross Pollutants	70% retention of the typical urban load

It is planned to meet the minimum criteria with the use of wetlands that will be located at the southern end of the subdivision.

During the detailed design, the water treatment process will be modelled as a treatment train in MUSIC. MUSIC Modelling is unable to take place until a detailed design of the wetlands has been completed. If more treatment is required once the wetlands have been designed further treatment processes can be introduced if necessary.

Staging Requirements

The development is planned to be completed in stages. Stages 1 & 2 will be completed prior to 3 & 4.

A staging plan can be found in **Attachment F**.

It will be a requirement of stages 1 & 2 that the basins will be designed and built to cater for stages 1 - 4.

The basins will be classified as interim until stages 3 & 4 are complete and it will be the developer's responsibility to maintain the basins until stages 3 & 4 are completed.

The staging of the development may require some interim measures, such as swales, to convey the water from the roads and pipes to the basins. Further discussion with council during detailed design of stages 1 & 2 will determine appropriate solutions at the time.

Conclusion

To conclude, the storm water from the site at 119 Bridge Road Bushfield will be sufficiently managed through the drainage system. The 20% AEP storm event will be stored in the northern basins and released at a 20% AEP predevelopment flow rate into the southern basin. The 1% AEP storm event will be stored over both basins and will be released at the 1% AEP pre-development flow rate into the basin with the berm prior to entering the neighbouring property in a sheet flow type scenario towards Sawpit Creek.

The released storm water from the site will be treated prior to entering Sawpit Creek. The required performance objectives of this storm water treatment will be met by incorporating wetlands into the storm water network.

The road reserved will contain the 1% AEP storm event and ensure the storm water does not enter private property.

The reserves & basin will be required to be designed and built as part of stage 1 & 2. The basins will be treated as interim basins and will be maintained by the developer until stages 3 & 4 are completed.

Further discussions during the detailed design phase of stages 1 & 2, with council, will be required to determine an appropriate solution to convey the stormwater from stages 1 & 2 into the basins prior to the construction of stages 3 & 4.

Ben Meade Design Engineer

MIEAust, B.Eng Sc (Civil), M.Eng Tech (Civil)

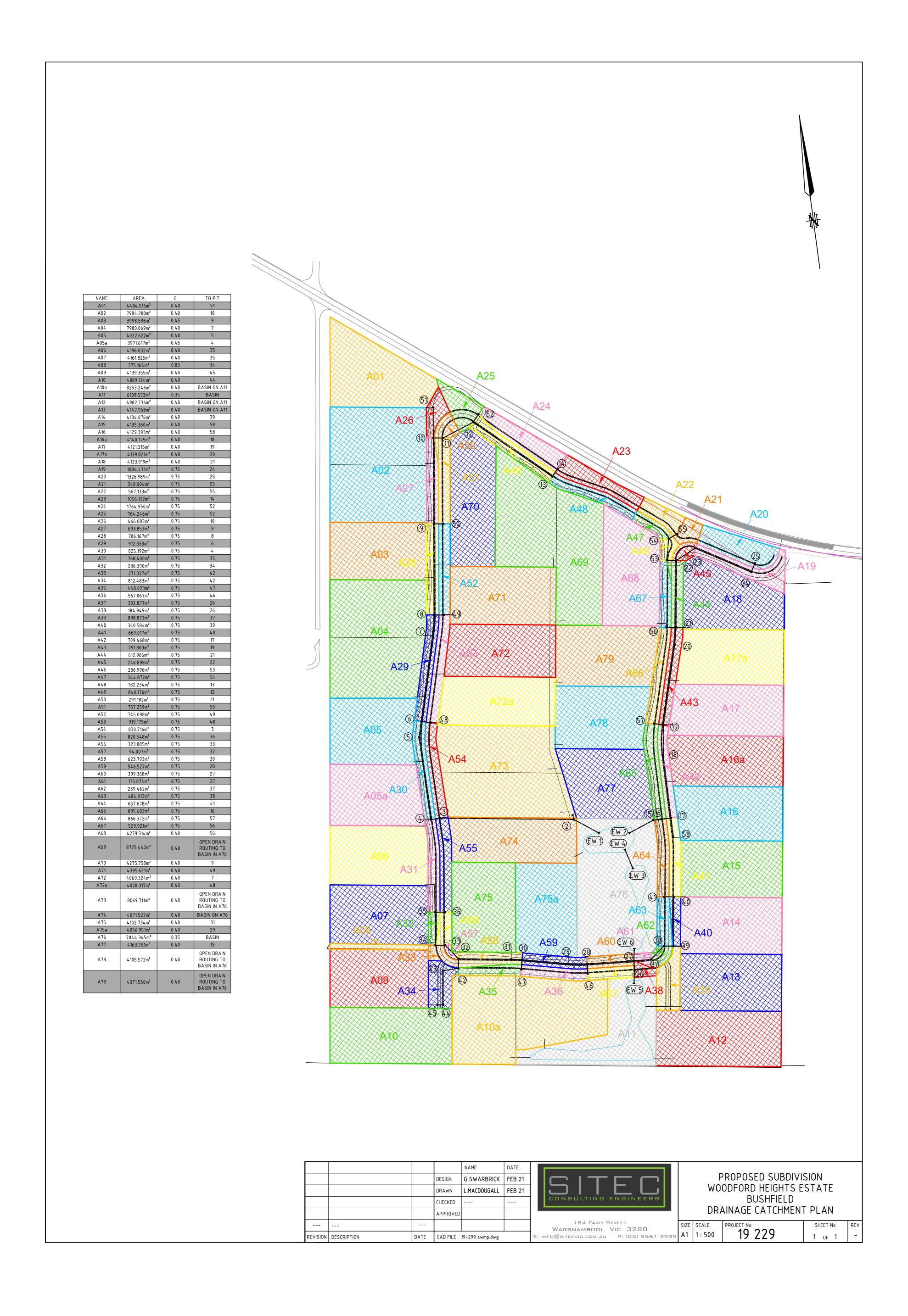
Date: 22nd of February 2021 Ref: 19-299 SWMP Rev A

Attachment A

Catchment Plan

Warrnambool City Council
Agenda for Scheduled Council Meeting Attachment 7.3.8

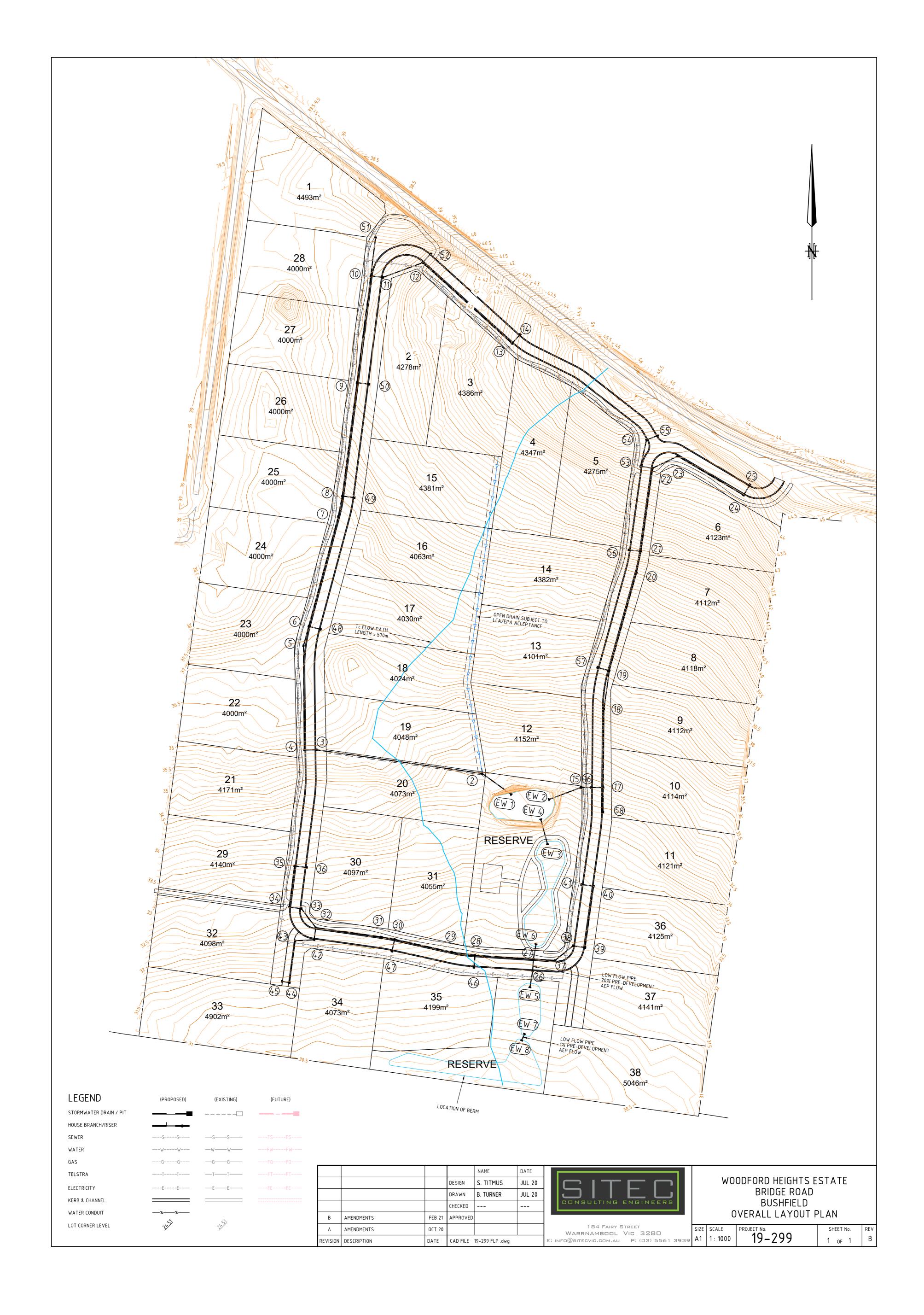
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Attachment B

Layout Plan

Warrnambool City Council
Agenda for Scheduled Council Meeting Attachment 7.3.8



Attachment C

Time of Concentration Calculations



Stormwater Predevelopment Flow Computations

20% AEP Pre-Development Flow

Project: Woodford Heights Estate

Job No: 19-299

Pre-development flow (20% AEP)

Determine Time of concerntration

$tc=6.94(L\times FR)^{0.6}/I^{0.4}\times S^{0.3}$

length of flow path (L)= 570 mRetardence Factor (F_R)= 0.1 (between 0.05-0.2 as per Vicroads drainage design table 7.4.5.3)Intensity (I) = 17.33 mm/hrHigh RL = 45.8 Low RL = 30.1 Fall = 15.7 Slope (S) = 0.0275439 (fall/ length)

Time of Concentration (T_c) 73.69 mins

Latitude -38.3259 Longitude 142.4929 Date 19/02/2021





Stormwater Predevelopment Flow Computations

1% AEP Pre-Development Flow

Project: Woodford Heights Estate

Job No: 19-299

Pre-development flow (1% AEP)

Determine Time of concerntration

$tc=6.94(L\times FR)^{0.6}/I^{0.4}\times S^{0.3}$

length of flow path (L)= 570 mRetardence Factor (F_R)= 0.1 (between 0.05-0.2 as per Vicroads drainage design table 7.4.5.3)Intensity (I) = 49.84 mm/hrHigh RL = 45.8 Low RL = 30.1 Fall = 15.7 Slope (S) = 0.0275439 (fall/ length)

Time of Concentration (T_c) 48.29 mins

Latitude -38.3259 Longitude 142.4929 Date 19/02/2021



Attachment D

Bushfield Rainfall Data (2016 IFDs)

Copyright Commonwealth of Australia 2016 Bureau of Meteorology (ABN 92 637 533 532)

IFD Design Rainfall Intensity (mm/h)

Issued: 19-Feb-21

Location Label:

Requested Latitude -38.326 Longitude 142.493 Nearest gri Latitude 38.3375 (S) Longitude 142.4875 (E)

Annual Exceedance Probability (AEP)								
Duration	Duration in min	63.20%	50%	20%	10%	5%	2%	1%
1 min	1	72.6	85.5	129	161	195	243	283
2 min	2	62.1	72.5	107	132	158	190	213
3 min	3	55.3	64.7	95.9	119	142	172	195
4 min	4	50.2	58.8	87.7	109	131	160	183
5 min	5	46	54.1	81.1	101	121	150	173
10 min	10	33.5	39.5	59.8	74.9	90.8	114	134
15 min	15	27	31.8	48.2	60.4	73.4	92.5	109
20 min	20	22.8	26.9	40.7	51	61.9	78	91.5
25 min	25	20	23.5	35.4	44.4	53.9	67.7	79.2
30 min	30	17.9	21	31.6	39.5	47.9	59.9	70
45 min	45	13.8	16.2	24.2	30.1	36.4	45.2	52.5
1 hour	60	11.5	13.4	19.9	24.7	29.8	36.8	42.5
1.5 hour	90	8.84	10.3	15.1	18.7	22.4	27.4	31.5
2 hour	120	7.33	8.51	12.4	15.3	18.3	22.3	25.6
3 hour	180	5.64	6.53	9.46	11.6	13.8	16.8	19.3
4.5 hour	270	4.34	5.01	7.22	8.81	10.4	12.8	14.7
6 hour	360	3.61	4.15	5.96	7.27	8.61	10.6	12.2
9 hour	540	2.77	3.18	4.55	5.54	6.58	8.13	9.44
12 hour	720	2.3	2.63	3.74	4.57	5.44	6.75	7.88
18 hour	1080	1.76	2	2.83	3.46	4.14	5.18	6.08
24 hour	1440	1.45	1.64	2.31	2.83	3.4	4.26	5.01
30 hour	1800	1.25	1.4	1.96	2.41	2.9	3.63	4.28
36 hour	2160	1.1	1.23	1.71	2.1	2.54	3.18	3.74
48 hour	2880	0.898	1	1.38	1.69	2.04	2.55	2.99
72 hour	4320	0.674	0.744	1.01	1.23	1.48	1.82	2.12
96 hour	5760	0.55	0.604	0.804	0.971	1.16	1.41	1.63
120 hour	7200	0.471	0.516	0.678	0.809	0.956	1.15	1.32
144 hour	8640	0.416	0.455	0.592	0.698	0.813	0.971	1.1
168 hour	10080	0.376	0.412	0.53	0.617	0.708	0.84	0.951

Attachment E

Storage Calculations



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Stormwater Detention - Boyds Formula 20% AEP

Catchment

Project: Woodford Heights Estate

Job No: 19-299

IFD Region= Bushfield

Effective Catchment Area = ∑CA =

8.964 ha

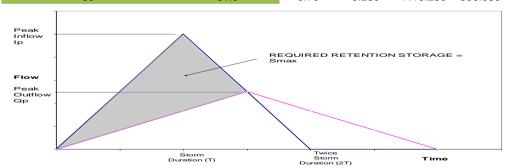
Restricted outflow requirement =

0.289 m³/s

Storage requirement is highest value of S $_{max}$ calculated in the table below Critical storm duration is the storm duration when S $_{max}$ occurs

Continue table until a clear Smax is calculated

Continue table until a clear contant o calculated							
Storm Duration	20% AEP	I_p	Q_p	V_1	S_{max}		
(min)	Intensity (mm/hr)	(m³/s)	(m³/s)	(m³)	(m³)		
5	81.1	2.02	0.289	605.803	519.103		
10	49.8	1.24	0.289	743.995	570.595		
20	40.7	1.01	0.289	1216.089	869.2889		
25	35.4	0.88	0.289	1322.161	888.661		
26	34.6	0.86	0.289	1343.972	893.132		
27	33.8	0.84	0.289	1363.394	895.214		
28	33	0.82	0.289	1380.425	894.9052		
29	32.3	0.80	0.289	1399.399	896.539		
30	31.6	0.79	0.289	1416.280	896.080		



$$S_{\text{max}} = V_1 (1 - Q_p/I_p)$$

 S_{max} = Maximum Volume of temporary Storage (m 3)

 $V_1 = Volume of inflow flood (m^3)$

 I_p = Peak discharge of inflow hydrograph (m³/s)

 Q_p = Peak discharge of outflow hydrograph (m³/s)



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Stormwater Detention - Boyds Formula

1% AEP

Catchment

Project: Woodford Heights Estate

Job No: 19-299

IFD Region= Bushfield

Effective Catchment Area = $\sum CA =$

8.964 ha

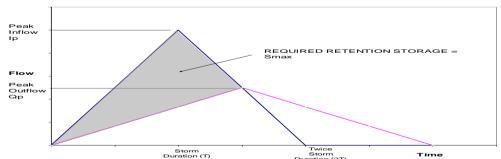
Restricted outflow requirement =

0.8319 m³/s

Storage requirement is highest value of S $_{max}$ calculated in the table below Critical storm duration is the storm duration when S $_{max}$ occurs

Continue table until a clear Smax is calculated

Storm Duration	1% AEP	I _p	Q_p	V_1	S_{max}
(min)	Intensity (mm/hr)	(m³/s)	(m³/s)	(m³)	(m³)
5	173	4.31	0.832	1292.281	1042.711
10	134	3.34	0.832	2001.915	1502.775
15	109	2.71	0.832	2442.636	1693.926
18	97.6	2.43	0.832	2624.601	1726.149
19	94.5	2.35	0.832	2682.417	1734.051
20	91.5	2.28	0.832	2733.959	1735.679
21	88.7	2.21	0.832	2782.812	1734.618
22	86.1	2.14	0.832	2829.872	1731.764
23	83.7	2.08	0.832	2876.035	1728.013



$$S_{\text{max}} = V_1 (1 - Q_p/I_p)$$

 S_{max} = Maximum Volume of temporary Storage (m 3)

 $V_1 = Volume of inflow flood (m^3)$

 I_p = Peak discharge of inflow hydrograph (m³/s)

 Q_p = Peak discharge of outflow hydrograph (m³/s)

Attachment F

Staging Plan

Warrnambool City Council
Agenda for Scheduled Council Meeting Attachment 7.3.8



Warrnambool City Council
Agenda for Scheduled Council Meeting Attachment 7.3.9

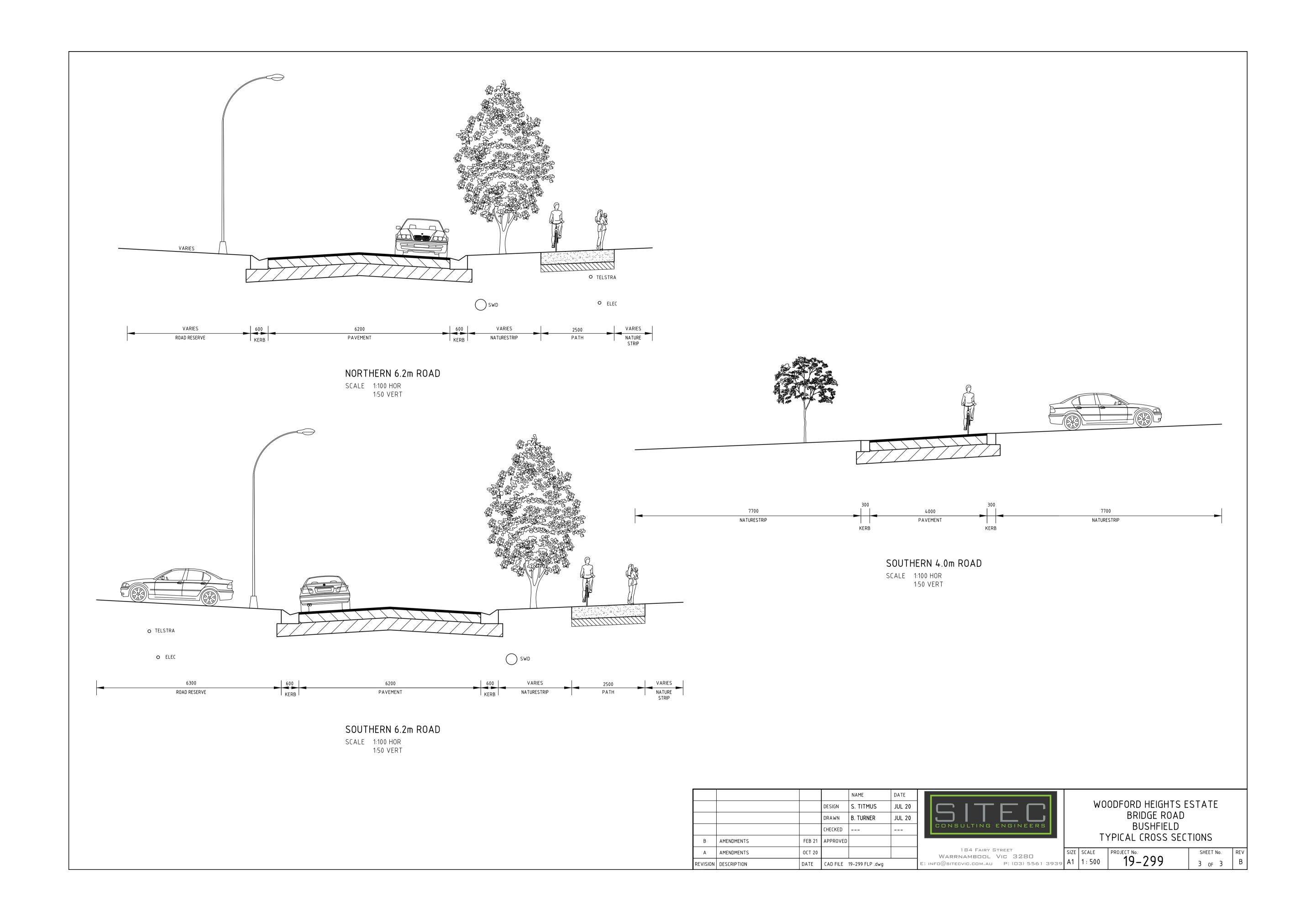
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Warrnambool City Council
Agenda for Scheduled Council Meeting Attachment 7.3.9

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PROPOSED RESIDENTIAL SUBDIVISION 119 BRIDGE ROAD, BUSHFIELD

Transport Impact Assessment Report





DOCUMENT CONTROL

Date: 01/09/20

Filename: 200901-TIAR-119 Bridge Rd

Our Ref: K0180

Author: Drew Matthews

CONTACT

ESR Transport Planning Pty Ltd ABN 86 128 037 429 1/34A Doveton Street North, Ballarat VIC 3350 P: 0427 044 324 E: drewm@esrtp.com.au www.esrtp.com.au

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1 Introduction

1.1 Overview

A Development Plan has been prepared for a proposed residential subdivision located at 119 Bridge Road, Bushfield. ESR Transport Planning has been engaged to assess relevant transport implications of the Development Plan.

1.2 Scope of This Report

This report documents a transport impact assessment which investigates the following:

- Existing transport conditions in the vicinity of the site.
- Statutory transport planning requirements.
- Traffic movements generated by the proposed land use.
- · Site access arrangements.
- Anticipated impacts on the surrounding road network.

1.3 Referenced Information

- An inspection of the site and surrounds March 2020.
- Austroads Traffic Management and Road Design Guides (various as noted in this report).
- Institute of Transportation Engineers (ITE), 2012, 9th Edition, Trip Generation Manual.
- Local Government Infrastructure Design Association, 2019, Infrastructure Design Manual.
- Myers Planning Group, July 2020, Woodfields Estate Development Plan.
- Roads and Traffic Authority (RTA), 2002, Guide to Traffic Generating Developments.
- Sitec, Jul. 2020, Bushfield Estate Bridge Road Bushfield Layout Plan.
- Transport NSW, 2013, Guide to Traffic Generating Developments Updated Traffic Surveys.
- Trips Database Bureau (TDB), 2018, Trips Database.
- VicPlan maps and aerial photography (www.mapshare.vic.gov.au/vicplan).
- VicRoads traffic volume and Crashstats accident data (www.data.vic.gov.au).
- Warrnambool City Council, 2017, Register of Public Roads.
- Warrnambool Planning Scheme.

1.4 Terms

•	AUL	auxiliary left turn treatment	•	m	metres
•	Council	Warrnambool City Council	•	RRV	Regional Roads Victoria
•	CHR	channelised right turn treatment	•	vph	vehicle movements per hour
•	IDM	Infrastructure Design Manual	•	vpd	vehicle movements per day
•	kph	kilometres per hour			



2 Existing Conditions

2.1 Site

The site is located south of Bridge Road and east of Brodies Lane. It is currently used as farming land and contains a residential dwelling near its northern boundary which has driveway access from Bridge Road.

Two planning zones apply to the property, a Low Density Residential Zone (LDRZ) with a Development Plan Overlay (DPO 2) for the majority of the site area and a Rural Living Zone (RLZ) with a Development Plan Overlay (DPO 3) for part of the southern area of the site.

Land to the west is also used as farming land with the same planning zones. Land to the south is farming land subject to a Farming Zone (FZ), and land to the east contains residential lots (LDRZ). On the opposite side of Bridge Road are rural living residential properties (RLZ).

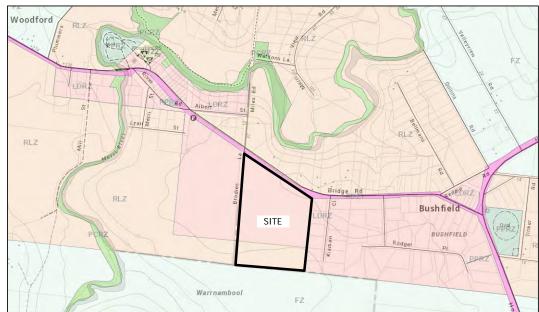


Figure 2.1 Subject Site and Surrounds

Image Source: VicPlan

2.2 Road Network

<u>Bridge Road</u> is classified as an Arterial Road (Road Zone Category 1, managed by Regional Roads Victoria (RRV)). It's pavement of approximately 8.5m width accommodates a traffic lane in each direction and a 60kph speed limit applies.

Approximately 80m southeast of the site's driveway is a crest. To the southeast and east of this crest, the roadway is relatively flat and curves. Northwest of the crest, the roadway slopes down, flattening near Brodies Lane, followed by a very slight crest a short distance northwest of Brodies Lane. The centreline changes from solid to broken in accordance with overtaking sight distance restrictions from these alignment and elevation changes.



The roadside is grassed and electricity poles and a shared path (pedestrian & cyclist) are located along the northern side. A guard rail is provided along the northern side between carriageway and shared path for a length of approximately 150m northwest from the site's driveway.

Figure 2.2 Bridge Road (facing southeast, site on right)



Brodies Lane is classified as an Access Road with no posted speed limit. It extends south from Bridge Road for approximately 300m to a dwelling access. In this section it has a paved carriageway of approximately 3.5m width and grassed roadside areas. Further south of the dwelling access the road reserve accommodates a farm track.

Figure 2.3 Brodies Lane (facing south from Bridge Road, site on left)





2.3 Traffic Volumes

VicRoads traffic volumes databases¹ set out the following regarding traffic volumes along Bridge Road.

- Weekday daily volumes vary between approximately 2,000 vpd and 2,300 vpd, with weekend volumes in the order of 1,600 vpd.
- Peak hour volumes are in the order of 220 vph (weekday average) to 257 (highest peak) with relatively even distribution between westbound and eastbound traffic.
- Truck traffic represents approximately 17% of total traffic midweek.

Based on the land use accessed from Brodies Lane, it likely carries minimal traffic, such as 10 vpd.

2.4 Accident History

A review of road accidents in the site's vicinity has been undertaken using VicRoads Crashstats database² which includes accidents reported to police which resulted in personal injury within the last 5 years. The review investigated Bridge Road (Merri River to Hopkins Hwy) and Brodies Lane. In that time, no accidents were recorded providing no evidence of a recurrent accident pattern in the site's vicinity.

2.5 Public Transport, Walking & Cycling

Route bus services do not operate nearby.

A shared path (pedestrian & cyclist) extends along the northern side of Bridge Road. Otherwise, nearby roads generally do not have footpath provisions.

Nearby roadways generally do not incorporate on-road cycling lanes.

¹ Traffic Volumes for Freeways and Arterial Roads and Typical Hourly Volume (between Warrnambool-Caramut Rd & Warrnambool-Mortlake Rd), source: www.data.vic.gov.au.

² VicRoads Crashstats Last 5 Years database (www.data.vic.gov.au).



3 Development Plan

A Development Plan defines proposed development of the site. It envisages 2 phases of development planning, the first associated with development of the site area zoned as Low Density Residential, and the second associated with the balance of the site zoned as Rural Living with an associated planning scheme amendment.

The Development Plan sets out a total site yield of 38 residential lots (with 28 lots within the first phase of development).

A supporting internal road network forms a loop throughout the site and has a connection to Bridge Road near the site's eastern boundary. There are also 2 cul-de-sac roadways of approximately 40m length in the southern section of the site.

Internal roadways will predominately have 6.2m wide pavements (bound by 0.6m kerbing, i.e. effective carriageway width of 6.8m). The 2 cul-de-sac roadways will have 4.0m wide pavements (bound by 0.3m kerbing).

A 2.5m shared path (pedestrian & cyclist) is proposed along one side of the internal loop roads. The shared path is shown extending to Bridge Road at the site access intersection and near the site's northwest. A connection through to Brodies Lane in the south of the site is also proposed.



4 Traffic Assessment

4.1 Traffic Generation

Guidance on the likely traffic generating characteristics of the proposed development has been sought from TDB 2018, Transport NSW 2013, ITE 2012 and RTA 2002. These sources indicate that low density residential land use typically generates traffic as follows:

- AM peak hour, 0.7-0.8 vph / lot, 25% entering, 75% exiting.
- PM peak hour, 0.8-1.1 vph / lot, 65% entering, 35% exiting.
- Daily, 7.5-10 vpd / lot, 50% entering, 50% exiting.

Adopting traffic generation rates approximately midway within the ranges above, full occupation of the proposed subdivision is expected to generate site traffic movements in the AM peak hour, PM peak hour and daily time periods in the order of 29, 36 and 333 vehicle movements, respectively.

4.2 Traffic Distribution

The direction in which vehicles travel to and from the site will be influenced by a variety of factors including the site's location, characteristics of the surrounding road network and trip purpose.

After reviewing these factors, it is expected that development traffic will have a bias to / from Bridge Road east, compared to northwest, such as a 60-70% majority.

4.3 Traffic Volume Increase

Based on the analysis in Sections 4.1 and 4.2 above, additional traffic along Bridge Road due to the site's residential development will be in the order of 200-233 vpd east of the site and 100-133 vpd northwest of the site.

4.4 Ability of Nearby Road Network to Absorb Development Traffic

Existing weekday traffic volumes along Bridge Road vary between approximately 2,000 vpd and 2,300 vpd.

As a general rule, roadways with 2 traffic lanes typically experience high delays during commuter peak periods when daily traffic volumes are in the vicinity of 15,000 - 20,000 vpd³.

Clearly, Bridge Road has ample spare capacity to accommodate the relatively minor volume of additional traffic generated by the proposed development.

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³ Interrupted flow capacity = 900 vph lane (Austroads Guide to Traffic Management Part 3), with 10% peak to daily ratio = 18,000 vpd.



4.5 Site Access Intersection

Location

The proposed site access location has been adopted following advice from ESR Transport Planning regarding suitable locations to avoid crests impeding on safe intersection sight distances.

Sight Distance

For a 60kph design speed, Austroads Guide to Road Design specifies the following minimum sight distances⁴: ASD (Approach Sight Distance) = 73m, MGSD (Minimum Gap Sight Distance) = 83, SISD (Safe Intersection Sight Distance) = 123m.

Field and desktop measurements indicate that a SISD in the order of 145m will be available between vehicles at the give-way position and cars emerging over the crest to the northwest.

Sight distances to / from the east will be far greater, such as several hundred metres.

Layout

In the critical PM peak hour, traffic volumes entering the site are expected to be in the order of 16 vph left in and 9 vph right in. Given such low traffic volumes, together with existing low volumes along Bridge Road, the site access intersection is expected to operate well within available capacity without turning lanes.

Intersection turning lanes are provided at intersections for reasons including increasing capacity and safety benefits (e.g. reducing risk of through traffic rear ending turning traffic). Decisions regarding when turning lanes should be provided are typically based on cost versus benefit.

Austroads Guide to Traffic Management (Part 6) includes warrants for preferred minimum intersection turn treatments, based on 2006 analysis of benefit cost relationships focussing on road safety outcomes. These warrants give some quantitative guidance around decisions regarding turn lane provisions. Figure 4.1 sets out an assessment against these warrants.

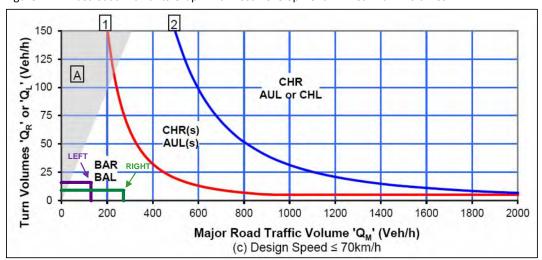


Figure 4.1 Austroads Warrants Graph with Post Development PM Peak Turn Volumes

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⁴ Coefficient of deceleration 0.36 (car on wet pavement), 2.0 second reaction time, 3.0 observation time, 5.0 second acceptance gap, flat grade, Normal Design Domain (NDD).



Figure 4.1 indicates that under post development traffic volumes, warrants for auxiliary or channelised turn lanes are not met. Figure 4.1 should be used for guidance only and other relevant considerations include the following:

- Bridge Road has a relatively high proportion of heavy vehicles.
- There is a crest nearby.
- Turn lanes are generally not provided along Bridge Road (only 1 exception being a right turn lane into Victoria Street).
- Bridge Road traffic volumes may increase in future as development in the local area occurs.
- The site's development incorporates in excess of 1km of new road construction, meaning a short length of Bridge Road widening may be considered a relatively small increase in road construction scope.
- Widening to provide a right turn lane would enable provision of a central pedestrian refuge (within painted median on the opposite side of the intersection).

Responsible Authorities sometimes require upgrade of the nearby road network as part of conditional approval of development proposals. These are typically mitigating works the Responsible Authority considers necessary as a result of the proposed development. Important considerations are nexus (the correlation between the proposed development and the project need) and equity (fairness, or that a developments share of benefit / use matches its contribution).

It is anticipated that upon review of this report, Regional Roads Victoria (RRV) will specify any requirements for intersection turn lanes. The provision of a short auxiliary left turn lane (AUL(s)) and a short channelised right turn lane (CHR(s)) are considered the highest order treatment that could reasonably be imposed upon the developer.

A concept plan has been prepared showing a potential layout of AUL(s) and CHR(s) treatments at the proposed intersection location, refer Appendix A.

4.6 Traffic Impact Summary

Given all of the above, the proposed subdivision is not expected to compromise the safe and efficient operation of the surrounding road network.



5 Transport Network Design Review

Preamble

The proposed transport network has been reviewed to assess its ability to accommodate the safe and efficient movement of all road users. The Warrnambool Planning Scheme and Infrastructure Design Manual (IDM) have been referred to as they provide specific guidance for new residential subdivisions. Other guideline documents include the Austroads road design publications.

Road Layout, Hierarchy and Cross Sections

The proposed road network layout will be easily navigated and provides convenient access to all lots.

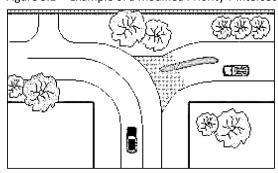
The internal roads forming a loop and a connection with Bridge Road could be classified as Access Roads. The proposed 6.2m width pavement is consistent with IDM specification for a Rural Living Access Road.

Both cul-de-sac roadways in the south of the site provide access to either 2 or 3 lots and are approximately 40m in length. Therefore, they will function as low traffic volume, low vehicle speed Access Lanes or Access Places. Short lengths of a single vehicle width carriageway is considered suitable for such roadway types.

Internal Intersections

A total of 3 internal intersections are shown in the Development Plan, all are T intersections and all are likely to experience highest traffic activity around the 90 degree corner, rather than straight through. Accordingly, it would be appropriate that a modified priority T intersection be provided, as per the example in Figure 5.1.

Figure 5.1 Example of a Modified Priority T Intersection



Walking & Cycling

The Development Plan incorporates walking and cycling connectivity throughout the subdivision and to Bridge Road in both the northwest and southeast directions, together with a connection to Brodies Lane and potential future residential land in that direction.

At the northwest Bridge Road connection, it should be noted that a guard rail exists on the northern side of Bridge Road. For a suitable road crossing location, the path will need to extend further northwest along Bridge Road as shown in Figure 5.2.



Figure 5.2 Recommended Shared Path Extension Northwest to Connect with Bridge Road Path

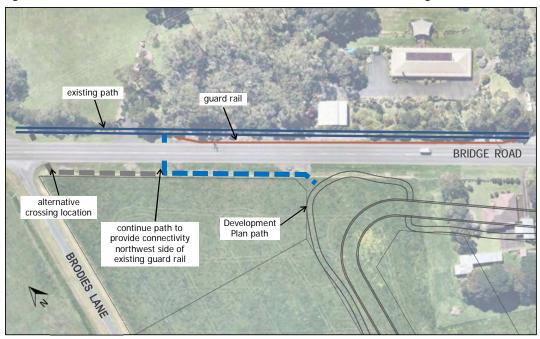


Image Source: Nearmap

The short cul-de-sac Access Lanes / Places can function as low speed shared carriageways (shared vehicular, cyclist and pedestrian use).

As noted above, should a right turn lane be provided at the Bridge Road site access intersection, it would be prudent to incorporate a central pedestrian refuge.

Large Vehicle Access

The internal Access Roads forming a loop have a geometry to cater for medium rigid trucks, such as waste collection and fire trucks, without any need for reversing movements.

It is anticipated that bins from lots within the cul-de-sac Access Lanes / Places will need to be placed kerbside of the looping Access Road for collection.

Summary

Given all of the above, the proposed Development Plan is considered consistent with the objectives of the Planning Scheme given it provides for the direct, safe and convenient movement for all road users.



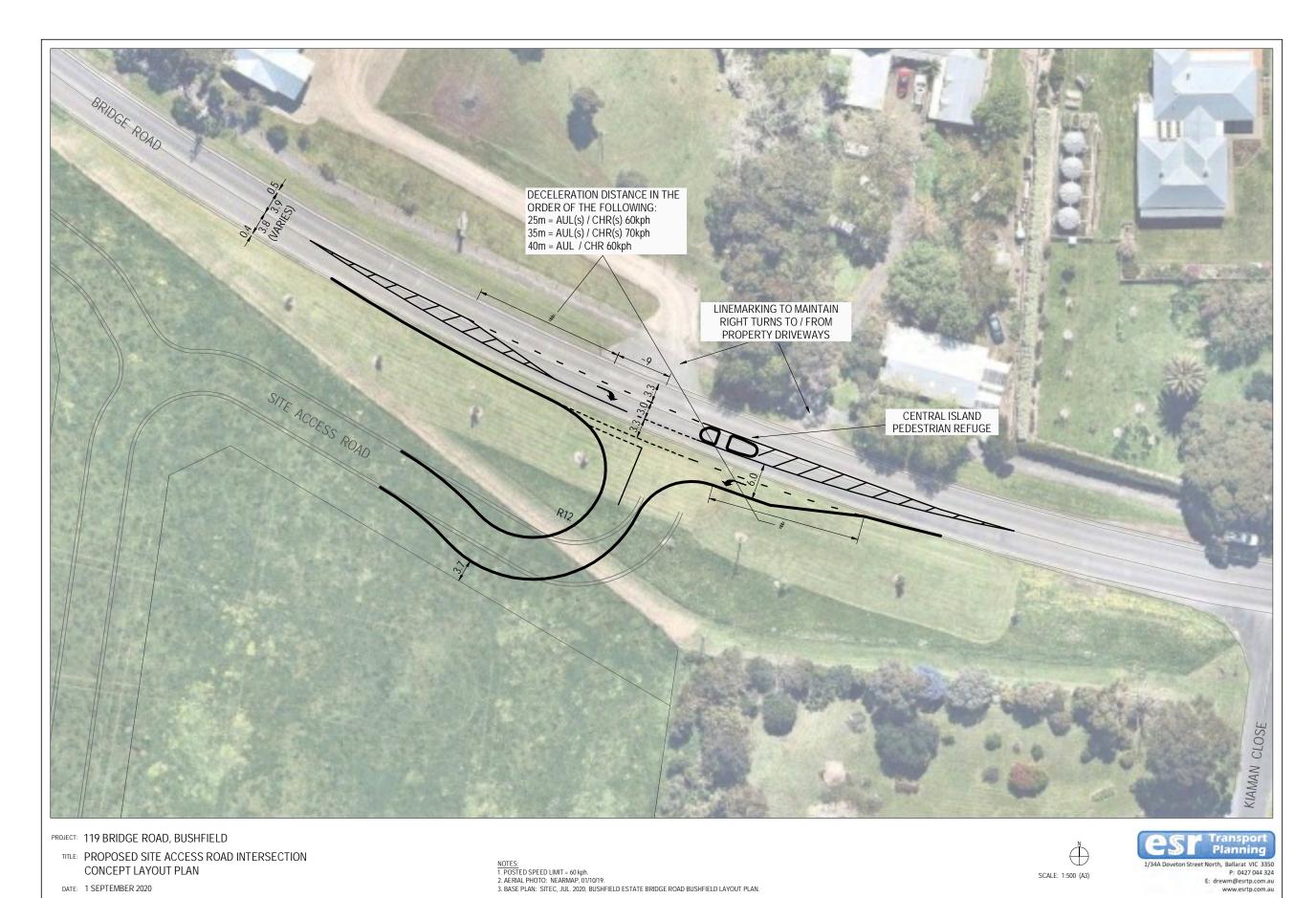
6 Conclusions

The following conclusions have been made within this report:

- The proposed subdivision is expected to generate traffic movements in the AM peak hour, PM peak hour and daily time periods in the order of 29, 36 and 333 vehicle movements, respectively.
- 2. The proposed subdivision is not expected to compromise the safe and efficient operation of the surrounding road network
- 3. The proposed subdivision will provide direct, safe and convenient movement for road users.



Appendix A Intersection Layout Plan





Cultural Heritage Management Plan

119 Bridge Road, Bushfield, Victoria Residential Subdivision

Plan number: 17142



SPONSOR: HERITAGE ADVISOR: AUTHOR: DATE: BTH Pty Ltd (ABN 90 162 121 637) Annette Xiberras Edward East 06/11/2020



U.C.A. PTY LTD CULTURAL HERITAGE PLANNERS

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Title Page

Cultural Heritage Management Plan Number

119 Bridge Road, Bushfield, Victoria

Residential Subdivision

Plan number: 17142

Activity size: Medium
Assessment: Complex

Sponsor: BTH Pty Ltd (ABN 90 162 121 637)

Heritage advisor: Annette Xiberras

 Author:
 Edward East

 Date:
 06/11/2020

Aboriginal Cultural Heritage in the Activity Area: None.

Front page photo shows south east facing view of excavations close to south border of activity area (photo: Edward East 11/06/2020).

Acknowledgements

The author would like to thank the following people and organisations for assisting with the development of this Cultural Heritage Management Plan:

BTH PTY LTD

Andrew Austen.

Myers Planning Group

Dan Perch

Eastern Maar Aboriginal Corporation

Craig Black Edwards

Stephen Chatfield

Jryran Chatfield

Hayden Harradine

Mundara Clark



Aboriginal Heritage Act 2006 Section 65

Cultural Heritage Management Plan - Notice of Approval

CHMP Name: 119 Bridge Road, Bushfield, Victoria, Residential Subdivision CHMP Number: 17142 Sponsor: BTH Pty Ltd ABN/ACN: 90 162 121 637 Heritage Advisor(s): Annette Xiberras Author(s): Edward East (U.C.A. Pty Ltd Cultural Heritage Planners) Cover date: 6 November 2020 Pages: ii-viii, 1-95

TO BE COMPLETED BY THE SECRETARY (OR DELEGATE)	Yes	No
I have considered the Evaluation Report for this CHMP and:		
I am satisfied that the CHMP has been prepared in accordance with the standards prescribed for the purposes of section 53 of the Aboriginal Heritage Act 2006.	/,	
I am satisfied that the CHMP adequately addresses the matters set out in section 61.	/ ,	
In considering this application, I consulted with and considered the views of Aboriginal persons or bodies I considered relevant to the application.		
I have given proper consideration to any relevant human rights		

I, Harry Webber, Director Heritage Services Aboriginal Victoria, acting under authority delegated to me by the Secretary, Department of Premier and Cabinet, and pursuant to section 65(2) of the Aboriginal Heritage Act 2006 hereography approve refuse to approve this cultural heritage management plan:

Signed:

HARRY WEBBER

Dated: 16 Navember 2020

- This notice of approval should be inserted after the title page and bound with the body of the management plan.

 The conditions in this management plan are now compliance requirements. Officers from the Department of Premier and Cabinet may attend the subject land to monitor compliance with the conditions.

OFFICIAL



Executive Summary

Compliance requirements are set out in Part 1 of the Cultural Heritage Management Plan. This cultural heritage management plan (CHMP) has been prepared in accordance with Part 4 of the Victorian Aboriginal Heritage Act 2006 (Vic) and as required by the Aboriginal Heritage Regulations 2018 (Vic).

Location of the Activity Area

The activity area is located at 119 Bridge Road, Bushfield, Victoria. The activity area is located approximately 257 km south-west of Melbourne CBD. The activity area is bordered to the north by Bridge Road, to the west and east and south by agricultural paddocks. The activity area is located within the LGA Warrnambool City Council (Map 1). The activity area is 202,424m2 in area (Maps 1 and 2) and is currently zoned as Low-Density Residential Zone and as Rural Living Zone (RLZ) as per the Warrnambool City Council Planning Scheme.

The Sponsor

The Sponsor of the CHMP is BTH Pty Ltd (ABN 90 162 121 637). The Sponsors representative is Andrew Austen.

The Activity

The Sponsor intends to construct a residential housing subdivision at 119 Bridge Road, Bushfield, Victoria.

The Assessment Undertaken & Results

The methodology was developed to meet the requirements for a CHMP. This comprised:

- A desktop assessment, which involved: research and analysis of the known Aboriginal archaeology of
 the region and local setting; a description of the ethno-history applicable to the activity area; a
 description of the environment, geology and geomorphology of the activity area and its surrounding
 landscape; and a review of the land use history of the activity area, and implications for the cultural
 heritage sensitivity of the activity area.
- standard assessment of the activity area, which comprised a pedestrian survey of the activity area. No new surface Aboriginal cultural material as located.
- A complex assessment of the activity area, which comprised the excavation of four 1 x 1 m stratigraphic
 test pits (TP), twenty four 50 x 50 cm shovel test pits (STPs), and nine 2x1m machine test pits (MPs).
 No subsurface Aboriginal cultural material was located.



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Part 1: Cultural Heritage Management Conditions



1 CULTURAL HERITAGE MANAGEMENT CONDITIONS

These Management Conditions become compliance requirements once the CHMP is approved. Failure to comply with a condition is an offence under the *Aboriginal Heritage Act 2006* (Victoria).

1.1 Management Condition 1: Cultural Heritage Management Plan to be available onsite

A hard copy of this approved Cultural Heritage Management Plan (management plan) must be held onsite at all times within the on-site construction office or with the site manager if an office is not provided, where it will remain readily available to all construction staff.

1.2 Management Condition 1: All works undertaken as part of the activity must stay within the activity area

Any works associated with the current activity, a housing subdivision, must only be undertaken within the prescribed activity area covered by CHMP 17142 (Map 2). No works associated with the current activity area.



2 ABORIGINAL CULTURAL HERITAGE MANAGEMENT CONTINGENCIES

Below are listed contingencies for the management of Aboriginal cultural heritage that may be required during the proposed activity. These matters are reactive measures that must be evoked if/when particular circumstances arise.

2.1 Approval Required for Changes to the Proposed Activity

Should any changes be necessary to the activity in terms of the nature and extent that the ground is to be affected, the Sponsor must obtain statutory approval and may be required to submit a new CHMP as per the *Aboriginal Heritage Act 2006* and *Aboriginal Heritage Regulations 2018*. However, it should be noted that amendments to this CHMP can be sought, as per s.45A of the *Aboriginal Heritage Act 2006* and Regulation 69 and Schedule 3 of the *Aboriginal Heritage Regulations 2018*. Contingency.

2.2 Protocol for handling sensitive information

Before, during and after the activity with the exception of publicly available information, there shall be no communication or public release of information concerning Aboriginal cultural heritage without the written permission of the RAP. No onsite photographs or information concerning Aboriginal cultural heritage is to be circulated to the media or via social media without the written permission of the RAP. Contingency.

2.3 Communication

Before, during and after the activity the Sponsor and/or Sponsors Delegate and Site Supervisor and any relevant personnel involved with supervision of works for the activity must read Part I of the approved CHMP and be aware of the legal conditions and contingency plans concerning Aboriginal cultural heritage within the activity area. The Sponsor and Site Supervisor or other relevant personnel must be responsible for implementing any conditions contained within the CHMP. Where possible, the Sponsor and the Registered Aboriginal Party shall ensure that all communication and correspondence is responded to within ten working days. The Sponsor must notify the RAP when the activity is to commence, no less than 1 week prior to commencing. The Sponsor must also notify the RAP when the activity has been completed. Contingency.

Contact details for the Sponsor Delegate and the RAP are as follows:

Sponsors Delegate:

Dan Pech, Senior Planning Consultant, Myers Planning Group

Phone: 0436 016 612 Email: dan@myersplanningroup.com.au

RAP:

Craig Edwards, Cultural Heritage and NRM Manager, Eastern Maar Aboriginal Corporation

Phone: 0475 310 509 Email: craig.edwards@easternmaar.com.au



2.4 Unexpected Discovery of Aboriginal Cultural Heritage Material

The Sponsor must at all times avoid unlawful harm to Aboriginal cultural heritage. The following steps must be taken by the Sponsor as a minimum if suspected previously unrecorded Aboriginal cultural heritage material is identified during the activity:

- All works must cease and temporary safety webbing or fencing erected without ground disturbance at
 a distance of 10 metres (buffer zone) around the location of the suspected Aboriginal cultural heritage,
 with signage displayed clearly identifying the location as a 'No- Go-Zone'. The suspected Aboriginal
 cultural heritage must not be removed. Work may continue in other parts of the Activity Area outside
 of the buffer zone.
- 2. A suitably qualified Heritage Advisor and the RAP must be notified of the discovery by the Sponsor or site supervisor within two working days.
- A Heritage Advisor and a RAP representative must inspect the reported discovery as soon as possible
 to determine if it is Aboriginal cultural heritage. If the reported discovery is determined not to be
 Aboriginal cultural heritage by the Heritage Advisor and the RAP representative, the activity may
 recommence.
- 4. If the reported discovery is confirmed to be Aboriginal cultural heritage by the Heritage Advisor and the RAP representative, a decision or condition as to the management of the Aboriginal cultural heritage must be made within three working days by the Heritage Advisor in consultation with the Sponsor and RAP representative.
- 5. S.61 matters relating to harm avoidance or minimisation measures must be explored by the Heritage Advisor in consultation with the RAP and the Sponsor. If agreement is not reached between the RAP and the Sponsor in regard to the management and protection of the Aboriginal cultural heritage, this will be classed as a dispute. The procedure for resolution of any disputes between the Sponsor and the RAP in relation to the implementation of the CHMP or the conduct of the activity must be followed.
- 6. If harm to the Aboriginal cultural heritage cannot be avoided, then a program of salvage must be conducted by a suitably experienced and qualified archaeologist prior to the activity proceeding, with the following conditions:
 - a) The methodology and extent of any salvage excavation must be agreed to by the RAP.
 - b) The RAP must be invited to participate in the salvage program.
 - c) Any archaeological salvage collection, excavation, or sub-surface testing must be:
- i. culturally appropriate,
- ii. using standard archaeological equipment including a GPS unit to record position and extent of Aboriginal cultural heritage, and archaeological excavations,
- iii. consider the significance of the Aboriginal cultural heritage in relation to the known archaeological and cultural heritage significance of existing sites in the region surrounding the Activity Area, and carried out in accordance with best archaeological practice, AV guidelines and standards.
- An archaeological report detailing the methodology, analyses, interpretation, and results of any
 archaeological recovery, testing and dating must be prepared and provided to the Sponsor, the RAP and
 AV.
- Agreement as to the process to be followed to manage the Aboriginal cultural heritage and how to
 proceed with activity must be made within a period not exceeding five working days by RAP, the
 Heritage Advisor and the Sponsor.



- AV must be notified by the Heritage Advisor of the discovery of Aboriginal cultural heritage through the submission of the appropriate Victorian Aboriginal Heritage Registry forms and (if applicable) a salvage excavation report.
- 10. The RAP may notify the Heritage Advisor, who may then advise the Sponsor or the Site Supervisor when any suspended activity works can proceed. In general, the activity may recommence:
- a) When the appropriate management and protective measures have been taken;
- b) Where the relevant Aboriginal cultural heritage records have been updated and/or completed;
- Where all parties agree there is no prudent or feasible course of action; or
- d) Upon reaching resolution of a dispute.

The Heritage Advisor, the Sponsor and the RAP must ensure that the above steps are followed, and that legal obligations and conditions are complied with at all times.

2.5 Management of Aboriginal cultural heritage material

It is the responsibility of the Heritage Advisor to ensure that all Aboriginal cultural heritage recovered from the activity area is fully documented, catalogued, bagged, and labelled (with details, reference to provenance and project), packaged and securely stored with copies of the catalogue and assessment documentation. The Aboriginal Victoria (AV) must be advised of this through completion and submission of relevant Victorian Aboriginal Heritage Register forms to the Heritage Registrar, AV, by the Heritage Advisor.

Once any scientific analysis of any cultural heritage has been completed, the Aboriginal objects and cultural heritage material recovered from the assessment, implementation, salvage, and activity phases must be returned to the RAP within six (6) months of the completion of the activity. The RAP must be the custodian of this material and may choose to rebury it in the activity area. If the RAP chooses to rebury the Aboriginal cultural heritage it must be done in accordance with the RAP's procedure for the Reburial of Aboriginal Cultural Heritage.

2.6 Notification in accordance with the Act of the Discovery of Aboriginal cultural heritage material

Clause 13(1) Schedule 2 of the Regulations requires that the CHMP contains a contingency plan for the notification, in accordance with the Act, of the discovery of Aboriginal cultural heritage during the carrying out of the activity.

In accordance with Section 24 of the *Aboriginal Heritage Act 2006* 'Reporting discovery of Aboriginal places and objects', if a person discovers an Aboriginal place or object; and the person knows that the place or object is an Aboriginal place or object the person must report the discovery to the Secretary as soon as practicable unless, at the time of making the discovery, the person had reasonable cause to believe that the Register contained a record of the place or object.

If a discovery of an Aboriginal place or object is made in the course of works being carried out on any land, the person in charge of the works is deemed for the purposes of Section 24 of the *Aboriginal Heritage Act* 2006 to be the person who discovered the place or object.

2.7 Unexpected Discovery of Human Remains

If any suspected human remains are found during any activity, **works must cease**. The Victorian Police and the State Coroner's Office should be notified immediately. If there are reasonable grounds to believe that the



suspected human remains are Aboriginal Ancestral Remains, the **Coronial Admissions and Enquiries** must be contacted on **1300 888 544**. Any such discovery at the activity area must follow these steps:

1. Discovery:

- a) If suspected human remains are discovered, all activity in the vicinity must stop; and,
- b) The remains must be left in place and protected from harm or damage.

2. Notification:

- a) Once suspected human skeletal remains have been found, the Coroner's Office and the
- b) Victoria Police must be notified immediately.
- If there is reasonable grounds to believe the remains are Aboriginal Ancestral Remains, the Coronial Admissions and Enquiries hotline must be immediately notified on 1300 888 544; and
- d) All details of the location and nature of the human remains must be provided to the relevant authorities.
- e) If it is confirmed by these authorities the discovered remains are Aboriginal Ancestral Remains, the person responsible for the activity must report the existence of them to the Victorian Aboriginal Heritage Council (the Council) in accordance with section 17 of the Act.
- f) Do not contact the media.
- g) Do not take any photographs of human remains without the express request of the
- h) Coroner's Office, Victoria Police or AV.
- i) Do not circulate information or photographs via social media.

3. Impact Mitigation or Salvage:

- The Council, after taking reasonable steps to consult with any Aboriginal person or body with an interest in the Aboriginal Ancestral Remains, will determine the appropriate course of actions required by section18(2)(b) of the Act;
- An appropriate impact mitigation or salvage strategy as determined by the Council must be implemented by the Sponsor.

4. Curation and further analysis:

 The treatment of salvaged Aboriginal Ancestral Remains must be in accordance with the direction of the Council.

5. Reburial:

- a) Any reburial site(s) must be fully documented by an experienced and qualified archaeologist, clearly marked and all details provided to AV.
- b) Appropriate management measures must be implemented to ensure the remains are not disturbed in the future.

2.8 Resolution of any disputes between the Sponsor and the RAP in relation to the implementation of the management plan or the conduct of the activity

Clause 13(1) Schedule 2 of the Regulations requires that the CHMP must contain a contingency plan for the resolution of any disputes between the Sponsor and relevant RAP in relation to the implementation of an approved CHMP or the conduct of the activity.



Disputes may arise at various stages of the activity. Procedures for dispute resolution aim to ensure that all parties are fully aware of their rights and obligations, that full and open communication between parties occurs and that those parties conduct themselves in good faith.

If a dispute arises that may affect the conduct of the activity, resolution between parties using the following dispute resolution procedure is recommended:

- 1. All disputes will be jointly investigated and documented by both the RAP and the Sponsor.
- Where a breach of the CHMP conditions is identified, the RAP and the Sponsor will agree to a suitably appropriate corrective method to remedy the breach by organising a meeting to attempt to resolve the dispute.
- 3. The issue/s in dispute must be clearly understood and stated by the authorised representatives of the RAP and Sponsor at the meeting.
- 4. If sought and agreed to by the RAP and Sponsor, third party mediation may be held during the meeting.
- 5. Any correction or remedial activities required must be:
 - a) recorded in writing and signed off by the authorised representatives of the RAP and Sponsor,
 - b) supervised by an authorised RAP representative, and
 - c) occur in accordance with the RAP representative's instructions.
- 6. The Sponsor, site supervisor, contractor and any relevant personnel will not undertake any such correction or remedial activities without receiving the written consent of the RAP.
- 7. The dispute resolution must be recorded in writing and signed by both parties.
- 8. The RAP will strive to minimise delays to work schedules while not compromising Aboriginal cultural heritage, places, or values.
- 9. Issues directly related to cultural heritage management will be handled through the following dispute resolution mechanism:
 - a) Authorised representatives of the RAP and the Sponsor will attempt to negotiate a resolution to any dispute related to the cultural heritage management of the Activity Area within two working days of a notice being received that a dispute between the parties is deemed to exist.
 - b) If the authorised representatives of the parties do not reach agreement, alternative representatives of both parties will meet to negotiate a resolution to an agreed schedule.

The dispute resolution process does not preclude any legal recourse open to the parties being taken but the parties agree the above resolution mechanism will be implemented before such recourse is made. For dispute resolution, the following persons will represent the parties:

Sponsors Delegate:

Dan Pech, Senior Planning Consultant, Myers Planning Group

Phone: 0436 016 612 Email: dan@myersplanningroup.com.au

RAP:

Craig Edwards, Cultural Heritage and NRM Manager, Eastern Maar Aboriginal Corporation

Phone: 0475 310 509 Email: craig.edwards@easternmaar.com.au



Any change in personnel appointed as authorised representatives in one party will be notified promptly to all parties.

2.9 Reviewing compliance with the Management Plan and mechanisms for remedying non-compliance

In order to ensure that there is compliance with the CHMP, a compliance checklist must be developed by the Heritage Advisor for use by the Sponsor (Table 1). The compliance checklist includes those matters addressed in the CHMP with which the Sponsor must comply. The compliance checklist should be used as a reference in the event that compliance with the plan is guestioned.

It is possible that cultural heritage material may be uncovered during the proposed works. In order to inform the Sponsor of their legal responsibilities regarding cultural heritage management, specific legislative requirements are provided below. In addition, a checklist referring to matters that must be complied with under the CHMP is included below (Table 1).

The Sponsor or nominated Sponsors Delegate is responsible for remedying non-compliance with this CHMP. In the event that the conditions or contingencies set out in this CHMP are not adhered to, all works must cease, and the RAP contacted immediately. A record of the breach must be documented, and immediate action taken to remedy the breach, under the direction of the RAP. The record of the breach must include the reasons for non-compliance. The Sponsor or nominated Sponsors Delegate must take immediate action to remedy non-compliance in accordance with the relevant condition or contingency. All acts of non-compliance must be reported to both the RAP and AV, which may result in an investigation by an Authorised Officer or Aboriginal Heritage Officer. A record of CHMP compliance must also be maintained by the Sponsor or nominated Sponsors Delegate at all times and must be available for inspection by either an Authorised Officer or Aboriginal Heritage Officer under the Act or any other representative of the RAP or the Secretary.

Table 1: CHMP 17142 Compliance Checklist.

Compliance Checklist	Check Box
a) Has an approved copy of this CHMP been kept on site for reference?	
b) Have any changes to the activity or the activity area occurred? If so, preparation of a new CHMP may be needed.	
c) Have all relevant peoples been informed of the:	
d) Presence of this CHMP	
e) Purpose of this CHMP	
f) Appropriate response to discovery of cultural heritage/human remains	
g) Results of non-compliance with this CHMP	
h) Have measures been followed to ensure that if cultural heritage material is uncovered, it is identified?	
Have compliance inspections been undertaken at least at the appropriate intervals?	
j) If cultural heritage is discovered, has construction been stopped in immediate vicinity (within 10m)?	



k) If cultural heritage is discovered, has a heritage advisor been contacted?	
I) If cultural heritage is discovered, has it been recorded by a heritage advisor, AV notified, and records submitted to the VAHR?	
 m) If in situ cultural heritage is discovered, has salvage been undertaken by an appropriately qualified archaeologist (e.g. the heritage advisor)? 	
 n) If skeletal remains are discovered, has the State Coroner's Office - 1300 309 519 (and, if necessary, Coronial Admissions and Enquiries) and Victoria Police been contacted? 	
o) Is access to works site available to the RAP and/or heritage advisor if necessary?	
p) Has sensitive information been treated appropriately?	

2.10 Non-Compliance with Management Conditions and Contingency Plans

If a breach of the CHMP is identified the Sponsor must immediately report the breach by contacting the Statewide Compliance & Enforcement Unit, Aboriginal Victoria, via email to: compliance.aboriginalvictoria@dpc.vic.gov.au or by telephoning 1800 762 003.

It is RAP policy that all non-compliance issues must result in a stop works until such a time as a meeting can be held between the RAP, the Sponsor, and a suitably qualified Heritage Advisor. The purpose of the meeting is to discuss the process and address non-compliance issues. A stop works measure must be implemented even if the non-compliance has not resulted in harm to Aboriginal cultural heritage.

2.11 Limited Interim Retention of Aboriginal Cultural Heritage by Heritage Advisor

A suitably qualified Heritage Advisor must be engaged to investigate the discovery of Aboriginal cultural heritage and is permitted to retain custody of Aboriginal cultural heritage for the purposes of analyses for an interim period up to six (6) months only.

Before or upon expiry of this period, any Aboriginal cultural heritage must be returned to the owner of that heritage, together with a copy of any relevant catalogue and report.

Permanent Custody Arrangements must be made before and no later than the expiry of the six-month custody period permitted to the Heritage Advisor. Arrangements for the permanent custody of any Aboriginal cultural heritage must be carried out and completely finalised.

2.12 Assignment of Custody of Aboriginal Cultural Heritage

If Aboriginal cultural heritage (with the exception of Aboriginal human remains or secret or sacred objects) is discovered before, during or after the activity, responsibility for the custody of Aboriginal cultural heritage must comply with the conditions established by the Act and be assigned according to the following order of priority, as appropriate:

1. any relevant RAP that is registered for the land from which the Aboriginal heritage is salvaged;



- any relevant registered native title holder for the land from which the Aboriginal heritage is salvaged; any relevant native title party (as defined in the Aboriginal Heritage Act 2006) for the land from which the Aboriginal heritage is salvaged;
- 3. any relevant Aboriginal person or persons with traditional or familial links with the land from which the Aboriginal heritage is salvaged;
- 4. any relevant Aboriginal body or organisation which has historical or contemporary interests in Aboriginal heritage relating to the land from which the Aboriginal heritage is salvaged;
- 5. the owner of the land from which the Aboriginal heritage is salvaged;
- 6. the Museum of Victoria.

2.13 Use of the activity area lot.

As per Clause 13(2) Schedule 2 of the *Aboriginal Heritage Regulations 2018* the CHMP contingency plans must address how each lot within the activity area is to be utilised by the Sponsor. The client of this CHMP, Andrew Austen, intends to subdivide activity area for the purposes of a constructing a residential subdivision. The activity area encompasses 119 Bridge Road, Bushfield, Victoria. The land is subject to Warrnambool City Council Planning Scheme. As per the Warrnambool City Council Planning Scheme the address comprises Lot 1\TP829725. The proposed activity will construct residential properties across this lot as per Section 4 of this CHMP.

The current activity area is subject to Low-Density Residential Zone and as Rural Living Zone (RLZ) under the Warrnambool City Council Planning Scheme (Appendix 9). Under the Warrnambool City Council Planning Scheme, the development of the activity area into multiple lots for the purpose of residential dwelling construction is permitted. This is provided that all the relevant requirements of this planning scheme are adhered to, which are found in the Warrnambool City Council Planning Scheme Low-Density Residential Zone and on Warrnambool City Council Planning Scheme Rural Living Zone (RLZ).

Andrew Austen intends to develop the land only in the manner permitted by the Rural Living Zone and Low-Density Residential Zone of the City of Warrnambool Planning Scheme as noted above and will adhere to all of its requirements, see Appendix 4.



Part 2: Assessment



3 Introduction

3.1 Background

U.C.A. Pty Ltd Cultural Heritage Planners (Urban Colours) have been engaged by BTH Pty Ltd (ABN 90 162 121 637), the Sponsor, to prepare a cultural heritage management plan (CHMP) in response to a proposed residential subdivision at 119 Bridge Road, Bushfield, Victoria (Warrnambool City Council) (Map 1). The heritage advisor for this plan is Annette Xiberras. The author of this plan is Edward East. Details of the qualifications of all personnel who worked on this CHMP are provided in Section 3.9.

3.2 Name of Sponsor

The Sponsor of this CHMP is BTH Pty Ltd (ABN 90 162 121 637). The Sponsors representative is Andrew Austen. The Sponsor's contact for the CHMP is:

Dan Pech, Senior Planning Consultant, Myers Planning Group. Phone: 0436 016 612 Email: dan@myersplanningroup.com.au

3.3 Name of Owner and Occupier of the Activity Area

The land is currently privately owned and managed by BTH Pty Ltd.

3.4 Location of the Activity Area

The activity area is located at 119 Bridge Road, Bushfield, Victoria. The activity area is located approximately 257 km south-west of Melbourne CBD. The activity area is bordered to the north by Bridge Road, to the west and east and south by agricultural paddocks. The activity area also encompasses part of the road reserve associated with Bridge Road, Bushfield. The activity area is located within the LGA Warrnambool City Council (Map 1). The activity area is 205,663m² in area (Maps 1 and 2) and is currently zoned as Low-Density Residential Zone and as Rural Living Zone (RLZ).

3.5 Reason for Preparing a Cultural Heritage Management Plan

This CHMP has been prepared in accordance with Part 4 of the Victorian *Aboriginal Heritage Act 2006* and is required under the Victorian *Aboriginal Heritage Regulations 2018*. The specific Regulations which trigger the requirement for this mandatory CHMP are as follows:

Regulation 26 Waterways

(1) Subject to sub regulation (2), a waterway or land within 200 metres of a waterway is an area of cultural heritage sensitivity.

Under Regulation 49 Subdivision of land

- (1) The subdivision of land into 3 or more lots is a high impact activity if—
- (a) the planning scheme that applies to the activity area in which the land to be subdivided is located provides that at least 3 of the lots may be used for a dwelling or may be used for a dwelling subject to the grant of a permit; and
- (b) the area of each of at least 3 of the lots is less than 8 hectares.



The activity area is located within 200 metres of the Merri River, an area of cultural heritage sensitivity. The proposed development is a high impact activity as it involves the construction of a residential subdivision.

3.6 Notice of Intent to Prepare the Cultural Heritage Management Plan

Under s.54 of the *Aboriginal Heritage Act 2006*, the Sponsor of a CHMP must give notice of their intention (NOI) to prepare a CHMP, see Appendix 1.

In accordance with s.54(1)(a) of the *Aboriginal Heritage Act 2006*, the Sponsor must submit a NOI to the RAP prior to preparing a CHMP. The NOI was submitted to the DPC and the Sponsor on 06 March 2020. The Sponsor submitted the NOI to the RAP the Eastern Maar Aboriginal Corporation on 19 March 2020. The Eastern Maar decline to evaluate the CHMP on 19 March 2020. As per s.56(1)a the Sponsor notified the Secretary that the Eastern Maar declined to evaluate the CHMP on 19 March 2020. As the Eastern Maar decline to evaluate the CHMP the Secretary is to undertake the CHMP evaluation.

3.7 Registered Aboriginal Party Responsible for the Activity Area

The activity area is located within the RAP area of the Eastern Maar Aboriginal Corporation (Eastern Maar) and was appointed as the RAP by the Aboriginal Heritage Council under the *Aboriginal Heritage Act 2006*. The Eastern Maar advised on 19 March 2020 that they would participate in all the fieldwork aspects of the assessment but declined to evaluate the CHMP. As a result, the CHMP is to be evaluated by the Secretary.

3.8 Aims of the Assessment

The aims of the assessment were to:

- Determine the cultural heritage sensitivity of the activity area
- Establish levels of disturbance across the activity area
- Establish the stratigraphy of the activity area
- Determine the location, nature, and distribution of Aboriginal places within the activity area
- Assess the cultural and scientific significance of any Aboriginal places within the activity area
- Determine whether Aboriginal places can be avoided by the proposed activity through design or management.

This CHMP has been undertaken in accordance with the *Guide to Preparing a Cultural Heritage Management Plan* (Aboriginal Victoria [AV] 2010).

3.9 Personnel Involved

The director of UCA is Annette Xibberas. The Heritage Advisor of this CHMP is Annette Xibberas. The author of this CHMP is Edward East. GIS Mapping was undertaken by Edward East. Fieldwork for this CHMP, including the standard and complex assessment was undertaken by Edward East and Mark Grist.

Annette Xiberras



Annette is the Managing Director at Urban Colours. Annette has a vast knowledge and understanding of the cultural heritage of south-eastern Australia. Annette is a Wurundjeri Elder who has worked in Aboriginal archaeology and cultural heritage management for more than 25 years. Her formal qualifications include:

- Department of Aboriginal Affairs Aboriginal Site Officer Training, Department of Aboriginal Affairs, Melbourne. 2000.
- Certificate III in Aboriginal Sites Work (Koorie Site Officers), Northern Metropolitan Tafe, Melbourne. 2002.
- Graduate Diploma Natural and Cultural Resource Management, Deakin University, Melbourne. 2006.

Edward East

Edward East has worked as a consultant archaeologist since 2008, gaining extensive experience in Aboriginal and historic archaeology. He has worked in many parts of Victoria, across Queensland, New South Wales, Western Australia and in Papua New Guinea and Kuwait. Close and amicable relationships with Indigenous groups was a critical part of his Australian and Papuan Indigenous focused projects.

Edward is listed as a Heritage Advisor. He has directed many Victorian Aboriginal and historic cultural heritage management projects. As part of this work he has undertaken due diligences, historic research, archaeological survey, and excavation, authoring of many Cultural Heritage Management Plans, lithic analysis, and GIS mapping. Edward is well versed to provide clients in Victoria with advice on all cultural heritage matters.

- Bachelor of Archaeology, La Trobe University, Melbourne. 2006.
- Post-Graduate Diploma Arts (Archaeology), The University of Melbourne, Melbourne, 2009.
- Master of Arts (Archaeology), The University of Durham, United Kingdom, 2013.

Mark Grist

Mark Grist is a qualified archaeologist and Heritage Advisor who studied at the Australian National University majoring in archaeology and anthropology. Mark has spent many years recording and protecting Aboriginal heritage sites throughout Australia and has been at the forefront of recording biological information from Australian Aboriginal Ancestral remains, contributing significantly to the return of Ancestral remains to various Aboriginal communities throughout Australia. Mark was for a period of six years the Curator for South-eastern Australia at the Victorian State Museum and continues this relationship with the state museum as an Honorary Associate.

Mark Grist is an Australian Aboriginal man. He belongs to the peoples of the Wergaia Wamba Wamba and Nyeri Nyeri of northwest Victoria. He worked as a cultural heritage consultant for several years before returning to the Victorian government as the Manager of the Statewide Heritage Programs. Mark's most recent role with the Victorian government was the State Heritage Adviser for the Victorian Department for Planning and Community Development a position he held since 2003. In 2009 Mark returned to the private sector as the Director of Grist Archaeology-Heritage Management Pty. Ltd. Projects in 2009/12 include key infrastructure, mining, and natural resources projects/developments within Australia.

Bachelor of Archaeology (Hons), The Australian National University, Canberra, 2001.

Ariana Spencer-Gardner

Ariana Spencer-Gardner a qualified archaeologist and Heritage Advisor who has worked in Victorian cultural heritage since 2018. Over that time, she has worked as contractor for a number of Victorian archaeology firms.

- Bachelor of Archaeology, La Trobe University, Melbourne. 2017.
- Master of Professional Archaeology, La Trobe University, Melbourne. 2019.



3.10 Report Submission

The CHMP was initially submitted for approval to the Department of Aboriginal Victoria, on 21/08//2020, as per s.62 of the Aboriginal Heritage Act 2006.

Following comments received from the department of Aboriginal Victoria the CHMP was resubmitted on 06/10/2020, as per s.62 of the Aboriginal Heritage Act 2006.

Following further comments received from the department of Aboriginal Victoria the CHMP was resubmitted on 06/11/2020, as per s.62 of the Aboriginal Heritage Act 2006.



4 ACTIVITY DESCRIPTION

The Sponsor intends to subdivide and construct residential dwellings across 119 Bridge Road, Bushfield, Victoria (Map 3. Figures 3 - 4). This activity will involve:

- The demolition of an existing dwelling and associated infrastructure that is already located within the activity
 area.
- Earthworks, including stripping and levelling prior to construction works, this will affect all areas designated
 as residential lots, planned road axis, planned pedestrian footpath axis and in the locations of drainage
 waterways, 100% of the activity area will be impacted by stripping and levelling.
- The construction of a temporary on-site sales office.
- Laying of introduced crushed rock base, asphalt surfaces including multiple roads, concrete housing slabs and kerbs. Soil within the activity area will remain on site and will not be removed.
- Construction of residential dwellings on multiple lots.

The activity will also involve associated infrastructure supply works, including:

- Installation of water mains.
- Installation of electricity mains.
- Installation of telecommunication services.
- Planting of trees along street axis.
- · Construction of footpaths.
- Construction of a surfaced footpath along the north east road reserve area of Bridge Road (Figure 1).
- · Construction of surfaced asphalt roads.
- Construction of an asphalted road providing access to Bridge Road (Figure 2).
- Construction of public lighting along planned road axis.
- Construction of perimeter and internal residential fencing.
- Installation of stormwater infrastructure (kerb and channel) and construction of two drainage reserves.

The maximum depth of infrastructure and service installation is expected to be between 1-4 metres.

Cumulative impacts to the activity area will involve maintenance and the ongoing management and maintenance of roads, paths and services, including (but not limited to):

- Revegetation and general landscaping.
- Road work maintenance.
- Maintenance to services within the activity area.
- Installation of road signage.



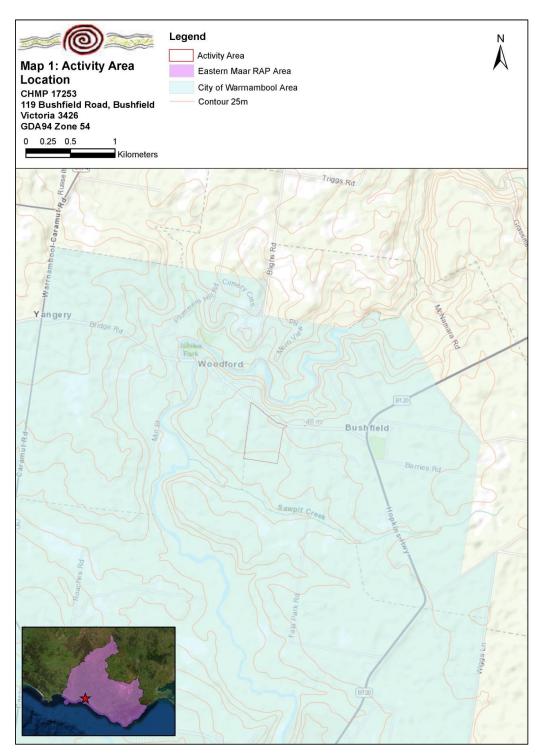
5 EXTENT OF THE ACTIVITY AREA

The activity area is located at 119 Bridge Road, Bushfield, Victoria. The activity area is located approximately 257 km south-west of Melbourne CBD. The activity area is bordered to the north by Bridge Road, to the west and east and south by agricultural paddocks. The activity area also encompasses part of the road reserve associated with Bridge Road, Bushfield, no cadastral details are associated with this reserve area. The activity area is located within the LGA Warrnambool City Council (Map 1). The activity area is 205,663m² in area (Maps 1 and 2) and is currently zoned as Low-Density Residential Zone (LDRZ) and as Rural Living Zone (RLZ) under the Warrnambool City Council Planning Scheme. The land is currently privately owned by BTH Pty Ltd.

Table 2: Cadastral information.

Address	19 Bridge Road, Bushfield, Victoria			
LGA	Varrnambool City Council			
Council Property Number	141340			
Parish	Purnim			
Land Parcel Details	1\TP829725			
UTM zone	55			





Map 1: Location of the activity area.





Map 2: Current ground conditions and extent of the activity area (Google Earth 09/06/2020).





Map 3: Development plan of the activity area.



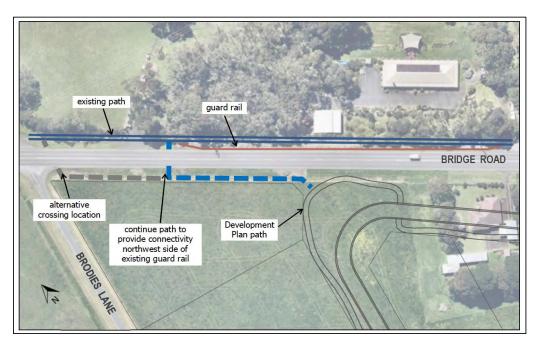


Figure 1: Pedestrian footpath to be constructed in reserve area on south side of Bridge Road.

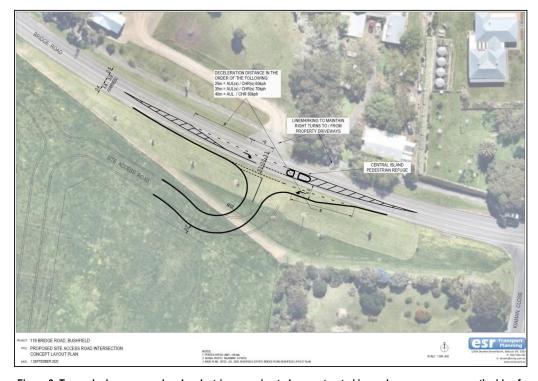


Figure 2: Tarmacked access road and pedestrian crossing to be constructed in road reserve area on south side of Bridge Road.



6 DOCUMENTATION OF CONSULTATION

6.1 Consultation in Relation to the Assessment

The Aboriginal Heritage Act 2006 requires consultation with any RAP registered under the Act. The activity area is located within the RAP area of the Eastern Maar Aboriginal Corporation (Eastern Maar) and was appointed as the RAP by the Aboriginal Heritage Council under the Aboriginal Heritage Act 2006. The Eastern Maar advised on 19 March 2020 that they would participate in all the fieldwork aspects of the assessment but declined to evaluate the CHMP. As a result, the CHMP is to be evaluated by the Secretary.

6.2 Participation in the Conduct of the Assessment

The Eastern Maar field representatives present during the standard and complex assessments discussed the proposed activity and approved of the methodology and interpretation of results following the field program. A phone conversation was also held with Craig Black Edwards, Eastern Maar Cultural Heritage and NRM Manager, during the complex assessment. He also approved of the methodology and interpretation of results. Table 3 outlines the dates and personnel who participated in the standard assessment and complex assessment phases of the CHMP.

Table 3: Consultation in relation to the assessment.

Date	Heritage Advisor/Project Manager	Stakeholder Group	Details of Consultation	
09 March	Mark Grist	VAHR (AV)	NOI submitted to AV.	
2020	(UCA)	UCA		
19 March	Ariana Spencer-Gardner	Eastern Maar	NOI submitted to Eastern Maar. Eastern Maar to participate in field work but declined to evaluate CHMP.	
2020	(UCA)	UCA		
19 March	Ariana Spencer-Gardner	Eastern Maar	Request for Eastern Maar representatives to participate in the standard and complex assessments.	
2020	(UCA)	UCA		
23 March	Mark Grist	Eastern Maar	Standard assessment conducted, in attendance Mark Grist (UCA) Stephen Chatfield and Jryran Chatfield (Eastern Maar).	
2020	(UCA)	UCA		
9 – 12	Edward East	Eastern Maar	Complex assessment conducted, in attendance Edward East (UCA), Dylan Parrot (UCA), Stephen Chatfield and Jryran Chatfield (Eastern Maar).	
June 2020	(UCA)	UCA		
12 June	Edward East	Eastern Maar	Phone update on results of complex assessment, lack of cultural heritage material discussed between Edward East (UCA) and Craig Black Edwards (Eastern Maar).	
2020	(UCA)	UCA		
10 August 2020	Edward East (UCA) Diana Smith (AV)	UCA AV	Phone discussion held regarding comments received from initial CHMP evaluation.	



12 August 2020	Edward East (UCA) Harry Webber (AV)	UCA AV	Phone discussion held regarding comments received from initial CHMP evaluation.
12 August 2020	Edward East (UCA) Harry Webber (AV)	UCA AV	Email sent by Edward East (UCA) to Harry Webber (AV) regarding comments received from initial CHMP evaluation.
17 September 2020	Edward East (UCA) Mark Grist (UCA) Hayden Harradine (Eastern Maar) Mundara Clark (Eastern Maar).	Eastern Maar UCA	Additional standard/complex assessment undertaken of activity area extension. In attendance Edward East (UCA) Mark Grist (UCA), Hayden Harradine (Eastern Maar) and Mundara Clark (Eastern Maar).

6.3 Consultation in Relation to the Conditions

Prior to lodgement of this CHMP for approval, a draft of the CHMP was provided to Eastern Maar Aboriginal Corporation for comment.

Table 4: Consultation in relation to the conditions.

Date	Heritage Advisor/Project Manager	Stakeholder Group	Details of Consultation
6 July 2020	Edward East (UCA)	Eastern Maar UCA	CHMP Submitted to Eastern Maar for comment.
25 September 2020	Edward East (UCA)	Eastern Maar UCA	CHMP Submitted to Eastern Maar for comment.

6.4 Summary of the Outcomes of Consultation

During the complex assessment Edward East (UCA Heritage Advisor) contact Craig Black Edwards (Eastern Maar Heritage and NRM Manager) to discuss the results of the assessment. Craig Edwards expressed satisfaction with the field results and proposed CHMP management conditions. The CHMP was submitted to Eastern Maar for comment on 06 July 2020, no comments were received in response.

During a subsequent standard assessment and complex assessment undertaken in response to an extension of the activity area on the 17th September 2020 Eastern Maar field representatives expressed satisfaction with the field results. The CHMP was submitted to Eastern Maar for comment on 25th September 2020, no additional comments were received.



7 DESKTOP ASSESSMENT

This section represents the result of the desktop assessment in accordance with Regulation 56(1) of the *Aboriginal Heritage Regulations* 2007.

7.1 The Geographic Region

The geographic region of the current activity area falls within the Western Volcanic Plains Geomorphic unit, which stretches from Melbourne to the South Australian border. The volcanic plain is characterised by flat to undulating ground intercepted by volcanoes. The activity area is located on the volcanic plain characterised by flood basalt through which Merri River has carved a gorge to a depth of up to 37m (Map 1). The geographic region borders are formed by the Melbourne to Warrnambool trainline across the south east, the Merri River across the south west, the Merri River, Yangerry Creek, Conns Lane North, Warrnambool Caramut Road as the western border, the west to east axis of Manifold Creek as the north border and Grassmere Road, Staywood Road and Alberline Road as the east border. This geographic region was selected as the most appropriate in order to establish a suitable analysis of the local area. The coast and its dunes have not been included as part of the geographic region. This is because the sand dunes and estuary landforms associated with the coastline do not extend into the current activity area.

The selection of this geographic region is appropriate given that the activity area forms part of a much larger geographic region that extends across the entire basalt plain of western Victoria. The previously registered Aboriginal places across this geographic region provides a substantial amount of information as to the places most likely to occur within the activity area and is therefore entirely relevant to the site prediction model provided. The number of previous archaeological studies that have been recorded across this region and close to the current activity area will further enhance the site prediction model provided.

7.2 Climate

The last world glacial period, which began c. 80,000 years before present (BP), lowered temperatures and sea levels. This cooling period peaked c. 18,000 BP when the sea level receded to 120 metres below its present level and the temperature dropped to between six and ten degrees Celsius colder than present temperatures (Kershaw 1995). During this phase, Tasmania was joined to the mainland by an isthmus of land, and semi-arid grasslands covered large areas of Victoria (Kershaw 1995). As conditions ameliorated, climatic conditions became milder, although wetter. At approximately 5,000 BP, conditions became slightly cooler and drier, similar to the present climate (Kershaw 1995). Vast grasslands continued to dominate Victoria until recently (Kershaw 1995).

These changes in climatic conditions suggest that the flora and fauna of Victoria, and therefore of the activity area, went through substantial changes during the same period. The changes must have impacted on Aboriginal subsistence and patterns of exploitation in the activity area and the surrounding region. During cooler and windier periods, especially between 18,000 and 5,000 BP, the region was exposed to strong, cold, westerly winds. It can be assumed that if the region was occupied during this period, areas with some protection from those winds were favoured during the colder periods. The generally mild but seasonably variable climate of the past 5,000 years was conducive to Aboriginal occupation throughout the year with possible seasonal movements to more sheltered locations in winter months (Hiscock 2008: 183–198).

The Land Conservation Council of Victoria defines the activity area as being situated within the Corangamite region. Being situated between 37.4 and 38.9 south latitude, the region experiences a temperate climate with dominant westerly winds, variable cloud, moderate precipitation, and cool temperatures. The annual average



rainfall is c. 726 mm at Warrnambool and the average annual temperatures range between 5.1 and 23.5 degrees (LCC 1991).

7.2.1 Geology of the activity area

A review of the landforms and geomorphology of the activity area provides a context for understanding the pre-Contact Aboriginal land use and occupation patterns that led to the formation of archaeological sites, and also for understanding what subsequent process have affected the integrity and contents of any sites present. An understanding of the geology and environment is fundamental to understanding the pre-European context of Indigenous land use and settlement. It is also important to understand the changes that have occurred to the environment since European arrival, as these have significant implications for site preservation and location.

The current geological landscape of western Victoria was formed during the Quaternary age, 1.6 million years ago to present. Across western Victorian is the Newer Volcanic Plains on which is located at least a dozen extinct volcanoes. Known volcano locations include Mount Cottrell. Mount Kororoit, Mount Cottrell, Spring Hill, and Bald Hill. These are four of some 20 volcanic cones in the region which have been identified as the source of the lava flow that created the basalt plain today called the Newer Volcanic's, which characterise the plans of western Victoria. These erupted approximately one to five million years ago resulting in the basalt plain that covers the western plains, including the current activity area. The lava flows range in age from four million to less than two million years old, and have brown clay soils with calcrete development, reflecting the low rainfall of the area (Birch 2003: 560). The present land surface of the activity area has evolved through the processes of erosion, faulting, and volcanic activity. Palaeozoic bedrock protrudes through Pleistocene-era lava sheets to produce an undulating surface. Lava flows disrupted earlier drainage channels. Post-eruption drainage channels developed a meandering course on a gently sloping surface. Such channels became entrenched into the lava producing deep gorge-like valleys. Channels such as the Merri River, 180 metres to the north of the present activity area, became entrenched along the boundary between the lava and the softer Silurian bedrock (McAndrew & Marsden, 1973: 14) (Map4).

The geology of the activity area is important for establishing what stone resources would have been available to Aboriginal people. Silcrete is an important raw stone material used by Aboriginal people and found throughout many drainage lines across the western Volcanic plains. Silcrete is often formed in the presence of basalt and is the result of a chemical reaction during the weathering process. Basalt is found across the region and occurs on the surface in the region as 'floaters'. Basalt rock contains large amounts of silica and is easily weathered (Webb 1995: 11, 12).

The current shoreline of Victoria is located 7km south of the current activity area. The current shoreline was created at the end of the last ice age, when the sea level rose, cutting the link between Victoria and Tasmania. Around 6,000–5,000 years ago, the coastline stabilised to the present conditions (Birch 2003).

7.2.2 Geomorphology of the activity area

The geomorphology of the activity area is indicative of what stone resources may have been available to Aboriginal people in the past. It is also important in establishing the age range of the soil deposit the activity area is situated on.

The department of Agriculture Victoria has mapped the geomorphology of the activity area as consisting of geomorphic unit 6.1.4 plains with well-developed drainage and deep regolith (VRO Online 2020: Unit 6.1.4) (Map 5). The department has established that these plains with well-developed drainage represent earlier Pliocene volcanic landscapes, with an age range of five million to two million years ago. These areas are characterised by very planar landscapes with thicker soil development. Regolith profiles on these old basaltic lavas have developed many metres of pallid kaolinitic clay, with ironstone at shallow depth. Associated soil types are predominantly black and brown sodic mottled texture contrast soils (VRO Online 2020: Unit 6.1.4). A



geomorphological deposit of this type indicates that outcrops of silcrete. a common stone resources for Aboriginal people, are unlikely to occur within the activity area, but that large amounts of basalt, in a variety of forms, is to be anticipated.

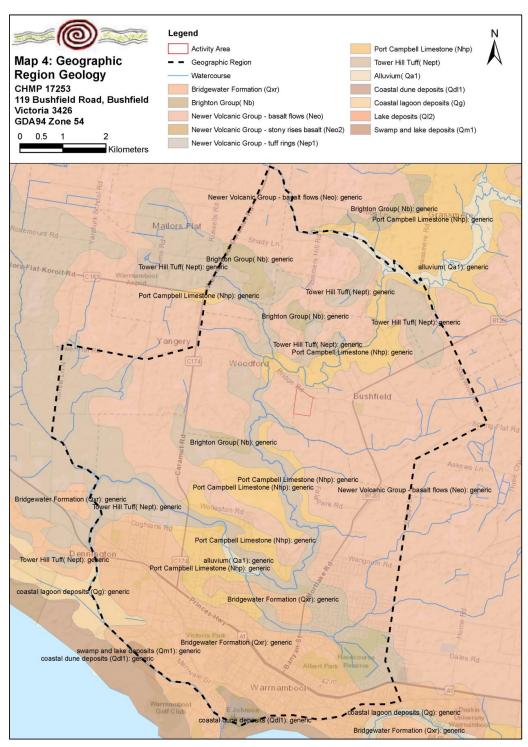
7.3 Native Vegetation and Fauna

According to ecological vegetation class (EVC) projections, prior to European contact the activity area would have consisted of Plains Grassy Woodland (EVC 55) (DELWP 2020) (Map 6). This consisted of open, grassy eucalypt woodland with an understorey that consists of a few sparse shrubs over a species-rich grassy and herbaceous ground layer. Typically dominated by Forest Red Gum (*Eucalyptus tereticornis*), the understorey may include shrubs of Lightwood Acacia (*Implexa*), Creeping Bossiaea (*Bossiaea prostrata*) and Cranberry Heath (*Astroloma humifusum*). Common grasses include Weeping Grass (*Microlaena stipoides*) and Kangaroo Grass (*Themeda triandra*).

Close to the activity area, along the banks of nearby creeks & rivers, such as the Merri River, Riparian shrubland/escarpment shrubland/grassy woodland mosaic (EVC 666) and Swamp Scrub (EVC 053) was present. The two habitats share similar geographic distribution and species of flora. The associated flora of these habitats consists of woodland of swampy depressions of lowland plains, with a sedgy-herbaceous understorey which includes aquatic species. Below a canopy of river red gum (*Eucalyptus camaldulensis*), aquatic plants such as tall spike rush (*Eleocharis sphacelata*), duckweed (*Lemna sp*) and bullrush (*Typha angustifolia*) grow. On creek and riverbanks, terrestrial plant species such as spiny flat-sedge (*Cyperus gymnocaulos*) can be found (Cochrane et al. 1968:88–95).

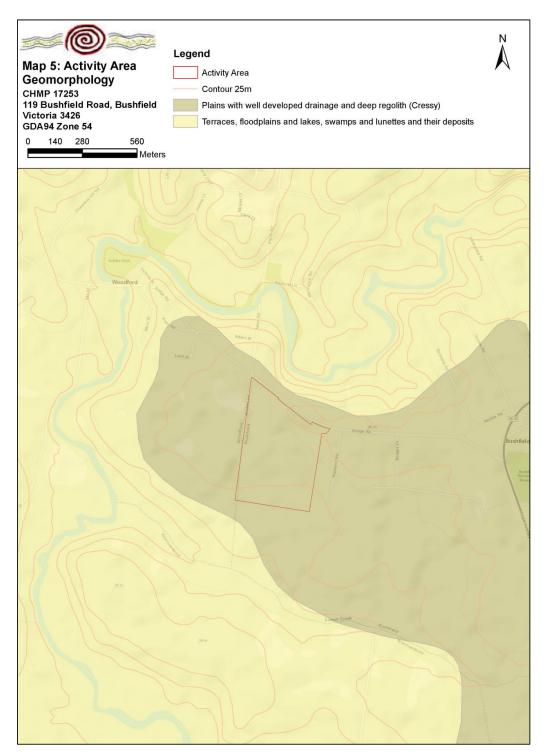
Prior to European arrival, the region supported a wide range of faunal species hunted by the Aboriginal people. Larger species, such as kangaroos, possums, wallabies, and emu, were common. Other species recorded at the time of early European contact, which have since largely or wholly disappeared, included quolls, pademelons, potoroos, fat-tailed dunnart, and eastern barred bandicoot (LCC 1991:107). There is likely to have been seasonal variation, with higher numbers in summer. Aboriginal subsistence activities would also have focused the large swamplands of the Koo Wee Rup system. The swamp originally covered more than 40,000 hectares, of dense swamp paperbark (*Melaleuca ericifolia*), some open grasslands, reed beds (*Phragmites australis*) and bullrushes (*Typha spp*). This extensive swamp would have provided a wider range of resources for Aboriginal people than the plains and a much more reliable water source, with freshwater mussels, fish, eels, waterbirds, lizards, and small marsupials a reliable food source throughout most of the year (Map 6).





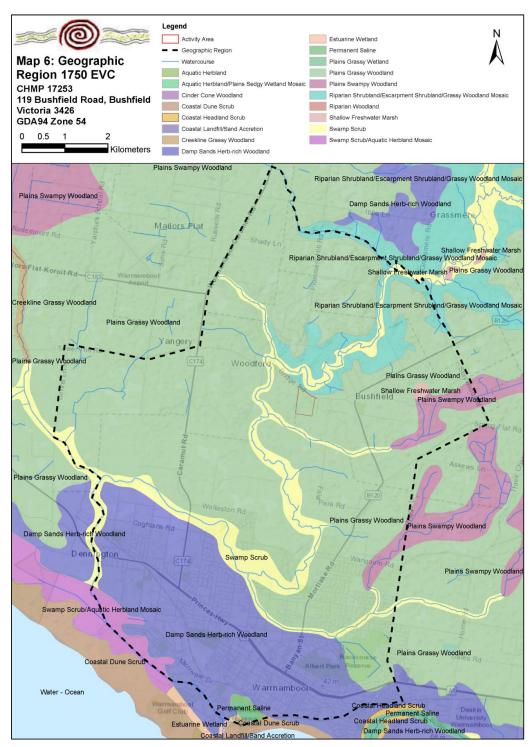
Map 4: Geology across the geographic region.





Map 5: Geomorphology of the activity area.





Map 6: 1750 EVC categories across the geographic region.



7.4 Historical and Ethno-Historical Accounts in the Geographic Region

Archaeological evidence suggests that Aboriginal people have occupied south-eastern Australia for at least 40,000 years BP (Flood 1995: 284–7). One of the oldest dated archaeological sites in Victoria is at Keilor in Melbourne where charcoal from a hearth excavated in 1973 has been dated to 31,000 years BP (Flood 1995: 286). The information used to establish pre-settlement Aboriginal spatial organisation is mostly based on observations made by Europeans during the initial period of contact and subsequent settlement of the activity area.

The people who occupied the activity area have been identified by Clark (1990: 54–55) as the Tarerergundidj in the Dhauwurd wurrung language area (also referred to as Gundidjmara). Clans speaking the Dhauwurd wurrung language managed the country in an area bounded by the Hopkins River in the east, the Glenelg River in the west and the Wannon River in the north (Clark 1990: 54).

The clan name 'Tarerer' referred to a large swamp between the Merri River and Tower Hill, probably the area known as Kellys Swamp today (Clark 1990: 55, 78). Previous archaeological work (see Section 5.3 above) has demonstrated that both Kellys Swamp and Tower Hill contain significant Aboriginal occupation sites. The Tarerer Swamp was described by Robinson in 1841 as a place where large gatherings of coastal clans occurred when whales were present along the coastline (Clark 1990: 78). Tower Hill is also known as a place of traditional religious significance to clans in the area. In April 1841, the clan head of the Tarerergundidj was described to Robinson as a man named Wone.der.rac. (Presland 1977: 62)

Aboriginal clans in the Western District lived a hunter-gatherer lifestyle, moving from one locality to another to make use of seasonal resources, trading opportunities and to meet ritual and kinship obligations. Ethno-historical records suggest that in some seasons Aboriginal people of the Western District lived a more settled life than Aboriginal people in other areas of south-east Australia. These beliefs are based on the presence and observations of shelters and 'villages' in the Western District (Schell 1995: 8).

Thomas received a description of a 'village' near Caramut from a local informant:

There was on the banks of the creek between 20 and 30 huts of the form of a beehive or sugar loaf, some of them capable of holding a dozen people ... These buildings were all made of a circular form, closely worked and then covered with mud (Cited in Williams 1984: 174).

Robinson observed the presence of many huts in Western Victoria (Presland 1977: 36, 38, 73, 85). He records that in the stony rises there were "plenty of huts of dirt and others built of stones" (Clark 1998b: 19). However, whether these huts or villages were inhabited on a permanent or semi-permanent basis, or were returned to seasonally, is not known.

Critchett (1992) theorises that Tower Hill Lake was an important meeting place for different clan groups and speculates that ceremonial and trading activities took place there. The freshwater source combined with mixed deposits of cultural heritage material (indicating domestic activity) and the number of burial sites in the region supports her theory.

The diet of the Western District Aboriginal people consisted of a wide range of mammals, fish, birds, plant food and fungi (Dawson 1881: 18–22). Ethno- historical accounts suggest the daisy yam was a staple plant food, being available year-round, although less palatable in early winter (Gott 1983: 6–8).

Dawson (1881) refers to a gum which was used by the Aboriginal people near the Hopkins River; his reference reflects how the distribution and availability of a food source was affected by the arrival of the Europeans: Another kind of manna, also called buumbuul, is deposited in considerable quantities by the large dark coloured



cicadae on the stemsof white gum trees near the River Hopkins. The natives ascend the trees and scrape off as much as a bucketful of waxen cells filled with a liquid resembling honey, which they mix with gum dissolved in cold water and use as a drink. They say that, in consequence of the great increase of opossums, caused by the destruction of the wild dog, they never get any buumbuul now, as the opossums eat it all (Dawson 1881:21).

Eels were seasonally exploited and would have been an important food source in the autumn months. There are numerous accounts of eel fishing and trapping and the eel trapping infrastructure remains in some places including along the Hopkins River (Schell, 1995: 9).

Plants such as myrnong, bracken and tree ferns provided staple foods for Aboriginal people, while medicines could be made from species such as Black Wattle (Acacia mearnsii), and the wood or bark from Silver Wattle (Acacia dealbata) could be used to manufacture implements. The grasses and water reeds, paperbark trees and Eucalypts all provided raw material for baskets and bark and wooden implements. The bark from stringy bark (yangoro) and mountain ash (yowork) was selected for the manufacture of bark canoes. Apart from the manufacture of implements and access to food and medicinal resources, the bark from these trees would also have been removed for other ceremonial and social non- utilitarian purposes. The roots (rhizomes or tubers) of the Cumbungi (Typha orientalis), Water ribbon (Triglochin procerum) and Common Reed (Phragmites australis) were harvested and cooked in earth ovens (Gott & Conran 1991: 8–9). In the case of the Cumbungi, after being cooked, the centre part of the rhizome was knotted then chewed to extract starch, and the remaining fibre was used for string (Gott & Conran 1991: 8). These resources would have existed within or adjacent to the activity area.

Some stone resources used by Aboriginal people would have been available in locations near the present activity area. Silcrete, flint and quartz were favoured stone materials for the manufacture of stone implements. These materials would have been readily available from nearby sources. Quartz pebbles were widely available in riverbeds, beaches and alluvial deposits. Flint was readily available in the form of nodules originating from undersea Miocene limestones which could be collected on the beaches. Basalt was used occasionally as it was in plentiful supply along the volcanic plains but was not a preferred material as it is harder to work with due to its porous nature. The most important raw material used in the manufacture of axes was greenstone. There are accessible source points for this material, the most well-known being Mount William, near Lancefield (Coutts et al 1976).



Figure 3: Dhauwurd Wurrung Language Boundary and Clans (Clark 1990: 54).



7.4.1 Post-Contact History

From 1839–1849 the British Government established an Aboriginal Protectorate to mediate between Aboriginal communities and European colonists, with George Augustus Robinson employed as the Chief Protector of Aborigines. Four Assistant Protectors were employed and each assigned jurisdiction over an area. C. W. Sievwright was assigned to the Western District in 1841 (Cannon 1983: 365).

In 1850 William Gray, the Commissioner of Crown Lands for Portland Bay, provided a census of the Aboriginal population in the district. He recorded 20 adult males, 15 adult females and four children (Clark 1990: 45). In 1858, a select Committee of the Legislative Council was appointed to inquire into the condition of Aboriginal people in the State. Reports from squatters in the area estimated that the Aboriginal population in the area had been reduced by 75 per cent during the 1840s and 1850s (Clark 1990: 197–8).

Violence between Aboriginal groups and European pastoralists was common throughout the region. Aboriginal people were forced off their traditional lands, with many squatters prohibiting Aboriginal people access to their runs (Clark 1998b: 153–155). There are extensive reports of 'guerrilla warfare; between Aboriginal people and squatters and their employees' throughout the 1840s. There are stories of Aboriginal people using the stony rises around Eumeralla River as a base for attacking the European settlers who had dispossessed them. This conflict has been called the Eumeralla War (Clark 1989).

Aboriginal people in search of food and other basic items began living on the fringes of Warrnambool, where government rations were available from 1860 onwards (Clark 1990: 40). These people were moved to the Framlingham Aboriginal Mission when it opened in 1861. This Aboriginal reserve covered 3500 acres near the Hopkins River; a large section of land that included the Framlingham forest, the only forested area in the region. In 1867 the Board decided to close Framlingham and move the inhabitants to the new station at Lake Condah, however the people living on the mission refused to leave and successfully protested: Framlingham was reopened in 1869.

In 1877, a census conducted by the police listed 69 Aborigines at the Framlingham Aboriginal Station (Barwick 1971: Table 20: 2). The number of people at Framlingham represents the gathering together of people at the station rather than an increase in population, as the total Aboriginal population of south-western Victoria decreased from 727 in 1863 to 236 in 1877. By 1863 the Aboriginal population of Victoria was less than 2000, or 13 per cent of the estimated pre-European Aboriginal population (Barwick 1971: 288).

In 1886, the introduction of the Aborigines Protection Act meant that only people considered as 'full-blooded', or 'half-caste' people over 35 years of age, were allowed to remain on the Mission Stations. This led to a decreased labour force on the stations and an increase in fringe-dwelling Aboriginal people in the Melbourne region (Presland 1994: 105, 107).

In 1890 the Colonial government reserved an area of 582 acres for the use of Aboriginal people at Framlingham, but refused to staff the station, or provide assistance such as teachers, equipment and livestock. In the 1930s public concern was raised regarding conditions of the Aboriginal people at Framlingham. Under mounting pressure, the government agreed to build an additional twelve cottages, and a school was opened and residents given weekly rations. There were multiple attempts to close Framlingham over the years, however the residents remained strongly attached to their land and defeated attempts to remove them.

European colonisation and cultural integration stripped the Aboriginal people of their way of life, causing the surviving population to become dependent on government aid (Broome, 2002). Prior to European arrival, the Aboriginal population of Victoria was estimated at 10,000–20,000 people (Presland, 2010: 90). By 1861, some 540,000 Europeans immigrants were living in Victoria and fewer than 2,000 Victorian Aboriginal people remained (Presland, 2010: 90). Thirty years after the foundation of Melbourne in 1835, it is known that the combined population of the Melbourne area tribes, the Woi wurrung and Boon wurrung, had been reduced to 28 individuals (Presland, 2010: 90). At the beginning of the 20th century, when the colonies of Australia became a federation,



the reported number of Aboriginal people in the entire state of Victoria was estimated to be 650 (Presland, 2010: 90). European Contact had taken a deathly toll on the Aboriginal peoples of Victoria (Barwick, 1984: 109).

In 1970, under the Aboriginal Lands Act, Framlingham was handed to the Framlingham Trust and resumed operation under Aboriginal ownership and management. In the 1980s, Land Rights claims were issued for 1,000 acres of the Framlingham Forest surrounding the Mission Station. This continued from 1980–87, when the land was handed over to the Kirrae Whurrong Aboriginal Corporation at Lake Condah and Framlingham. Aboriginal people still live on the mission land and continue to manage the land there (ATNS Database 2020: Framlingham Aboriginal Reserve).

7.5 Land Use History of the Geographic Region

Visits by sealers to the coastal regions of south-west Victoria may have begun as early as the late 18th century. These visits appear to have been almost entirely restricted to the coastal area. Periodic visits by whalers may have begun as early as 1810. The first shore-based whaling station appears to have been that of William Dutton, who established a station at Portland in 1828 (Townrow 1997: 11).

Thomas Mitchell's account of his explorations of 'Australia Felix' provided a significant impetus to the movement of squatters to the west and south-west of Victoria. As details of his travels became known, there was a rapid influx of settlers to the region. Edmund Henty established his settlement at Portland in 1834 (Kiddle 1963: 31). From 1837 onwards squatting runs were rapidly established throughout the region. Occupation of the country progressed from several directions at once – overland from the north, from Melbourne and Geelong in the east and Portland in the west (Powell 1996). During the 1850–1860 gold rush the European population of Victoria dramatically increased, with demand for land being particularly great among men returning from the diggings. This resulted in widespread clearance of land for sheep grazing and agriculture. This in turn destroyed many traditional hunting areas and led to conflict with Aboriginal people (Powell 1996).

As a result of the districts increasing agricultural settlement, it became necessary that another port in the west should be established. During May 1845, Charles La Trobe, Superintendent of the Port Phillip District, along with a party of other prominent men from the district, visited the area, selecting the site for a township that would become known as Warrnambool. The first lots within the new township area were sold in 1847 (Osbourne 1887: 1). Warrnambool's name is thought to have been derived from an Aboriginal word with several attributed meanings, including place of plenty, running swamps and a growing tree (Victorian Places 2020: Warrnambool).

Warrnambool made little progress during its first years as it was dependent on the sea for the arrival of people and goods, as the overland route to Warrnambool was slow and difficult (Beavis 1993: vii). However, by late 1848, the town had two blacksmiths, a wheelwright, a tailor, carters, carpenters, two butchers, two stonemasons, two general stores, two hotels, the commencement of a postal service and a Sunday school. A National School and a hospital opened in the following two years. The town grew steadily over the coming years and Warrnambool was declared a municipality on 6 December 1855. (O'Callaghan 2004).

Today Warrnambool is the capital city of the south west coastal region of western Victoria, it is the fifth largest city in Victoria. The mainstay of the economy is agriculture and its support industries. Other major industries and services include retail, education, health, meat processing, clothing manufacture and construction (Victorian Places 2020: Warrnambool).

7.6 Land use History of the Activity Area

The current activity area is located close to the small township of Bushfield, which is 7 km north of Warrnambool. Bushfield is situated on the east side of the Merri River. Apart from having a post office constructed in 1885,



Bushfield has had no other institution or public building. It has been a grazing and dairying area since the beginning of the township (Victorian Places 2020: Bushfield).

The land use history of the geographic region surrounding the activity area has broadly established the local area has been used for agricultural purposes since at least 1856. The CHMP Sponsors representative, Andrew Austen, confirmed that it was local knowledge that the activity area was used for in the past for the cropping of silver beet. However, certificate of title records do not provide any information on the land use history of the current activity area and no secondary historical sources mention the current activity area specifically. As a result, the current activity area land use history has been broadly established via the analysis of historic aerial imagery (Christopher. et al 2018. Yang, et al. 2014) (Table 5).

Table 5: Historic aerial analysis.

Map No.	Aerial Imagery Date	Ground Conditions
7	1947	Activity area consists of at least three irregularly shaped agricultural paddocks and areas of dirt road and road reserve associated with Bridge Road. Native vegetation has been cleared. Ploughing is evident in the north west part of the activity area. A series of sheds is present in the centre of the activity area. A dam is also present in the south east part of the activity area.
8	1968	A dwelling and sheds has been constructed in the north of the activity area. A copse of pine trees has been planted in the south west part of the activity area. The rest of the activity area consists of vacant agricultural paddocks.
9	1978	The ongoing use of the activity area for agricultural purposes is evident. A paddock in the south west corner of the activity area is being utilised for cropping purposes. The axis of Bridge Road has moved to the north and part of the previous road area is now a reserve area.
10	2001	The activity area agricultural paddocks have been divided in an irregular manner. All paddocks are being utilised for cropping purposes.

This review of historic aerial imagery has established that the primary land use history of the activity area since at least 1947 has been agricultural in nature, with imagery showing that parts of the activity area have been utilised for cropping purposes, it is also likely that European livestock grazed across the activity area (Map 7-10). A dam has also been present in the activity area since at least 1947 (Map 7). More localised impacts to the activity area include the presence of a series of sheds in the activity area in 1947 which by 1968 had been demolished (Map 7-8). Between 1947 and 1968 in the north of the activity area a residential dwelling and sheds were constructed (Map 7-8). These are still extant today. The activity area also incorporates part of the road reserve associated with Bridge Road. This is in the north west and north east parts of the activity area. From 1947 to at least 1968 the north east part of the activity area was part of Bridge Road (Map 7-8). By 1978 the road axis has shifted north and what was previously road surface was now road reserve (Map 9). This previous land use across the activity area means it is likely that much of the surface, and subsurface cultural heritage material would have been disturbed, or even destroyed.

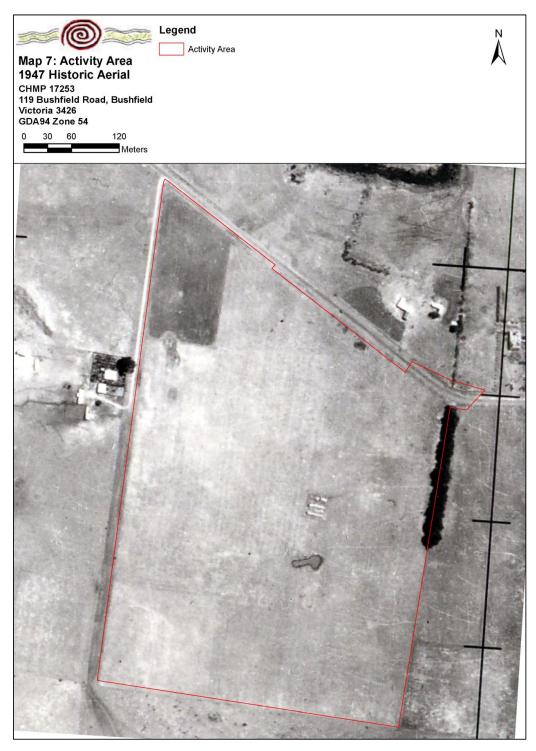
In summary ground disturbance activities that have impacted the activity area include:

- Clearance of original native vegetation.
- Surface disturbance due to the grazing of European livestock and the ploughing of the ground for cropping.



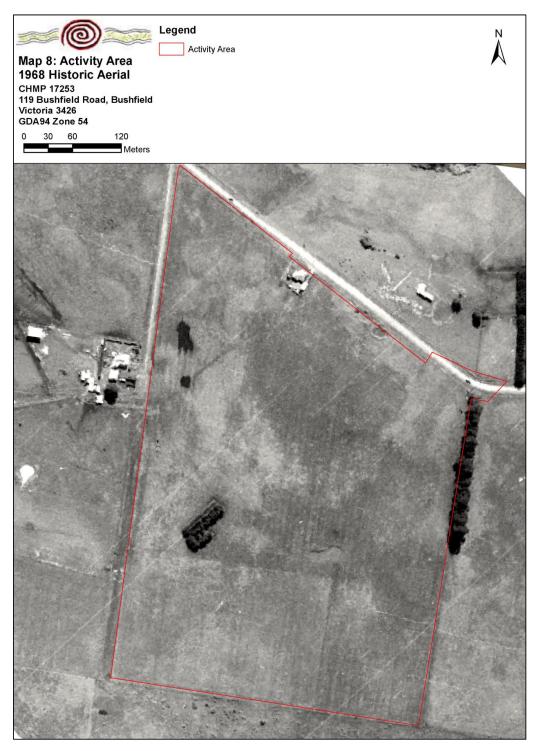
- Subsurface impacts of considerable depth (beyond 30cm deep) in areas associated with residential and farm infrastructure (sheds/dams) construction.
- Use of parts of the activity area as part of Bridge Road, and later road reserve associated with Bridge Road.





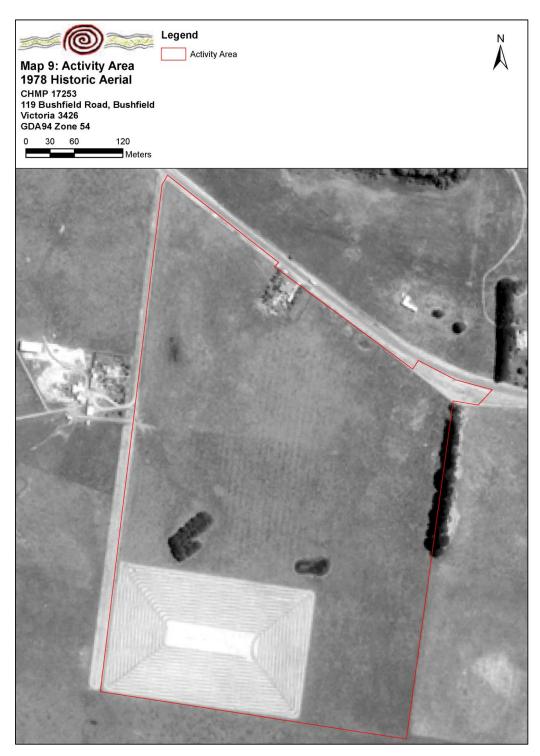
Map 7: 1947 historic aerial of activity area (Landata 2020).





Map 8: 1968 historic aerial of activity area (Landata 2020).





Map 9: 1978 historic aerial of activity area (Landata 2020).





Map 10: 2001 historic aerial of activity area (Google Earth 2020).



7.7 Aboriginal Places in the Geographic Region

Edward East (UCA Heritage Advisor) accessed the VAHR initially on 01 June 2020. A search was conducted for previously registered Aboriginal places within the geographic region. A search was also conducted for previous archaeological investigations undertaken within the geographic region. A further search of the VAHR database was undertaken by Edward East on 19 August 2020, in order to search a wider geographic region.

This assessment found that 37 Aboriginal places have been previously recorded across the geographic region. The majority of previously recorded Aboriginal places in the geographic region consist of artefact scatters (n = 26 70%). The vast majority of the raw materials found within these places comprise silcrete, quartz and quartzite. The majority of these artefact scatters are located in close proximity water sources such as the Merri River. Close proximity to freshwater and subsistence resources offered by the river is the most likely reason to explain this site distribution. No places listed on the VAHR are located within the current activity area (Table 6 – 7).

Other site types found across the geographic region consist of low-density artefact distributions (n = 6.16%), shell midden (n = 3.8%) a single earth feature (3%) and a single object collect (3%). All of these site types provide evidence of the exploitation of the geographic region for subsistence purposes (Table 7).

The earth feature (VAHR 7321-0403-1 BUSHFIELD 1) is recorded as an Earth Feature and is located in close proximity to the Merri River, 500 metres to the north east of the current activity area. The earth feature is recorded as containing a midden which is recorded to have contained several types of marsupial remains, as well as a hand axe that has been radiocarbon dated (see Section 7.8.2) providing substantial evidence of the exploitation of local faunal resources by local Aboriginal peoples. The current distribution of registered Aboriginal places across the geographic region indicates that Aboriginal cultural heritage material is most likely to be found in subsurface contexts in close proximity to fresh water and is most likely to be comprised of lithic artefact scatters.

Table 6: Previously recorded VAHR places within the geographic region.

Aboriginal Place Name	Component Place Numbers	Component Type
MERRI RIVER 1	7321-0113-1	Artefact Scatter
WARRNAMBOOL 1	7321-0114-1	Artefact Scatter
MERRI RIVER 2	7321-0117-1	Artefact Scatter
MERRI RIVER 3 DENNINGTON	7321-0118-2	Artefact Scatter
OLD FARNHAM 1	7321-0218-1	Artefact Scatter
ROACHE 1	7321-0347-1	Artefact Scatter
ROACHE 2	7321-0348-1	Artefact Scatter
ROACHE 3	7321-0349-1	Artefact Scatter
ROACHE 4	7321-0350-1	Artefact Scatter
SPRING ONIONS	7321-0355-1	Artefact Scatter
WARRNAMBOOL GOLF COURSE 1	7321-0404-2	Artefact Scatter
WOLLASTON ROAD 1	7321-0450-1	Artefact Scatter
WOLLASTON ROAD 2	7321-0451-1	Artefact Scatter
HARRINGTON ROAD 1	7321-0471-1	Artefact Scatter
HARRINGTON ROAD 2	7321-0472-1	Artefact Scatter
Wollaston Rd 1	7321-0479-1	Artefact Scatter
Wollaston Rd 2	7321-0480-1	Artefact Scatter
Wollaston Rd 3	7321-0481-1	Artefact Scatter
Wollaston Road 4 IA	7321-0482-1	Artefact Scatter



Wollaston Road 5 IA	7321-0483-1	Artefact Scatter
Wollaston Road 3 AS	7321-0486-1	Artefact Scatter
Wollaston Road 6 AS	7321-0487-1	Artefact Scatter
Wollaston Rd 4	7321-0489-2	Artefact Scatter
TOTE 1	7321-0115-1	Artefact Scatter
JELLEY 1	7321-0116-1	Artefact Scatter
Warrnambool Rail Warrnambool Shell Midden 1	7321-0513-3	Artefact Scatter
BUSHFIELD 1	7321-0403-1	Earth Feature (Soil Deposit)
Botanic Road LDAD	7321-0493-1-9	Low Density Artefact Distribution
Woodford LDAD	7321-0504-2-3	Low Density Artefact Distribution
Merrivale LDAD 1	7321-0505-2	Low Density Artefact Distribution
Warrnambool Rail Warrnambool LDAD 2	7421-0244-1-19	Low Density Artefact Distribution
Woodford LDAD	7321-0504-3	Low Density Artefact Distribution
Warrnambool Rail Warrnambool LDAD 1	7321-0512-1	Low Density Artefact Distribution
Moyjil Aboriginal Place	7421-0006-2	Object Collection
DENNINGTON	7321-0003-1	Shell Midden
WARRNAMBOOL GOLF COURSE 1	7321-0404-1	Shell Midden
Warrnambool Rail Warrnambool Shell Midden 1	7321-0513-1	Shell Midden

Table 7: Summary of the VAHR places within the geographic region.

Component Type	Frequency (No)	Frequency (%)
Artefact Scatter	26	70%
Low Density Artefact Distribution	6 (33 individual components)	16%
Shell Midden	3	8%
Earth Feature	1	3%
Object Collection	1	3%
Total	37	100%



7.8 Previous Studies in the Geographic Region

The results of prior archaeological studies relevant to, or conducted in the vicinity of, the present activity area, along with the current regional model of site distribution, are presented in this section. This information is reviewed in order to assess the archaeological sensitivity of the activity area and to inform the methodology of the field assessment program.

7.8.1 Regional Investigations

Mulvaney (1977) wrote a prehistory of the basalt plains in which he describes a range of pre- contact Aboriginal sites indicating use of the land and resources. Mulvaney discussed the nature of Aboriginal artefacts that have been recorded across the basalt plains and use of basalt for the construction of circular huts, fish and eel traps along watercourses on the basalt plains, and oven mounds. Mulvaney noted that many sites were disturbed during the 18th and 19th centuries, and the use of land for agricultural purposes also further damaged or destroyed Aboriginal sites. There is discussion about the nature of Aboriginal trade networks across south west Victoria, including green stone aces from Mt. William, Victoria, into the Lower Darling region of NSW, and into the Northern Territory, while axes from Chatsworth, Victoria, were traded as far west as the Yorke Peninsula in South Australia. He cites Dawson (1881) describing trading occasions at Mt. Noorat, western Victoria, during which kangaroo skins, various types of stone, saplings for spears, ochre, shells and wattle gum were traded (Dawson 1881, cited in Mulvaney 1977: 430). Mulvaney also discuss the so-called Bushfield hafted grooved axe, located beneath tuff which he states is dated at 5kbp (since redated to >20kbp). Mulvaney highlighted that radiocarbon dating and aerial photography could assist in recording Aboriginal places at risk of damage or destruction.

Bird and Frankel (1991) wrote a paper questioning the theory of "intensification" manifested by an increased number of late Holocene sites, and the appearance of what were perceived to be new site types. The paper discusses archaeological sites from south-west Victoria, amongst others, but focussed on this region as a range of site types (e.g. fish traps, mounds) are more prolific in this region than some other regions of south-eastern Australia. They concluded that, in their opinion, the archaeological evidence from late Holocene south-west Victoria and south- east Australia in general reflects the variability and complexity of "hunter-gatherer societies" rather than social changes leading to "intensification". They also conclude that similar variability was likely to have occurred in response to environmental changes during the early Holocene and Pleistocene as well, but at the time of writing such evidence had not yet been revealed.

Coutts et al (1977) undertook a study designed to assess the impact of European settlement on Aboriginal society. Their approach was to outline the available evidence and present hypotheses to be tested. As part of their approach, they excavated 14 sites across the western district of Victoria. These included three rock shelters, one mound site on the western side of the Grampians, five mound sites in the central western district, three so-called house sites south of Hamilton, and most relevant to the current study, two camp sites on sandy soils beside the Hopkins River. They found that in general mound sites were clustered along major drainage systems; contained a variety of faunal remains; stone implements were mainly made from locally available stone and few formal tools were present: those that were present were generally made from imported stone. This suggested that the sites were for general use, rather than special purpose sites. They noted that the mounds had been occupied after most of the soil had been deposited. They considered that no function for the mounds could be suggested but noted that the reworked soil would have facilitated excavation of pits for burials or ovens. The excavated rock shelters contained lithics, ovens and ochre. Analysis suggested that rock shelters were not used as intensively as the mounds. There was no evidence of large pits or burials, and it was evident that the occupants were hunting small animals and gathering locally available plants.



An artefact scatter on the banks of the Hopkins River was excavated. The assemblage was similar to those in the mounds. The report also discussed a canal system near Toolondo, rock arrangement and fish trap complex near Lake Bolac, and the stone weirs near Lake Condah.

In doing a comparison between pre-contact and post-contact sites in order to investigate settlement patterns, the authors noted that the literary sources give cursory information only regarding shelters, for example, and the more detailed descriptions are recorded later. Little information is available regarding the size and structure of camps. They conclude that there is some continuity between pre-contact and post-contact sites – traditional burial practices were maintained, stone tools continued to be made, albeit with decreasing frequency, and ochre, pits, ovens etc were still used. Continuity is also evident in some aspects of the lithic manufacturing industry

7.8.2 Local Investigations

Several relevant cultural heritage management projects have been undertaken within 3km of the current activity area which will inform the current assessment.

Keble (1947) wrote a paper on Australian Quaternary climates and migration in which he discussed Australian climates suggested of some Victorian soils that contained Aboriginal artefacts. Relevant to the current activity area is the discussion of earth feature VAHR 7321-0403 BUSHFIELD 1 located 500 metres north east of the current activity area, on the north side of the Merri River. This earth feature is recorded as containing a midden with animal bones including kangaroo, wallaby, possum, wombat, Tasmanian devil, rat, and dingo, as well as the basalt axe. The axe was located at a depth of "9 feet" on tuffaceous limestone over which stratified tuff is located, on an incised river terrace. This site dates to "at least 4kbp, possibly up to 6kbp" according to Keble (1947: 56-58). Keble summarised the formation of the deposit as follows:

Keble writes that the surface of the floodplain was at the time of his inspection 11 feet above the level of the water in the Merri River, which was 4 or 5 feet deep; the bed of the River opposite the hole in which the axe was found is about 30 feet above the level of low water at Warrnambool Bay. The time taken for the accumulation of the 9 feet (over 2.7m) of tuff covering the axe together with that taken for the valley XYD to reach maturity is the age of the axe. The flood-plain A was formed at or about the Postglacial Optimum, probably just before the rising sea-level of the Postglacial reached its maximum, and after Tower Hill had ceased to be active: the vertical erosion of the Merri River preceding its formation was contemporaneous with the concluding stages of the Tower Hill activity, "it is therefore apparent that the axe is more than 4,000 years old, and allowing for the maturing of the valley XYD, its age is perhaps 6,000 years" (Keble 1947: 57-58).

Gill (1954) wrote an article regarding the use of geological evidence in Western Victoria relative to the "antiquity of Australian Aborigines." One of the case studies involved a discussion about VAHR 7321-0403 BUSHFIELD 1, the axe and faunal bones found beneath tuff material 500 metres north-east and as referred to by Keble (above). Gill noted that this material "shows the aborigines were present when the Tower Hill volcano first became active, which is thought to be not very much more than 1,000 years ago" (Gill 1954: 84). In fact, the most recent studies indicate that the most recent eruption took place around 20,000 years ago rather than the 7,000 years suggested by earlier works.

Report No. 3396. Paynter and Rhodes (2005) undertook an archaeological assessment for Wollaston Road, Warrnambool. A combination of pedestrian and vehicular survey was undertaken to investigate the activity area. The majority of surveyed areas consisted of thickly vegetated paddocks with extremely poor surface visibility. Two Aboriginal places were located, including one isolated artefact (VAHR 7321-0450) and a low-density artefact distribution (VAHR 7321-0451). The survey identified areas of high archaeological potential and noted that the most likely site types to be located within the activity area were subsurface stone artefact scatters, multiple feature sites and earth mounds. The site prediction model suggested that along the Merri River, floodplains, river terraces, ridgelines, hill slopes and dunes are the areas of highest archaeological potential. Paynter and Rhodes



noted that Aboriginal sites are unlikely to be located in surface contexts due to prior ground disturbance, but that the potential for intact subsurface deposits remained high.

CHMP 11662. O'Reilly and McAlister (2011) undertook a CHMP in response to a proposed housing subdivision at Wollaston Road, Warrnambool, 2.8km south of the present activity area. Much of this area was previously surveyed as part of Report 3396 discussed above. The activity area comprised two parts, the first being an area of 79.9 hectares located immediately north of Merri River either side of Wollaston Road. The second part, an area of 30.5 hectares, included a series of disconnected parcels and road easements that were to be impacted by construction of water and sewerage works associated with the residential subdivision. This is 3km south of the current activity area at its' closest point.

No cultural material was located during the standard assessment; however, areas of sensitivity were identified, specifically land within 200m of the Merri River. Five new Aboriginal places were located during the complex assessment. These all consisted of subsurface artefact scatters (VAHR 7321-0450, 0486, 0482, 0483 and 0487). These were all located on the floodplain or the more elevated adjacent volcanic plains.

VAHR 7321-0450 consisted of 25 artefacts, mostly quartz and silcrete, found in silty clay to a depth of 40cm, on an elevated bank of the Merri River. The majority of artefacts were located in the top 20cm and consisted of flakes, broken flakes and debitage. The place extended over an area of 200m x 20m and was assessed as being of moderate scientific significance. This place was originally recorded as an isolated surface artefact by Paynter and Rhodes (below).

VAHR7321-0486 consisted of four silcrete and quartz artefacts located in the top 40cm of clayey silt soil on a low rise or basalt mound, on a river terrace. The assemblage consisted of two flakes, one broken flake and one piece of debitage, and extended over an area of approximately 25m x 10m. The place was assessed as being of moderate scientific significance.

VAHR7321-0482 consisted of a single broken flake found 20-30cm in depth in silty clay. This was considered to be in a disturbed context, was located on a lowland plain and was confined to a 1mx1m test pit. It was assessed as being of low scientific significance. All three places were considered to date from the mid-late Holocene.

CHMP 15259. Fiddian and Patton (2019) conducted a CHMP in response to a proposed residential subdivision at 267 Bridge Road, Woodford 950 metres north west of the current activity area. The desktop assessment identified that no Aboriginal cultural heritage places have been previously recorded within the activity area. No surface Aboriginal cultural material was located during standard assessment. A complex assessment was conducted that consisted of the hand excavation of four 1x1m test pits and ninety 50x50cm shovel test pits. One new subsurface Aboriginal place was located during the complex assessment VAHR 7321- 0504 Woodford LDAD, which comprised a low-density artefact distribution consisting of one silcrete 'piercer' and one quartz distal flake.

The soil profile of many test pit excavations indicated that some ground disturbance had taken place within the first 20cm as a result of stock movement and previous agricultural activities. Excavations on the rise in the western section of the activity area (Paddock 4), reached depths of up to 124cm. This excavation was in sandy silt deposits and was the landform in which cultural material was located. On the other hand, excavation within the floodplain landscape ceased at much shallower depths, at times less than 20cm, as a compact, impenetrable and culturally sterile clay was reached.

7.8.3 Site Predictive Model

The results of the previous local and regional studies can be used to construct a predictive site model for the geographic region and activity area. The findings of the review of previously registered places and prior studies within the geographic region are:



- The activity area is located within an area of cultural heritage sensitivity, being within 200m of the Merri River.
- Parts of the activity area have been impacted by land clearance, construction activities and agricultural
 activities. This is supported by the analysis of historic aerial imagery which clearly shows the use of the
 activity area for agricultural purposes from at least 1947 onwards (Table 5. Maps 7 10).
- Previously registered Aboriginal places are concentrated on along waterways such as the Merri River across the study area geographic region.
- The most common archaeological place types in this region are subsurface stone artefact scatters.
- Dominant stone artefact types will be waste flakes, flakes, and a small component of formal tool types.
 These artefacts will be most commonly manufactured from silcrete and quartz.
- The activity area is considered to have a low to moderate potential for Aboriginal cultural material due to the impact of land clearance, agricultural activities, construction activities and its distance from a permanent water source.
- Widespread clearance of native vegetation makes the possibility of scarred trees in the study area low, but any mature trees located should be inspected for cultural scarring.

7.9 Conclusions from the Desktop Assessment

The desktop review has provided salient information from which areas of Aboriginal archaeological potential may be predicted and further tested through standard and complex assessments. No previously registered Aboriginal places are recorded in the current activity area. A review of previously registered sites in the region indicates a concentration of subsurface artefact scatters in close proximity to permanent water sources such as the Merri River. Proximity to water sources appears to be an influential factor in Aboriginal place location, with the frequency and density of places, particularly stone artefact scatters, decreasing with distance to potable water.

Subsurface stone artefact scatter sites dominate as the likely site type, with low density artefact distributions also present in smaller numbers. Aboriginal places in the area are overwhelmingly located in a subsurface context, with the impacts of modern agricultural and construction activities a likely explanation for this; surface artefacts would have been destroyed or removed from their original locations by such invasive processes. The review of ethnographic evidence highlights the economic and cultural importance of the region to pre- and post-Contact Aboriginal people. The information suggests organised exploitation of the region. Due to the history of tree clearance, there is low potential for the location of scarred trees within the activity area. The most common lithic material types in the region are silcrete, followed by quartz and quartzite. Reviews of previously registered Aboriginal Places indicate that any sites identified are likely to date to the late Holocene.

The prior land use within the activity area has been established via the analysis of historical aerial imagery. Past land use of the activity area is predominately agricultural in nature and includes the initial clearance of native vegetation followed by cropping and grazing activities. A residential dwelling and agricultural infrastructure, such as sheds, a dam and fences have been also constructed across the activity area. The north west and north east parts of the activity area have been used as part of Bridge Road and later as part of the road reserve.

Based on the desktop assessment, it is considered that the activity area retains a low to moderate likelihood for the location of Aboriginal cultural heritage material in the form of lithic artefacts. The cultural heritage potential of the activity area is considered to decrease in areas of disturbance, such as at the location of the residential dwelling. Given that the desktop assessment indicates that the activity area has a low to moderate potential to contain surface and potentially subsurface Aboriginal cultural material a standard assessment is considered warranted.



8 STANDARD ASSESSMENT

8.1 Introduction

This section outlines the aims, methods, and results of the standard assessment of the activity area undertaken on 23 March 2020 by Mark Grist (Urban Colours Archaeologist and Heritage Advisor), with assistance Stephen Chatfield and Jryran Chatfield (Eastern Maar Field Representatives).

The activity area was extended to cover the immediate road reserve south of Bridge Road. This was subject to a standard assessment on the 17th September, this was directed by Edward East (UCA Heritage Advisor) with assistance from Mark Grist (UCA Heritage Advisor), Hayden Harradine (Eastern Maar field representative) and Mundara Clark (Eastern Maar field representative).

8.2 Aims of the Standard Assessment

The aims of both phases of the standard assessment was to determine the cultural heritage sensitivity of the activity area by identifying the presence of any previously unrecorded surface Aboriginal cultural heritage places or material within the activity area and also to identify areas of significant ground disturbance which have resulted from prior land use history. This information was used to inform the complex assessment testing methodology and identify areas of subsurface archaeological potential.

8.3 Methodology of the Standard Assessment

The initial standard assessment conducted on 23rd March 2020 involved three participants, Mark Grist (Urban Colours Archaeologist and Heritage Advisor), with assistance from Stephen Chatfield and Jryran Chatfield (Eastern Maar Field Representatives) walking in north to south transects with the survey team spaced at approximately 1.6m apart, with the survey team walking as a whole spaced at 5m.

The activity area was extended to cover the immediate road reserve south of Bridge Road in the north east and north west parts of the activity area. This was subject to a standard assessment on the 17th September, this was directed by Edward East (UCA Heritage Advisor) with assistance from Mark Grist (UCA Heritage Advisor), Hayden Harradine (Eastern Maar field representative) and Mundara Clark (Eastern Maar field representative). The road reserve area was surveyed in with participants walking in two abreast in east west transects. A total area 205,663m² was systematically surveyed during both phases of the standard assessment.

Areas of archaeological potential were noted during the survey as well as areas of disturbance, which were unlikely to contain Aboriginal cultural material. Photographs of the activity area landform as well as the areas of disturbance and archaeological potential were taken throughout the standard assessment. Detailed notes were taken in-field to assist in the assessment of ground conditions, landform details and in the assessment of areas of disturbance. A handheld Trimble brand GPS was used to provide tracklog information and record any features or areas of archaeological potential during the standard assessment. This methodology was designed to maximise the opportunity for locating surface cultural material as well as areas of isolated exposure (Table 8. Plates 2 – 8. Map 11).

8.4 Ground Surface Visibility and Exposure

Ground surface visibility (GSV) was considered poor (<2%) across much of the activity area, due to dense grass and other vegetation. No areas of exposure were identified in either paddocks or the road reserve area of Bridge Road, with some very small areas of exposure found in close association with trees near the residential dwelling



in the north of the activity area. Areas of the existing dwelling and dam in the south east corner of the activity area were not accessible (Table 8).

Table 8: Effective survey coverage of the activity area.

Landform	Total Activity Area (m)	Area not Surveyable (m)	Percentage Surveyed (%)	Area Surveyed (m)	Average GSV (%)	Effective Survey Coverage	Effective Survey Coverage (%)
Hill slope	205,663m ²	1,612m ²	99.2%	200,812m ²	2%	4016.24m ²	2%

8.4.1 Standard Assessment Limitations

The primary limitation to the standard assessment was the lack of GSV (<2%) noted throughout much of the activity area, associated with pasture grasses and other vegetation. Areas of disturbance were also considered a limiting factor as the likelihood of observing surface cultural material in such areas is greatly reduced. The areas of the existing dam and abandoned residential dwelling were not accessible for survey.

8.5 Standard Assessment Results

The following section outlines the results of the standard assessment and provides discussion of the landforms, areas of disturbance, areas of archaeological potential and any cultural material identified within the activity area during the assessment.

The standard assessment identified one landform within the activity area; an open, grassed, south running hill slope. The hill slope consists of two agricultural paddocks that are roughly rectangular and run east to west. These paddocks are divided by a fence that is found to the south of the centre of the activity area. A small dam is found in the south eastern corner of the north paddock, which has been created via modern excavation. An area of cypress trees has been cut down. The activity area was expanded to encompass the area of road reserve immediately south of Bridge Road, in the north east and north west of the activity area. This area is located close to the crest of the hill, but still within the slope landform (Plates 1 – 12. Map 11).

This south facing hill slope is a relatively exposed location to the locally prevailing southerly wind and does not provide views over the nearby Merri River, which is found some 180 metres to the north of the activity area. However, the top of the hill crest, being closest located to a permanent water source and registered Aboriginal place, was noted as an area of archaeological potential. This part of the hill slope also provided for view south facing views across the local region. Dense grass coverage obscured the majority of the activity area ground surface. No Aboriginal cultural heritage places or material was located during the standard assessment. No remnant native vegetation of sufficient age was identified within the activity area, nor were there any caves, cave entrances or rock shelters within the activity area. The geological and geomorphological character of the activity area does not allow for these landforms to be present (Map 11).

8.5.1 Areas of Disturbance

Two main types of disturbance were noted during the standard assessment, reflecting impacts associated with prior land use in different locations within the activity area.

Residential dwelling and associated infrastructure

A moderate sized residential dwelling is found in the north of the activity area (Map 11). A small driveway provides access to the residential dwelling from Bridge Road. A garage and an area of concrete slabs are found



at the rear of the dwelling. The construction of this dwelling and associated structures would have caused extensive surface and subsurface disturbance across this part of the activity area (Plate 7. Map 7).

Agricultural infrastructure

Areas of disturbance associated with agricultural activities and infrastructure were found in specific parts of the paddocks of the activity area (Map 11). Agricultural infrastructure has been installed across these paddocks, with fences, animal troughs and a dam constructed. The construction of this infrastructure would have caused surface disturbance at all these locations. The construction of the dam, located in the south east corner of the north paddock of the activity area, would have caused significant subsurface disturbance at its location (Plate 4, 8. Map 11).

Road infrastructure

Areas of disturbance were noted across the road reserve associated with Bridge Road. In the north west an existing subsurface Telstra cable was located running along the entire axis of this area. This area was also being utilised as a gutter for Bridge Road. A storm water drain has also been constructed in this part of the activity area. In the north east of this part of the activity area the subsurface Telstra cable was also detected. Parts of the north east road reserve area did not appear natural and was likely built up as embankment to facilitate the operations of Bridge Road (Plate 9 – 12).

8.5.2 Aboriginal Cultural Heritage Identified During the Standard Assessment

No Aboriginal cultural heritage places or material was located within the activity area as a result of the standard assessment.

8.5.3 Areas of Aboriginal Cultural Heritage Likelihood

During the standard assessment, one area of archaeological potential was noted, in the north of the activity area. This was the top of the slope within the activity area. This part of the activity area is the closet location to the Merri River, provides views around the surrounding area and is also the part of the activity area that is covered by the area of cultural heritage sensitivity. Other parts of the activity area were deemed to have a lower archaeological potential, being located on the middle to lower slope of the hill and located further away from the Merri River (Map 11).

8.6 Standard Assessment Conclusions

The standard assessment confirmed that the activity area comprises one landform, being a gentle south running hill slope. No new Aboriginal places or Aboriginal cultural material was located within the activity area as a result of the standard assessment. However, given that much of the activity area could not be effectively surveyed as a result of very poor GSV, it was determined that further investigation, by way of complex assessment, was required for this CHMP. An area of archaeological potential was noted as the top of the hill slope, as it was the closest located part of the activity area to a permanent water source, the Merri River, and a registered Aboriginal place while also providing for south facing views across the local region (Map 9). The complex assessment would also further establish the extent of subsurface disturbance that had occurred within the activity area. The north west road reserve should be considered highly disturbed due to the location of road and Telstra infrastructure, subsurface testing here is not warranted, nor possible due to the location of subsurface Telstra infrastructure. The Eastern Maar field representatives present expressed their approval of the conduct of both phases of the standard assessment conducted.

A summary of the results of the standard assessment are as follows:



- The surface of the activity area has been affected by its long-term use for agricultural and road infrastructure purposes.
- Localised parts of the activity area have been subject to subsurface disturbance, associated with a
 dwelling and the road reserve area associated with Bridge Road.
- The standard assessment was unable to fully quantify the level of subsurface disturbance across the
 activity area; there remains the possibility of subsurface Aboriginal cultural heritage. A complex
 assessment was decided as the only way to quantify the level and nature of the subsurface disturbance
 within the activity area.
- No new Aboriginal places or surface material was located within the activity area during the standard assessment
- One area of archaeological potential was noted, the top of the hill slope, located in the north of the activity area.





Plate 1: North view from centre of the activity area showing gentle south running hill slope landform (Mark Grist 23/03/20).



Plate 2: West view from south east corner of north paddock, dam visible in distance (Mark Grist 23/03/20).



Plate 3: West view of agricultural infrastucure located on central west border of activity area (Mark Grist 23/03/20).



Plate 4: East view of dam located in south east corner of north paddock (Mark Grist 23/03/20).





Plate 5: South view of activity area southern border (Mark Grist 23/03/20).



Plate 7:North view of partly demolished residential dwelling (Mark Grist 23/03/20).



Plate 6: South facing view from activity area north border showing gentle south running hill slope landform (Mark Grist 23/03/20).



Plate 8: South view of agricultural fence running across centre of activity area (Mark Grist 23/03/20).





Plate 9: East view of road reserve of Bridge Road in north west of activity area, note Telstra infrastructure (Edward East 17/09/20).



Plate 11: West view of road reserve of Bridge Road in north east of activity area (Edward East 17/09/20).



Plate 10: East view of road reserve of Bridge Road in north west of activity area, note drainage infrastructure (Edward East 17/09/20).



Plate 12: West view of road reserve of Bridge Road in north east of activity area (Edward East 17/09/20).





Map 11: Standard assessment results.



9 COMPLEX ASSESSMENT

This section outlines the aims, methods, and results of the subsurface testing program of the activity area undertaken. An initial complex assessment was undertaken from 09 – 12 June 2020 by Edward East (Urban Colours Senior Archaeologist and Heritage Advisor), in consultation with Stephen Chatfield and Jryran Chatfield (Eastern Maar Field Representatives).

An additional phase of complex assessment was undertaken on the 17th September 2020 this was directed by Edward East (UCA Heritage Advisor) with assistance from Mark Grist (UCA Heritage Advisor), Hayden Harradine (Eastern Maar field representative) and Mundara Clark (Eastern Maar field representative).

9.1 Aims of the Complex Assessment

The aims of the complex assessment were to:

- Establish the level of subsurface disturbance across the activity area.
- Determine the possible presence of subsurface cultural heritage in areas with poor GSV identified during the standard assessment.
- Determine the possible presence of cultural heritage material in the areas of cultural heritage sensitivity within the activity area; and
- Establish the subsurface stratigraphic composition of landforms within the activity area.

9.2 Methodology of the Complex Assessment

A combination of three hand excavated 1x1m stratigraphic test pits (TP) twenty-four 50 x 50cm hand excavated shovel test pits (STPs), and nine 2x1 meter machine excavated test pits (MPs) were excavated across the activity area. The subsurface testing was undertaken across the upper, middle, and lower slope of the south running hill slope landform that characterises the activity area. Testing was concentrated within the part of the activity area noted as having archaeological potential. Two 1x1m test pits were located on the upper slope and one located on the lower slope. A grid pattern of 50x50cm shovel test pits were excavated cross the entirety of the activity area. The nine 2x1m machine test pits were excavated across the upper, middle, and lower slopes of the activity area. An additional 1x1m test pit and two 50x50cm shovel test pits were excavated in the road reserve area of Bridge Road, in the north east of the activity area. Eastern Maar field representatives present were consulted prior to and during the complex assessment and approved of all aspects of the assessment conducted. No major obstacles were encountered during the complex assessment. No Aboriginal cultural heritage was located during the complex assessment (Map 12).

All test pits were excavated in 100mm spits, until the underlying subsoil, comprising a sterile layer was reached. All excavated soils were screened using 5mm aperture sieves. Images were taken at the base of each spit and soil samples were recovered from each stratigraphic horizon for further post-excavation analysis. Soil colour and pH were subsequently recorded during this later analysis. The stratigraphic section of all excavated test pits were photographed and illustrated. All test pits locations were recorded utilising a Trimble brand handheld GPS. Range poles are shown in 200mm increments.

9.2.1 1 x 1m Test Pit Program

Three 1 x 1 meter stratigraphic test pits (TP) were excavated as part of the complex assessment (Map 12). All test pits were excavated by hand in 100 mm spits using hand tools, until the underlying B2 horizon (subsoil), comprising a culturally sterile deposit of heavy clay was reached. All excavated soils were hand screened using



a 5mm aperture sieve. All sieved deposits were investigated for cultural heritage material. Images were taken at the base of each spit and soil samples were recovered from each stratigraphic horizon for further post-excavation analysis. Soil colour and pH were subsequently recorded during this later analysis. All 1x1m test pits were recorded using a Trimble brand handheld GPS. The stratigraphic section of each 1 x 1 meter test pit was photographed and illustrated.

Two 1x1 meter test pits were located in the north of the activity area, on the upper hill slope, within the identified area of archaeological potential. One 1 x 1 meter test pit was located on the lower hill slope, in the south west of the activity area. The 1 x 1 meter test pits were located in parts of the activity area deemed to be the least disturbed, on the basis of distance from existing structures and infrastructure. They were also placed in locations that appeared best able provide a representative sample of the subsurface geomorphology of the activity area, away from areas of construction events and agricultural infrastructure primarily.

The geomorphology recorded during the 1 x 1 meter test pit program conformed to the findings of Section 7.2.2. A heavy deposit of clay with frequent amounts of small to medium sized non-cultural basalt rocks was recorded in all test pits excavated. On the basis of the established age range of this clay, the Pliocene epoch, excavations were concluded after testing into this deposit for some depth. Test pit 1x1 A excavated a deeper sondage into this sterile deposit of clay, in the south east corner of the pit, to further quantify the geomorphology of the activity area. A sondage is a well-established method of archaeological excavation whereby a small test excavation is made within in an existing test pit or trench to further investigate the stratigraphy of a site (Hester R. et al. 2009: 73). This sondage confirmed that the deposit of heavy clay continued with depth and an increasing volume of small to medium non-cultural basalt rocks was encountered (Figure 4). The indurated nature of this deposit meant that testing of this deposit was possible for only a shallow depth. The 1 x 1 meter test pits excavated did not show signs of disturbance, with a natural geomorphological deposit apparent with no modern inclusions, such as rubbish.

Eastern Maar representatives present in field were consulted prior to and during 1 x1 meter test pit excavation program and expressed their approval of its conduct. No Aboriginal cultural material was recovered from any of the 1 x 1 meter test pits excavated (Plates 13 – 18. Table 9. Figure 4. Map 12).



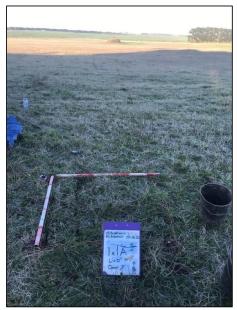


Plate 13: South view of TP 1x1 A prior to excavation (Photo: Edward East 09/06/2020).



Plate 14: South view of TP 1x1m B at excavation conclusion (Photo: Edward East 09/06/2020).



Plate 15: South view of TP 1x1m A at excavation conclusion (Photo: Edward East 09/06/2020).



Plate 16: South view of TP 1x1m C at excavation conclusion (Photo: Edward East 09/06/2020).





Plate 17: South east west view of TP 1x1 D at excavation conclusion (Photo: Edward East 17/09/2020).



Plate 18: South view of TP 1x1 D at excavation conclusion (Photo: Edward East 17/09/2020).

Table 9: Location and description of all 1x1 meter stratigraphic test pits.

1x1m Test Pit A

Location (GDA94 Zone 54) Easting 630529.2513 Northing 5757267.59

1x1 A located on upper slope of hill in north of activity area.

Description

Context 1: A1 horizon: 0-100mm. Munsell: 5YR3/2. pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks

Context 2: B1 horizon: 100-180mm. Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks.

Context 3: B2 horizon: 180 – 300mm. Munsell: 5YR4/2. pH 8.

Sondage excavated in south east pit corner to further investigate sterile layer. Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

1x1m Test Pit B

Location (GDA94 Zone 54) Easting 630263.3717 Northing 5756849.127

1x1 B located on lower hill slope in south of activity area.

Description

Context 1: A1 horizon: 0-100mm. Munsell: 5YR3/2. pH 8

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks.

Context 2: B1 horizon: 100-180mm. Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks.

Context 3: B2 horizon: 180 - 200mm. Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

1x1m Test Pit C

Location (GDA94 Zone 54) Easting 350910 Northing 5778452

1x1 C located on upper slope of hill in north of activity area.

Description

Context 1: A1 horizon: 0-100mm. Munsell: 5YR3/2. pH 8



Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks.

Context 2: B1 horizon: 100-180mm, Munsell: 5YR4/1, pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks.

Context 3: B2 horizon: 180 – 300mm. Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

1x1m Test Pit D

Location (GDA94 Zone 54) Easting 630652.1856 Northing 5757194.921

1x1 D located in north east of activity area in Bridge Road reserve area.

Context 1: A1 horizon: 0-100mm. Munsell: 5YR3/2. pH 8

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks

Context 2: B1 horizon: 100-220mm. Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks.

Context 3: B2 horizon: 220 - 280mm. Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks. Basalt floater located in south east corner of pit.

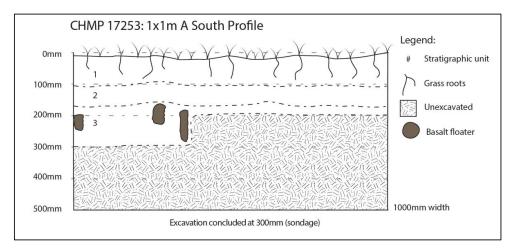


Figure 4: TP A stratigraphic profile at excavation conclusion. A sondage was excavated into sterile deposit of clay in SE pit corner to further establish activity area geomorphology.

9.2.2 50 x 50cm Shovel Test Pit Program

Twenty-two 50 x 50cm shovel test pits (STPs) were excavated as part of the complex assessment (Map 12). All shovel test pits were excavated by hand in 100mm spits using hand tools, until the underlying B2 horizon (subsoil), comprising a culturally sterile deposit of heavy clay was reached. All excavated soils were hand screened using a 5mm aperture sieve. All sieved deposits were investigated for cultural heritage material. Images were taken at the base of each spit and soil samples were recovered from each stratigraphic horizon for further post-excavation analysis. Soil colour and pH were subsequently recorded during this later analysis. All 50 x 50cm shovel test pits were recorded using a Trimble brand handheld GPS. The stratigraphic section of each 50 x 50cm shovel test pit was photographed and illustrated.

The twenty-two excavated STPs were spaced at 100m apart in north to south running transects, four transects were excavated across the activity area. The 50 x 50cm shovel test pit program was also designed so as to locate any subsurface Aboriginal cultural heritage material and to obtain stratigraphic data from across the activity area as well as establishing levels of subsurface disturbance across the activity area. Several 50 x 50cm shovel test pits were concentrated in the area of archaeological potential in the north of the activity area (STPs 1,



16-22. Map 12). The geomorphology recorded during the 50×50 cm shovel test pit program conformed to the findings of Section 7.2.2. A deposit of heavy clay with frequent amounts of small to medium sized non-cultural basalt rocks was recorded in all shovel test pits excavated. On the basis of the established age range of this clay, excavations were concluded after testing into this deposit for some depth. The indurated nature of this deposit meant that testing of this deposit was possible for only a shallow depth. The 50×50 cm shovel test pits excavated did not show signs of disturbance, with a natural geomorphological deposit apparent with no modern inclusions, such as rubbish.

Eastern Maar representatives present in field were consulted prior to and during $50 \times 50 \text{cm}$ test pit excavation program and expressed their approval of its conduct. No Aboriginal cultural material was recovered from any of the $50 \times 50 \text{cm}$ test pits excavated (Plates 19 - 26. Table 10. Figure 5. Map 12).



Plate 19: South west view of STP transect program in centre of activity area (Photo: Edward East 09/06/2020). .



Plate 20: South view of STP 2 at excavation conclusion (Photo: Edward East 09/06/2020).





Plate 21: South view of STP 10 at excavation conclusion (Photo: Edward East 09/06/2020).



Plate 22: South view of STP 15 at excavation conclusion (Photo: Edward East 09/06/2020).



Plate 23: North view of STP 12 at excavation conclusion (Photo: Edward East 09/06/2020).



Plate 24: South view of STP 22 at excavation conclusion (Photo: Edward East 09/06/2020)





Plate 25: South view of STP 23 at excavation conclusion (Photo: Edward East 17/09/2020).



Plate 26: East view of STP 24 at excavation conclusion (Photo: Edward East 17/06/2020

Table 10: Location and description of the 50 x 50 cm shovel test pits.

ST	Ρ	1

<u>Location (GDA94 Zone 54):</u> Easting/Northing: 630618.2658 5757194.708

Context 1: A1 horizon: 0-100mm. Munsell: 5YR3/2. pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks.

Context 2: B1 horizon: 100-180mm. Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. Context 3: B2 horizon: 180 – 300mm. Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

STP 2

<u>Location (GDA94 Zone 54):</u> Easting/Northing: 630599.3454 5757125.321

Context 1: A1 horizon: 0-100mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks.

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. Context 3: B2 horizon: 180 – 300mm.

Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

STP 3

<u>Location (GDA94 Zone 54):</u> Easting/Northing: 630492.1304 5757097.481

Context 1: A1 horizon: 0-100mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks.

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. Context 3: B2 horizon: 180 – 300mm.

Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.



STP 4

Location (GDA94 Zone 54): Easting/Northing: 630511.2732 5757197.965

Context 1: A1 horizon: 0-100mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to dark reddish brown clayey silty with a small humic layer (50 mm).

Moderate amounts of small/medium basalt rocks

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. Context 3: B2 horizon: 180 – 350mm. Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

STP 7

<u>Location (GDA94 Zone 54):</u> Easting/Northing: 630558.911 5756945.733

Context 1: A1 horizon: 0-100mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks.

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. Context 3: B2 horizon: 180 – 300mm.

Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

STP 10

<u>Location (GDA94 Zone 54):</u> Easting/Northing: 630439.6621 5756829.884

Context 1: A1 horizon: 0-100mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks.

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. Context 3: B2 horizon: 180 – 250mm.

Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

STP 5

<u>Location (GDA94 Zone 54):</u> Easting/Northing: 630468.0324 5757007 565

Context 1: A1 horizon: 0-100mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. <u>Context 3: B2 horizon:</u> 180 – 350mm.

Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

STP 8

<u>Location (GDA94 Zone 54):</u> Easting/Northing: 630449.2926 5756927.686

Context 1: A1 horizon: 0-100mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks.

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. <u>Context 3: B2 horizon:</u> 180 – 300mm.

Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

STP 1

Location (GDA94 Zone 54): Easting/Northing: 630340.708 5756851.825

Context 1: A1 horizon: 0-100mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks.

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. Context 3: B2 horizon: 180 – 400mm.

Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

STP 6

<u>Location (GDA94 Zone 54):</u> Easting/Northing: 630580.26 5757031.555

Context 1: A1 horizon: 0-100mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to dark reddish brown clayey sitty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. Context 3: B2 horizon: 180 – 300mm.

Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

STP 9

<u>Location (GDA94 Zone 54):</u> Easting/Northing: 630542.6009 5756837.171

Context 1: A1 horizon: 0-100mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks.

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. Context 3: B2 horizon: 180 – 300mm.

Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

STP 12

<u>Location (GDA94 Zone 54):</u> Easting/Northing: 630395.1668 5757271.638

Context 1: A1 horizon: 0-100mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks.

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. <u>Context 3: B2 horizon:</u> 180 – 300mm.

Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.



STP 13

Location (GDA94 Zone 54): Easting/Northing: 630387.8612 5757178.641

Context 1: A1 horizon: 0-100mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks.

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. Context 3: B2 horizon: 180 – 400mm. Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

STP 16

Location (GDA94 Zone 54): Easting/Northing: 630341.7167 5757387.16

Context 1: A1 horizon: 0-100mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. Context 3: B2 horizon: 180 – 300mm.

Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

STP 19

<u>Location (GDA94 Zone 54):</u> Easting/Northing: 630325.0052 5757185.703

Context 1: A1 horizon: 0-100mm. Munsell: 5YR3/2. pH 8.

Dry, friable to dark reddish brown clayey silty with a small humic layer (50 mm).

Moderate amounts of small/medium basalt

Context 2: B1 horizon: 100-200mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. Context 3: B2 horizon: 180 – 200mm.

Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

STP 14

<u>Location (GDA94 Zone 54):</u> Easting/Northing: 630379.3459 5757044 702

Context 1: A1 horizon: 0-100mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium hasalt rocks

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. <u>Context 3: B2 horizon:</u> 180 – 300mm.

Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

STP 15

<u>Location (GDA94 Zone 54):</u> Easting/Northing: 630347.2678 5756941.664

Context 1: A1 horizon: 0-100mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. <u>Context 3: B2 horizon:</u> 180 – 300mm.

Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

STP 17

<u>Location (GDA94 Zone 54):</u> Easting/Northing: 630278.1361 5756945.911

Context 1: A1 horizon: 0-100mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. Context 3: B2 horizon: 180 – 250mm.

Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

STP 20

<u>Location (GDA94 Zone 54):</u> Easting/Northing: 630335.1763 5757290.824

Context 1: A1 horizon: 0-100mm. Munsell: 5YR3/2. pH 8.

Dry, friable to dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. <u>Context 3: B2 horizon:</u> 170 – 180mm.

Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

STP 18

<u>Location (GDA94 Zone 54):</u> Easting/Northing: 630301.5415 5757055.421

Context 1: A1 horizon: 0-100mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to dark reddish brown clayey silty with a small humic layer (50 mm).

Moderate amounts of small/medium basalt rocks

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. Context 3: B2 horizon: 180 – 200mm.

Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

STP 21

<u>Location (GDA94 Zone 54):</u> Easting/Northing: 630427.2788 5757318.5

Context 1: A1 horizon: 0-100mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to dark reddish brown clayey silty with a small humic layer (50 mm).

Moderate amounts of small/medium basalt rocks

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. Context 3: B2 horizon: 180 – 260mm.

Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.



STP 22

<u>Location (GDA94 Zone 54):</u> Easting/Northing: 630436.1059 5757291 481

Context 1: A1 horizon: 0-100mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. Context 3: B2 horizon: 180 – 250mm.

Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

STP 23

Location (GDA94 Zone 54): Easting/Northing: 630436.1059 5757291 481

Context 1: A1 horizon: 0-100mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium hasalt rocks

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. Context 3: B2 horizon: 200 – 290mm.

Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

STP 24

Location (GDA94 Zone 54): Easting/Northing: 630436.1059 5757291 481

Context 1: A1 horizon: 0-100mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks

Context 2: B1 horizon: 100-200mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. <u>Context 3: B2 horizon:</u> 200 – 260mm.

Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

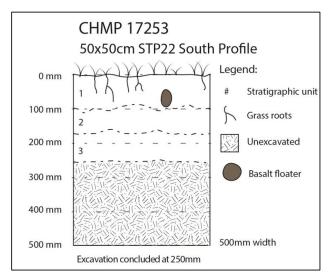


Figure 5: STP 22 stratigraphic profile at excavation conclusion.

9.2.3 2 x1m Machine Excavated Test Pit Program

Nine 2x1 meter machine test pits (MPs) were excavated across the activity area (Map 12). The 2x1m machine test pit program was planned to locate any subsurface Aboriginal cultural heritage, to obtain stratigraphic data from across the activity area and establish levels of disturbance across the activity area. All the machine test pits were in 100 mm spits, until the underlying B2 horizon (subsoil), comprising a culturally sterile deposit of heavy clay was reached. Images were taken at the base of each spit and soil samples were recovered from each stratigraphic horizon for further post-excavation analysis. Soil colour and pH were subsequently recorded during this later analysis. The stratigraphic section of all excavated machine test pits were photographed and illustrated. All machine test pits locations were recorded utilising a Trimble brand handheld GPS. Range poles are shown in 20cm increments.



All excavated soils were screened using 5mm mechanical aperture sieve, powered by a diesel generator, and transported from each pit location via a trailer and 4x4 vehicle. All sieved deposits were investigated for cultural heritage material. A two-ton Wacker Neuson brand Tracked Conventional Tail Excavator with a 1m x 500mm deep straight edge bucket undertook the machine excavation works. The excavator was operated by Turlough McCooey an qualified excavator operator employed by FMG Group Pty Ltd, a civil excavation works company that regularly assists in cultural heritage projects across Victoria. Edward East (Urban Colours Senior Archaeologist and Heritage Advisor) supervised all aspects of the machine excavation program.

The machine pits were excavated on an opportunistic basis, but targeted the upper, middle, and lower slope of the activity area, with three machine pits excavated across these parts of the activity area. The area of archaeological potential featured a more concentrated testing pattern. The geomorphology recorded during the 2x1m machine test pit program conformed to the findings of Section 7.2.2. A deposit of heavy clay with frequent amounts of small to medium sized non-cultural basalt rocks was recorded in all machine test pits excavated. On the basis of the established age range of this clay, excavations were concluded after testing into this deposit for some depth. The indurated nature of this deposit meant that testing of this deposit was possible for only a shallow depth. The 2x1m machine test pits excavated did not show signs of disturbance, with a natural geomorphological deposit apparent with no modern inclusions, such as rubbish.

Eastern Maar representatives present in field were consulted prior to and during machine excavation program and expressed their approval of its conduct. No Aboriginal cultural material was recovered from any of the machine test pits (Plates 27 – 32. Table 11. Figure 6. Map 12).



Plate 27: North facing view of MP 2x1m A at excavation conclusion ((Photo: Edward East 11/06/2020).



Plate 28: South view of MP 2x1m A at excavation conclusion (Photo: Edward East 11/06/2020).





Plate 29: North facing view of MP D at excavation conclusion (Photo: Edward East 09/06/2020).



Plate 31:East view of excavation of MP G (Photo: Edward East 12/06/2020).



Plate 30: South view of STP 15 at excavation conclusion (Photo: Edward East 11/06/2020).



Plate 32: South view of MP G at excavation conclusion (Photo: Edward East 12/06/2020).



Table 11: Location and description of the 2 x 1 meter machine test pits.

MD	2v1n	~ A

Location (GDA94 Zone 54): Easting/Northing: 630491.129 5757291.358

Context 1: A1 horizon: 0-100mm. Munsell: 5YR3/2. pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks

Context 2: B1 horizon: 100-180mm. Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. Context 3: B2 horizon: 180 – 300mm.

Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

MP 2x1m B

<u>Location (GDA94 Zone 54):</u> Easting/Northing: 630377.7351 5757360.509

Context 1: A1 horizon: 0-100mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium hasalt rocks

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8. Very dark grey firm silty clay. Moderate

amounts of small/medium basalt rocks. <u>Context 3: B2 horizon:</u> 180 – 250mm.

Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

MP 2x1m C

Location (GDA94 Zone 54): Easting/Northing: 630435.5376 5757101 867

Context 1: A1 horizon: 0-100mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium hasalt rocks

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. <u>Context 3: B2 horizon:</u> 180 – 250mm.

Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

MP 2x1m D

Location (GDA94 Zone 54): Easting/Northing: 630508.0083 5756934.973

Context 1: A1 horizon: 0-100 mm. Munsell: 5YR3/2. pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks.

Context 2: B1 horizon: 100-180mm. Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. Context 3: B2 horizon: 180 – 200mm.

Munsell: 5YR4/2. pH 8. Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

MP 2x1m E

Location (GDA94 Zone 54): Easting/Northing: 630569.305 5757222.373

Context 1: A1 horizon: 0-100 mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks.

Context 2: B1 horizon: 100-180mm. Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. Context 3: B2 horizon: 180 – 200mm. Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

MP 2x1m F

<u>Location (GDA94 Zone 54):</u> Easting/Northing: 630312.8105 5756958.465

Context 1: A1 horizon: 0-100 mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks.

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. Context 3: B2 horizon: 180 – 200mm. Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

MP 2x1m G

Location (GDA94 Zone 54): Easting/Northing: 630485.5548 5756812.684

Context 1: A1 horizon: 0-100 mm. Munsell: 5YR3/2, pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks.

Context 2: B1 horizon: 100-180mm. Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. Context 3: B2 horizon: 180 – 300mm. Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

MP 2x1m H

Location (GDA94 Zone 54): Easting/Northing: 630385.9959 5756820.617

Context 1: A1 horizon: 0-100 mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks.

Context 2: B1 horizon: 100-180mm. Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. <u>Context 3: B2 horizon:</u> 180 – 250mm. Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.

MP 2x1m I

Location (GDA94 Zone 54): Easting/Northing: 630303.5171 5756831.24

Context 1: A1 horizon: 0-100 mm.

Munsell: 5YR3/2. pH 8.

Dry, friable to firm dark reddish brown clayey silty with a small humic layer (50 mm). Moderate amounts of small/medium basalt rocks.

Context 2: B1 horizon: 100-180mm.

Munsell: 5YR4/1. pH 8.

Very dark grey firm silty clay. Moderate amounts of small/medium basalt rocks. Context 3: B2 horizon: 180 – 300mm. Munsell: 5YR4/2. pH 8.

Very dark grey indurated clay. Moderate amounts of small/medium basalt rocks.



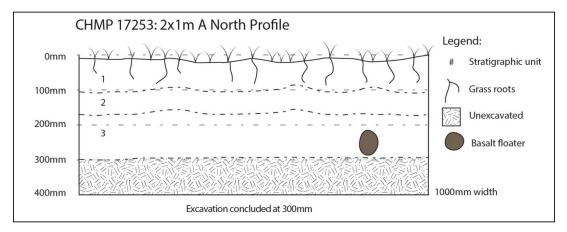


Figure 6: MP A stratigraphic profile at excavation conclusion.

9.3 Complex Assessment Results

A combination of four hand excavated 1x1m stratigraphic test pits (TP) twenty-four 50 x 50cm hand excavated shovel test pits (STPs), and nine 2x1 meter machine excavated test pits (MPs) were excavated across the activity area. The subsurface testing was undertaken across the upper, middle, and lower slope of the south running hill slope landform that characterises the activity area. Testing was concentrated within the part of the activity area noted as having archaeological potential (Map 8). Eastern Maar representatives present in field were consulted prior to and during the complex assessment and expressed their approval of its conduct. No Aboriginal cultural material was recovered from any of the excavated test pits

The geomorphology recorded during the complex assessment conformed to the findings of Section 7.2.2. A deposit of heavy clay with frequent amounts of small to medium sized basalt rocks was recorded in all test pits excavated. On the basis of the established age range of this clay, dated to the Pliocene era between two to five million years ago, all test pit excavations were concluded after testing into this deposit for some depth (VRO Online 2020: Unit 6.1.4). This soil profile type was entirely uniform across the activity area. Such soil deposits are associated with the volcanic activity that defines much of the geology and geomorphology of the western districts of Victoria (VRO Online 2020: Unit 6.1.1). The subsurface testing throughout the activity area has shown that the underlying B1 – B2 horizons comprises increasing clay to a considerable depth, as per the soil mapping conducted by the department of Agriculture Victoria. This was further confirmed by the excavation of a sondage in 1x1m TP A. This deposit of thick clay is a reflection of the more heavily weathered nature of these soils and, by association, the deep age of the underlying deposits. It is for this reason that the immediate underlying B horizon across the activity area is considered culturally sterile. Nevertheless, the immediate upper section of the underlying sterile B horizon was excavated to some extent during the complex assessment (Table 9 – 11). The indurated nature of this deposit meant that testing of this deposit was possible for only a shallow depth. Given the geomorphological nature of the activity area and the more recent impacts that have occurred as a result of the land use, it is considered that cultural material would only be present within shallow topsoil contexts and would not be located in situ of its original depositional location.

It is likely that the agricultural paddocks of the activity area were subject to ploughing at some point in the past, however the geomorphological deposit recorded appeared relatively undisturbed. The construction of a dwelling, dam and fencing at specific locations within the activity area has caused some localised disturbance areas. Areas associated with road reserve of Bridge Road have been subject to considerable ground disturbance in the



past, however the test pits excavated in the north east of the activity area displayed an undisturbed geomorphological profile. No significant limitations to the testing program conducted were encountered during the complex assessment.

9.4 Complex Assessment Conclusions

The results of the subsurface testing program have shown that the predominant soil type across the activity area consists of a Pliocene era deposit of pallid kaolinitic clay. No Aboriginal cultural material was found in any subsurface contexts within the activity area. Past investigations within the region have demonstrated that Aboriginal places and cultural material are largely found in close proximity to water courses. The relative distance of the activity area from water sources suggests the activity area was not a focal point for seasonal occupation and is therefore unlikely to contain significant archaeological deposits. Given the level of assessment undertaken it is very unlikely that any Aboriginal places are located within the activity area. It is likely that the past and ongoing use of the activity area for agricultural purposes has impacted particularly the surface and, to a more limited extent, the subsurface integrity of the soils present, but significant ground disturbance was not recorded in any of the test pits excavated.

Eastern Maar field representatives discussed the conduct and results of both phases of complex assessment following their completion. The Eastern Maar representatives present for both phases of the complex assessment expressed their approval of the conduct of the complex assessment.

The complex assessment undertaken has established that the activity area has a very low potential for the presence of Aboriginal cultural heritage places, and it is therefore unlikely that any cultural material will be impacted as a result of the proposed development.

The subsurface testing program was able to achieve all of the aims of the complex assessment:

- The geomorphology and stratigraphy of the activity area was investigated and established.
- The levels of subsurface disturbance across the activity area were investigated and quantified.
- The activity area was systematically investigated for the presence of subsurface Aboriginal cultural material; with none being located in any of the excavated test pits.





Map 12: Complex assessment results.



10 DETAILS OF ABORIGINAL CULTURAL HERITAGE IN THE ACTIVITY AREA

No Aboriginal cultural heritage material was located within the activity area.



11 Consideration of s.61 Matters

In accordance with Section 61 of the *Aboriginal Heritage Act* 2006 an assessment must be made as to whether the proposed activity will be conducted in a way that avoids harm to Aboriginal cultural heritage or be conducted in a way that minimises harm to Aboriginal cultural heritage.

The purpose of the Act is to provide for the protection of Aboriginal cultural heritage in Victoria. In the first instance, harm to Aboriginal cultural heritage should be avoided. This may be achieved through appropriate management strategies (or specific measures) in relation to the Aboriginal Places and the activity, the use of protective fencing during construction or restricting access, in addition to cultural awareness training for contractors. In the second instance, harm to Aboriginal cultural heritage must be minimised. This may be achieved through re-aligning infrastructure, locating public open space areas over cultural values (if appropriate) or using less invasive construction methods. The final resort is the salvage of cultural heritage where appropriate.

This CHMP has undertaken desktop and a standard assessment in order to investigate the nature and extent of any Aboriginal cultural heritage values of the Activity area and to mitigate the risks to these Aboriginal Places through appropriate management strategies.

1.1 Can Harm to Identified Cultural Heritage Places be Avoided?

The proposed activity will not harm Aboriginal cultural heritage places as there were no Aboriginal cultural heritage places identified within the Activity area.

1.2 Can Harm to Identified Cultural Heritage Places be Minimised?

No specific measures are required as no Aboriginal cultural heritage material was identified.

1.3 Are Specific Measures Needed for the Management of Identified Cultural Heritage Places?

No specific measures are required as no Aboriginal cultural heritage material was identified.

1.4 Are There Particular Contingency Plans That Might be Necessary?

Processes to be followed in relation to disputes, delays and other obstacles are outlined in the management conditions in Part 1. Procedures are outlined for factors that may affect the conduct of the activity. These include procedural guidelines in the event that suspected human remains are discovered, as well as safety requirements.

1.5 What Custody and Management Arrangements Might be Needed?

The custody and management of Aboriginal cultural heritage are addressed in Section 2 of this CHMP.



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6.1.1 Eruption points; maars, scoria cones and lava shields, including associated ash and scoria deposits (Lake Purrumbete, Mt. Elephant, Mt. Cottrell):

http://vro.agriculture.vic.gov.au/dpi/vro/vrosite.nsf/pages/landform_geomorphological_framework_6.1.1

6.1.4 Plains with well-developed drainage and deep regolith (Cressy)

http://vro.agriculture.vic.gov.au/dpi/vro/vrosite.nsf/pages/landform_geomorphological_framework_6.1.4

Department of Environment, Land, Water and Planning:

https://www2.delwp.vic.gov.au/

Google Earth:

https://www.google.com/earth/

Landata Online:

https://www.landata.vic.gov.au/

Victorian Places 2020: Bushfield

https://www.victorianplaces.com.au/bushfield#:~:text=Bushfield%20is%20a%20rural%20locality,a%20grazing%20and%20dairying%20area.

Victorian Places 2020: Warrnambool

https://www.victorianplaces.com.au/warrnambool

Victorian Heritage Register 2020: HO151

https://vhd.heritagecouncil.vic.gov.au/places/69877

Victorian Heritage Database 2020: Nestles Factory

https://vhd.heritagecouncil.vic.gov.au/places/69882



Appendix 1: Notice of Intent



	by the Sponsor of a Cultural Heritage Act 2006 (the "Act"		ment Plan to co	omplete the notification provisions pursuant to
For clarification on any	of the following please con	tact Victorian Aborio	ginal Heritage	Register (VAHR) enquiries on 1800-726-003.
ECTION 1 - Spo	onsor information			
Sponsor:	Andrew Austen			
ABN/ACN:	90 162 121 637			
Contact Name:	Andrew Austen			
Postal Address	P O Box 31 Mount C	lear Vic 3305		
Business Number:	P O Box 31 Mount C	lear Vic 3305	Mobile:	0427 097 368
Email Address:	andrew@bphomes.c	om.au		-
ponsor's agent	(if relevant)			
Company:				
Contact Name:				
Postal Address	-			
Business Number:	9		Mobile:	
Email Address:	scription of propo	sed activity		ion
Email Address: ECTION 2 - Des Project Name:	scription of propo	shfield: 160 Lot R	and locati	27 FOR CO. II
Email Address: SECTION 2 - Des Project Name: Municipal district:	119 Bridge Road, Bu Warrnambool City Corposed activity for which	shfield: 160 Lot R ouncil	and locati	27 FOR CO. II
Email Address: SECTION 2 - Des Project Name: Municipal district: Clearly identify the pi	119 Bridge Road, Bu Warrnambool City Corposed activity for which	shfield: 160 Lot R ouncil	and locati	ıbdivision
Email Address: SECTION 2 - Des Project Name: Municipal district: Clearly identify the piconstruction, housing Subdivision	119 Bridge Road, Bu Warrnambool City Corposed activity for which	ishfield: 160 Lot R ouncil h the cultural herit	and locati	ıbdivision
Email Address: SECTION 2 - Des Project Name: Municipal district: Clearly identify the piconstruction, housing Subdivision	119 Bridge Road, Bu Warrnambool City Co roposed activity for which g subivision) Itural Heritage Ad dner Url	ishfield: 160 Lot R ouncil h the cultural herit	and locati Residential Su tage managm	ıbdivision
Email Address: SECTION 2 - Des Project Name: Municipal district: Clearly identify the pronstruction, housing Subdivision SECTION 3 - Cul	119 Bridge Road, Bu Warrnambool City Co roposed activity for which g subivision) (tural Heritage Addiner Url He	ishfield: 160 Lot R ouncil h the cultural herit visor oan Colours Arts (and locati Residential Su tage managm	nbdivision nent plan is to be prepared (ie. Mining, road
Email Address: ECTION 2 - Des Project Name: Municipal district: Clearly identify the pronstruction, housing Subdivision ECTION 3 - Cul Ariana Spencer-Gard	119 Bridge Road, Bu Warrnambool City Co roposed activity for which g subivision) tural Heritage Ad dner Uri He Co	shfield: 160 Lot Rouncil h the cultural herit visor pan Colours Arts (ritage Consultants mpany	and locati Residential Su tage managm	nent plan is to be prepared (ie. Mining, road arianasg1994@hotmail.com
Email Address: ECTION 2 - Des Project Name: Municipal district: Clearly identify the pronstruction, housing Subdivision ECTION 3 - Cul Ariana Spencer-Gard	119 Bridge Road, Bu Warrnambool City Co roposed activity for which g subivision) tural Heritage Ad dner Uri He Co	shfield: 160 Lot Rouncil h the cultural herit visor pan Colours Arts (ritage Consultants mpany	and locati Residential Su tage managm Cultural s	nent plan is to be prepared (ie. Mining, road arianasg1994@hotmail.com Email address
Email Address: ECTION 2 - Des Project Name: Municipal district: Clearly identify the pronstruction, housing Subdivision ECTION 3 - Cul Ariana Spencer-Gare Name	119 Bridge Road, Bu Warrnambool City Co roposed activity for which subivision) Itural Heritage Addener Uri He Co Dected start and fi	visor con Colours Arts of ritage Consultants impany	and locati Residential Su tage managm Cultural s	arianasg1994@hotmail.com Email address Tral heritage management plan



ECT	ION 5 - Why are you preparing this cultural heritage management plan?
	A cultural heritage management plan is required by the Aboriginal Heritage Regulations 2007 What is the high Impact Activity as it is listed in the regulations? Subdivision Is any part of the activity an area of cultural heritage sensitivity, as listed in the regulations? Yes Other Reasons (Voluntary) An Environment Effects Statement is required A Cultural Heritage Management Plan is required by the Minister for Aboriginal Affairs.
	An Impact Management Plan or Comprehensive Impact Statement is required for the activity
	ION 6 - List the relevant registered Aboriginal parties (if any)
his s	section is to be completed where there are registered Aboriginal parties in relation to the management plan. Eastern Maar Aboriginal Corporation RNTBC
	ION 7A - List the relevant Aboriginal groups or Aboriginal people with whom the sor intends to consult (if any)
	ction is to be completed only if the proposed activity in the management plan is to be carried out in an area wh no Registered Aboriginal Party.
	TION 7B - Describe the intended consultation process (if any)
ECT	ION 7B - Describe the intended consultation process (if any) ction is to be completed only if the proposed activity in the management plan is to be carried out in an area when a Registered Aboriginal Party.
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Appendix 2: RAP Notice to Decline to Evaluate

From: John Clarke <john.clarke@easternmaar.com.au>

Sent: Thursday, 19 March 2020 3:45 PM

To: Ariana Spencer-Gardner arianasg1994@hotmail.com; Craig Edwards craig.edwards@easternmaar.com.au

Subject: RE: Evaluation of CHMP 17142

Ngatta Ariana,

Eastern maar will participate in all aspects of the CHMP as per RAP duties; however, at this time we will not be assessing the CHMP.

Tdo

John Clarke

General Manager Cultural Landscapes Eastern Maar Aboriginal Corporation

Ph. 0474 636 671

john.clarke@easternmaar.com.au

www.easternmaar.com.au



Ngootyoon Meerreeng, Ngootyoon Maar (Healthy Country, Healthy Maar)



Appendix 3: Glossary

Archaeology: The study of the material remains of the human past.

Archaeological site: A place/location of either Aboriginal or non-Aboriginal origin that contains material remains relating to the human past

Artefact: Any product made by human hands or caused to be made through human actions.

Artefact scatter: A surface scatter of stone artefacts is defined as being the presence of items of cultural material within a given area.

Backed blade (geometric microlith): Backing is the process by which one or more margins contain consistent retouch opposite to the sharp working edge. A backed blade is a blade flake that has been abruptly retouched along one or more margins opposite the sharp working edge. Backed pieces include backed blades and geometric microliths. Backed blades are a feature of the Australian Small Tool Tradition dating from between 5,000 and 1,000 years ago in southern Australia (Mulvaney 1975).

Blade: A long parallel sided flake from a specially prepared core. Blade flakes retain observable and complete fracture planes, platform, lateral margins and termination and are twice as long as they are wide. A broken blade is any stone artefact retaining partial diagnostic features of a blade.

Bipolar: A core or a flake which, presumably, has been struck on an anvil. That is, the core from which the flake has been struck has been rotated before the flake has been struck off. Bifacial platforms often indicate that the flake has come off a heavily worked core.

BP: Before Present. The present is defined as 1950.

Core: An artefact from which flakes have been detached using a hammerstone. Core types include blade, single platform, multiplatform and bipolar forms. These artefacts exhibit a series of negative flake scars, each of which represents the removal of a flake.

Cortex: Original or natural (unflaked) surface of a stone. This may be further divided into nodule, pebble and terrestrial cortex indicating the original source of the material.

Ethnography: The scientific description of living cultures.

Flake: Broken flake: Any stone retaining partial diagnostic features of a flake

Complete/whole flake: An artefact exhibiting a ventral surface (where the flake was originally connected to the core), dorsal surface (the surface that used to be part of the exterior of the core), platform, termination and bulb of percussion.

Distal flake: Any flake on which the breakage removes the platform but retains the termination

Proximal flake: Any flake on which the breakage removes the termination but retains the platform.

Primary flake: The first flakes struck off a core in order to create a platform from which other flakes can then be struck.

Secondary flaking/retouch: Secondary working of a stone artefact after its manufacture. This was often done to resharpen stone tools after use, or in the production of formal tool types such as blade flakes and scrapers.

Focal platform: This is a term used to describe the shape of the platform on a flake. A focal platform is narrower than the body of the flake. Focal platform flakes are produced when flakes are struck off near the edge of the platform on a core.



Geometric microlith: Artefacts less than 80 mm in maximum dimension which are backed at one or other end, sometimes at both ends, and sometimes on one lateral margin as well, the result being a form that is symmetrical around its transverse axis.

Hammerstone: A cobble or cobble fragment exhibiting pitting and abrasion as a result of percussion.

Hearth: Usually a subsurface feature found eroding out of a river or creek bank or in a sand dune – it indicates a place where Aboriginal people cooked food. The remains of a hearth are usually identifiable by the presence of charcoal and sometimes clay balls (like brick fragments) and hearth stones. Remains of burnt bone or shell are sometimes preserved within a hearth.

Historic site: Sites/areas that contain extant (standing) remains of pre-1950 non-Aboriginal occupation. Historic sites may or may not also contain archaeological remains (Aboriginal and/or historic).

Holocene, recent or postglacial period: The time from the end of the Pleistocene Ice Age (c. 10,300 BP) to the present day.

Implement: A general term for tools, weapons etc. made by people.

Microlith: Small (1–3 cm long) stone tools with evidence of retouch. Includes 'Bondi Points' segment, scrapers, backed blades, triangles and trapezoids.

In situ: Refers to cultural material that is discovered as being undisturbed and considered to be in its original context. That is, material which, when identified is considered to be in the same location as when the site was abandoned.

Lithic: Anything made of stone.

Pleistocene: The dates for the beginning and end of the Pleistocene generally correspond with the last Ice Age. That is from 3.5 to 1.3 million years ago. The period ends with the gradual retreat of the ice sheets, which reached their present conditions around 10,300 BP.

Retouch: Scalar: Shallow scale like scars on margin with feather terminations, usually small rounded scars.

Step: Small, abrupt flake scars on margin, with step terminations.

Rock shelter/cave: These are sites that are located within a rock shelter/overhang or cave. The archaeological deposits within such sites can vary considerably but are often predominantly lithic. Depending on their location, the archaeological deposits may also include midden deposits of shellfish, fish or terrestrial fauna. Due to the often undisturbed deposits at these sites, they are potentially very valuable sites and are generally considered of high scientific significance. Instances where rock shelter sites also possess artwork on the stone walls are considered rock shelters/art sites combined.

Scarred tree: Scars on trees may be the result of removal of strips of bark by Aborigines for the manufacture of utensils, canoes or for shelter; or resulting from small notches chopped into the bark to provide toe and hand holds for climbers after possums, koalas and/or views of the surrounding area. A scar made by humans as opposed to being naturally made by branches falling off etc. is distinguished by the following criteria: symmetry and rounded ends, scar does not extend to the ground, some regrowth has occurred around the edges of the scar, and no holes or knots are present in the heartwood.

Silcrete: A sedimentary rock that is 'formed through the impregnation of a sedimentary layer with silica of quartz grains in a matrix of either amorphous or fine-grained Silica' (Holdaway & Stern 2004:24).

Sondage: A small test excavation or test pit to examine the stratigraphy of a site; a deeper investigation of a small part of a larger trench.

Stratigraphy: Layering.



Stone artefact: A piece of stone that has been formed by Aboriginal people to be used as a tool or is a by-product of Aboriginal stone tool manufacturing activities. Stone artefacts can be flaked such as points and scrapers or ground such as axes and grinding stones.

Scraper: A tool used for scraping. A flake with one or more margins of continuous retouch.

Thumbnail scraper: A small flake with a convex scraper edge, shaped like a thumbnail and located opposite the flake's platform.

Raw material: Organic or inorganic matter that has not been processed by people.

Use-wear: Tiny flakes or chips that have been broken off the edges of a stone artefact during use.



Appendix 4: Relevant Planning Schemes

WARRNAMBOOL PLANNING SCHEME

19/01/2006 VC37

SCHEDULE TO THE LOW DENSITY RESIDENTIAL ZONE

Shown on the planning scheme map as LDRZ.

	Land	Area
Minimum subdivision area (hectares).	None specified	
Dimensions above which a permit is req	uired to construct an outbuild	ling



32.03 31/07/2018 VC148

LOW DENSITY RESIDENTIAL ZONE

Shown on the planning scheme map as LDRZ with a number (if shown).

Purpose

To implement the Municipal Planning Strategy and the Planning Policy Framework.

To provide for low-density residential development on lots which, in the absence of reticulated sewerage, can treat and retain all wastewater.

32.03-1 24/01/2020 VC160

Table of uses

Section 1 - Permit not required

Use	Condition
Bed and breakfast	No more than 10 persons may be accommodated away from their normal place of residence.
	At least 1 car parking space must be provided for each 2 persons able to be accommodated away from their normal place of residence.
Community care accommodation	Must meet the requirements of Clause 52.22-2.
Dependent person's unit	Must be the only dependent person's unit on the lot.
	Must meet the requirements of Clause 32.03-2.
Domestic animal husbandry (other than Domestic animal boarding)	Must be no more than 2 animals.
Dwelling (other than Bed and breakfast)	Must be the only dwelling on the lot.
	Must meet the requirements of Clause 32.03-2.
Home based business	
Informal outdoor recreation	
Medical centre	The gross floor area of all buildings must not exceed 250 square metres.
	The site must adjoin, or have access to, a road in a Road Zone.
Racing dog husbandry	Must be no more than 2 animals.
Railway	
Tramway	
Any use listed in Clause 62.01	Must meet the requirements of Clause 62.01.

Section 2 - Permit required

Use	Condition
Accommodation (other than Community care accommodation, Dependent person's unit and Dwelling)	

Page 1 of 6



Use	Condition
Agriculture (other than Animal production, Apiculture, Domestic animal husbandry and Racing dog husbandry)	
Car park	Must be used in conjunction with another use Section 1 or 2.
Car wash	The site must adjoin, or have access to, a roa in a Road Zone.
Convenience restaurant	The site must adjoin, or have access to, a roa in a Road Zone.
Convenience shop	
Dependent person's unit – if the Section 1 condition is not met	Must meet the requirements of Clause 32.03-
Domestic animal boarding	
Domestic animal husbandry (other than Domestic animal boarding) – if the Section 1 condition is not met	Must be no more than 5 animals.
Dwelling (other than Bed and breakfast) – if the Section 1 condition is not met	Must result in no more than two dwellings on the lot.
	Must meet the requirements of Clause 32.03-
Food and drink premises (other than Convenience restaurant)	
Grazing animal production	
Leisure and recreation (other than Informal outdoor recreation and Motor racing track)	
Market	
Place of assembly (other than Amusement parlour, Carnival, Cinema based entertainment facility, Circus and Nightclub)	
Plant nursery	
Service station	The site must either:
	Adjoin a commercial zone or industrial zon
	 Adjoin, or have access to, a road in a Roa Zone.
	The site must not exceed either:
	 3000 square metres.
	 3600 square metres if it adjoins on two boundaries a road in a Road Zone.

Page 2 of 6



Use	Condition
Store	Must be in a building, not a dwelling, and used to store equipment, goods, or motor vehicles used in conjunction with the occupation of a resident of a dwelling on the lot.
Utility installation (other than Minor utility installation and Telecommunications facility)	
Any other use not in Section 1 or 3	

Section 3 - Prohibited

Use

Amusement parlour

Animal production (other than Grazing animal production)

Brothe

Cinema based entertainment facility

Extractive industry

Industry (other than Car wash)

Motor racing track

Nightclub

Office (other than Medical centre)

Retail premises (other than Convenience shop, Food and drink premises, Market and Plant nursery)

Saleyard

Transport terminal

Warehouse (other than Store)

32.03-2

Use for one or two dwellings or a dependent person's unit

19/01/2006 VC37

A lot may be used for one or two dwellings provided the following requirements are met:

- Each dwelling must be connected to reticulated sewerage, if available. If reticulated sewerage
 is not available, all wastewater from each dwelling must be treated and retained within the lot
 in accordance with the State Environment Protection Policy (Waters of Victoria) under the
 Environment Protection Act 1970.
- Each dwelling must be connected to a reticulated potable water supply or have an alternative
 potable water supply, with appropriate storage capacity, to the satisfaction of the responsible
 authority.
- Each dwelling must be connected to a reticulated electricity supply or have an alternative energy supply to the satisfaction of the responsible authority.

These requirements also apply to a dependent person's unit.

32.03-3 31/07/2018 VC148

Subdivision

Permit requirement

A permit is required to subdivide land.

Page 3 of 6



Each lot must be at least the area specified for the land in a schedule to this zone. Any area specified must be at least:

- 0.4 hectare for each lot where reticulated sewerage is not connected. If no area is specified each lot must be at least 0.4 hectare.
- 0.2 hectare for each lot with connected reticulated sewerage. If no area is specified each lot
 must be at least 0.2 hectare.

A permit may be granted to create lots smaller than 0.4 hectare if the subdivision:

- Excises land which is required for a road or a utility installation.
- Provides for the re-subdivision of existing lots and the number of lots is not increased.

VicSmart applications

Subject to Clause 71.06, an application under this clause for a development specified in Column 1 is a class of VicSmart application and must be assessed against the provision specified in Column 2.

С	lass of application	Information requirements and decision guidelines
	ubdivide land to realign the common boundary between 2 lots there:	Clause 59.01
•	The area of either lot is reduced by less than 15 percent.	
	The general direction of the common boundary does not change.	

32.03-4

Buildings and works

A permit is required to construct or carry out any of the following:

- A building or works associated with a use in Section 2 of Clause 32.03-1.
- An outbuilding which has dimensions greater than those specified in a schedule to this zone.

This does not apply to structural changes to a dwelling provided the size of the dwelling is not increased or the number of dwellings is not increased.

VicSmart applications

Subject to Clause 71.06, an application under this clause for a development specified in Column 1 is a class of VicSmart application and must be assessed against the provision specified in Column 2.



Construct a building or construct or carry out works with an estimated cost of up Clause 59.04 to \$100,000 where:

- The building or works is not associated with a dwelling
- The requirements in the following standards of Clause 54 are met, where the land adjoins land in a residential zone used for residential purposes:
 - A10 Side and rear setbacks
 - A11 Walls on boundaries

Page 4 of 6



Class of application

Information requirements and decision guidelines

- A12 Daylight to existing windows.
- A13 North-facing windows
- A14 Overshadowing open space.
- A15 Overlooking.

For the purposes of this class of VicSmart application, the Clause 54 standards specified above are mandatory.

If a schedule to the zone specifies a requirement of a standard different from a requirement set out in the Clause 54 standard, the requirement in the schedule to the zone applies and must be met.

32.03-5 15/07/2013 VC100

Application requirements

Subdivision

An application must be accompanied by a site analysis, documenting the site in terms of land form, vegetation coverage and the relationship with surrounding land, and a report explaining how the proposed subdivision has responded to the site analysis. The report must:

- In the absence of reticulated sewerage, include a land assessment which demonstrates that each
 lot is capable of treating and retaining all wastewater in accordance with the State Environment
 Protection Policy (Waters of Victoria) under the Environment Protection Act 1970.
- Show for each lot:
 - A building envelope and driveway to the envelope.
 - Existing vegetation.
 - In the absence of reticulated sewerage, an effluent disposal area.
- Show how the proposed subdivision relates to the existing or likely use and development of adjoining and nearby land.
- If a staged subdivision, show how the balance of the land may be subdivided.

32.03-6 31/07/2018 VC148

Decision guidelines

General

Before deciding on an application, in addition to the decision guidelines in Clause 65, the responsible authority must consider, as appropriate:

• The Municipal Planning Strategy and the Planning Policy Framework.

Subdivision

- The protection and enhancement of the natural environment and character of the area including
 the retention of vegetation and faunal habitat and the need to plant vegetation along waterways,
 gullies, ridgelines and property boundaries.
- The availability and provision of utility services, including sewerage, water, drainage, electricity, gas and telecommunications.
- In the absence of reticulated sewerage:

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- The capability of the lot to treat and retain all wastewater in accordance with the State Environment Protection Policy (Waters of Victoria) under the Environment Protection Act 1970.
- The benefits of restricting the size of lots to the minimum required to treat and retain all wastewater in accordance with the State Environment Protection Policy (Waters of Victoria).
- The benefits of restricting the size of lots to generally no more than 2 hectares to enable lots to be efficiently maintained without the need for agricultural techniques and equipment.
- The relevant standards of Clauses 56.07-1 to 56.07-4.

32.03-7 Signs

31/07/2018 VC148

Sign requirements are at Clause 52.05. This zone is in Category 3.

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WARRNAMBOOL PLANNING SCHEME

13/02/2014 C75

SCHEDULE TO THE RURAL LIVING ZONE

Shown on the planning scheme map as RLZ.

	Land	Area/Dimensions/Distance
Minimum subdivision area (hectares).	All land except that listed below under (a) and (b):	4 hectares
	(a) Parish of Meerai, Plummers Hill Road, Woodford (as per attached map 1).	(a) Except for lots created pursuant to Permit P3885, 1 hectare minimum lot size for each new lot created.
	(b) Logans Beach Area/Hopkins Point Road Area (as per attached map 2)	(b) Minimum lot size 6,000 sq metres and an average lot size of 10,000 sq. metres for a multiple lot subdivision.
Minimum area for which no permit is required to use land for	All land except that listed below under (a):	2 hectares
a dwelling (hectares).	(c) Parish of Meerai, Plummers Hill Road, Woodford (as per attached map 1).	(a) 0.5 hectares
Minimum area for which no permit is required to alter or extend an existing dwelling (square metres).	None specified	
Minimum setback from a road (metres).	None specified	
Minimum setback from a boundary (metres).	None specified	
Minimum setback from a dwelling not in the same ownership (metres).	None specified	

Permit requirement for earthworks	Land
Earthworks which change the rate of flow or the discharge point of water across a property boundary.	All land
Earthworks which increase the discharge of saline groundwater.	All land



35.03 31/07/2018 VC148

RURAL LIVING ZONE

Shown on the planning scheme map as RLZ with a number (if shown).

Purpose

To implement the Municipal Planning Strategy and the Planning Policy Framework.

To provide for residential use in a rural environment.

To provide for agricultural land uses which do not adversely affect the amenity of surrounding land uses

To protect and enhance the natural resources, biodiversity and landscape and heritage values of the area.

To encourage use and development of land based on comprehensive and sustainable land management practices and infrastructure provision.

35.03-1 08/08/2019 VC159

Table of uses

Section 1 - Permit not required

Use	Condition
Bed and breakfast	No more than 10 persons may be accommodated away from their normal place of residence.
	At least 1 car parking space must be provided for each 2 persons able to be accommodated away from their normal place of residence.
Community care accommodation	Must meet the requirements of Clause 52.22-2.
Dependent person's unit	Must be the only dependent person's unit on the lot.
	Must meet the requirements of Clause 35.03-2.
Domestic animal husbandry (other than Domestic animal boarding)	Must be no more than 2 animals.
Dwelling (other than Bed and breakfast)	The lot must be at least the area specified in a schedule to this zone. If no area is specified, the lot must be at least 2 hectares.
	Must be the only dwelling on the lot.
	Must meet the requirements of Clause 35.03-2.
Home based business	
Informal outdoor recreation	
Poultry farm	Must be no more than 100 poultry (not including emus or ostriches).
	Must be no more than 10 emus and ostriches.
Racing dog husbandry	Must be no more than 2 animals.
Railway	
Tramway	
Any use listed in Clause 62.01	Must meet the requirements of Clause 62.01.

Page 1 of 6



Section 2 - Permit required

Use	Condition
Accommodation (other than Community care accommodation, Dependent person's unit and Dwelling)	
Agriculture (other than Apiculture, Broiler farm, Domestic animal husbandry, Intensive animal production, Racing dog husbandry and Timber production)	
Bar	The site must not have direct access to a rural freeway.
Broiler farm - if the Section 1 condition to Poultry farm is not met	Must be no more than 10,000 chickens.
Car park	Must be used in conjunction with another use in Section 1 or 2.
Convenience shop	The leasable floor area must not exceed 80 squar metres.
	The site must not have direct access to a rural freeway.
Dependent person's unit - if the Section 1 condition is not met	Must meet the requirements of Clause 35.03-2.
Domestic animal boarding	
Dwelling (other than Bed and breakfast) - if the Section 1 condition is not met	Must meet the requirements of Clause 35.03-2.
Freeway service centre	Must meet the requirements of Clause 53.05.
Hotel	The site must not have direct access to a rural freeway.
Leisure and recreation (other than Informal outdoor recreation and Motor racing track)	
Market	
Medical centre	
Place of assembly (other than Amusement parlour, Carnival, Cinema based entertainment facility, Circus and Nightclub)	
Plant nursery	
Postal agency	
Primary produce sales	
Racing dog husbandry – if the Section 1 condition is not met	Must meet the requirements of Clause 53.12.
Restaurant	The site must not have direct access to a rural freeway.

Page 2 of 6



Use	Condition
Rural industry (other than Abattoir and Sawmill)	
Service station	The site must either:
	 Adjoin a commercial zone or industrial zone.
	 Adjoin, or have access to, a road in a Road Zone.
	The site must not exceed either:
	 3000 square metres.
	 3600 square metres if it adjoins on two boundaries a road in a Road Zone.
	The site must not have direct access to a rural freeway.
Store	Must be in a building, not a dwelling, and used to store equipment, goods, or motor vehicles used in conjunction with the occupation of a resident of a dwelling on the lot.
Timber production	Must meet the requirements of Clause 53.11.
Utility installation (other than Minor utility installation and Telecommunications facility) Any other use not in Section 1 or 3	

Section 3 - Prohibited		
Use		
Abattoir		
Amusement parlour		
Brothel		
Cinema based entertainment facility		
Industry (other than Rural Industry)		
Intensive animal production		
Motor racing track		
Nightclub		
Office (other than Medical centre)		
Retail premises (other than Bar, Convenience shop, Hotel, Market, Plant nursery, Postal agency, Primary produce sales and Restaurant)		
Saleyard		
Sawmill		

Page 3 of 6

Transport terminal Warehouse (other than Store)



35.03-2

Use of land for a dwelling

19/01/2006 VC37

A lot used for a dwelling must meet the following requirements:

- · Access to the dwelling must be provided via an all-weather road with dimensions adequate to accommodate emergency vehicles.
- The dwelling must be connected to a reticulated sewerage system or if not available, the waste water must be treated and retained on-site in accordance with the State Environment Protection Policy (Waters of Victoria) under the Environment Protection Act 1970.
- The dwelling must be connected to a reticulated potable water supply or have an alternative potable water supply with adequate storage for domestic use as well as for fire fighting purposes.
- The dwelling must be connected to a reticulated electricity supply or have an alternative energy

These requirements also apply to a dependent person's unit.

35.03-3 31/07/2018 VC148

Subdivision

A permit is required to subdivide land.

Each lot must be at least the area specified for the land in a schedule to this zone. If no area is specified, each lot must be at least 2 hectares.

A permit may be granted to create smaller lots if any of the following apply:

- The subdivision is the re-subdivision of existing lots and the number of lots is not increased.
- The number of lots is no more than the number the land could be subdivided into in accordance with a schedule to this zone.
- The subdivision is by a public authority or utility service provider to create a lot for a utility installation.

VicSmart applications

Subject to Clause 71.06, an application under this clause for a development specified in Column 1 is a class of VicSmart application and must be assessed against the provision specified in Column

Class of application Information requirements and decision guidelines

Subdivide land to realign the common boundary between 2 lots where:

Clause 59.01

- Each new lot is at least the area specified for the land in the zone or
- The area of either lot is reduced by less than 15 percent.
- The general direction of the common boundary does not change

Subdivide land into 2 lots where each new lot is at least the area specified Clause 59.12 for the land in the zone or the schedule to the zone

35.03-4 08/08/2019 VC159

Buildings and works

A permit is required to construct or carry out any of the following:

A building or works associated with a use in Section 2 of Clause 35.03-1. This does not apply

Page 4 of 6



- An alteration or extension to an existing dwelling provided the floor area of the alteration
 or extension is not more than the area specified in a schedule to this zone or, if no area is
 specified, 100 square metres. Any area specified must be more than 100 square metres.
- An out-building associated with an existing dwelling provided the floor area of the out-building is not more than the area specified in a schedule to this zone or, if no area is specified, 100 square metres. Any area specified must be more than 100 square metres.
- An alteration or extension to an existing building used for agriculture provided the floor area of the alteration or extension is not more than the area specified in the schedule to this zone or, if no area is specified, 100 square metres. Any area specified must be more than 100 square metres. The building must not be used to keep, board, breed or train animals.
- A rainwater tank
- Earthworks specified in a schedule to this zone, if on land specified in a schedule.
- A building which is within any of the following setbacks:
 - The setback from a Road Zone Category 1 or land in a Public Acquisition Overlay to be acquired for a road, Category 1 specified in the schedule to this zone or, if no setback is specified, 30 metres.
 - The setback from any other road or boundary specified in the schedule to this zone.
 - The distance from a dwelling not in the same ownership specified in the schedule to this
 zone.
 - 100 metres from a waterway, wetlands or designated flood plain.

VicSmart applications

Subject to Clause 71.06, an application under this clause for a development specified in Column 1 is a class of VicSmart application and must be assessed against the provision specified in Column 2.

Class of application

Information requirements and decision guidelines

Construct a building or construct or carry out works with an estimated cost Clause 59.13 of up to \$250,000 where the land is not:

- Used for Domestic animal husbandry, Pig farm, Poultry farm, Poultry hatchery, Racing dog husbandry or Rural industry.
- Within 30 metres of land (not a road) which is in a residential zone.

Any works must not be earthworks specified in the schedule to the zone

35.03-5 31/07/2018 VC148

Decision guidelines

Before deciding on an application to use or subdivide land, construct a building or construct or carry out works, in addition to the decision guidelines in Clause 65, the responsible authority must consider, as appropriate:

General issues

- The Municipal Planning Strategy and the Planning Policy Framework.
- Any Regional Catchment Strategy and associated plan applying to the land.
- The capability of the land to accommodate the proposed use or development.

Page 5 of 6



Whether the site is suitable for the use or development and whether the proposal is compatible
with adjoining and nearby land uses.

Agricultural issues

- The capacity of the site to sustain the agricultural use.
- Any integrated land management plan prepared for the site.
- The potential for the future expansion of the use or development and the impact of this on adjoining and nearby agricultural and other land uses.

Environmental issues

- The impact on the natural physical features and resources of the area and in particular any
 impact caused by the proposal on soil and water quality and by the emission of noise, dust and
 odours.
- The impact of the use or development on the flora, fauna and landscape features of the locality.
- The need to protect and enhance the biodiversity of the area, including the need to retain
 vegetation and faunal habitat and the need to revegetate land including riparian buffers along
 waterways, gullies, ridgelines, property boundaries and saline discharge and recharge area.
- The location of on-site effluent disposal areas to minimise the impact of nutrient loads on waterways and native vegetation.

Design and siting issues

- The impact of the siting, design, height, bulk, colours and materials to be used, on the natural
 environment, major roads, vistas and water features and the measures to be undertaken to
 minimise any adverse impacts.
- The impact on the character and appearance of the area or features of architectural, historic or scientific significance or of natural scenic beauty or importance.
- The location and design of existing and proposed infrastructure including roads, gas, water, drainage, telecommunications and sewerage facilities.
- Whether the use or development will require traffic management measures.

35.03-6 31/07/2018

Signs

Sign requirements are at Clause 52.05. This zone is in Category 3.

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Warrnambool City Council
Agenda for Scheduled Council Meeting Attachment 7.3.12

4 October 2021
Page | 357



From:
Sent: Tuesday, 6 July 2021 12:38 AM
To: Warrnambool City Council

Cc:

Subject: Woodford Heights Land Development

CAUTION: This email originated from outside of Warrnambool City Council. Do not follow guidance, click links, or open attachments unless you recognise the sender and know the content is safe.

To Warrnambool City Council

Re: Proposed Development Plan for Woodford Heights

I have from the proposed development for 40 years and have experienced growth and positive changes in the area during this period of time. I would like to see the new Woodford Heights development continue in the same vein, however we have significant concerns about the following:

Safety

The single entry/exit point on the northeast corner of the subdivision poses a significant safety risk for several reasons. Being a single entry/exit point for the development, it will cause congestion of both vehicles and pedestrians on a section of road, on a corner with limited visibility (particularly on the northern side).

The volume of traffic at school times is a continual stream - the current solid white line indicates limited visibility on the curve of the proposed access point.

The pedestrian pathway in the development indicates that children will need to cross Bridge Road at the same entry point as vehicles, to access the walking path to the school (on the north side of Bridge Road). This is potentially a dangerous location for children to navigate busy traffic. From the north side, back into the estate, the visibility is significantly reduced. All children attending Woodford Primary School will need to cross the road safely. An alternative would be to have a safe crossing near Brodie's Lane, as well as a separate entry/exit for the estate. Traffic travelling east along Bridge Road (on the north side) will have limited time to see pedestrians as they cross the road. This is potentially dangerous for primary aged children who could take miscalculated risks.

Bridge Road is the main alternate route for heavy transport to bypass Warrnambool, including but not limited to, milk tankers, stock transport and goods freight. These heavy vehicles require longer braking distances in case of emergencies.

2. Sewerage and Wastewater

These are of major concern due to the close proximity of houses by on small lots. With the amount of sewerage and greywater infiltrating the soil, it will affect groundwater for people using bores in the area. This could potentially cause health issues due to ecoli.

3. Water Storage

There appears to be lack of planning for water storage. As there is no town water, the proposal for 5000 litre water storage is totally insufficient for family use. 20,000 to 30,000 litres would be required as a bare minimum.

4. Drainage

Drainage is of major concern as there is no plan for project one. This will result in extra runoff through neighbouring properties. It is necessary to implement this during stage one.

5. Street Lighting

1

Currently street lighting is poor or non existent along Bridge Road and will need to be improved with the increased volume of residents, in particular along the walking track.

We hope you will give these matters your utmost consideration and attention before this development has council approval.

Yours Sincerely,

To Warrnambool City Council

Re: Proposed development of Woodford Heights

As a Bushfield resident, I have some concerns with the proposed development in it's current form, and "request to be heard" in the submission to council.

My main concerns are as follows-

1. Traffic Management

The development has only one entry and exit point. With the number of blocks proposed, and the likelihood of at least 2 vehicles per allotment, this will create significant congestion at peak times.

The location of this entry/exit is also positioned just after a bend in Bridge Road, a corner with already low visibility, leading to the potential of a traffic incident. Given the development boundary is Brodie's lane, there could easily be a safer and more functional access point for traffic coming from both the east and west.

In addition, instead of utilising council land for a turning lane, the development should respect the exisiting natural spaces that are unique along Bridge Road, and utilise their own land for the bulk of the traffic infrastructure required to access the proposed development.

2. Landscaping

Part of Bushfield/Woodford's charm comes from its variety of tree species, which pleasingly the proposed plan has included.

The frontage to Bridge Road could be more visually pleasing however, with a much denser planting of trees along the road reserve section (currently this area has only 5 trees allocated).

In summary, I propose the following:

- * that the primary access point of the development be relocated to Brodie's lane or
- * that Brodie's lane be a second access point
- * a denser planting of trees along the road reserve section to beautify the Bridge Road frontage

Yours sincerely,



From:

Sent: To: Subject: Friday, 25 June 2021 11:53 AM Warrnambool City Council

Submission: 119 Bridge Road, Bushfield - 'Woodford Heights' Development Plan

CAUTION: This email originated from outside of Warrnambool City Council. Do not follow guidance, click links, or open attachments unless you recognise the sender and know the content is safe.

Dear Warrnambool City Council,

I would like to provide feedback on the development plan proposed for the land located at LOT 1 TP 829725T Parish of Purnim, 119 Bridge Road, Bushfield.

As a Warrnambool resident who is looking to relocate in the future to a semi-rural area just out of Warrnambool to live I would like to offer my comments. It is currently difficult to find suitable land to build on within semi-rural area within a 10minute drive to Warrnambool. Many like myself and my young family are looking for a bit more space and to be out of town and experience the community and peacefulness of small townships such as Woodford and Bushfield.

The proposed development is very attractive for many reasons. The Woodford Heights development has attractive lot sizes, with an acre being plenty of space but not so much that it requires a large amount of land management. There appears to be good consideration given to space between neighbours but close enough to feel a sense of community. The lots have similar sizes to the ones in nearby Albert Street Woodford, as well as Bellmans Road and Quinn Road Bushfield and are not too dissimilar to those in adjacent Kiaman Close.

The consideration given to "liveability" of the development is excellent, with walking/bike paths and "pause points" to encourage community interaction and activity. The proposed public reserve would be a wonderful space for neighbors to interact and children to play.

Being near a busy road such as Bridge Road I had concerns about safety and access for children to the nearby Jubilee Park and river but this has also been addressed with the entrance to the estate and pedestrian refuge on Bridge Road.

When considering building of great importance to many homeowners is orientation and outlook. The layout of the blocks appear to have considered building orientation, with plenty of opportunity for north facing, solar passive house design. The impact of this orientation on living comfort and through reduction of energy bills is so important. Being a piped gas connected-free estate is also something I value highly.

The proposed muted colour housing types will help to make the houses blend in will surrounds and not impact on outlooks and will integrate well with surroundings. The landscaping plan is appropriate and we really like the proposed planting types. It is important to us to have tree coverage in a neighborhood.

Therefore based on the proposed development plan and its attractiveness to potential residents like myself, I would like offer support to it and hope that a well thought out estate such as this one comes to fruition, offering to enhance the neighbourhood whilst in keeping with the existing feel of the area.

Sincerely,

1

Town Planning

From:

Sent: Tuesday, 29 June 2021 6:46 PM

To: Town Planning

Subject: SUBMISSION - WOODFORD HEIGHTS ESTATE NORTHERN DEVELOPMENT PLAN

119 Bridge Road, Bushfield

CAUTION: This email originated from outside of Warrnambool City Council. Do not follow guidance, click links, or open attachments unless you recognise the sender and know the content is safe.

Dear WCC Planning team,

Thanks for the opportunity to make a submission regarding the development plan proposed for 119 Bridge Road Bushfield.

I support additional residential development in Bushfield (within the existing settlement boundary) but it needs to be well considered and designed to contribute to the community's sustainability, character and liveability.

The development plan as proposed mostly meets the minimum requirements of the planning scheme but I encourage Warrnambool City Council to ensure the development supports the Warrnambool 2040 Plan commitments and that officers work with the developer to achieve more than the minimum to deliver returns for the Bushfield community and raise the standards for future development in the area.

The development vision (page 2) doesn't provide an insights about what the developer hopes to achieve. The reference to a "contemporary rural residential subdivision" is not defined. This "contemporary" development looks the same as previous developments (Rodger Place and Kiaman Close) which are now 20 -30 years old. Has there been any discussion with the developer about innovation in terms of encouraging a more sustainable development which aligns with community expectation as described in W2040? What about provision of neighbourhood renewable energy? This is becoming common in 'contemporary developments'. Warrnmabool City Council could be actively pursuing the goals and objectives adopted in the Green Plan and Warrnambool 2040 by encouraging truly contemporary (21st Century) approaches every time. It's happening elsewhere - why not Warrnambool? https://www.climatecouncil.org.au/9-australian-towns-going-100-renewable/

I make the following observations and suggestions to encourage Council to consider whether the current design fully meets the existing policy commitments and planning scheme requirements and contributes to improved quality, character and sustainability as much as possible:

- **CHARACTER:** There is a lack of diversity in the proposed lot sizes. All lots are the same form and approx 4000m2. As there is no existing vegetation or landscape features to be retained on the site the development risks becoming a "cookie cutter" development which doesn't contribute to or integrate with the local rural character.
- **BUFFER BETWEEN USES:** A mix of lot sizes, particularly including larger lot sizes in the Rural Living Zone should be provided to minimise the number of neighbours abutting the agricultural land to the south. This will improve the buffer between residential and agricultural activity. While this is a matter to be considered as part of the future rezoning application, applying LDZ minimum lot sizes across the development conflicts with current policy and is also detrimental to the neighbourhood character and form.

- **FENCING:** Timber paling fences as proposed for internal boundaries should not be used as they are not necessary on large lots and conflict with the existing rural character.
- **PLANTING:** All planting on public land/road reserves within the development should be native species to contribute to improved biodiversity and increased habitat. Refer W2040 and The Green Plan for the principle which support this.
- PUBLIC OPEN SPACE: The proposed public open space is largely encumbered by drainage infrastructure (artificial wetlands) proposed. While the water may be a feature depending on the design approach (likely a maintenance challenge), usable POS in a location which encourages use by the wider community and sharing of the attractive views to the south available from the higher points on the site should be considered. Alternatively if encumbered land is provided, a financial contribution could be made by the developer in lieu of land which could be invested in another community asset (eg Recreation Reserve or other strategic location).
- **DESIGNING THE OPEN SPACE:** Bushfield residents have a lot of private outdoor spaces and so investment in the public realm needs to be carefully considered. A plan for the POS should be developed with residents from the new development and neighbouring areas to determine the design approach and infrastructure which should be provided based on local needs and values. Any public open space should achieve habitat and biodiversity improvements. The references to provision of a BBQ in the POS should be deleted. The provision of a BBQ is not in accordance with WCC's Open Space Strategy.

Thanks again for the opportunity to provide input to the plan.

Best wishes,



Objection to Grant Planning Permit - Part A

The information requested on this page will be used solely by the Warrnambool City Council. Council will not use your personal information for any other purpose without first seeking your consent, unless authorised or required by law. Council may not be able to process your request unless sufficient information is given.

Who is objecting?	
I/We (Names in Block Letters)	
Name(s)	.Surname
Name(s)	.Surname.
Address	
	Post Code
Telephone (Home)	.Telephone (Work)
Mobile	.Facsimile
Email	
	Date
	Date 4 July 2021

Important notes about objections to permit applications

- 1. This form is to help you make an objection to an application in a way which complies with the Planning and Environment Act 1987, and which can be readily understood by the responsible authority. There is no requirement under the Act that you use any particular form.
- 2. Make sure you clearly understand what is proposed before you make an objection. You should inspect the application at the responsible authority's office.
- To make an objection you should clearly complete the details on this form and lodge it with the responsible authority as shown on the Public Notice – Application for Planning Permit.
- 4. An objection must:
 - · State the reasons for your objection: and
 - State how you would be affected if a permit is granted.
- The responsible authority may reject an application which it considers has been made primarily to secure or maintain a direct or indirect commercial advantage for the objector. In this case, the Act applies as if the objection had not been made.
- 6. Any person may inspect an objection during office hours.
- 7. If your objection related to an effect on property other than at your address as shown on this form, give details of that property and of your interest in it.
- 8. To ensure the responsible authority considers your objection, make sure that the authority receives it by the date shown in the notice you were sent or which you saw in a newspaper or on the site.
- 9. If you object before the responsible authority makes a decision, the authority will tell you its decision.
- 10. If despite your objection the responsible authority decides to grant the permit, you can appeal against the decision. Details of the appeal procedures are set out on the back of the Notice of Decision which you will receive. An appeal must be made on a prescribed form (obtainable from the Victorian Civil & Administrative Tribunal) and accompanied by the prescribed fee. A copy must be given to the responsible authority. The closing date for appeals is 21 days of the responsible authority giving notice of its decision.
- 11. If the responsible authority refuses the application, the applicant can also appeal. The provisions are set out on the Refusal of Planning Application which will be issued at that time.



Objection to Grant Planning Permit – Part B

Please be aware that this page and any attachments of your objection/submission may be made available to any person for the purpose of consideration as part of the planning process.

What application do you object to?
Planning Application Number Woodford Heights Estate Northern Development Plan. Application Number Not Provided.
What is the address of the land that is proposed to be used or developed?
119 Bridge Road, Bushfield, Victoria, 3281
What is proposed? Proposed subdivision and land development as detailed in The Woodford Heights Estate Northern Development Plan.
What are the reasons for your objection? (If there is not enough room, attach a separate page.)
Please refer to Attachment 1.
How will you be affected by the grant of a permit? (If there is not enough room, attach a separate page.)
Please refer to Attachment 1.

Attachment 1

This letter is in response to the exhibition of the Woodford Heights Estate Development Plan and seeks to lodge an objection to that proposal.

From the outset, we wish to state that we are not against development in the Bushfield-Woodford area. As a young family based in Woodford for the past 14 years, we have seen a significant amount of change and growth over this time and acknowledge the benefits this has brought. People choose to live in Bushfield – Woodford because of our natural environment, strong community and the capacity to be surrounded by open space. As such, we strongly believe that any future development must be in keeping with the existing open layout of the area, with a wide variety of property sizes that help to retain the rural village feel of our community.

Unfortunately, as it currently stands we do not feel that the Development Plan for the Woodford Heights Estate is in keeping with the broader Bushfield-Woodford community. We believe the plan sits in contrast to the broader surrounding Bushfield-Woodford area and the formulaic structure of the development seems to be more in keeping with developments located on city fringes with their timber fenced allotments and requisite playground design. We are concerned about the impact this type of development will have on the village feel and character of Woodford, which is one of the reasons many have chosen to live in this area.

More specifically, we feel that the current proposal is inconsistent with the strategic and statutory context for the Woodford-Bushfield area as outlined in the:

- Warrnambool City Wide Housing Strategy 2013
- Moyne Warrnambool Rural Housing and Settlement Strategy 2010
- Warrnambool Planning Scheme including the Municipal Strategic Statement.

We recognise that the site is within the Bushfield-Woodford Settlement Boundary and is zoned for low density residential uses, however the relevant planning strategies state that further investigations are required *prior* to development proceeding in this area.

The Warrnambool City Wide Housing Strategy (2013) includes an action that within 2 years Council would *undertake structure planning for Allansford, Bushfield and Woodford to investigate constraints to development, infrastructure requirements and future land use needs.* It appears that this work is yet to proceed at present.

Additionally, the Moyne Warrnambool Rural Housing and Settlement Strategy (2010) identifies the growth capacity of Bushfield-Woodford as 'deferred', meaning that it has moderate or low growth capacity, but requires the resolution of a sewerage strategy before that potential can be properly realised.

The Strategy also notes that Bushfield-Woodford has a lack of services, in particular the provision of a sewer service and an inability of soils to carry much further growth in septic

services and that given the waste management issues it is questionable whether the purpose of the Low Density Residential Zone can continue to be met.

The Strategy also highlights the following in regard to onsite sewerage treatment:

As a general guide, the Code of Practice - Onsite Wastewater Management (EPA, 2008) notes lots smaller than 1 hectare are of a heightened risk to be unable to retain and absorb all effluent on site. While each site and area must be analysed and considered on its merits, it is appropriate that the responsible authority take a cautionary approach to this matter in un-sewered Township Zones.

This position is again reiterated in the Municipal Strategic Statement which includes the following actions:

- Defer growth within Bushfield and Woodford pending resolution of sewerage and effluent management options.
- Undertake a sewerage and effluent management strategy for Bushfield and Woodford, examining options and making recommendations regarding the most effective and cost beneficial way to enable growth to occur without environmental degradation.

We also note that the applicant has prepared a Land Capability Assessment which concludes that a sustainable onsite wastewater management system can be provided. However, it also notes that the cumulative effect of larger subdivisions like these are somewhat under researched. Furthermore, the Land Capability Assessment does not provide a holistic analysis of the cumulative impacts of onsite sewerage treatment within the wider Low Density Residential zone and within the Settlement Boundary. We therefore have significant concerns about the potential environmental impact of onsite sewerage treatment of this proposed development, particularly given the lot sizes of less than 0.5ha.

Furthermore, we are concerned that the Woodford Heights Development Plan does not consider the impacts of the proposal on community infrastructure and community needs including the capacity of the local primary school. Again, this should be considered holistically for the land within the Settlement Boundary.

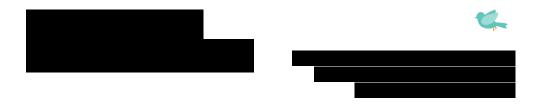
We also understand that the applicant is seeking to progress a separate Planning Scheme amendment to rezone the southern portion of the site from Rural Living zone to Low Density Residential zone.

In this regard, the Municipal Strategic Statement includes the following actions:

- Encourage limited rural living and low-density residential development within existing zoned areas around Bushfield and Woodford.
- Limit the impact of residential development upon adjacent farmland, with the Rural Living Zone being maintained as an effective buffer between residential areas and surrounding farms in Bushfield and Woodford.

This clearly outlines the strategic intent to maintain a buffer between the surrounding farmland and the Low Density Residential zone. The rezoning would remove this buffer and is likely to result in pressure for Rural Living lots within the farming land to the south of the site. The maintenance of a buffer is important to ensuring the ongoing viability of farming lands in the area and should be protected and to limit the further expansion of this rural village.

In summary, we believe that prior to the approval of any development plan, it is crucial that the Council progress its comprehensive analysis of the remaining land within the Bushfield-Woodford Settlement Boundary including preparation of a structure plan to investigate constraints to development, infrastructure requirements and future land use needs. This should include a sewerage and effluent management plan as well as an analysis of the social infrastructure needs of the community. Additionally, as part of any structure planning of land within the wider growth boundary, guidelines should be developed to ensure that further development is sensitive to, and preserves, the local character of Woodford. We would then expect that the outcomes of this work would inform a revision of the Woodford Heights Development Plan in order for it to meet both community expectations as well as the requirements set out by Council.



5th July, 2021

To the Warrnambool City Council,

Re: Woodford Heights Development Plan

I understand submissions are being accepted towards the above proposal due to delay in being accessible on the Warrnambool City Council (WCC) web site.

We the northern part of this development. From a personal perspective, In the past there has been substantial run off directed across our property under the road resulting in substantial flooding, land degradation, and land slides. We have put a great deal of effort in attempting to redirect this water away from our home. We would like assurances that there will no longer be redirection of water from the south towards/under the road through our property.

More generally given the density of the development, we are concerned as to how sewerage and effluent will be managed to ensure there is no leaching into the ground water/Merri River. We are not able to subdivide our own property despite it being just under 5 hectares due to the above. How can this development occur with such small acreage?

Can you please confirm receipt of this submission, as well as the process that will be undertaken for us to be aware of how these issues have been considered/resolved.

Thanking you



To Warrnambool City Council,

As Bushfield/Woodford residents, we have significant concerns with the current proposed development plan for Woodford Heights and "request to be heard" in the submission to council. We object to the development proposal in its current form.

Our concerns are (but not limited to) those outlined below.

1. Rezoning

- The zoning diagram presented by the developers on page 22 is actually inaccurate. Land on the northern side of Bridge Road is zoned RLZ not LDRZ.
 This inaccuracy makes it appear that the proposed rezoning of stage 3 and 4 of the development is less significant. This error presents as misleading.
- We are also concerned that if stage 1 and 2 of the proposed development are accepted by the Warrnambool Council, then stage 3 and 4 will be automatically endorsed and rezoning will occur without community consult (pg. 22). This may then result in further rezoning of the other land recently sold adjacent to the proposed Woodford Heights development.

2. Effluent/Stormwater Flow

- No sewerage and effluent management strategy for Bushfield/Woodford has been undertaken by the Woodford Heights developers, despite Clause 21.10-3 of the Council's Municipal Strategic Statement advising to "defer growth within Bushfield and Woodford pending resolution of sewerage and effluent management options" and that future developments also "undertake a sewage and effluent management strategy....examining options and making recommendations regarding the most effective and cost beneficial way to enable growth to occur without environmental degradation".
- We are concerned that the "wetland" area is not developed until stage 3 and 4 of the development plan. We feel immediate consideration should be given to conducting an effluent/stormwater impact study as the existing frog pond/wetland is home to many local frogs (as a night time visit will reveal).

3. Traffic/Pedestrian Management

There is only a single entry/exit point for all traffic. This is dangerous as it
presents as a bottleneck in the event of fire. At high use times it may also
lead to congestion and significant wait times for traffic exiting, resulting in

potential driver frustration and "pulling out" in front of traffic on Bridge Road.

- Trucks and other traffic frequently travel above the 60km speed limit set for Bridge Road. The proposed exit point is on a section of road with poor visibility (as indicated by the solid white line marking on the road). When standing on the walkway on the north side of bridge road there is only approximately 6 seconds of visibility to both the east and west before a car is directly in front of the proposed road allowing inadequate time for transit across the road.
- As local residents we believe it would be safer and more expeditious to have an additional entry/exit point as Brodie's Lane. When standing on the north pathway facing Brodie's Lane there is approximately 16 seconds of visibility in either direction. This is a far safer entry and exit point than the one on the current development plan. Reducing the speed limit to 50km along Bridge Road would further increase visibility time.
- Pedestrian crossings on the Development plan are not clearly defined. No indication is given to how children/adults will safely cross the road. A "collection point" is mentioned in the plan. This type of safety device is not particularly effective on Bridge Road due to the size of trucks travelling on the road (as indicated by the number of times the sign on the collection point at the start of Bridge Road needs to be replaced due to collision).

In conclusion, we are not against the development of the Woodford/Bushfield precinct but believe the council should learn from mistakes made in the past. Subdivision of Kiaman Close or Rodgers Place included almost no bike paths or pedestrian access. This planned subdivision is closer to the Merri River and provides smaller block sizes than either Kiaman Close or Rodgers Place. The required sewerage and effluent management strategy for Bushfield/Woodford must be completed before further development is approved. Safety of all road users' needs be taken into consideration with close monitoring/understanding of the present dangers that already exist. A single entry/exit point negatively impacts an already unsafe road.

Yours sincerely, 4/7/21

Submission to WCC RE Woodford Heights Estate - 4th July 2021

To Warrnambool City Council and City Planners,

As Woodford residents, we have read through the development plan for Woodford Heights Estate. We object to the proposal in its current form. We strongly urge you to consider the follow concerns we have below.

1. Rezoning

- The zoning diagram presented by the developers on page 22 is inaccurate. Land on the northern side of Bridge Road is zoned RLZ not LDRZ. This error presents as misleading.
- We are also concerned that if stage 1 and 2 of the proposed development are
 accepted by the Warrnambool Council, then stage 3 and 4 will be automatically
 endorsed and rezoning will occur without community consult (pg. 22). This may
 then result in further rezoning of the other land recently sold adjacent to the
 proposed Woodford Heights development.
- The Warrnambool City Wide Housing Strategy (2013) says that Council would (within 2 years?): Undertake structure planning for Allansford, Bushfield and Woodford to investigate constraints to development, infrastructure requirements and future land use needs. We are concerned that if this structure planning has not been done by the Council, then suggestions of rezoning must not go ahead. In addition, the Council's Municipal Strategic Statement includes the following: Clause 21.02-2 In Bushfield, Woodford and Allansford, limit rural living development and low-density residential development to existing zoned land. So, this suggests the proposed re-zoning should not occur.

2. Effluent/ Stormwater

- No sewerage and effluent management strategy for Bushfield/Woodford has been undertaken by the Woodford Heights developers, despite Clause 21.10-3 of the Council's Municipal Strategic Statement advising to "defer growth within Bushfield and Woodford pending resolution of sewerage and effluent management options" and that future developments also "undertake a sewage and effluent management strategy....examining options and making recommendations regarding the most effective and cost beneficial way to enable growth to occur without environmental degradation". This suggests that the Woodford Heights Estate Development is premature, and the Sewerage and Effluent Strategy must be developed first before any development should be considered.
- It was suggested in the Development Plan, p.15 to 'defer growth within Bushfield and Woodford pending resolution of sewerage and effluent management option' and yet the Woodford Heights Estate development Plan is the latest housing plan for the area.
- Temporary wetlands and drainage infrastructure will be located within the interim
 drainage reserves from the commencement of Stage 1 according to the Development
 Plan (see p.46). It is not clear what temporary wetlands actually means. Given that

Stage 1 of the development will drain south towards existing ponds and towards Sawpit Creek, and then into the Merri River, we believe that the development of a more permanent wetlands should occur at Stage 1, and not at Stage 3 and 4.

3. Traffic/ Pedestrian Management

- The Development Plan has stated that the 'primary vehicle and pedestrian access should be via Bridge Road', with only 'restricted' vehicle access to Brodies Lane. It is our belief that restricting vehicle access to and from development to a single point on Bridge Road will have an adverse effect on road safety. Bridge Road is classified as an Arterial Road (Road Category 1, managed by Regional Roads Victoria RRRV). The fact that there is already a high level of truck (p.11, TIA Report) and car traffic, at all times of day and night, we believe that the staged Woodford Heights Estate will have a greater adverse impact on road safety if vehicle access via Brodie's Lane is not included.
- As residents that have lived in Woodford for 35 years and live directly opposite the
 proposed development, we strongly disagree that Bridge Road 'has ample capacity to
 accommodate the relatively minor volume of additional traffic generated by the
 proposed development'. (p.9, TIA Report). With each new development in the area
 traffic has gotten worse and public safety is a real issue.
- The following suggestions would reduce the safety concerns:
 - 1. Reduce the speed limit to 50km/hr on Bridge Road.
 - 2. Provide vehicle and pedestrian access to the west via an existing road, Brodie's Lane. In other words, there should be plans for *eastern* and *western* links for vehicles and pedestrians to and from the estate, at Stage 1 of development.
 - 3. Provide on-road cycling lanes. Currently, there is no space for cycling lanes on Bridge Road.
 - 4. Ensure that central pedestrian refuges and crossings are constructed at both the entrance and eastern end of the Estate. Pedestrian crossings on the Development Plan are not clearly defined.

In conclusion, we believe that this development has an opportunity to set a new benchmark for unique, environmentally sustainable and high quality development of residential land. We request to be heard in relation to our submission before any final approval is granted.

Yours sincerely,





24th June 2021

Dear Warrnambool City Council,

I would like to raise my concerns relating to the advertised development plan for 119 Bridge Road, Woodford – Woodford Heights.

A key recommendation from the Council's own Warrnambool City-wide Housing Strategy 2013 was to 'undertake structure planning for Allansford, Bushfield and Woodford to investigate constraints to development, infrastructure requirements and future land use needs.'

Was this key recommendation ever completed and if it was does the proposed subdivision fit in line with the structure plan? It is my concern that the infrastructure required to support this subdivision, specifically linking to Woodford Primary School is inadequate.

The proposed 38 lot development would have a significant impact on the enrolment of Woodford Primary School, which is currently at capacity limits and enforcing the DET enrolment placement policy for all enrolments. Due to the site of the school there is no capacity to expand the building footprint to allow for increased enrolment numbers.

The Victoria Street entrance to the school is already under significant strain at pick up and drop off times, with identified risks to cars entering Victoria Street from Bridge Road when blocked due to congestion. It has been identified as an accident waiting to happen.

The proposed development plan makes mention of the pathways linking the proposed sub division development to the local community locations, including Woodford Primary School. It should be brought to council's attention that there is no footpath to be used from Albert Street to Woodford Primary School. Currently, students (as well as parents and younger siblings) must walk/ride on the Bridge Road service lane for approximately 300 metres. The risk for walkers and riders greatly increases at drop off and pick up times when increased traffic is evident and uses the same service road. Due to limited parking for parents (currently 131 families) the service road is also used by waiting parent cars, further increasing the risk for an accident to those children walking and riding amongst parked cars and moving traffic on the roadway.

The construction material for most of the Bridge Road pathway between Hopkins Highway and Albert Street (the main access path for local families to use) consists of gravel and old asphalting works. The poor quality of the paths are dangerous to use, especially for younger children wanting to use scooters or skateboards, which require an more even and harder surface such as concrete pathways.

For the past seven years Woodford Primary School has attempted to engage with council in a proactive way seeking support to build a covered area for our students. Due to the site of Woodford



Primary School and flood risks there is only one location for covered area to be constructed. Unfortunately this site is currently on a small section of land that is still listed as an official roadway and was never adjusted by local planning, even though the area has been a school basketball court and play area since 2000. The enrolment pressure from further sub division development will add to the issues that Woodford students do not have a space that can accommodate the whole school for events such as assemblies or provide shelter during inclement weather. The impact on COVID has significantly highlighted the further need for a covered area that meets density limits to allow for not only staff and students but also parents and the wider community to engage with awards ceremonies and regular assemblies. For example our regular end of year Year 6 Graduation has to be hosted in Warrnambool to accommodate the students and their families.

For the proposed subdivision to proceed the Warrnambool City Council need to ensure that the current inadequate level of infrastructure for the Woodford community is improved to meet the needs of a growing population.

Woodford Primary School is more than happy to have further discussions about our concerns raised if required.

Yours sincerely

MYERS PLANNING GROUP

Our ref: 2019-156 Your ref: PP2020-0251

13 August 2021

Mr James Phillips Coordinator City Development PO Box 198 WARRNAMBOOL VIC 3280

Dear James,

Re: Woodford Heights Estate Draft Development Plan, 119 Bridge Road, Bushfield

We continue to act on behalf of BTH Pty Ltd with regard to the above development plan and planning permit application lodged for the same site.

The application and accompanying reports, as written, comprise a development plan for a 21-lot rural residential estate at 119 Bridge Road, Bushfield.

Please find enclosed a response to key items and planning matters raised through submissions of objection following informal notice of the draft 'Woodford Heights Estate Northern Development Plan'.

It is noted that submissions were received, both in support and in objection to aspects of the development plan. Submissions of support were received in relation to increasing the supply of residential development in the Bushfield and Woodford settlement, neighbourhood character and amenity, liveability, landscaping, traffic and safety. The table below (and overleaf) responds to key issues raised through submissions of concern received during the abovementioned informal notice period.

Neighborhood Character

A number of submissions received raised concern regarding the proposals impact on the character of the area.

We re-iterate from the submitted Woodford Heights Estate Northern Development Plan report, that the number and size of lots is within keeping of the character of the area. The lots sizes and configurations proposed are already evident within adjoining areas of Bushfield and Woodford.

The intended scale and form of development within the subject site, enabled through the proposed development plan, is in keeping with the character of the precinct.

The proposal has gone to great lengths to ensure future rural residential development will contribute positively to the existing and proposed neighbourhood character of the area by communicating the design response sought by the development plan (page 33) and the design intent sought to be achieved through the implementation of design guidelines to be registered on title for each lot (page 42). These guidelines are also consistent with the purpose and requirements of Schedule 2 to the Development Plan Overlay.

In addition, substantial areas for landscaping are proposed within the street and on private land to help filter and soften the appearance of built form external public views.

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Town Planning Assessment

A number of submissions raised concern regarding the characterisation of land uses, location of zones and alignment of the proposal with the Warrnambool Planning Scheme, including the Planning Policy Framework, the Municipal Planning Strategy and the Low Density Residential Zone Rural Living Zone. A thorough assessment of the proposal as it pertains to the characterisation of land uses, location of zones and alignment with planning policy is contained within the submitted Woodford Heights Estate Northern Development Plan report and is supported by the assessments accompanying this letter of response. The assessment stands and it is considered that, on balance, the proposal is consistent with the Planning Policy Framework, the Municipal Planning Strategy and purpose of the Low Density Residential Zone and requirements of the Development Plan Overlay - Schedule 2.

References to the future layout of the Rural Living Zone within the subject site and 'in-text' references to a concurrently lodged planning scheme amendment have been removed from the Woodford Heights Estate Northern Development Plan for clarity. These matters will be considered as part of a separate process to determine the layout of the existing Rural Living Zone land to the south of the Woodford Heights Estate Northern Development Plan area.

Traffic

A number of submissions received raised concern regarding the proposals impact on pedestrian and vehicle safety.

The Transport Impact Assessment Report provides a detailed assessment of the proposed road layouts and the proposed intersection at Bridge Road. The assessment finds that the location of the proposed road alignment and intersection at Bridge Road is safe for vehicle and pedestrian traffic, and is the preferred access to the development site.

A plan of subdivision showing restrictions to access from lots adjoining Brodies Lane and Bridge Road has been submitted with the updated plan set. Access will be restricted from these lots onto Brodies lane and Bridge Road under the proposed subdivision arrangements to prevent direct access.

The Brodies Lane road reserve is not considered an ideal intersection for large traffic movements and turning lanes for access and egress. A safer intersection can be achieved from the proposed new accessway from Bridge Road, where the road reserve is wider and contains extensive views east and west of the proposed intersection.

Regional Roads Victoria have been engaged and consulted as part of the development of the Transport Impact Assessment Report and formulation of the conceptual layout for access and subdivision by phone conference and written correspondence. To our knowledge, no objection to the proposal has been made by Regional Roads Victoria.



Wastewater

A number of submissions received raised concern regarding wastewater concerns noted in the Warrnambool Planning Scheme and the Moyne Warrnambool Rural Housing and Settlement Strategy (2010).

The Land Capability Assessment (LCA) by SITEC accompanying the application includes statements on how it has catered for conservative wastewater planning and design.

An assessment of the LCA (by SITEC) and review of the Woodford Heights Estate Northern Development Plan against relevant aspects of the Warrnambool Domestic Wastewater Management Plan has been undertaken by Landtech Consulting as part of a 'Letter of Advice'.

The advice received by Landtech Consulting confirms the lot layout and density of the development is appropriate from a wastewater perspective, and that the cumulative impacts and relevant wastewater risks can be managed down to an acceptable level subject to detailed wastewater design and management at the septic permit application/installation stage.

The advice also confirms that the investigation of a sewerage scheme is not warranted due to the scale of the proposed development and the site's suitability for on-site domestic wastewater disposal.

See the attached Letter of Advice (by Landtech Consulting) for further details.

Landscaping

A submission received raised suggestions regarding landscaping within the development.

A concept Landscape Plan accompanies the proposed for details on the proposed street planting and landscaping regime. It is also noted that substantial areas are set aside within the front setbacks on residential lots to provide for landscaping within the 'private realm', and that private landscaping is encouraged

The proposed layout of streets, roads and pedestrian areas provides ample space for landscaping. The concept Landscape Plan accompanying the Woodford Heights Estate Northern Development Plan provides an indicative layout of tree plantings along the proposed street network. There is sufficient scope within the drafted plans to modify landscaping layouts to allow for appropriate species selection and locations to the satisfaction of Council as part of any future planning permit application for subdivision.

Settlement Planning

A submission raises whether the Woodford and Bushfield settlements have adequate community and development service infrastructure for existing and future populations.

It is unreasonable to expect the proposal to address capacity issues relating to school and public infrastructure, which are located beyond the immediate vicinity of the site. These issues are commended to Council to address with the Woodford and Bushfield community as matters separate to the proposed Woodford Heights Estate Northern Development Plan.

It is noted that the proposal provides a high standard of infrastructure for footpaths, roads, landscaping and proposed pedestrian crossings which will make a positive contribution to the existing provision of infrastructure within the Woodford and Bushfield settlements.



In addition to the aforementioned responses, we submit a Biodiversity Assessment by Landtech Consulting Pty Ltd which provides a 'rapid biodiversity assessment' of the site. The Biodiversity Assessment is enclosed as an Appendix to the updated Woodford Heights Estate Northern Development Plan.

We trust this information is satisfactory to allow Council to complete its final assessment. Should you have any questions or require further information, please do not hesitate to contact Daniel Pech of Myers Planning Group on 0436 016 612 or dan@myersplanninggroup.com.au.

Yours sincerely

Daniel Pech Associate

Myers Planning Group

[enc.]





MIDDLE ISLAND PROJECT SEASON **REPORT 2020 - 2021**

For sixteen years now, the Middle Island Project (the Project) has been working to protect the Little Penguin colony of Middle Island in Warrnambool.

he world-first use of Maremma guardian dogs in wildlife conservation, now known as the 'Warrnambool Method,' has seen the Little Penguin colony re-establish by controlling fox predation on the island.

The Project is overseen by the Middle Island Working Group and this group is guided by the 2020-2025 Middle Island Project Strategic Plan. Warrnambool City Council, Warrnambool Coastcare Landcare Network, Deakin University, the Warrnambool Field Naturalists Club, the Department of Land, Water and Planning and Parks Victoria are partners and supporters of the Project, as are the Project's major sponsors; PetStock and the Vet Group. The success of the Project would not be possible without the collaboration of these organisations and local businesses.

The aim of the Middle Island Project Season Report is to provide feedback regarding the key achievements the Project made during the year from July 2020 to June 2021.

HIGHLIGHTS OF THE 2020 – 2021 **SEASON**

- No evidence of foxes on the island while the dogs have been there. No bird kills (penguins or mutton birds)
- The retirement of Guardian Dog Eudy at the age of 12 after 10 seasons guarding the penguins.
- A Go Fund Me campaign was successful in raising \$36,000 for the Project and was shared by popular social media group We Rate Dogs.
- The continued media interest in the Project, for example, the Channel 31 series Dog Jobs Australia featuring the Project's maremmas on their first episode.
- Sponsorship by PetStock and the VetGroup.
- Although the Meet the Maremma Experience tours were cancelled due to COVID restrictions, tours run through the Flagstaff Hill Maritime Museum proved to be very popular.

CHALLENGES OF THE 2020 - 2021 **SEASON**

- The Covid-19 pandemic has been the most significant challenge this year.
 - The Meet the Maremma Tours were cancelled for the summer eliminating a major source of income.
 - Volunteer numbers were restricted to assist with social distancing and hence total penguin population monitoring hours were significantly reduced.
- Poor weather and tide conditions increased the risks associated with crossing Stingray Bay affecting access to the Island and the number of penguin arrival counts that could be undertaken.
- Sadly, Eudy was euthanized in May 2021.



KEY PENGUIN STATISTICS

- Higher rates of regular penguin arrivals recorded than the previous season, however overall activity was low with no evidence of breeding observed.
- Penguins arrived on Middle Island one month earlier than the previous season.
- 65 volunteer hours were dedicated to conducting 6 arrival counts and 7 breeding surveys.
- The estimated penguin population for the 2020-2021 season was seven.

KEY MAREMMA **STATISTICS**

- There are 2 fully trained guardians, Mezzo and Isola while Oberon is still in training.
- Eudy completed her final season working on the island.
- Avis and Amor continue their work as ambassador dogs.
- Tula has retired but is still living on the farm with the other dogs.
- In May 2020 Eudy died after being diagnosed with an aggressive bone tumor.

KEY EDUCATION STATISTICS

- Due to COVID-19 restrictions the Meet the Maremma Summer Series did not run this year.
- Twelve school and bus groups (379 people) visited the Penguin Protector Talks at Flagstaff Hill.
- During school holiday 409 people attended Penguin Protector talks at Flagstaff Hill.
- The Summer by the Sea program engaged 300 online participants.
- Incoming Deakin University students attended talks presented during Orientation Week
- A Deakin workplace student worked on the project and a Masters student undertook work developing educational material.



LITTLE PENGUIN **POPULATION**

Warrnambool Coastcare Landcare Network (WCLN) has been monitoring the recovery of Middle Island's little penguin colony since the Project first began in 2006. During the penguin breeding season, WCLN conducts penguin arrival counts to estimate the size of the breeding population and undertakes burrow surveys to monitor reproductive success.

uring the 2020-21 season, WCLN volunteers recorded higher rates of regular penguin arrivals during dusk arrival counts than the previous season, however, overall, activity levels were low. Six penguin arrival counts were conducted this season, with penguins observed during four of these counts. It is notable that penguins were only observed at one of the four monitoring sites on Middle Island. In total, there were eleven observations of penguins. Additionally this season, seven breeding surveys consisting of nest box checks occurred on the Island. No evidence of breeding was directly observed this season, however, two single abandoned eggs were found on separate occasions. This is unusual as penguins on Middle Island historically only lay clutches of two eggs. Only one penguin handled on the Island this season, however, it was in moult, meaning it was not microchipped as per guidelines.

Volunteer hours this season were significantly reduced due to the Covid-19 pandemic, with 65 volunteer hours utilised in penguin counts and breeding surveys. Another challenge this season was the condition of the crossing to Middle Island. The crossing was too deep and dangerous on multiple occasions which hindered access to the Island to conduct penguin monitoring. As a result of these challenges, the number of penguin counts which could be undertaken were significantly reduced compared with previous seasons.

Unfortunately at times in 2020 and during March/April 2021 dead birds were reported following days of heavy weather including large swells and high winds. Despite being caused naturally, the effects of these deaths will be quite pronounced in this small colony of penguins. Mosswood Wildlife saw 30 incapacitated little penguins, mostly young fledglings, come into their care shortly after breeding season you, although not all of these are believed to be from the Middle Island little penguin colony. Despite the population estimate of this season being higher than that of the 2019/20 season, there has not been much of an observable recovery, thus highlighting the importance of the ongoing protection of the colony from further decline by foxes.





MAREMMA DOGS

Maremma dogs are trained to protect the penguins by deterring foxes from coming across to Middle Island. There are currently six dogs working on the Project. Three are trained guardians, two are ambassador dogs and one, Tula is retired.

GUARDIAN DOGS

Mezzo is the lead guardian and he worked on the island for the majority of the season, taking only short breaks over summer. He was supported by Isola and Oberon is still in training. Isola enjoyed being on the Island more this season, previously being too young and playful to properly undertake the guardian role.



AMBASSADOR DOGS

Avis and Amor are the two dogs used for educational purposes – for tours and project engagement.



EUDY

Eudy, who turned 12 in January 2021, spent one night on Middle Island this season before handing over the guard to the younger guardian dogs. Unfortunately, Eudy was diagnosed with an aggressive bone cancer and was put to sleep in May 2021. She spent her last days with her carers and will be dearly missed by everyone involved in the Project.









FOX PREDATION

Fox predation continues to be a major threat to the Little Penguin colony on Middle Island.

arrnambool City Council's fox control program considers seasonal conditions including tides, foxes and penguin movements to ensure the efficiency of the program. This season baiting programs were undertaken which included camera and scat surveys to monitor its effect on fox numbers, along with den fumigation. A trial program was carried out June/July 2020 with no baits taken. Learnings from the trial were implemented during the expanded baiting program in May/June 2021, which was successful. A number of baits were taken and the scat survey showed a 58% reduction in scats between the start and the end of the program. Four dens have also been fumigated this season. The combination of fox management methods has resulted in a decline in scat numbers.

Scenting of the beach and island is undertaken, using maremma dogs, as often as possible when the dogs cannot remain out on the island. This is to ensure the scent of the dogs remains in the area to keep foxes away. In the winter months, unsafe conditions for crossing means we cannot take dogs across to the island to scent, and thus, scent the beach at Stingray Bay instead. This is completed daily, given that the conditions are safe and appropriate to do so.

EDUCATION

Tours

ver the summer of 2020-21 the Meet the Maremma Tour Series at the Pavillion was unable to run due to the Covid-19 pandemic. As there is an increased risk of transmission with handling artificial penguins and petting the dogs, the decision to have a contactless Penguin Protector Talk at Flagstaff Hill was made. These proved to be highly successful with lots of people still very interested and happy to be involved and see the dogs even though they were unable to have a photo next to them and pat them. The Penguin Protectors talks also ran during the school holidays in the second half of the season, with 408 people attending these talks which continued to prove popular. In 2021, there were also 12 Penguin Protector Talks, organised by Jan Barkla at Flagstaff Hill, for school and bus groups engaging a total of 379 participants.

Alternative fundraising

ith the running of tours over summer usually a main source of funds for the Project, a Go Fund Me campaign was set up on the first day of the Christmas school holidays to try to source alternative funding. After a large social media push, We Rate Dogs, a popular American social media group, shared our fundraiser as their first fundraiser for 2021. Within an hour of this post, our target of \$20,000 was met, with the campaign raising \$36,699 in total.

MEDIA & **PUBLICATION**

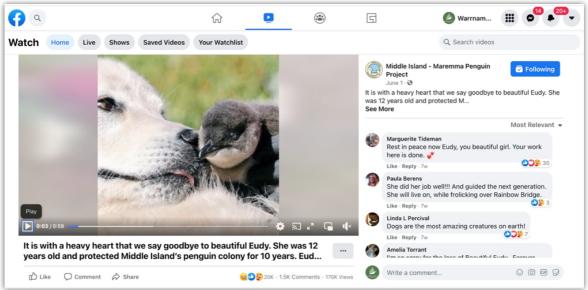
The Middle Island Project continues to draw media attention from within the local community and throughout the World. Highlights of the 2020-21 season include the success of the Middle Island Project's Go Fund Me campaign driven by social media, the airing of a Dog Jobs Australia episode featuring the Project, and the global media coverage following the passing of Guardian dog, Eudy.

n January 2 2021, We Rate Dogs shared the Go Fund Me campaign across their social media platforms, with the Facebook post alone being shared over 900 times. In a short time following these posts, the fundraising campaign met its target.



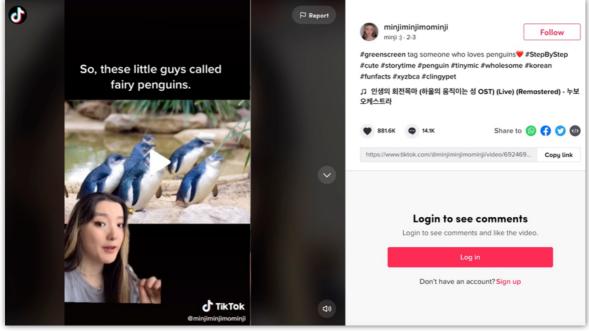
Channel 31 featured the Project's Maremmas in their Dog Jobs Australia series, which has now been viewed nearly 10,000 times. The episode can be seen at the following link: https://www.youtube.com/watch?v=cD-DUclGt6g8

On the 1st of June, the news of Guardian dog Eudy's passing was announced on the Project's Facebook page via a tribute video, which has been viewed 170,000 times. In the days and weeks following this announcement, media attention was received from across the globe.





From the media response this season it is now evident that social and digital media is becoming more important than mainstream and print media for raising awareness and revenue for the Middle Island Project. A Tik Tok influencer with 661,000 followers created a short video about the Project which was viewed 2.7 million times. People are also inclined to search for information on the Project via the Warrnambool City Council and Warrnambool Penguins websites, with the pages having 7,749 and 67,640 views respectively. The Project maintained its Facebook, Instagram and Twitter accounts this season, regularly engaging with thousands of people through posts. The Standard, Warrnambool's local new paper, continued to publish articles regarding the Project, however, this season a number of these were solely digital.



FINANCIALS

Income and Expense

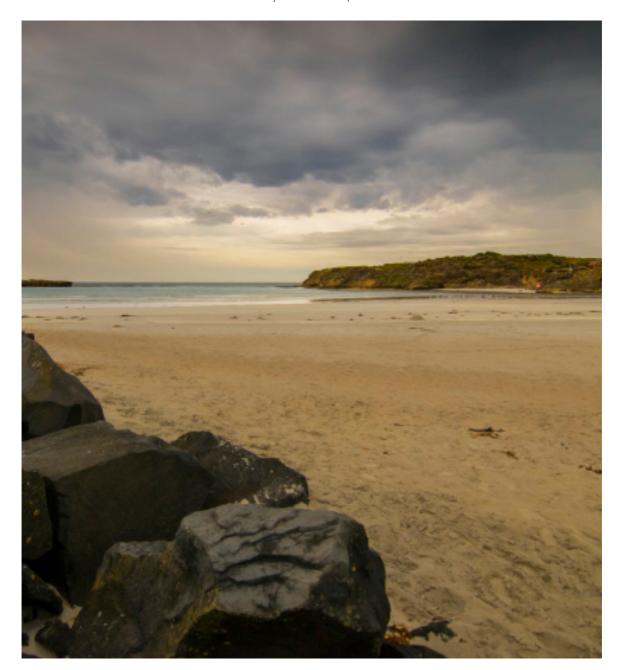
The spreadsheet below presents the end of financial year income and expenses for the project with a comparison against the year's budget and the preceding year's data. Excluding the carry forward, a loss of over \$25K for the year was predicted.

nstead, we have delivered a healthy surplus of over \$16K. The turnaround has largely been through generous donations, including the GoFundMe campaign that yielded \$36K. We were also fortunate to receive generous donations from a confidential benefactor, Deakin University Warrnambool Residential Services, Stuart Grimley MP and many others. To have achieved nearly \$45K more in donations than we had expected testifies to the high regards this project has in the wider community. The very generous support from our major sponsors – Petstock Warrnambool, and The Vet Group is acknowledged.

Financials 30 Ju	ne 2021							
			Α		В		D	
INCOME		В	udget 20-21	Ac	tuals To 30 J	Notes	Total 19-20	
				\$	-		\$ -	
Dog tours over su	mmer	\$	15,000.00	\$	1,836.39		\$ 14,131.	15
Donations		\$	5,000.00	\$	49,272.89		\$ 63,872.	36
Other								
Grants								
Carry forward		\$	45,610.00	\$	45,610.00		\$ 39,233.	00
TOTAL INCOME		\$	65,610.00	\$	96,719.28		\$ 117,236.	51
TOTAL EXCLUDIN	NG CARRY FORWARD	\$	20,000.00	\$	51,109.28		\$ 78,003.	51
EXPENSES								
Co-ordination of p	enguin monitoring (WC	LN)						
Insurance								
Catering								
General operating	expenses	\$	23,000.00	\$	22,267.07		\$ 22,186.	60
Vet fees		\$	9,000.00	\$	8,550.34		\$ 8,065.	82
Travel, meals		\$	500.00				\$ 388.	45
Internet booking for	ees	\$	250.00	\$	296.63		\$ 259.	10
Vehicle costs		\$	7,500.00	\$	3,912.45		\$ 40,727.	00
Other (training, contingency)		\$	5,000.00					
Equipment								
TOTAL EXPENSE	ES	\$	45,250.00	\$	35,026.49		\$ 71,626.	97
NETT (EXCLUDIN	IG CARRY FORWARD) -\$	25,250.00	\$	16,082.79		\$ 6,376.	54
NETT (INCLUDING	G CARRY FORWARD)	\$	20,360.00	\$	61,692.79		\$ 45,609.	54
Notes								

Our general operating expenses mainly cover employment of dog handlers. General operating expenses and the vet fees for the year, closely matched our budget and last year's figures.

In summary, the project is in an extremely healthy financial position, thanks largely to a carry forward that has been increasing annually. Indeed, we will have over \$61K to commence the 2021-22 financial year.



CONCLUSION

The conservation of the Little Penguin colony of Middle Island continues to be the focus of the Project. As a bonus, the Middle Island Project sees stakeholders and the local community come together as one to support and show pride in Warrnambool's very own world-first conservation method.

The Middle Island Project thanks all of our stakeholders, volunteers, sponsors, visitors, the Warrnambool community and all other supporters, and looks forward to continuing on in the 2021/22 season.



Middle Island Project Committee

Responsible Officer: Responsible officer Due for Review:

The Middle Island Project was developed with the aim of ensuring the long-term survival of the little penguin colony on Middle Island. As the project transitions to an ongoing program under the management of Council, this Committee will continue to advise and support Council through reviewing and recommending appropriate conservation techniques that reduce the threats faced by the birds and to support the ongoing conservation of the penguin population at Middle Island.

1. Function/Purpose

The formal name of the Committee governing this project shall be the Middle Island Project Committee (the Committee).

The function of the Committee is to provide advice and guidance to Council and officers on the ongoing Middle Island Project.

The Committee shall review activities, strategy and policy documents related to the Middle Island Project, and will make formal recommendations to Council on the ongoing operations of the program, including conservation techniques, ongoing management, and tourism, grants and funding opportunities.

2. Role

The role of the Committee is to:

- Provide advice on any issue that has major implications for the project
- Create a strong link between Warrnambool City Council, agencies relevant to the project, and the community
- · Provide advice, support and assistance in the implementation of the program
- · Provide constructive and technical advice and feedback on management actions
- Provide those directly involved in the project with guidance and make recommendations on project related issues
- Provide valuable community/local knowledge to help inform management decisions
- Represent community and stakeholder views in relation to the management of the Middle Island Project.
- Receive updates on the Project's financial position and make recommendations on seeking deploying project funds.

3. Powers and Responsibilities

The Committee has the power to and must:

- Provide advice and make recommendations to Council on matters related to the Middle Island Project:
- Liaise with stakeholder groups and the community on matters related to the Middle Island Project;
- Provide advice and feedback, and make recommendations on any major financial implications or issues facing the Middle Island Project, including identification of funding opportunities;
- Review and put forward recommendations on the ongoing financial management of the Middle Island Project;
- Determining, in consultation with the Council, appropriate funding to be provided to Warrnambool Coastcare Landcare Network for any shortfalls in funding they may have with their Middle Island Monitoring Program.



Seek out, review and recommend relevant information and opportunities from external sources that
may assist the Council in the operations and management of the Middle Island Project.

The Committee is not responsible for:

- The day-to-day operations of the Middle Island Project
- · Minor or insignificant operational matters related to the Middle Island Project.
- Staffing, or any staffing related matters.
- Deciding, delegating or undertaking any expenditure related to or on behalf of the Middle Island Program.

4. Membership

The Committee will include representatives from key stakeholders together with Warrnambool City Council representatives, a Project Officer¹ and a Penguin Monitoring Officer². The term of membership for each member shall be two (2) years.

The Committee shall be comprised of a representative from the following organisations, groups & agencies:

- 1. Deakin University
- 2. Warrnambool Field Naturalists Club
- 3. Warrnambool Coastcare Landcare Network
- 4. The Department of Environment, Land, Water & Planning
- 5. Parks Victoria
- 6. Community Representative³
- 7. Warrnambool City Council Officer
- 8. Warrnambool City Council Councillor

Warrnambool City Council will provide administrative support to the Committee.

¹The Middle Island Project Officer will directly represent and report on the operational matters and implementation of the Project including dog handling and personnel, land management, tourism and education.

² Penguin Monitoring is the responsibility of WCLN and the Penguin Monitoring Officer will be appointed by WCLN. The Penguin Monitoring Officer will report on the penguin monitoring program including volunteers and scientific monitoring.

³Consideration will be given to individual members, independent of any organisation or group affiliation, where the individual has specialist skill and/or experience relevant to the Middle Island Project. Each Community Representative member should have:

- 1. An active interest in the little penguin population and management of the conservation project.
- The ability to represent community views or the views of a key stakeholder or user group;
- A commitment to work constructively and collaboratively with others to improve the management of the Middle Island Project.
- New members will be asked to review key information about the Middle Island Project. This information will be provided by Warrnambool City Council.

5. Role of Committee Members

The role of each individual member of the Committee includes to:

- Appreciate the significance of the project for all major stakeholders
- · Have a broad understanding of project management issues and the approach being adopted
- · Be committed to, and actively involved in pursuing the project's outcomes
- Ensure the requirements of stakeholders are met by the project's outputs
- Help balance conflicting priorities and resources
- Consider ideas and issues raised
- Review the progress of the project
- Contribute the time needed out-of-session to study and understand the papers provided
- · Apply good analytical skills, objectivity and good judgement
- Express opinions frankly and ask questions that go to the fundamental core of the issue
- Respect the confidential nature of information discussed and provided throughout the project by:



- Maintaining the confidentiality of the information to which the member has access and take reasonable precautions to prevent its unauthorised dissemination or use;
- Not use any confidential information for purposes other than those necessary to perform the role of Committee member; and
- o not allow any other person access to the confidential information.

The role of the Project Officer will be to report to the Committee on the operational matters associated with the Project and prepare and present an Annual Report. The role of the Penguin Monitoring Officer will be to report on the state of the penguin population and to prepare and present the annual Penguin Monitoring Report.

6. Convenor/Chair

The Warrnambool City Council shall convene Committee meetings. The Committee will be chaired by an appointed member of the Committee.

If the designated Chair is not available, then the acting chair will be voted on at the meeting and will be responsible for conducting that meeting. An Acting Chair must be a member of the Committee present at the meeting.

7. Decisions

The Committee is an advisory body, which advises and makes recommendations on the management of The Middle Island Program. Where members hold a differing perspectives or advice on a particular issue, the different viewpoints will be noted and presented to Warrnambool City Council in its role as Committee of Management of Middle Island and as operationally responsible for the Middle Island Program.

Where the Committee intends to make formal recommendations to Council, in particular with relation to any financial matters, a vote will be taken. Where a majority of Committee members agree (vote in favour) to the proposed recommendation, the recommendation will be put forward to Council.

Where the Committee makes formal recommendations to Council, these recommendations are to be tracked and reported on at each meeting of the Committee through to completion. Where Council is unable to undertake a recommendation, a management response is to be provided explaining the reasons for that decision

Where information of a more technical nature needs to be provided, independent experts may be invited to present at a Committee meeting. This may include representatives from government agencies and/or specialist consultants.

8. Frequency of Meetings

The Committee shall meet quarterly or as agreed from time to time.

Meetings will take no longer than two hours unless otherwise agreed to by members.

Additional meetings may be convened as required with members being provided with at least two (2) weeks' notification of meeting where possible.

9. Agenda Items

Warrnambool City Council will distribute to the agenda to members and any meeting attendees with attached papers five days prior to the next scheduled meeting.

Members will be invited to forward agenda items in writing to Warrnambool City Council prior to the scheduled meeting. The draft agenda will then be compiled and forwarded to members by email prior to the meeting.

The opportunity to raise general business will be made available at each meeting.



10. Minutes and Meeting Papers

The Warrnambool City Council will coordinate the preparation and distribution of minutes of each Committee meeting.

Minutes will be taken by Warrnambool City Council at each meeting. Copies of the minutes will be distributed to all members by email within three weeks of a meeting taking place.

11. Invitees

In addition to the Committee members, other people can be invited as guests to attend and/or report to meetings as required. These may include specialist experts, consultants or contractors.

12. Quorum

Quorum is considered to be one half of the total number of members plus one.

13. Term

The Committee was established in 2021 for an initial period of two (2) years.

The effectiveness and membership of the Committee will be reviewed after two (2) years.

14. Document History

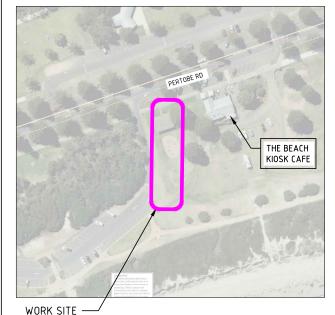
Version	Document History	Approved by – Date
1	Template created	

PROPOSED SHARED PATH CONSTRUCTION

PERTOBE ROAD, WARRNAMBOOL

NOTES





WORK SITE DIAGRAM SCALE: NTS

DRAWING INDEX		
SHEET No. DESCRIPTION		
1	LOCATION PLAN, NOTES, DRAWING INDEX, LEGEND,	
2 ARCHITECTURAL LAYOUT PLAN		
3 DETAILED LAYOUT PLAN		
4 SETOUT PLAN AND POINTS TABLE		
5 DES_FP_IN LONG SECTION CH 0.00 TO 74.501		
6	SECTIONAL VIEW AND DETAILS	

GENERAL

These drawings are to be read in conjunction with the project specification

- G 2 All dimensions are in meters, unless otherwise noted.
- G 3 All dimensions and reduced levels must be verified on site before commencement of any work. Any discrepancy shall be referred to the Engineer before proceeding with the work.
- G 4 All dimensions shown are to edge of road or face of wall unless otherwise shown. Engineers drawings shall not be scaled.
- G 5 All levels are to A.H.D. T.B.M. 1.500
- G 6 The exact location and depth of existing services is unknown. The contractor shall verify by excavation the actual location of services prior to the commencement of construction.
- G 7 The contractor shall liaise directly with all service authorities and comply with relevant regulations and standards.
- G 8 All work within the road reserve must be approved by the Municipal Council.

EARTHWORKS

- E1 Unless otherwise noted, all vegetation and topsoil containing organic matter shall be stripped to a minimum depth of 300mm under all pavement and building areas.
- E 2 All fill material shall be material approved by the Engineer and compacted uniformly in 150mm maximum compacted thickness layers. Prior to the placement of any fill material under buildings or pavements the exposed subgrade shall be compacted to 95% modified AASHO (AS1289). Any soft or unsuitable material in the subgrade shall be removed and replaced with aproved granular fill material.
- E 3 It is the responsibility of the contractor to adequately drain the site during all stages of construction.
- Grade evenly between finished surface spot levels shown on the drawings. Where finished levels are not shown, the surface shall be graded smoothly so that it will drain, and to match existing surface or structure.

CONCRETE

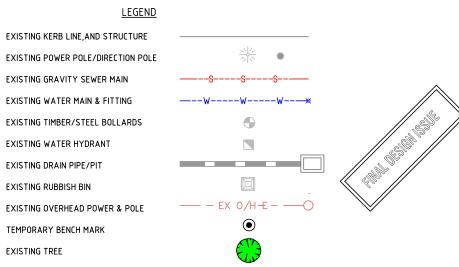
- C1 Minimum compressive strength shall be 32Mpa at 28 days
- The transition joints and construction joints to be maintained at a uniform spacing as per IDM (SD205) and IDM (SD210)
- C3 The footpath or shared path to have a crossfall between 1 in 30 and 1 in 40

LANDSCAPING

.S 1 All landscaping is to be installed in conjunction with Council's Parks and Gardens guidelines and WCC CBD streetscape guidelines where required. The disturbed landscaping is to be reinstated to the above standards.

TACTILE INDICATORS

- 1. HAZARD AND DIRECTIONAL TGSI'S SHALL CONFORM TO A51428.6.
- 2. THE DESIGN OF TGSI'S SHALL HAVE A MINIMUM LUMINANCE CONTRAST OF 30% TO THE SURROUNDING SURFACE
- 3. DIRECTIONAL TGSI'S SHALL BE PROVIDED AT MID-BLOCK CROSSINGS EXTENDING FROM THE OBSTRUCTION/PROPERTY BOUNDARY TO THE TOP OF THE RAMP. SEE ALSO NOTE 14
- 4. KERB RAMP AND TGSI'S SHALL BE ALIGNED IN THE DIRECTION OF PEDESTRIAN TRAVEL ALONG THE SET-OUT & OF CROSSING
- 5. A DRAINAGE PIT SHALL BE LOCATED ON THE UP-STREAM SIDE OF THE CROSSING (WHERE POSSIBLE)
- 6. THE RAMP AND SLOPING SIDES (MAXIMUM 1 IN 4 SLOPE) SHALL BE SLIP RESISTANT
- 7. FOR DEPRESSED FOOTPATHS ADOPT THE LAYOUT DETAILS AS PER THIS DRAWING
- 8. SERVICE PITS SHOULD NOT BE INSTALLED IN THE AREA OF THE TACTILE GROUND SURFACE INDICATORS.
- 9. KERB TRANSITION 1000 DESIRABLE (1 IN 4 MAX SLOPE)
- 10. RAMP WIDTH VARIED, 1000 MIN TO 1500 DESIRABLE.
- 11. CUT THROUGH MEDIANS ARE TO BE USED WHEN LESS THAN 1700 WIDE
- 12. DIRECTIONAL TGSI'S AT INTERSECTION (WEHEN REQUIRED) SHALL BE 600mm WIDE WHEN IN THE CONNECTING FOOTWAY AND 300mm WIDE WHEN LINKING TO HAZARD TGSI'S (GENERALLY NOT REQUIRED)
- 13. WHEN A COMBINED RAMP RESULTS, DIRECTIONAL TGSI'S (600mm WIDE) ARE TO BE PROVIDED TO EXTEND 600mm FROM TOP OF RAMP NOTE: CENTRAL RAISED AREA TO KERB HEIGHT (1 IN 4 MAX SLOPE)
- 14. AT ACUTE LOCATIONS, THE OFFSET OF THE HAZARD TGSI PAD TO THE EDGE OF KERB MAY VARY 300mm DESIREABLE TO 400 MAX. AT THE CENTRE LINE OF INSTALLATION. BEYOND THIS LIMIT THE FULL 400mm LONG TGSI PAD IS TO BE PROVIDED AS AN ACUTE INTERSECTION WITH AN OFFSET OF 200mm TO 300mm DESIRABLE AT THE CONTROL POINT





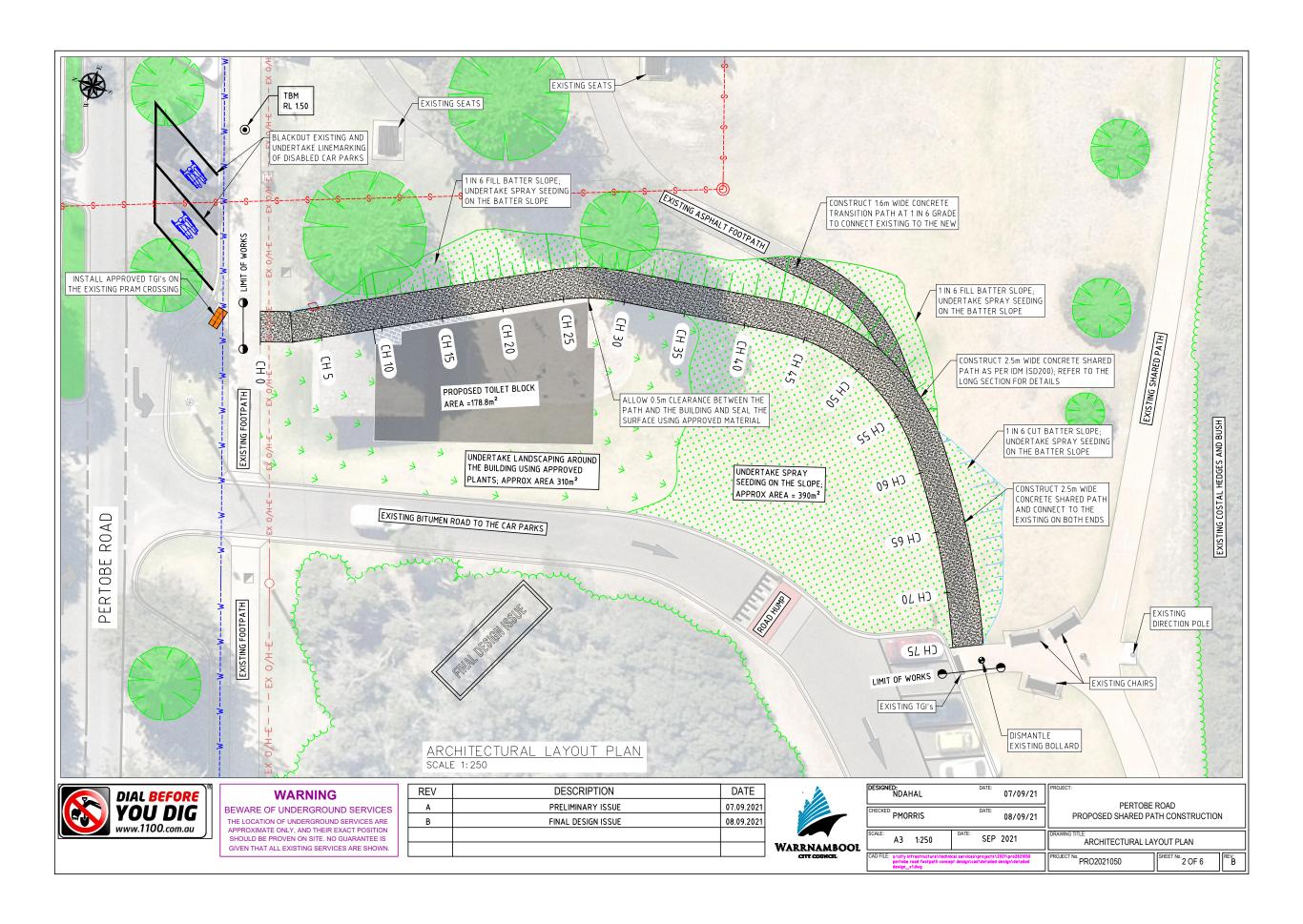
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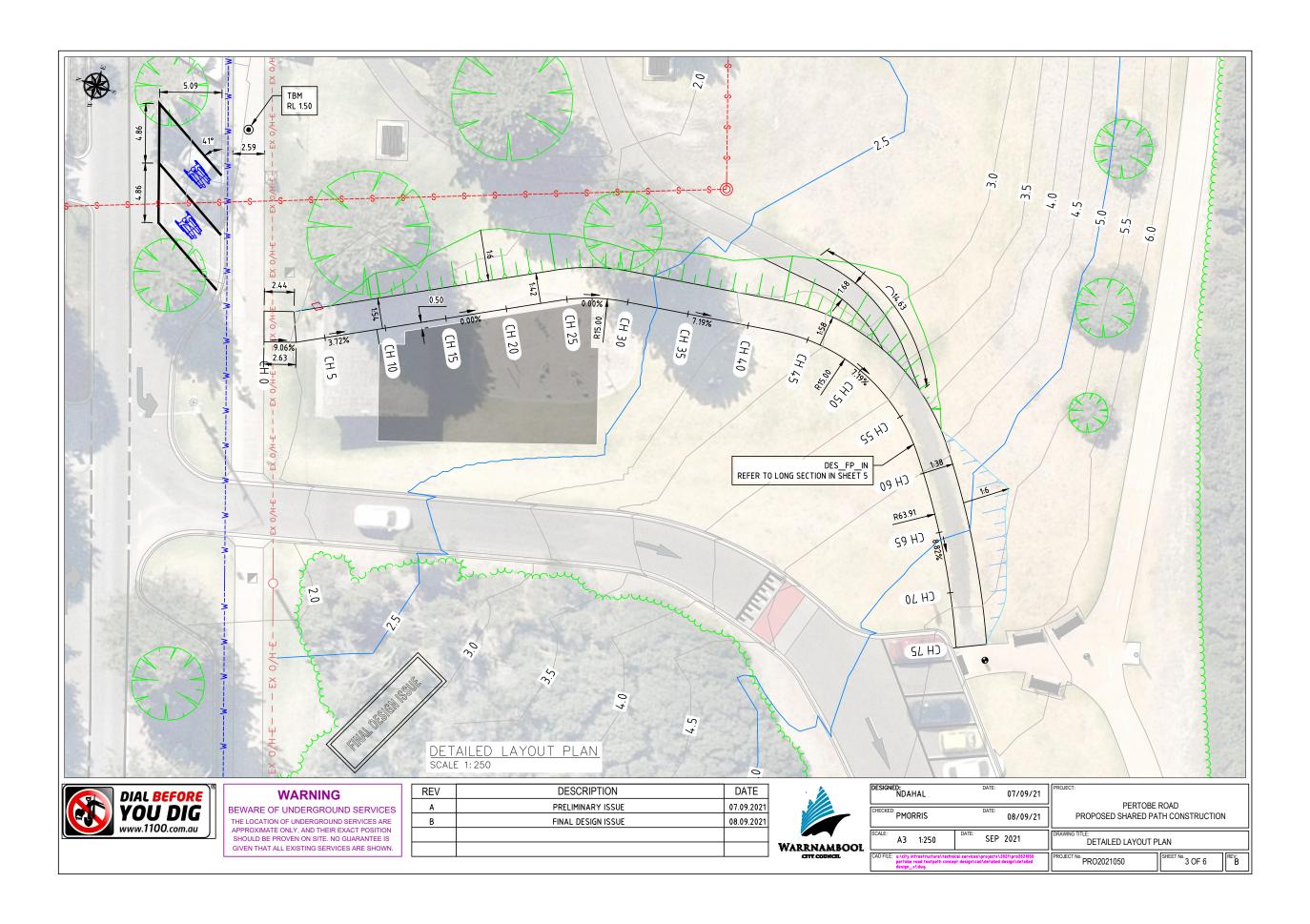
BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE
APPROXIMATE ONLY, AND THEIR EXACT POSITION
SHOULD BE PROVEN ON SITE. NO GUARANTEE IS
GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

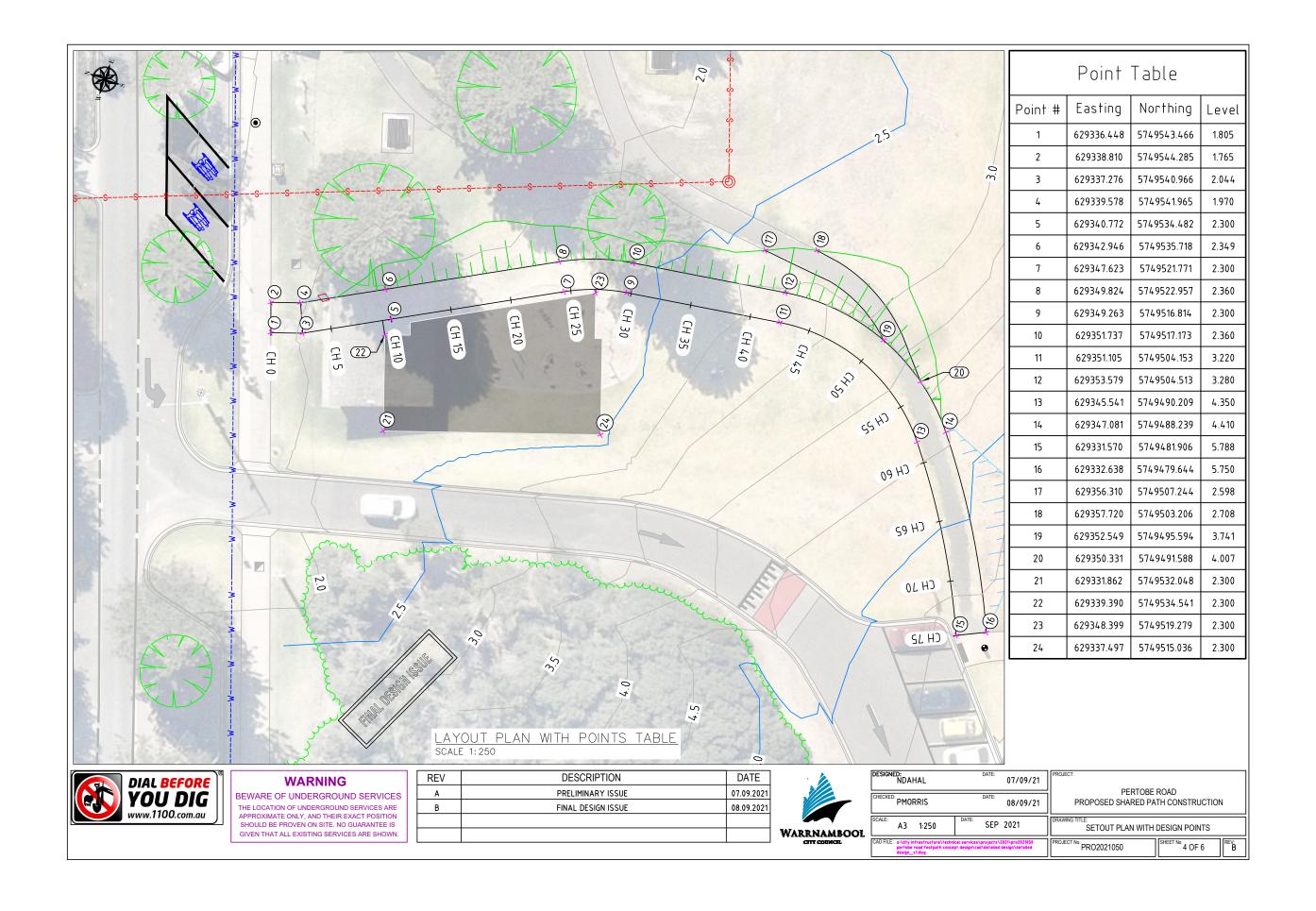
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Α	PRELIMINARY ISSUE	07.09.2021
В	FINAL DESIGN ISSUE	08.09.2021

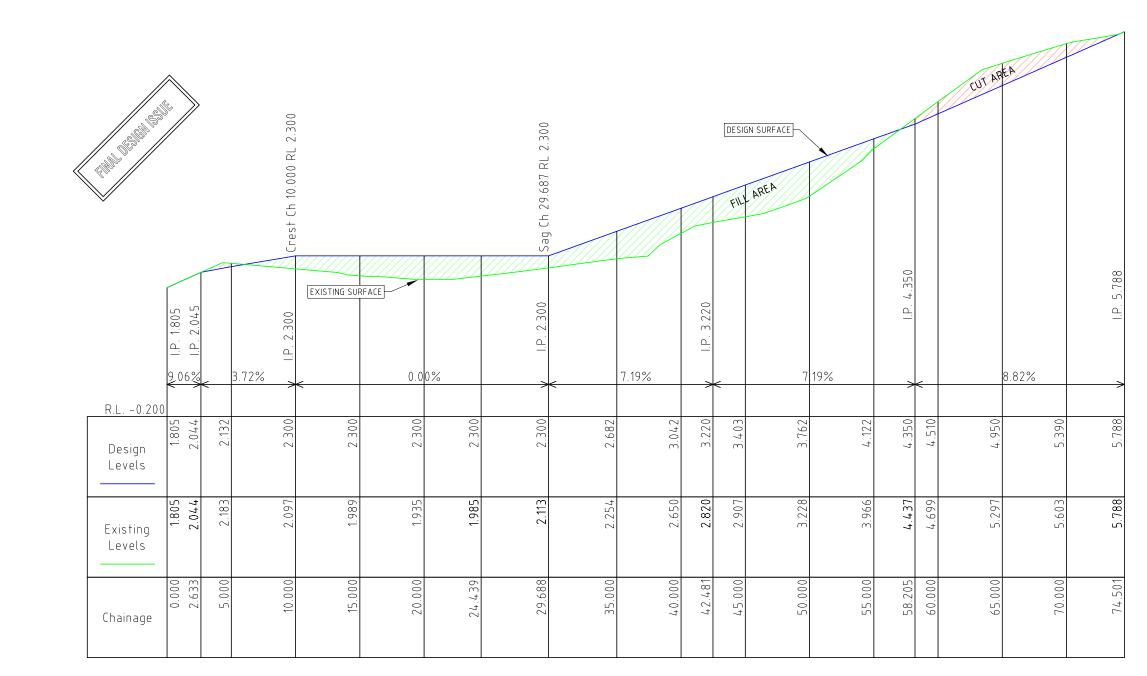


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	CHECKED: PMORRIS	DATE:	08/09/21	PROPOSED SHARED PATH CONSTRUCTION			
	SCALE: A3 NTS	DATE: SEP	2021	DRAWING TITLE: SITE PLAN, LEGEND, DRAWING INDEX, NOTES			
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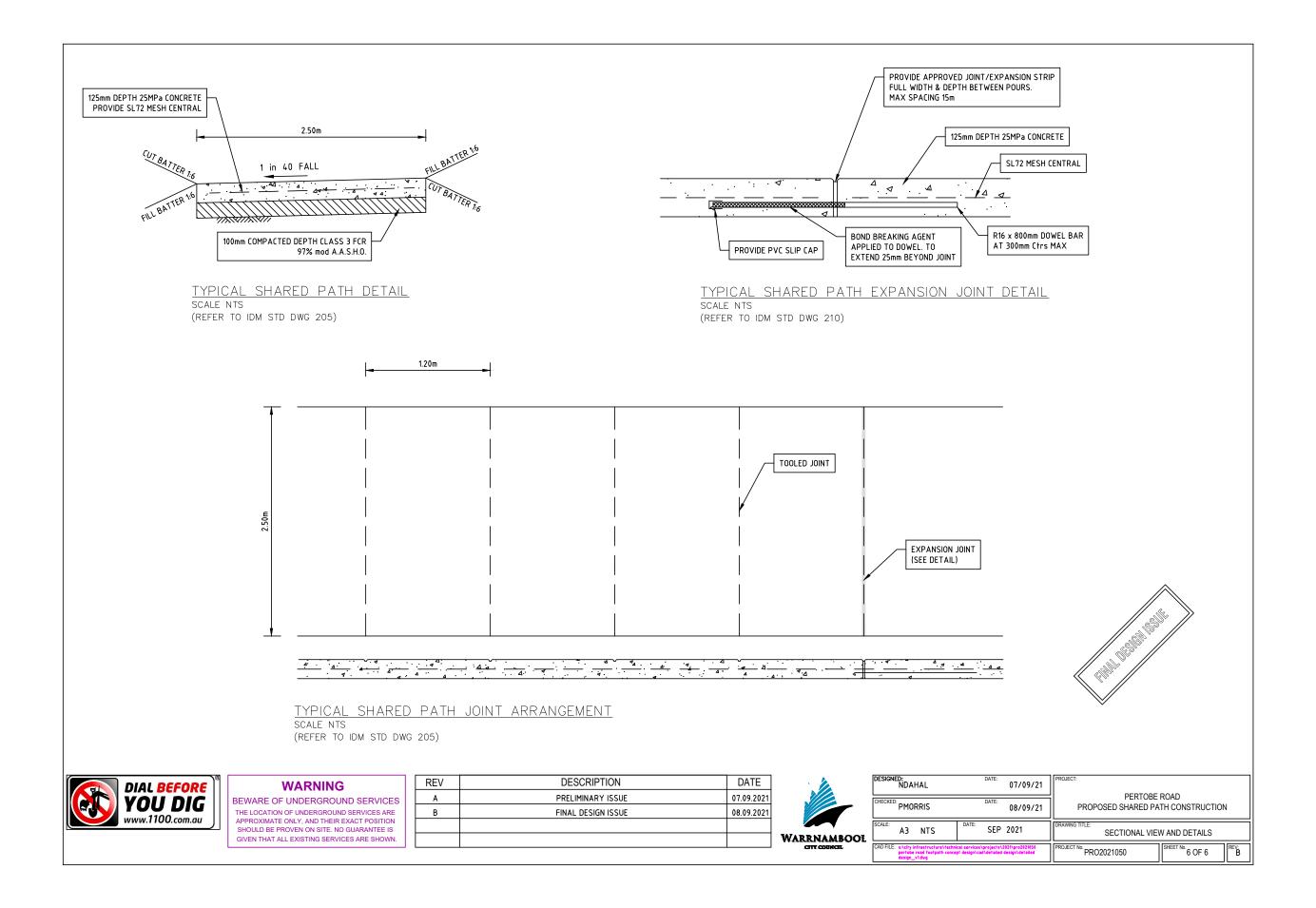
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Α	PRELIMINARY ISSUE	07.09.2021	
В	FINAL DESIGN ISSUE	08.09.2021	



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	PMORRIS	DATE:	08/09/21	PERTOBE ROAD PROPOSED SHARED PATH CONSTRUCTION
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Council Report: Design Approach - McGennans Place Making Project

Reference Document: Council's strategies, plans and policies whereby apply for MaCA Consent and Building Permit

Strategic Asset Planning

Endorsed by Council, the following Council's strategies, plans and policies confirm the requirement to provide a functional, inclusive, accessible, attractive and safe design approach for the renewal of McGennans Public Amenity and footpath linkages, for use by the broad and diverse members of the community:

The Community Vision – Warrnambool 2040

The goals specifically cite end user expectations for the replacement McGennans Public Amenity:

OUR PEOPLE Warrnambool will be a city where all people thrive Our Goals:

- 1. a welcoming and inclusive city
- 2. a safe and connected community

OUR PLACE Warrnambool will be Australia's most livable regional city Our Goals:

- 2. encourages and prioritises sustainable transport
- 3. Well-connected outside the city
- 4. has accessible, high-quality public spaces and facilities

OUR ENVIRONMENT Warrnambool will be Australia's most sustainable city Our Goals:

4. NATURAL WARRNAMBOOL enjoy, love, respect and care for the natural environment

2021 - 2025 Warrnambool City Council Plan

The plan outlines Council role and responsibility in delivering community infrastructure:

<u>Council Plan - Objective 1. A healthy community</u> cites 'We will be a healthy, inclusive and thriving community with equitable access to services, cultural opportunities and recreational activities.'

- 1.1 Be a welcoming and inclusive city: Warrnambool will be a city that is more welcoming to all and which fosters diversity.
- 1.3 Health and wellbeing: Council will take action to improve health, wellbeing and safety outcomes for Warrnambool's community.
- 1.4 An accessible city: Council will improve physical and social accessibility to community services, facilities, places and precincts.

The following supporting documents offer specific guidance on the development of the McGennans Place Making project:

Disability Access and Inclusion Policy 2020 cites:

- Council to comply with the Disability Discrimination Act 1992, the Disability Act 2006, Charter of Human Rights and Responsibilities Act 2006, Equal Opportunity Act 2010 and the relevant Australian Standards.'
- Aims for removal of barriers that prevent people living with disability from fully participating in community life. (Victorian State Disability Plan 2002-2012)

Warrnambool - a Healthy City 2017-21 cites:

- The Warrnambool Health and Wellbeing Plan will seek equity, access, safety and inclusion for all.
- Measures supported with the Active Warrnambool which prioritise opportunities for active lifestyle choices for healthier living for residents and district tourism delivered through high quality infrastructure.

Gender Equality Act 2020 cites:

- The development of a service in developing public infrastructure creates a direct and significant impact on the public and necessitates undertaking a gender impact assessment to prevent unintended negative consequences inadvertently reinforce or contribute to inequality.
- Council is obliged to deliver better and fairer outcomes and ensure all people have equal access to opportunities to improved resources, achieve gender equity and better use resource.
- Account for intersectionality, whereby aspects of a person's identity exposed to overlapping forms of discrimination and marginalisation including gender, Aboriginality, age, disability, ethnicity, race, religion or sexual orientation.
- Without consideration, results in barriers to services, increased the risk of social and economic disadvantage.
- Challenge the harmful gender attitudes and social norms that underpin drivers of violence against women, girls and gender diverse people.
- Design of built assets implement universal access principals and crime prevention through environmental design (CPTED) actively addressing inclusivity, safety and security
- Simple provision of pram crossings, sealed paths to connect critical infrastructure and night time lighting reduce the negative experience in public spaces

• Council has obligations under *Public Health and Wellbeing Act* 2008 and the *Local Government Act* 2020 (Sections 28, 46, 48) interact with the gender impact assessment process.

<u>CPTED Principals</u> interlink with gender equity citing disparity in Victoria especially in public spaces and heightened when in public amenities:

- 1 in 3 Australian women have experienced some form of violence
- Gender diverse people are more likely to experience acts of physical violence
- In public spaces, two-thirds (61%) of Victorian women feel unsafe while walking alone at night in their neighborhoods, compared with one quarter (26%) of men.
- Women from diverse cultural and religious backgrounds, and gender diverse people are more likely to encounter acts of verbal or physical assault in public places.
- Safety in public spaces must be a top Council priority and consideration of services and facilities safety for women, girls and gender diverse people fundamental to the development of public infrastructure.

<u>Council Plan - Objective 2. A sustainable environment</u> cites 'We will protect and strengthen local ecosystems, enhance biodiversity and enable sustainable communities.

- 2.1 Natural environment: Council will enhance open spaces and infrastructure that support a healthy community, wildlife, flora, fauna and biodiversity.
- 2.5 Waste minimisation: Council will pursue programs to minimise waste throughout the community, industry and promote the benefits of reduction, re-use and recycling of materials.

The following supporting documents offer specific guidance on the development of the McGennans Place Making project:

<u>Coastal Management Plan 2013</u> guides the development of amenities and opportunities for experiences that support tourism and community access to the coast, without compromising the natural environment on Warrnambool Foreshore defines built environment works as undertaken by people, including infrastructure such as walking tracks, boardwalks, amenities and signage citing:

- A.1.4 Summary of Key Issues:
 - Lack of toilets at key activity areas
 - The need for toilet upgrade at Logans, Levy's and McGennans
- 5.2 Management Objectives:
 - Incorporate impacts to and maintenance of infrastructure affected by coastal process
 - Concentrate active recreational use and development within highly modified environments, with provision of new infrastructure, including amenities
 - Address public safety along the Foreshore Promenade
 - Support existing and future appropriate and sensitive development that is coastal dependent, demonstrates considerable net community benefit that complements and integrates with the coastal landscape
 - Maintain infrastructure to a high standard
 - Create iconic spaces in activity nodes to provide a variety of coastal destinations and experiences.
 - Ensure that future use and development is not reactive and that projects are based on sound and up to date information.
- 6.2 Precinct and Activity Nodes for McGennans Carpark and Event Space:

- The VCS 2008 states activity nodes are located within existing coastal settlements and: provide community recreation facilities and opportunities which enhance the coastal experience
- Contain development which exhibits excellence in design and complements or integrates with the coastal landscape and setting
- The objective for activity nodes is to provide a focus area for access to the coast, services and social interaction within existing settlements and urban areas, and to link and integrate the public and private realms within this area.
 - exhibit a high level of use and visitation for recreation and water-related activities
 - contain recreational infrastructure such as piers, fishing platforms, walking tracks, picnic and camping grounds, and lifesaving clubs; and
 - priorities for the provision of existing recreation facilities and provide opportunities for the redevelopment or expansion of facilities for the net community and public benefit.

7.5 Management of the Built Environment with associated priority:

- HIGH Priority
 - 4.3 Siting, design and construction of coastal infrastructure: New infrastructure must be designed to respect and be sympathetic to the surrounding natural environment and should have regard to the Siting and Design Guidelines for Structures on the Victorian Coast, 1998 Victorian Coastal Council or any other relevant State Government guidelines
- LOW Priority
 - 4.4 Improve connections from the urban to the coastline environment, and within: In accordance with the Sustainable Transport Strategy (2010) identify and improve passive connections from the urban environment to Warrnambool's coastline; including linkages, signage and wayfinding and directional signage to coastal features, amenities and infrastructure.
- HIGH Priority
 - 4.6 (a) Implement recommendations set out in the Warrnambool Public Amenities Strategy 2013 for locations on Warrnambool's coastline.
- HIGH Priority
 - 4.6 (b) Conduct an audit and demand analysis of amenities and minor infrastructure, including picnic tables, outdoor showers, weather shelters etc. in order to manage future demand on Warrnambool's coastline.
- MEDIUM Priority
 - 4.11 (a) Risk to public safety and infrastructure: Identify risks and impacts to public safety and infrastructure on Warrnambool coastline, including coastal processes such as erosion.

<u>Warrnambool City Council Open Space Policy 2020</u> recognises the value of Lake Pertobe Precinct as a regional level open space for residents and tourism (p.5) citing:

'High-profile parks that attract users from within and beyond the municipality and cater for a broad cross-section of ages. Regional open spaces are characterised by their uniqueness and provide significant environmental, social, recreational, heritage, amenity or tourism value. They may offer a large range of recreational opportunities, or alternatively, highly specialised facilities not present in other open spaces in the region.'

In addition, the Warrnambool City Council Open Space Policy expresses Council's strategic policy in relation to the planning and delivery of open space and has particular design guidelines:

- Ensure that open space infrastructure in new or redeveloped open spaces is appropriate to its hierarchy and category.
- Provide a variety of open spaces that are safe and accessible to all residents, regardless of age, ability and culture.
- Ensure universal access is incorporated when open spaces with a recreational function are created or upgraded.
- Ensure that adaptability and multi-functionality is incorporated into the design and development of neighbourhood or above open spaces.
- Incorporate open space corridors and shared trails that improve the connectivity of the network and provide links for walking, cycling and biodiversity movement.
- Preserve and enhance areas with environmental values and provide appropriate public access to waterways and coastal environments.

<u>Council Plan - Objective 4. A connected, inclusive place</u> cites 'We will provide high quality places that people value and want to live, work, play and learn in

- 4.1 Effective planning: Council will ensure its planning acknowledges the unique character and attributes of local places and that that supports social connection, equitable access, appropriate housing and sustainable population growth.
- 4.2 A connected community: Council will enhance Warrnambool's connectivity through the delivery of, or advocacy for, improvement to roads, public transport, footpaths, trails and digital infrastructure.
- 4.4 Sustainable practices: Council will promote and encourage the implementation of sustainable design across the municipality including the attractiveness, safety, accessibility and functionality of our built environment.

The following supporting documents offer specific guidance on the development of the McGennans Place Making project:

Lake Pertobe Masterplan 2018 cites:

• Construct a new toilet/change facility with showers and change rooms at McGennan's Carpark to service all users of the foreshore area in the McGennans Carpark.'

<u>The Warrnambool Public Toilet Strategy 2013</u> supports the replacement of the McGennans Public Amenities citing:

- Demolish existing toilet and build new 5/6 cubicle facility nearer the beach.
- The key challenge for the location is the high demand over the summer period from the residents, visitors and tourists; in particular the high number of children and elderly community using the beach.

<u>Asset Management Policy 2020</u> supports aggregating services within one facility with commitments and goals citing:

Maximise the value of Council's capital, operations and maintenance expenditures ..., to optimise agreed levels of service, service delivery potential and manage related risks and costs over the entire life of infrastructure assets.

- Service delivery assets will be created, acquired, maintained and rehabilitated to enable the organisation to meet its strategic service delivery goals efficiently and effectively.
- Continue to seek opportunities for multiple use (quality) infrastructure assets ... that are appropriate, accessible, responsive, affordable and sustainable to the community.

<u>Council Plan - Objective 5. An effective Council</u> cites 'We will be recognised as a collaborative Council and a high-performing organisation that enables positive outcomes for Warrnambool's community, environment and economy and for Victoria's South West.'

- 5.1 Leadership and governance: Council will be a high-functioning team committed to respectful relationships, collaboration and ongoing engagement. It will provide strong, effective leadership, sound governance and informed decision-making
- 5.3 Customer-focused services: Council will continue to develop a program of Council services that are delivered to the community's satisfaction.
- 5.5 Organisational and financial sustainability: Council will ensure organisational and financial sustainability through the effective and efficient use of Council's resources and assets.
- 5.6 Risk mitigation: Council will mitigate and manage organisational risks through sound management systems and processes.

The following supporting documents offer specific guidance on the development of the McGennans Place Making project:

Procurement Policy 2020 cites:

- Achieving best value for money shall be the basis of all procurement decisions within Council.
- Council Staff are required to take into account issues of quality, cost (including whole of life costs), the accessibility of the service, local business and employment benefits, and other relevant factors when assessing best value for money as part of their procurement activities.
- Council recognises it has an implicit role in furthering sustainability objectives, through its procurement of goods, services and works.
- All procurement decisions and actions shall be accountable, defensible and withstand scrutiny.

Risk Management Policy 2020 cites:

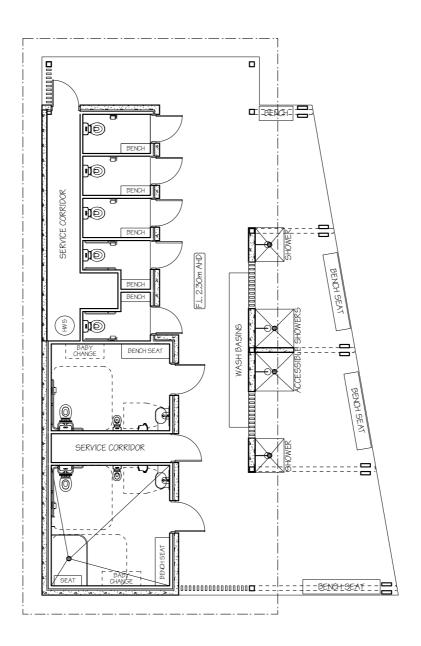
- Council's Risk Management Policy includes a detailed Risk Appetite Statement which is the foundation of the Risk Management framework.
- The key determinants of risk appetite are intrinsically related to the achievement of the Council Plan. Council has low appetite for risks that foreseeably may:
 - Compromise the safety and welfare of staff, volunteers, third party agents and members of the community
 - Constitute a breach of regulation and legislation

Project Management Policy 2020 cites:

- Council to develop, maintain and implement an overarching Project Management Framework that:
 - Increases project transparency and visibility to enable effective decision making.
 - Defines roles and responsibilities, performance measures and accountability for success.

- Identifies and manages effective change, communication and risk.
- Project decisions are integrated with corporate strategic planning.

Council's strategies, plans and policies set that benchmark for quality and guide the decisions regarding the standards meet community expectations and must be reflected in the sustainable long-term building and asset planning for the McGennans Place Making Project.



PROPOSED FLOOR PLAN
Scale: 1:100





SITE LOCATION PLAN
Scale: 1:500 (approx)



Public Amenities Renewal Program Comparison Paper

This paper is to provide an overview of Public amenity costs on recent projects.

Previously there have been less stringent approvals processes in place, while we are now facing an active construction market. Previously Council recieved competitive tender submissions and the supply chain demand was not affected by the COVID 19 global pandemic resulting in cost escalations and extensive delays.

To be financially sustainable though effective use of Councils resources, it is understood the replacement of the 60+ year existing facility will require upgraded service utilities as well as a compliant and functional new public amenity building including connections to the pedestrian and cyclist network.

Similar contracts have been executed in recent years for the construction of Public Amenities within the municipality.

Botanical Gardens Public Amenity Renewal:

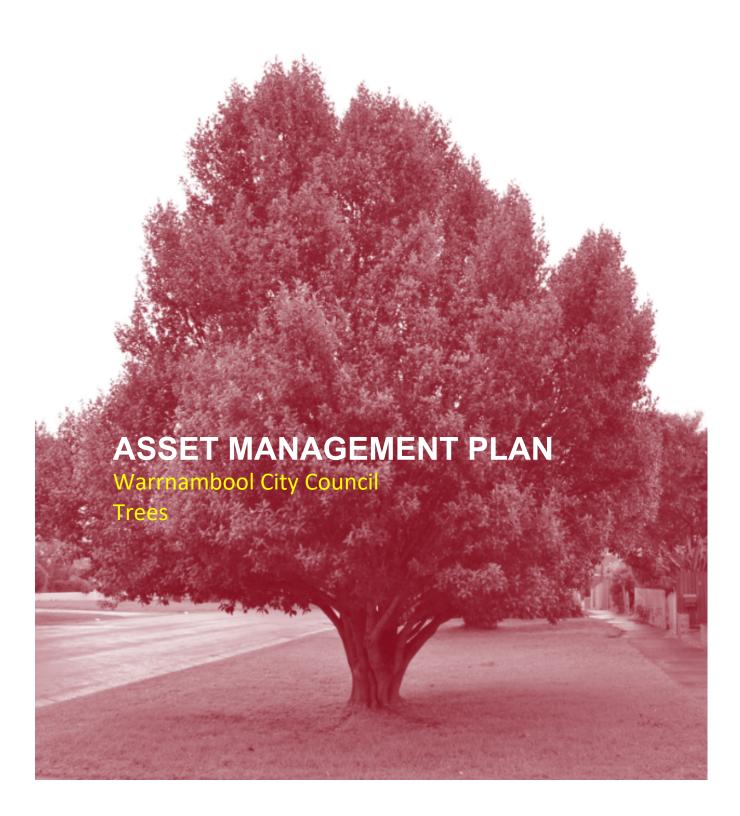
Item	Project Location	Value of Works (Ex GST)	Total Value of Works (Ex GST)
1.	Botanical Gardens Public Amenity Renev	val – Free standing new b	ouilding
	Preliminaries	\$ 66,100	
	New Sewer Connection	\$ 86,500	
	Building Works	\$ 171,200	
	Variation: Rippable Rock for sewer	\$ 27,050	
	Variation: Door Hardware	\$ 3,180	
	Total Expenditure	for Construction Works	\$ 364,180

From the works completed for the Botanical Gardens Public Amenity Renewal, a significant portion of the expenditure was attributed to the requirement for installation of a new sewer connection at \$113,555.00 ex GST as well as the Preliminaries which covers the \$66,100.00 ex GST costs for 'Contractor's overhead and establishment charges, site safety, environmental management, quality management, site allowance, amenities & demobilisation, site management, supervision, liaison and coordination.'

Swan Reserve Public Amenity Renewal:

Item	Project Location	Value of Wor (Ex GST)	rks	Total Value of Works (Ex GST)
2.	Swan Reserve Public Amenity Renewal -	- Free standino	g new build	ling
	Preliminaries	\$	99,000	
	Building Works	\$	285,300	
	Variation: Stormwater	\$	2,790	
	Variation: Accessible Carpark	\$	32,040	
	Total Expenditure	for Construction	on Works	\$ 419,130

From the works completed for the Swan Reserve Public Amenity Renewal, a significant portion of the expenditure was attributed to the construction of the building at \$ 285,300 as well as the construction of the Accessible carpark at \$ 32,040 coupled with the high cost for Preliminaries of \$ 99,000 given the location with high traffic volume, confined works area and coordination with the Early Years Centre.



|--|

Document ID:

Rev No	Date	Revision Details	Author	Reviewer	Approver
V1.06	March 2020	Update	IPWEA		
V1.07	Feb 2021	Update	B. McDonald		

This Asset Management Plan may be used as a supporting document to inform an overarching Strategic Asset Management Plan.

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1.0 EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

Asset management planning is a comprehensive process ensuring delivery of services from infrastructure is financially sustainable.

This Asset Management Plan (AMP) details information about infrastructure assets with actions required to provide an agreed level of service in the most cost-effective manner while outlining associated risks. The plan defines the services to be provided, how the services are provided and what funds are required to provide over the 20-year planning period. The Asset Management Plan will link to a Long-Term Financial Plan which typically considers a 15-year planning period.

This plan covers the infrastructure assets that provide amenity to a steetscapes, shade, reduction of urban heat sinks, animal habitat and biodiversity corridors.

1.2 Asset Description

Council's tree portfolio comprises:

- 13,000 trees
- 77 stumps (failed assets)
- 8292 vacant sites suitable for planting

The above infrastructure assets have significant total renewal value estimated at \$8.8 million

1.3 Levels of Service

Our present funding levels are sufficient to continue to provide existing services at current service levels in the medium term.

The main service consequences of the Planned Budget are:

- Low rates of planting vacant sites
- Poor growth habits due to lack of proactive maintenance
- Only urgent issues are actioned

1.4 Future Demand

The main demands for new services are created by:

- Land development / subdivisions
- Changing community values regarding the environment, its protection and enhancement
- Perceived risks to public safety

These demands will be approached using a combination of managing existing assets and providing new assets to meet demand. Demand management practices may also include insuring against risks and managing failures.

- Ensuring developments allow for the provision of open space in strategic locations that fit within the larger view of a network of biodiversity corridors.
- Identification of ongoing operational and maintenance costs to look after trees over their life.
- Frequent risk inspections for higher risk trees and providing buffers (such as mulching) around immediate high potential fall zones.

1.5 Lifecycle Management Plan

1.5.1 What does it Cost?

The forecast lifecycle costs necessary to provide the services covered by this AMP includes operation, maintenance, renewal, acquisition, and disposal of assets. Although the AMP may be prepared for a range of time periods, it typically informs a Long-Term Financial Planning period of 10 years. Therefore, a summary output from the AMP is the forecast of 15-year total outlays, which for trees is estimated as \$28M or \$1.8M on average per year.

1.6 Financial Summary

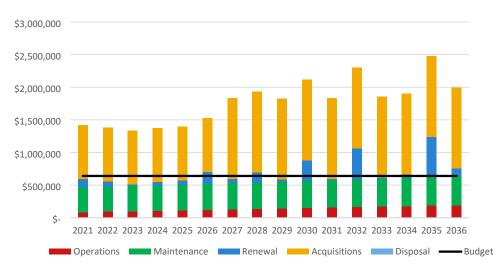
1.6.1 What we will do

Estimated available funding for the 15-year period is \$10.2 million or \$683,000 on average per year as per the Planned Budget. This is only 36% of the cost required to sustain the desired level of service.

The infrastructure reality is that only what is funded in the long-term financial plan can be provided. The informed decision making depends on the AMP emphasising the consequences of Planned Budgets on the service levels provided and risks.

The anticipated Planned Budget for trees leaves a shortfall of \$1.2 million on average per year of the forecast lifecycle costs required to provide services in the AMP compared with the Planned Budget currently included in the Long-Term Financial Plan. This is shown in the figure below. Section 5 identifies the most significant gap is in Acquisitions.

Forecast Lifecycle Costs and Planned Budgets



All figure values are shown in current day dollars.

We plan to provide tree management services for the following:

- Operation, maintenance, renewal and infill plantings (acquisitions) of street and reserve trees to meet service levels set by in annual budgets.
- Planting of Logan's Beach Village, Riverland, Riverside, Mervue and other future developments within the 10-year planning period.

1.6.2 What we cannot do

We currently do **not** allocate enough budget to sustain these services at the proposed standard or to provide all new services being sought. Works and services that cannot be provided under present funding levels are:

- w2040 targets of 10% canopy cover for urban areas by 2026
- w2040 targets of 30% canopy cover for urban areas by 2040
- Proactive formative pruning to improve the long-term health of trees

1.6.3 Managing the Risks

Our present budget levels are sufficient to continue to manage risks in the medium term.

The main risk consequences are:

- Only urgent risk issues are actioned;
- High, medium, and low priority maintenance tasks are not actioned;
- Risk audits are done every four years;
- Trees in Kindergartens and around Playgrounds are audited annually;
- 8% of trees are dead or in poor health.

We will endeavour to manage these risks within available funding by:

- Continuing regular inspections and pruning
- Advocating for additional operational & maintenance budget in line with new acquisitions

1.7 Asset Management Practices

Our systems to manage assets include:

- Finance System: TechnologyOne
- Asset Management System: Conquest

Assets requiring renewal/replacement are identified from either the asset register or an alternative method. These methods are part of the Lifecycle Model.

- If Asset Register data is used to forecast the renewal costs this is done using the acquisition year and the
 useful life,
- Alternatively, an estimate of renewal lifecycle costs is projected from external condition modelling systems (such as Pavement Management Systems) and may be supplemented with, or based on, expert knowledge.

The Asset Register was used to forecast the renewal life cycle costs for this Asset Management Plan.

1.8 Monitoring and Improvement Program

The next steps resulting from this AMP to improve asset management practices are:

- Confirm the costs to achieve the community's recommended performance
- Develop, cost, and implement a New Tree Planting program
- Determine, and budget for, ongoing operational & maintenance costs associated with new plantings

2.0 Introduction

2.1 Background

Warrnambool City Council covers 120km², 909ha are public open space, which includes the Thunder Point Coastal Reserve, waterways and Lake Pertobe. Another 951ha are road reserve. The community's vision is to be connected by green infrastructure and corridors of urban forests to support resilient and connected biodiversity, as outlined in the W2040 Plan.

There are currently 16,600 trees across all of these public spaces, with 450 additional trees planted each year, and around 170 gifted through subdivisions.

Trees are not valued or recognized in Council's financial statements, but still have a cost to inspect, maintain and replace. Therefore there is some importance to understanding these whole of life costs and the risks associated with these dynamic assets as they grow and change over time.

This Asset Management Plan communicates the requirements for the sustainable delivery of services through management of assets, compliance with regulatory requirements, and required funding to provide the appropriate levels of service over the long term planning period.

The Asset Management Plan is to be read with Warrnambool City Council planning documents. This should include the Asset Management Policy and Asset Management Strategy, where developed, along with other key planning documents:

- Council Plan 2021- 2025
- Warrnambool 2040 (community vision)
- Green Warrnambool 2018
- Growth Area Structure and Development Plans
- Municipal Road Management Plan
- Principal Pedestrian Network (in development)
- Road User Plan
- Site specific masterplans
- Street Tree Planting and Management Guidelines
- Street Tree Planting and Management Policy
- Warrnambool Health and Wellbeing Plan
- Warrnambool Open Space Strategy

The assets covered by this Asset Management Plan includes street trees found in the road reserve, as well as those found in parks and open spaces, the Botanic Gardens, Council properties including community facilities, playgrounds and kindergartens. For a detailed summary of the assets covered in this Asset Management Plan refer to Table in Section 5.

These assets are used to provide amenity to a steetscapes, shade, reduction of urban heat sinks, animal habitat and biodiversity corridors.

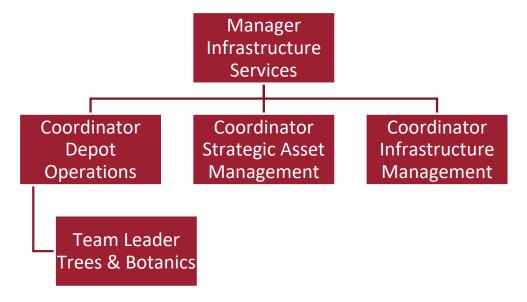
The infrastructure assets included in this plan have no value on Council's balance sheet, however have a total replacement value of \$8.8 million.

Key stakeholders in the preparation and implementation of this Asset Management Plan are shown in Table 2.1.

Table 2.1: Key Stakeholders in the AMP

Key Stakeholder	Role in Asset Management Plan
Council	Represent needs of community/shareholders
	 Allocate resources to meet planning objectives in providing services while managing risks
	■ Ensure service sustainable
Manager Infrastructure Services	Demand Analysis
	■ Community Engagement / Consultation
	Determination of community levels of service
Coordinator Depot Operations	New Tree Plantings
	■ Tree Maintenance & Operational activities
	 Development of budget estimates
	Liaise with service partners on conceptual designs
Coordinator Strategic Asset	Maintenance of asset register
Management	Condition audits and data collection
	 Analysis of asset data
	Asset performance reporting
Coordinator Infrastructure Management	 Approval of land development landscaping plans
Coordinator Sustainability	 Assessment of community planting proposals of open space areas

Our organisational structure for service delivery from infrastructure assets is detailed below



2.2 Goals and Objectives of Asset Ownership

Council's goal in managing infrastructure assets is to meet the defined level of service (as amended from time to time) in the most cost-effective manner for present and future consumers. The key elements of infrastructure asset management are:

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and infrastructure investment,
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
- Identifying, assessing and appropriately controlling risks, and
- Linking to a Long-Term Financial Plan which identifies required, affordable forecast costs and how it will be allocated.

Key elements of the planning framework are:

- Levels of service specifies the services and levels of service to be provided,
- Future demand how this will impact on future service delivery and how this is to be met,
- Lifecycle management how to manage its existing and future assets to provide defined levels of service,
- Financial summary what funds are required to provide the defined services,
- Asset management practices how we manage provision of the services,
- Monitoring how the plan will be monitored to ensure objectives are met,
- Asset management improvement plan how we increase asset management maturity.

Other references to the benefits, fundamentals principles and objectives of asset management are:

- International Infrastructure Management Manual 2015 ¹
- ISO 55000²

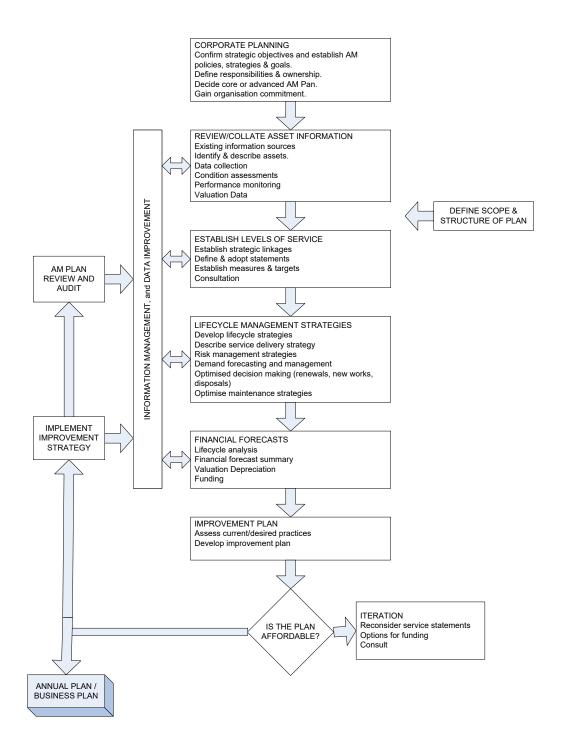
¹ Based on IPWEA 2015 IIMM, Sec 2.1.3, p 2 | 13

² ISO 55000 Overview, principles and terminology

A road map for preparing an Asset Management Plan is shown below.

Road Map for preparing an Asset Management Plan

Source: IPWEA, 2006, IIMM, Fig 1.5.1, p 1.11



3.0 LEVELS OF SERVICE

3.1 Customer Research and Expectations

This Asset Management Plan is prepared to facilitate consultation prior to adoption of levels of service by Council. Future revisions of the Asset Management Plan will incorporate customer consultation on service levels and costs of providing the service. This will assist Council and stakeholders in matching the level of service required, service risks and consequences with the customer's ability and willingness to pay for the service.

We currently have no research on customer expectations regarding trees. This will be investigated for future updates of the Asset Management Plan. Sentiment towards opens space areas is used as a proxy in the interim.

Table 3.1 summarises the results from our Customer Satisfaction Survey.

Table 3.1: Customer Satisfaction Survey Levels

Service Area	2020	2019	2018	2017	2016
Appearance of public areas	71/71	79/74	74/76	74/73	76/77
Local streets and footpaths	56/73	64/78	58/76	55/77	58/79
Environmental sustainability	61/72	61/76	62/73	63/73	63/71

^{*} Indicating Performance / Importance.

A ratio greater than 100% indicates needs are met. Service areas where Importance exceeds Performance (Net Differential) by 10 points or more, as is the case with local streets and footpaths and environmental sustainability, suggests further investigation is necessary.

Table 3.1b. Findings of various community consultation strategies

Audience/ Technique/ Date	Needs/ Comments/ Outcomes/ Issues
Rates & Services Survey (2019)	 Parks & Gardens listed 4th most important of 59 services. Support for increasing rates for this service was high Support for cutting this service was low to medium
W2040	 Unsurpassed access to the natural environment Well-designed commercial, residential, cultural and recreational precincts Significantly reduce land, water and air pollution Restore, maintain and enhance its natural environment Reduce the impacts of pest plants and animals and decrease damaging land uses and practices Contribute to the amenity of the City by bringing water management and green infrastructure together
2013 Open Space Strategy Consultation	 Toohey / Marrakai Estate "flora is terrible, needs far more trees and native plants" Payne Reserve "trees and surrounds need attention" Russells Creek "more native trees & plants" Lack of importance placed on trees (especially native) and shrubs in Warrnambool - in town and suburban areas 21 / 60 responders nominated trees as what they valued most 37 / 60 nominated the natural environment as most valued
2019 Banyan St Planting Survey	Banksia were the local residents preferred species for this street, however Norfolk Island Pines were the wider communities preferred species for this area (Council minutes 18/03/19).

Audience/ Technique/ Date	Needs/ Comments/ Outcomes/ Issues
	Locals were 58% in favour of removing Morton Bay Figs on highway, compared to only 28% of the wider community.
Lake Pertobe Masterplan Consultation	Support for removal of introduced species, poorly positioned trees, and additional plantings of natives.
Botanic Garden Masterplan Consultation	Strong support for protection of the Lone Pine
Albert Park IWM Plan	There was significant support from user groups to improve the quality of the open space with the planting of large numbers of trees, the plantings were intended to improve the amenity in sparse areas of the park and also to provide shade to keep the walking tracks cooler in summer, the other intended benefit of the trees was to significantly increase biodiversity in the park through the provision of new habitat.
Coastal Management Plan (2013)	Key issues raised included biodiversity, vegetation and remnant values of native vegetation.
Green Warrnambool (2018)	Natural Warrnambool was second most important goal and Green Warrnambool fifth. Issues raised included: Creation of linear vegetation corridors in streetscapes where possible to link up our gardens and reserve areas Increase number of tree plantings per year Protection and restoration of ecosystems and the coast Promote environment and native species Greening CBD/green wedges/making larger green spaces for the future
South of the Merri Precinct Plan (2020)	Natural environment was highly valued and nominated as what respondents valued most in the precinct. More trees/native vegetation was ranked as the second top improvement respondents would like to see in the area. Issues and opportunities raised included lack of indigenous vegetation, further revegetation including some dense areas for wildlife refuge, development of biodiversity/ wildlife corridor
Street Tree Planting and Management (Policy & Guidelines)	Support for only Australian natives on nature strips, and against planting palms in new areas. Suggested that plantings are prioritised in line with walkability and footpaths. Trees of significance should be identified and protected.

3.2 Strategic and Corporate Goals

This Asset Management Plan is prepared under the direction of Council's vision, mission, goals and objectives.

Council's vision is:

A thriving city at the heart of coast and country

Council's pillars are:

- Our People: Warrnambool will be a city where all people thrive
- Our Economy: Warrnambool will be Australia's most resilient and thriving regional economy
- Our Place: Warrnambool will be Australia's most liveable regional city
- Our Environment: Warrnambool will be Australia's most sustainable city

Strategic objectives have been set by the Council, informed by the Community Vision. The objectives and strategies relevant to this Asset Management Plan are summarised in Table 3.2.

Table 3.2: Objectives and how these are addressed in this Plan

Objective	Strategy	How Goal and Objectives are addressed in the AMP
A healthy community	 Promote healthy lifestyles Improve health and wellbeing Increase community connectedness 	Trees along pathways encourage pedestrian movements. The risks and controls associated with trees are outlined in this document to improve public safety.
A sustainable environment	 Council will enhance open spaces to support a healthy community, wildlife, flora, fauna and biodiversity. Protect and enhance our waterways, coast and land Invest in climate change preparedness Educate the community on Council's sustainability initiatives 	This plan outlines the budget required to continue infill plantings and ongoing maintenance of trees to ensure their survival.
A connected, inclusive place	 Council will ensure its planning acknowledges the unique character and attributes of local places Council will foster neighbourhood connections including the development of inclusive recreational and cultural opportunities 	This plan advocates for an increase in operational and maintenance budget in line with asset acquisitions.
An effective Council	 Ensure ongoing community engagement to identify changing needs Continue to develop a program of Council services that are delivered to the community's satisfaction. Ensure financial sustainability through effective use of Council's resources and assets Mitigate and manage organisational risks through sound management systems and processes 	This plan aims to inform councillors, as the asset custodians, of the risks and financial liabilities when it comes to setting levels of service.

3.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. Legislative requirements that impact the delivery of the tree service are outlined in Table 3.3.

Table 3.3: Legislative Requirements

Legislation	Requirement
Flora & Fauna Act (1988)	Council's management of remnant trees must guarantee that Victoria's flora and fauna can survive in accordance with this legislation
Planning & Environment Act (1987)	Council's management of environmental, heritage (section 21.10) and native vegetation (section 52.17) needs to abide by the Planning Scheme legislated under this act
Catchment and Land Protection Act (1994)	Throughout Victoria plant species can be declared as noxious weeds. They are classed as State Prohibited, Regionally Prohibited, Regionally Controlled or Restricted Weeds. Council must take all reasonable steps

	to eradicate regionally prohibited weeds, prevent growth and spread of regionally controlled weeds.
Road Management Act (2004) (and associated Regulations and Codes of Practice)	Outlines Road Authorities' responsibilities. Management of trees and vegetation near roads is undertaken in accordance with this legislation from a road user safety perspective.
Electrical Safety Act (and associated Regulations)	Council must ensure that the risk of vegetation interfering with urban electrical lines is minimised and must complete an annual Electric Line Clearance Management Plan to demonstrate compliance
Country Fire Authority Act (1958)	Tree management activities must abide by this Act and activities which could ignite a fire must not be undertaken during adverse weather conditions.
Agricultural and Veterinary Chemicals (Control of Use) Act (1992)	Use of chemicals must abide by this legislation
Occupational Health and Safety Act (2004)	Provision of a safe workplace
Heritage Act (1995)	Provides protection and conservation of places and objects of cultural heritage significance and their registration. This may include trees.
Local Government Act (2020)	Details the functions of Council in regards to the provision of services and facilities for the community as well as providing the legal framework for establishing and administering Councils.

3.4 Customer Values

Service levels are defined in three ways, customer values, customer levels of service and technical levels of service.

Customer Values indicate:

- what aspects of the service is important to the customer,
- whether they see value in what is currently provided and
- the likely trend over time based on the current budget provision

Table 3.4: Customer Values

Customer Values	Customer Satisfaction Measure	Current Feedback	Expected Trend Based on Planned Budget
Tree canopy cover to provide shade, while supporting biodiversity	Number of customer requests for new trees Increased biodiversity	Currently 16,600 trees have been planted in streets and council properties, with 8,000 vacant sites identified through the road corridor. These trees currently provide 5% canopy cover to urban streets, older areas were not designed with street trees in mind and so offer few sites to be able to retrospectively plant.	720 trees are planted each year.
Trees should not pose a risk to public safety	Number of falling limbs or failures causing injury or damage to people or property	Increasing storm events has seen more limb drops and claims for damages. High risk trees are inspected annually, while all other trees are inspected on a four yearly cycle. This assesses the health, structure and overall risk of the tree. Only preventative works with an 'Urgent' priority are undertaken.	Inspection regime is will stay the same as the increase in asset base is negligible. Low, medium, and high-risk works identified will continue to not be actioned.
Trees should be well maintained	Amount of notable defects or trees in poor health	Maintenance inspections occur in line with the Road Management Plan, and therefore only happen with regard to trees over roads and footpaths. If this infrastructure is not present, trees are not inspected under this regime. Council responds to RMP vegetation defects within the prescribed time 96% of the time.	Claims are likely to increase in line with severe weather events. Response times to RMP defects is likely to worsen as the number of trees increases, and they are not proactively maintained.
Trees should be protected from human activities	Minimal reported removals or damage to health of trees	Planning legislation protects trees within Heritage and Environmentally Significant Overlays. Criteria is being developed to identify and offer protections to other trees of significance outside of planning controls.	Additional protections will occur in the mid-term with the current level of resourcing.
No Weeds of National Significance (WONS)	Quantity of pest tree species	There is currently no program to spray or remove weeds of state or national significance.	This will not change - WONS will not be removed if identified.

Improvement Action 1 – Ensure the AMP consultation focuses on community values and levels of service

3.5 Customer Levels of Service

The Customer Levels of Service are considered in terms of:

Quality How good is the service ... what is the condition or quality of the service?

Function Is it suitable for its intended purpose Is it the right service?

Capacity/Use Is the service over or under used ... do we need more or less of these assets?

In Table 3.5 under each of the service measures types (Quality, Function, Capacity/Use) there is a summary of the performance measure being used, the current performance, and the expected performance based on the current funding level.

These are measures of fact related to the service delivery outcome e.g. number of occasions when service is not available, condition %'s of Very Poor, Poor/Average/Good, Very Good and provide a balance in comparison to the customer perception that may be more subjective.

Level of **Expected Trend Based on** Type of Performance **Current Performance** Measure Service Measure **Planned Budget** Structural Arborist 0.1% with very poor or More structures likely to fail Condition failure inspections failed structure due to lack of proactive formative pruning. Confidence High Low levels Tree is a Percentage of sites 0.5% of sites are stumps This is likely to increase as stump which are stumps new plantings are prioritised over replacements. Health of Arborist Health is likely to worsen as Function the tree inspections O&M budgets don't increase in line with acquisitions. Good Confidence High Low levels Canopy Percent of road 5.1% A decrease due to growth Cover reserve with areas and the time it takes canopy cover new trees to mature, offset by additional infill plantings, is likely to see no net change Vacant sites Number of vacant 8,000 This will reduce as sites suitable for developments are provided street tree planting with street trees Confidence High Low levels

Table 3.5: Customer Level of Service Measures

Improvement Action 2 – Review historic data to improve confidence of future predictions

3.6 Technical Levels of Service

Technical Levels of Service – To deliver the customer values, and impact the achieved Customer Levels of Service, are operational or technical measures of performance. These technical measures relate to the activities and allocation of resources to best achieve the desired customer outcomes and demonstrate effective performance.

Technical service measures are linked to the activities and annual budgets covering:

- Acquisition the activities to provide a higher level of service (e.g. widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (e.g. a new library).
- Operation the regular activities to provide services (e.g. opening hours, cleansing, mowing grass, energy, inspections, etc.
- Maintenance the activities necessary to retain an asset as near as practicable to an appropriate service
 condition. Maintenance activities enable an asset to provide service for its planned life (e.g. road patching,
 unsealed road grading, building and structure repairs),
- Renewal the activities that return the service capability of an asset up to that which it had originally
 provided (e.g. road resurfacing and pavement reconstruction, pipeline replacement and building
 component replacement),

Service and asset managers plan, implement and control technical service levels to influence the service outcomes.³

Table 3.6 shows the activities expected to be provided under the current Planned Budget allocation, and the Forecast activity requirements being recommended in this AMP.

Table 3.6: Technical Levels of Service

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
Acquisition	In fill planting of established streets	Budget Allocation	Occurs slowly, limited by the existing budget	The Acquisitions that we would like to do as per the Lifecycle Forecast
	Planting new development areas	Developer Contributions	Developers provide contributions to plant their subdivisions	Fluctuates with rate of land development
	Additional plantings to reach W2040 targets	Budget Allocation	Currently at 5% canopy cover with \$0 to meet targets	Needs an annual average of \$1.1M to plant the additional 65,000 trees to meet these targets
		Budget	\$134k annually	Planting program needs to be costed
Operation	Watering new trees	Budget Allocation	Limited by the existing budget, affecting survival rates	This will increase due to rate of land development
	Condition & Risk Audits	Frequency	25% of trees inspected annually	Monitor suitability of this frequency
		Budget	\$55k annually	TBC
Maintenance	Tree & Vegetation Maintenance	Budget Allocation	Only RMP defects and urgent risk actions are undertaken	Budget should allow programmed formative pruning and to respond to high risk actions
	Powerline Clearance	Frequency	Annual pruning	Monitor suitability of this frequency
		Budget	\$400k annually	Estimated \$500k
Renewal	Replacement of dead or dying trees	Budget Allocation	Currently limited by budget	That all stumps and dying trees are replaced
	_	Budget	\$76k annually (includes tree and stump removal costs)	Estimate \$100k

³ IPWEA, 2015, IIMM, p 2 | 28.

Disposal	Tree Removal	Budget Allocation	None***	Remains the same
		Budget	\$0	\$0

Note: * Current activities related to Planned Budget.

- ** Forecast required performance related to forecast lifecycle costs.
- *** Any removed tree is replaced, therefore they are considered renewal activities.

Improvement Action 3 – Confirm costs to achieve recommended performance

It is important to monitor the service levels provided regularly as these will change. The current performance is influenced by work efficiencies and technology, and customer priorities will change over time.

4.0 FUTURE DEMAND

4.1 Demand Drivers

Drivers affecting demand include things such as population change, regulations, changes in demographics, seasonal factors, consumer preferences and expectations, technological changes, economic factors, agricultural practices, environmental awareness, etc.

4.2 Demand Forecasts

The present position and projections for demand drivers that may impact future service delivery and use of assets have been identified and documented.

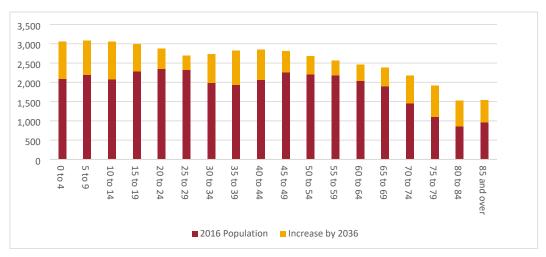


Figure 4.2: Population Growth between 2016 and 2036

4.3 Demand Impact and Demand Management Plan

The impact of demand drivers that may affect future service delivery and use of assets are shown in Table 4.3.

Demand for new services will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices can include non-asset solutions, insuring against risks and managing failures.

Opportunities identified to date for demand management are shown in Table 4.3. Further opportunities will be developed in future revisions of this Asset Management Plan.

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Land Use	Dwelling density increasing	The Warrnambool City-Wide Housing Strategy recommends that housing densities should be expected to increase in many parts of Warrnambool.	Areas of increased housing density reduce the availability of open space for parkland plantings, biodiversity corridors and may reduce road reserve widths for street tree plantings	Ensure developments allow for the provision of open space in strategic locations that fit within the larger view of a network of biodiversity corridors. IDM prescribes required road corridor widths.
	City Growth and Land Development	Open space and associated landscape plans	Over the coming 20 year period, over 7000 trees are expected to be	The planning for and delivery of growth areas is managed through the

Table 4.3: Demand Management Plan

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
		should be provided in accordance with Council's adopted growth area structure plans.	planted in accordance with Council's endorsed growth area structure plans and Street Tree Planting Policy and Guidelines.	planning process. As handover of assets occurs, this asset management plan, alongside Council's asset management system and processes becomes the primary means of management.
Demographi cs	Population growing	Warrnambool's population is currently increasing at an average rate of 1% per annum on average	An increased user base on the streetscape and open space reserves will result in a higher likelihood of risk events.	Increased monitoring frequencies for higher risk trees and areas. Provide buffers (such as mulching) around immediate high potential fall zones.
	Population aging	Population forecast indicates the largest proportional increase (relative to population size) will be in the 60 to 79 (43%) and 20 to 39 age groups (20%).	This user group may highlight the impact street trees may have on infrastructure, particularly footpaths and carparks. Trip hazards from existing root systems should be managed and future plantings should be planned within the context of the streetscape rather than as an afterthought.	Continue to monitor age trends with a focus on potential infrastructure demand effects, alongside continuing to gather pedestrian count data. RMP is reviewed regularly with community consultation to ensure service levels change in line with community needs and expectations.
Changes to Community Expectations	The current planting regime has been in used for a long time	A focus on Greening Cities and the environment is likely to increase the desire to see more trees planted or more native species used	Increase to acquisition costs and therefore other lifecycle activities. Or, poor Council image if community's LOS cannot be met.	Develop, cost, and adopt a New Tree Planting program
Technology	Technology Improvement and Utilisation	Increases in available technology for the management, planning and maintenance of trees.	Improvements in asset management capability and data analysis through drone inspections, LiDAR, aerial photogrammetry, and improved accuracy of GPS devices. Mobile data capture improves the currency of asset data and reduces the double-handling of importing spreadsheets.	Continue to monitor developments in this space such that Council may adopt available new and improved technology in a timely manner with the vision of improving this operating environment
Finance and Economics	Only the upfront costs of planting are	Funding of maintenance and operations will not increase in line with	Without an increase in recurrent budget to look after new plantings, they will either quickly perish	Operational costs such as watering and mulching in juvenile stages will be estimated and

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
	considered by acquisitions	growth of asset base	or grow into non- optional structures causing ongoing and irreversible issues for the rest of its life (eg: codominance, bark intrusion)	communicated with each approved planting program.

Improvement Action 4 – Develop, cost, and adopt a New Tree Planting program
Improvement Action 5 – Determine ongoing O&M costs with new planting programs

4.4 Asset Programs to meet Demand

The new assets required to meet demand may be acquired, donated or constructed. Additional assets are discussed in Section 5.4.

Acquiring new assets will commit Council to ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs for inclusion in the long-term financial plan (Refer to Section 5).

4.5 Climate Change and Adaption

The impacts of climate change can have a significant impact on the assets we manage and the services they provide. In the context of the Asset Management Planning process climate change can be considered as both a future demand and a risk.

How climate change will impact on assets can vary significantly depending on the location and the type of services provided, as will the way in which we respond and manage those impacts.

As a minimum we should consider both how to manage our existing assets given the potential climate change impacts, and then also how to create resilience to climate change in any new works or acquisitions.

Opportunities identified to date for management of climate change impacts on existing assets are shown in Table 4.5.1

Climate Change Projected Change Potential Impact on Assets and Management Description Services A changing environment will **Temperatures** Continue to monitor Increasing average and solar temperatures and cause stress to trees. Extremes developments in this space radiation greater extremes of reduced rainfall and hotter such that the projected **Bushfires** Increasing in both days during summer followed climate change and effects by wetter winters. on infrastructure may be frequency and accurately quantified. intensity This may reduce the Rainfall More severe storms survivability of new plantings, Appropriate measures may but also more periods while making mature trees then be taken to account of drought between

susceptible to pest damage.

Frequency of severe storm

events also increases the

likelihood of limbs falling.

Table 4.5.1 Managing the Impact of Climate Change on Assets

Additionally, the way in which we create new assets should recognise that there is opportunity to build in resilience to climate change impacts. Building resilience will have benefits:

for these effects in species selection, maintenance

schedules and inspection

programs.

- Assets will withstand the impacts of climate change
- Services can be sustained
- Assets that can endure may potentially lower the lifecycle cost and reduce their carbon footprint

Table 4.5.2 summarises some asset climate change resilience opportunities.

Table 4.5.2 Building Asset Resilience to Climate Change

New Asset Description	Climate Change Impact Resilience in New Works	
New subdivision plantings	Effects of climate change is unknown, therefore it is	Ensure landscape plans select drought resistant species, as well as those that can be inundated,
Infill plantings of existing built up areas	best to diversify species selection	rather than monocultures.

Improvement Action 6 – The impact of climate change on assets is a new and complex discussion and further opportunities will be developed in future revisions of this Asset Management Plan.

LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how Council plans to manage and operate the assets at the agreed levels of service (Refer to Section 3) while managing life cycle costs.

5.1 **Background Data**

5.1.1 Physical parameters

The assets covered by this Asset Management Plan are shown in Table 5.1.1. These include street trees found in the road reserve, as well as those found in parks and open spaces, the Botanic Gardens, Council properties including community facilities, playgrounds and kindergartens

The age profile of the assets included in this AMP are shown in Figure 5.1.1.

Quantity **Replacement Value** 15,121 \$670,464,914

Asset Category Street Trees Reserve Trees 1,521 \$59,755,437 Stumps 57 \$0 \$730,220,355 **TOTAL** 16,699

Table 5.1.1: Assets covered by this Plan



All figure values are shown in current day dollars.

The age profile of trees is more uniform than other asset classes, and their useful life can vary greatly, meaning peaks in renewal demand cannot be inferred from this information. Heritage trees that are well cared for may live for 100's of years, while juveniles that are neglected or vandalized would deteriorate and require replacement much sooner than expected.

5.1.2 Asset capacity and performance

Assets are generally provided to meet design standards where these are available. However, there is insufficient resources to address all known deficiencies. Locations where deficiencies in service performance are known are detailed in Table 5.1.2.

Table 5.1.2: Known Service Performance Deficiencies

Location	Service Deficiency	
City-wide	Lack of canopy cover in urban streets, caused due to poor health, failed	
	structures or poor species selection (tall, but small canopies)	

The above service deficiencies were identified from spatial analysis of tree locations, canopy size, and road corridors.

5.1.3 Asset condition

Similarly to infrastructure that deteriorates over time, tree structures can deteriorate. Although the health of a tree may improve (eg: canopy flourishes, bugs are removed), any damage caused to the structure is generally irreversible. Therefore, healthy trees are sometimes found with poor structures due to historical trauma. These attributes are measured as part of the four-yearly QTRA risk audit, undertaken by certified arborists.

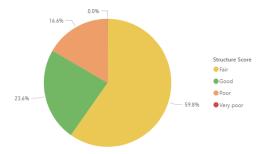
The condition of trees is reflected in their structure and measured using a 1-5 grading system⁴ as detailed in Table 5.1.3. It is important that consistent condition grades be used in reporting various assets across an organisation. This supports effective communication. At the detailed level assets may be measured utilising different condition scales, however, for reporting in the AMP they are all translated to the 1-5 grading scale.

Table 5.1.3: Simple Condition Grading Model

Condition Grading	Description of Condition
1	Good - The tree has a well-defined and balanced crown. Branch unions appear to be strong, with no defects evident in the trunk or the branches.
2	Fair - The crown may be slightly out of balance, and some branch unions or branches may be exhibiting minor structural faults. If the tree is a single trunk, it may be on a slight lean
3	Poor - Poorly structured or unbalanced crown or exhibiting large gaps. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. May have suffered major root damage
4	Very Poor - The crown is unbalanced or exhibits large gaps with major limbs not well defined. Branch unions may be poor or faulty. Sections of the tree may have failed or is probable in the immediate future.
5	Failed - A significant section of the tree or the whole tree has failed.

The condition (structure) profile of our assets is shown in Figure 5.1.3,

Figure 5.1.3a: Tree Condition Profile (by quantity)

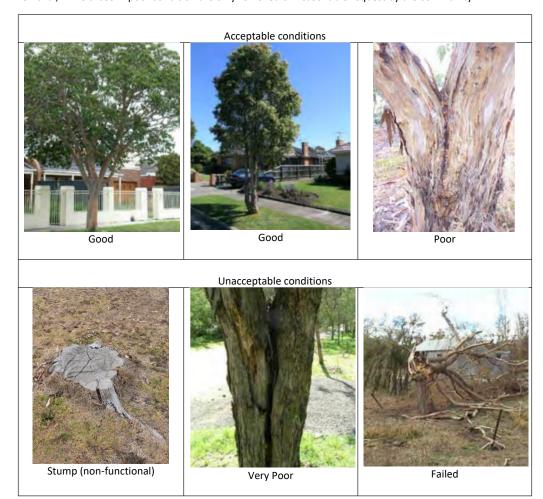


Good and poor are the currently acceptable conditions, however structurally sound but dead trees may offer important habitat to birds and other fauna.

⁴ IPWEA, 2015, IIMM, Sec 2.5.4, p 2 | 80.

Improvement Action 7 – Determine suitability of retaining dead reserve trees as habitat

Due to lack of proactive formative pruning during early years of growth, most trees are in fair condition. As structural degradation is irreversible, this is only going to worsen. Due to budget constraints, the community must accept trees in poor conditions. Those in very poor condition or which have already failed are planned for removal, while those in poor condition are only removed on reasonable request by the community.



5.2 Operations and Maintenance Plan

Operations include regular activities to provide services. Examples of typical operational activities include watering and asset inspections.

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating. Examples of typical maintenance activities include mulching, staking, pruning, powerline clearance and deadwood removal.

The trend in maintenance budgets are shown in Table 5.2.1.

Table 5.2.1: Operational & Maintenance Budget Trends

Year	Maintenance Budget \$
2018-19	\$444k
2019-20	\$400k
2020-21	\$433k

Recurrent budget levels are considered to be adequate to meet current service levels, however this is unlikely to increase in response to quantity of acquisitions. Where maintenance budget allocations are such that they will result in a lesser level of service, the service consequences and service risks have been identified and are highlighted in this AMP and service risks considered in the Infrastructure Risk Management Plan.

Reactive maintenance is carried out in accordance with response levels of service detailed in the Municipal Road Management Plan.

Improvement Action 8 – Separate budgets used for reactive RMP defects and proactive pruning to be able to cost each of these service levels.

Asset hierarchy

An asset hierarchy provides a framework for structuring data in an information system to assist in collection of data, reporting information and making decisions. The hierarchy includes the asset class and component used for asset planning and financial reporting and service level hierarchy used for service planning and delivery.

The service hierarchy is shown is Table 5.2.2.

Table 5.2.2: Asset Service Hierarchy

Service Hierarchy	Service Level Objective	
Not applicable	Not applicable	

Improvement Action 9 – Define and assign asset hierarchies to trees.

Summary of forecast operations and maintenance costs

Forecast operations and maintenance costs are expected to vary in relation to the total value of the asset stock. If additional assets are acquired, the future operations and maintenance costs are forecast to increase. If assets are disposed of the forecast operation and maintenance costs are expected to decrease. Figure 5.2 shows the forecast operations and maintenance costs relative to the proposed operations and maintenance Planned Budget.

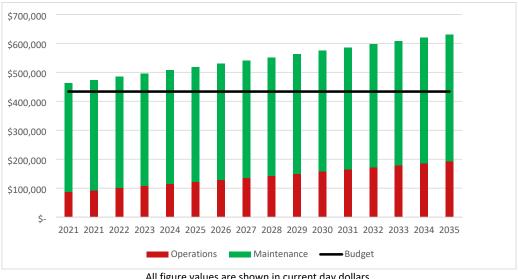


Figure 5.2: Operations and Maintenance Summary

All figure values are shown in current day dollars.

During their juvenile years, trees are most costly to maintain, however this decreases as they mature and become more self-reliant, assuming that they have been optimally pruned in their earlier years.

Maintenance activities are undertaken to a standard that attempts to retain or returns the asset to a safe condition. In worst case scenarios the tree may need to be fully removed, at which point the site will be included on the planting schedule for the following year

It is evident through the declining condition of assets that the maintenance budgets and the resulting maintenance programs are not adequate to prevent a reduction in service level.

5.3 **Renewal Plan**

Renewal is major capital work which does not significantly alter the original service provided by the asset, but restores, rehabilitates, replaces or renews an existing asset to its original service potential.

Asset renewal generally involves the replacement of an asset at the end of its life. For trees this may be when the structural condition of the tree is identified to have failed, is structurally poor or very poor, or in poor health or dead. Renewal of trees are often not like-for-like as it is with other classes. The primary difference being that a juvenile will be planted in place of the mature or senescing tree. This opportunity also allows for the planting of a different species where appropriate.

A standard useful life of trees is difficult to apply due to the uniqueness amongst tree species, environmental effects, and operational practices, which make the useful lives of trees extremely variable. To manage this, rolling audits allow the monitoring of tree health and prediction of short term asset failures at a tree-by-tree.

The typical useful lives of assets used to develop longer term forecasts are shown in Table 5.3.

Table 5.3a: Useful Lives of Assets

Asset (Sub)Category	Long term modelling	Short term modelling
Tree	20-30 years	Individual assessment

The estimates for renewals and rates in this Asset Management Plan are based on the Asset Register information.

Table 5.3b: Standard Replacement Cost of Assets

Species	Age	Location	Replacement Cost
Figs	>40 years	Raglan Pde	\$10,000
Figs	>40 years	City wide	\$5,000
Norfolk Island Pine	>40 years	City Wide	\$5,000
All others	any	City wide	\$750

5.3.1 Renewal ranking criteria

Asset renewal is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate
 - o e.g. replacing a bridge that has a 5t load limit
 - o e.g. rehabilitate a road that is extremely cracked and potholed.
- To ensure the infrastructure is of sufficient quality to meet the service requirements
 - o e.g. condition of a playground.5

It is possible to prioritise renewals by identifying assets or asset groups that:

- Have a high consequence of failure,
- Have high use and subsequent impact on users would be significant,
- Have higher than expected operational or maintenance costs, and
- Have potential to reduce life cycle costs by replacement with a modern equivalent asset that would provide the equivalent service.⁶

The ranking criteria used to determine priority of identified renewal proposals is detailed in Table 5.3.1.

Table 5.3.1: Renewal Priority Ranking Criteria

Criteria	Weighting	
Condition (Structure poor or failed)	50%	
Risk Rating	50%	
Total	100%	

5.4 Summary of future renewal costs

Forecast renewal costs are projected to increase over time if the asset stock increases. The forecast costs associated with renewals are shown relative to the proposed renewal budget in Figure 5.4.1. A detailed summary of the forecast renewal costs is shown in Appendix D.

⁵ IPWEA, 2015, IIMM, Sec 3.4.4, p 3 | 91.

⁶ Based on IPWEA, 2015, IIMM, Sec 3.4.5, p 3 | 97.

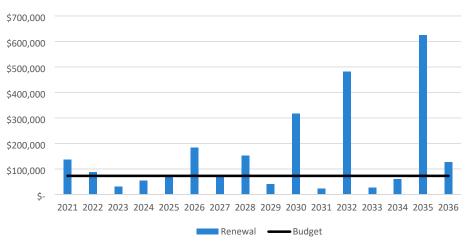


Figure 5.4.1: Forecast Renewal Costs

All figure values are shown in current day dollars.

Over the short to medium term there is only an average of \$3,000 shortfall in the budget to replace all forecast trees reaching their end of life. There is confidence is the first five years of the forecast, however it is difficult to know for sure how trees will survive further into the future. This will be reviewed annually in line with new risk audit information.

A reduction in service levels will be seen as a result of the budget shortfall, this will likely result in fallen or highrisk dead trees being removed but having stumps remain, or dead trees left in-situ if they are structurally sound.

5.5 Acquisition Plan

Acquisition reflects are new assets that did not previously exist (or works which will upgrade or improve an existing asset beyond its existing capacity). They may result from growth, demand, social or environmental needs. Assets may also be donated to Council via land developments or bequeathed from deceased estates/ philanthropics. New plantings in vacant sites are also acquisitions, resulting in additional future operations and maintenance costs.

Typically, work over and above restoring infrastructure assets to its original service potential is an upgrade - this is not applicable to trees.

5.5.1 Selection criteria

Proposed new assets are identified from various sources such as community requests, proposals identified by strategic plans or partnerships with others. Potential new works should be reviewed to verify that they are essential to Council's needs. Proposed work analysis should also include the development of a preliminary renewal estimate to ensure that the services are sustainable over the longer term. Verified proposals can then be ranked by priority and available funds and scheduled in future works programmes. A works direction hierarchy is used in place of weighted criteria, this is detailed in Table 5.4.1.

Table 5.5.1: Acquired Assets Priority Ranking Criteria

Works Direction	Priority	Weighting
Councillor Direction	1	n/a

Customer Request	2	n/a
Streets with low vacancies	3	n/a

Council is in the initial stages of developing a New Tree Planting Program to improve the canopy coverage of the urban road network and will be informed by the vacant sites identified by Homewood Consulting during the street tree risk audits

Improvement Action 10 - Develop a New Tree Planting Program

Summary of future asset acquisition costs

Forecast acquisition asset costs are summarised in Figure 5.5.1 and shown relative to the proposed acquisition budget. The forecast acquisition capital works program is shown in Appendix A.

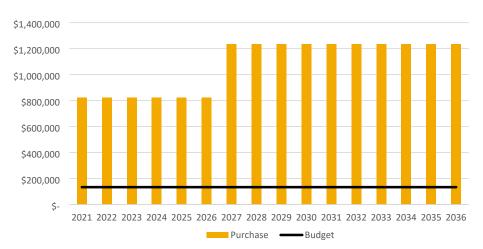


Figure 5.5.1: Acquisition (Purchase) Summary

All figure values are shown in current day dollars.

When Council commits to new assets, they must be prepared to fund future operations, maintenance and renewal costs. They must also account for future depreciation when reviewing long term sustainability. When reviewing the long-term impacts of asset acquisition, it is useful to consider the cumulative value of the acquired assets being taken on by the Entity. The cumulative value of all acquisition work, including assets that are constructed and contributed shown below in Figure 5.5.2. This is only modelling those that are currently funded, not the impact of meeting the requirements of strategic plans.

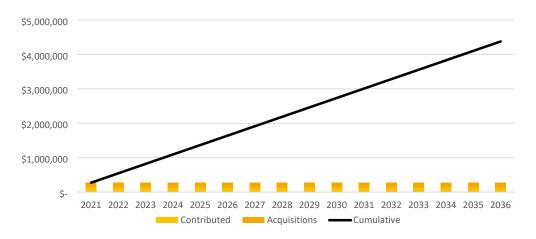


Figure 5.5.2: Acquisition Summary

All figure values are shown in current day dollars.

Expenditure on new assets and services in the capital works program will be accommodated in the long-term financial plan, but only to the extent that there is available funding.

Acquiring these new assets will commit Council to fund the ongoing operations, maintenance, and renewal costs for the period that the service provided from the assets is required. Forecast acquisitions are quite low and predominantly funded by land developers, however this steady increase of juvenile trees puts pressure on the maintenance and operational budgets which have historically not been increasing in response to the asset growth.

Summary of asset forecast costs

The financial projections from this asset plan are shown in Figure 5.5.3. These projections include forecast costs for acquisition, operation, maintenance, renewal, and disposal. These forecast costs are shown relative to the proposed budget.

The bars in the graphs represent the forecast costs needed to minimise the life cycle costs associated with the service provision. The proposed budget line indicates the estimate of available funding. The gap between the forecast work and the proposed budget is the basis of the discussion on achieving balance between costs, levels of service and risk to achieve the best value outcome.

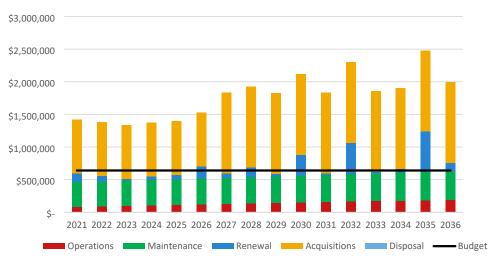


Figure 5.5.3: Lifecycle Summary

All figure values are shown in current day dollars.

The short-term level of service can be managed within the proposed budget. It should be new plantings which are deferred in preference of looking after existing juveniles however, as O&M costs increase overtime, the lack of care here is likely to see early failures and an increase in renewal costs in the longer term. There is a significant lack of investment to meet the aspirations of the Community Plan (w2040).

5.6 Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5.6. A summary of the disposal costs and estimated reductions in annual operations and maintenance of disposing of the assets are also outlined in Table 5.6. Any costs or revenue gained from asset disposals is included in the long-term financial plan.

Table 5.6: Assets Identified for Disposal

Ass	et	Reason for Disposal	Timing	Disposal Costs	Operations & Maintenance Annual Savings
n	il				

Tree removals are followed by replacement with new trees; therefore, these activities are considered renewal of the tree - as they cannot be 'renewed' in a typical infrastructure sense. True 'disposals' also result in a decrease in the asset base.

6.0 RISK MANAGEMENT PLANNING

The purpose of infrastructure risk management is to document the findings and recommendations resulting from the periodic identification, assessment and treatment of risks associated with providing services from infrastructure, using the fundamentals of International Standard ISO 31000:2018 Risk management – Principles and guidelines.

Risk Management is defined in ISO 31000:2018 as: 'coordinated activities to direct and control with regard to risk'?.

An assessment of risks⁸ associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event occur. The risk assessment should also include the development of a risk rating, evaluation of the risks and development of a risk treatment plan for those risks that are deemed to be non-acceptable.

6.1 Risk Assessment

The risk management process used is shown in Figure 6.2 below.

It is an analysis and problem-solving technique designed to provide a logical process for the selection of treatment plans and management actions to protect the community against unacceptable risks.

The process is based on the fundamentals of International Standard ISO 31000:2018.

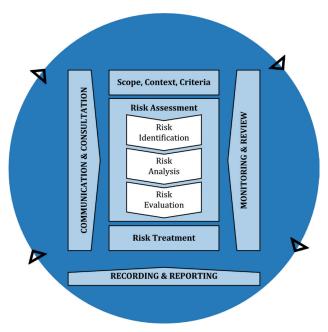


Fig 6.2 Risk Management Process – Abridged Source: ISO 31000:2018, Figure 1, p9

⁷ ISO 31000:2009, p 2

⁸ REPLACE with Reference to the Corporate or Infrastructure Risk Management Plan as the footnote

The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, development of a risk rating, evaluation of the risk and development of a risk treatment plan for non-acceptable risks.

An assessment of risks associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences. Council has adopted the use of a Quantified Tree Risk Assessment (QTRA) to determine the risk rating of structural failures of individual trees. An online calculator tool is available to subscribers of this method of risk assessment at https://www.qtra.co.uk/. This assessment looks at the following factors:

- <u>Target Occupancy</u>: the land-user or object that is most likely to be hit, injured or damaged in an event. By valuing the Target first, the assessor is able to determine whether or not, and to what degree of rigour, a survey or inspection of the trees is required.
- <u>Probability of Failure</u>: determined from the tree branch most likely to fail under normal conditions
- Failure Size: the size of the branch or trunk most likely to fail

These inputs give the formula:

1 / (TO x PF x FS) = Risk Category

An accepted industry threshold of risk is generally in the order of 1/10,000 and any tree that scores less than 10,000 would be expected to be worked upon within the next twelve months. Note that a tree may be high risk due to the surrounding use, but nothing can be done to reduce it. In these cases, the asset will continued to be monitored

Risk Category	Ellison Rating	Completion of Works
Very High	< 1/ 5,000	Control the risk as soon as possible. Inspect annually.
High	1/5,001 to 1/10,000	Complete as budget allows
Moderate	1/ 10,001 to 1/ 200,000	Complete as budget allows
Low	1/ 200,001 to 1/ 5,000,000	Complete as budget allows
Very Low	> 1/ 5,000,000	Complete as budget allows

Critical risks are those assessed with 'Very High' (requiring immediate corrective action) and 'High' (requiring corrective action) risk ratings identified in the Infrastructure Risk Management Plan. The residual risk and treatment costs of implementing the selected treatment plan is shown in Table 6.2. It is essential that these critical risks and costs are reported to management and Council.

Trees identified as high or very high risk are shown in Appendix F. Failure modes may include physical failure, collapse or essential service interruption.

Table 6.2: Risks and Treatment Plans

What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
Structural failure of limb or trunk	High	Regular inspections and pruning	Medium	10,000

Note * The residual risk is the risk remaining after the selected risk treatment plan is implemented.

6.2 Critical Assets

Critical assets are typically defined as those which have a high consequence of failure, such as causing significant loss or reduction of service, and costs in excess of \$2M, loss of lives, investigation and potential prosecution. No single tree has been identified which would produce these consequences.

Table 6.2 Critical Assets

Critical Assets	Failure Mode	Impact
Nil		

By identifying critical assets and failure modes an organisation can ensure that investigative activities, condition inspection programs, maintenance and capital expenditure plans are targeted at critical assets.

6.3 Infrastructure Resilience Approach

The resilience of our critical infrastructure is vital to the ongoing provision of services to customers. To adapt to changing conditions we need to understand our capacity to 'withstand a given level of stress or demand', and to respond to possible disruptions to ensure continuity of service.

Resilience is built on aspects such as response and recovery planning, financial capacity, climate change and crisis leadership.

Our current measure of resilience is shown in Table 6.3 which includes the type of threats and hazards and the current measures that the organisation takes to ensure service delivery resilience.

Table 6.3: Resilience

Threat / Hazard	Current Resilience Approach
Not Assessed	Not Assessed

We do not currently measure our resilience in service delivery. This will be included in future iterations of the Asset Management Plan.

6.4 Service and Risk Trade-Offs

The decisions made in adopting this AMP are based on the objective to achieve the optimum benefits from the available resources.

6.4.1 What we cannot do

There are some operations and maintenance activities and capital projects that are unable to be undertaken within the next 15 years. These include:

- Achieving w2040 targets of 10% canopy cover for urban areas by 2026
- Proactive formative pruning to improve the long-term health of trees

6.4.2 Service trade-off

If there is forecast work (operations, maintenance, renewal, acquisition or disposal) that cannot be undertaken due to available resources, then this will result in service consequences for users. These service consequences include:

- Low rates of planting vacant sites
- Poor growth habits due to lack of formative pruning, resulting in more trees in poor condition
- More stumps that are not removed
- Reduced canopy cover

6.4.3 Risk trade-off

The operations and maintenance activities and capital projects that cannot be undertaken may sustain or create risk consequences. These risk consequences include:

- Only urgent risk issues are actioned. High, medium, and low priority maintenance tasks are not actioned.
- Claims against Council for injury or property damage from structural failures
- Risk audits are done every four years
- 8% of trees are dead or in poor health.

These actions and expenditures are considered and included in the forecast costs, and where developed, the Risk Management Plan.

7.0 FINANCIAL SUMMARY

This section contains the financial requirements resulting from the information presented in the previous sections of this Asset Management Plan. The financial projections will be improved as the discussion on desired levels of service and asset performance matures.

7.1 Financial Statements and Projections

7.1.1 Asset valuations

The best available estimate of the value of assets included in this Asset Management Plan are shown below. These assets are currently valued using the Replacement Method⁹, but future valuations will use the Revised Burnley Method:

		← → Useful Life
Depreciation	\$0	End of reporting period 1 Properting period 2 Residual Value
Depreciated Replacement Cost ¹⁰	\$8,750,910	Replacement Depreciation Amount Expense
Depreciable Amount	\$0	Cost Accumulated Depreciation Depreciated Annual Depreciable
Current (Gross) Replacement Cost	\$8,750,910	Gross Replacement

7.1.2 Sustainability of service delivery

There are two key indicators of sustainable service delivery that are considered in the Asset Management Plan for this service area. The two indicators are the:

- asset renewal funding ratio (proposed renewal budget for the next 5 years / forecast renewal costs for next 5 years), and
- medium term forecast costs/proposed budget (over 15 years of the planning period).

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio¹¹ 76%

The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next 15 years we expect to have 76% of the funds required for the optimal renewal of assets.

The forecast renewal work along with the proposed renewal budget, and the cumulative shortfall, is illustrated in Appendix D.

Medium term - 15-year financial planning period

This Asset Management Plan identifies the forecast operations, maintenance and renewal costs required to provide an agreed level of service to the community over a 15 year period. This provides input into 15 year financial and funding plans aimed at providing the required services in a sustainable manner.

This forecast work can be compared to the proposed budget over the 15 year period to identify any funding shortfall.

The forecast operations, maintenance and renewal costs over the 15 year planning period is \$703,000 on average per year.

The proposed (budget) operations, maintenance and renewal funding is \$531,000 on average per year giving a 15 year funding shortfall of \$172,000 per year. This indicates that 76% of the forecast costs needed to provide the services documented in this Asset Management Plan are accommodated in the proposed budget. This excludes acquired assets.

⁹ https://treenet.org/resources/urban-tree-valuation/

¹⁰ Also reported as Written Down Value, Carrying or Net Book Value.

¹¹ AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

Providing sustainable services from infrastructure requires the management of service levels, risks, forecast outlays and financing to achieve a financial indicator of approximately 1.0 for the first years of the Asset Management Plan and ideally over the 15 year life of the Long-Term Financial Plan.

7.1.3 Forecast Costs (outlays) for the long-term financial plan

Table 7.1.3 shows the forecast costs (outlays) for the 15-year long-term financial plan.

Forecast costs are shown in 2020-dollar values.

Table 7.1.3: Forecast Costs (Outlays) for the Long-Term Financial Plan

Year	Forecast Acquisition	Forecast Operation	Forecast Maintenance	Forecast Renewal	Forecast Disposal
2021	\$133,676	\$55,109	\$399,899	\$210,600	\$0
2022	\$133,676	\$55,109	\$399,899	\$85,950	\$0
2023	\$133,676	\$55,109	\$399,899	\$48,600	\$0
2024	\$133,676	\$55,109	\$399,899	\$68,400	\$0
2025	\$133,676	\$55,109	\$399,899	\$87,750	\$0
2026	\$133,676	\$55,109	\$399,899	\$67,050	\$0
2027	\$133,676	\$55,109	\$399,899	\$75,600	\$0
2028	\$133,676	\$55,109	\$399,899	\$105,750	\$0
2029	\$133,676	\$55,109	\$399,899	\$62,100	\$0
2030	\$133,676	\$55,109	\$399,899	\$270,450	\$0
2031	\$133,676	\$55,109	\$399,899	\$35,550	\$0
2032	\$133,676	\$55,109	\$399,899	\$136,350	\$0
2033	\$133,676	\$55,109	\$399,899	\$32,850	\$0
2034	\$133,676	\$55,109	\$399,899	\$79,200	\$0
2035	\$133,676	\$55,109	\$399,899	\$124,650	\$0

7.2 Funding Strategy

The proposed funding for assets is outlined in Council's budget and Long-Term financial plan.

The financial strategy of Council determines how funding will be provided, whereas the Asset Management Plan communicates how and when this will be spent, along with the service and risk consequences of various service alternatives.

7.3 Valuation Forecasts

Asset values are forecast to increase as additional assets are added to the service.

Additional assets will generally add to the operations and maintenance needs in the longer term. Additional assets will also require additional costs due to future renewals.

7.4 Key Assumptions Made in Financial Forecasts

In compiling this Asset Management Plan, it was necessary to make some assumptions. This section details the key assumptions made in the development of this AMP and should provide readers with an understanding of the level of confidence in the data behind the financial forecasts.

Key assumptions made in this Asset Management Plan are:

■ The cost to replace a tree is \$450

■ The standard useful life of a tree is 30 years

7.5 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this AMP are based on the best available data. For effective asset and financial management, it is critical that the information is current and accurate. Data confidence is classified on a A - E level scale¹² in accordance with Table 7.5.1.

Table 7.5.1: Data Confidence Grading System

Confidence Grade	Description
A. Highly reliable	Data based on sound records, procedures, investigations and analysis, documented properly and agreed as the best method of assessment. Dataset is complete and estimated to be accurate $\pm2\%$
B. Reliable	Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate ± 10%
C. Uncertain	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated ± 25%
D. Very Uncertain	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy ± 40%
E. Unknown	None or very little data held.

The estimated confidence level for and reliability of data used in this AMP is shown in Table 7.5.2.

Table 7.5.2: Data Confidence Assessment for Data used in AMP

Data	Confidence Assessment	Comment
Demand drivers	В	Change in demographics is known, but impact of climate change is yet to be understood.
Growth projections	Α	Based on census data and analysis from profile.id
Acquisition forecast	С	Determined by land development, therefore timing is not accurate
Operation forecast	D	Budget driven not service driven, requirement to be confirmed
Maintenance forecast	D	Budget driven not service driven, requirement to be confirmed
Renewal forecast - Asset values	D	Replacement cost and value of mature trees are assumed
- Asset useful lives	В	Remaining useful life estimated within 5 years by qualified arborist
- Condition modelling	В	All trees have been condition assessed on a rolling program; oldest data is 5 years old.
Disposal forecast	n/a	Not applicable

The estimated confidence level for and reliability of data used in this AMP is considered to be C.

¹² IPWEA, 2015, IIMM, Table 2.4.6, p 2 | 71.

Improvement Action 11 – Determine optimal operational and maintenance allowances to maintain healthy trees as this will improve the certainty of the overall investment forecasts

8.0 PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices¹³

8.1.1 Accounting and financial data sources

This Asset Management Plan does not use accounting and financial data. Cost estimates for the replacement program are provided by the Development team.

8.1.2 Asset management data sources

This Asset Management Plan also utilises asset management data. The source of the data is Conquest, with spatial data made available through Exponare.

8.2 Improvement Plan

It is important that an entity recognise areas of their Asset Management Plan and planning process that require future improvements to ensure effective asset management and informed decision making. The improvement plan generated from this Asset Management Plan is shown in Table 8.2.

Table 8.2: Improvement Plan

Action	Section	Task	Responsibility	Resources Required	Timeline
1	3.4	Ensure the AMP consultation focuses on	Coordinator Strategic		Medium-
		community values and levels of service	Asset Management		term
2	3.5	Review historic data to improve	Coordinator Strategic		Medium-
		confidence of future predictions	Asset Management		term
3	3.6	Confirm costs to achieve recommended	Coordinator Depot		Short-term
		performance	Operations		
4	4.3	Develop, cost, and adopt a New Tree	Coordinator Strategic		Short-term
		Planting program	Asset Management		
5	4.3	Determine ongoing O&M costs with new	Coordinator Depot		Short-term
		planting programs	Operations		
6	4.5	Develop opportunities for climate change	Coordinator Depot		Long-term
		resilience	Operations		
7	5.1	Determine suitability of retaining dead	Coordinator Natural		Long-term
		reserve trees as habitat	Environment		_
8	5.2	Separate budgets used for reactive RMP	Coordinator Depot		Medium-
		defects and proactive pruning	Operations		term
9	5.2	Define and assign asset hierarchies to	Coordinator Strategic		Medium-
		trees	Asset Management		term
10	5.5	Develop a New Tree Planting Program	Coordinator Strategic		Medium-
			Asset Management		term
11	6.3	Assess resilience in service delivery.	Manager Infrastructure		Long-term
			Services		
12	7.5	Determine optimal operational and	Coordinator Depot		Medium-
		maintenance requirements to maintain	Operations		term
		healthy trees			

 $^{^{\}rm 13}$ ISO 55000 Refers to this the Asset Management System

8.3 Monitoring and Review Procedures

This Asset Management Plan will be reviewed during the annual budget planning process and revised to show any material changes in service levels, risks, forecast costs and proposed budgets as a result of budget decisions.

The AMP will be reviewed and updated annually to ensure it represents the current service level, asset values, forecast operations, maintenance, renewals, upgrade/new and asset disposal costs and proposed budgets. These forecast costs and proposed budget are incorporated into the Long-Term Financial Plan or will be incorporated into the Long-Term Financial Plan once completed.

The AMP has a maximum life of 4 years and is due for complete revision and updating every 4 years from the date of adoption.

8.4 Performance Measures

The effectiveness of this Asset Management Plan can be measured in the following ways:

- The degree to which the required forecast costs identified in this Asset Management Plan are incorporated into the long-term financial plan,
- The degree to which the 1-5 year detailed works programs, budgets, business plans and corporate structures take into account the 'global' works program trends provided by the Asset Management Plan,
- The degree to which the existing and projected service levels and service consequences, risks and residual risks are incorporated into the Strategic Plan and associated plans,
- The Asset Renewal Funding Ratio achieving the Organisational target (this target is often 1.0).

9.0 REFERENCES

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- IPWEA, 2012 LTFP Practice Note 6 PN Long-Term Financial Plan, Institute of Public Works Engineering Australasia, Sydney
- ISO, 2018, ISO 31000:2018, Risk management Guidelines
- Council Plan 2021- 2025
- Warrnambool City Council Annual Budget
- Infrastructure Design Manual

10.0 APPENDICES

Appendix A Acquisition Forecast

A.1 – Acquisition Forecast Assumptions and Source

Half of tree acquisitions arise from developer contributions. The rate of land development and associated contributions to trees and open space is variable, an average has been assumed for the forecast.

A.2 – Acquisition Project Summary

The projects included in the lifecycle forecast include:

Project	Timing
Merriviews Stage 4	Short term
Mervue Stage 3	Short term
Russells Creek Stage 4	Short term
Wollaston Way Stage 5	Short term
Hopkins Ridge Stage 3	Mid term
North Edge Stage 1&2	Mid term
Riverland Stage 1	Mid term
Merriviews Stage 5	Long term

A.3 – Acquisition Forecast Summary

Table A3 - Acquisition Forecast Summary

Year	Constructed	Contributed	Planned Budget
2021	\$133,676	\$139,878	\$133,676
2022	\$133,676	\$139,878	\$133,676
2023	\$133,676	\$139,878	\$133,676
2024	\$133,676	\$139,878	\$133,676
2025	\$133,676	\$139,878	\$133,676
2026	\$133,676	\$139,878	\$133,676
2027	\$133,676	\$139,878	\$133,676
2028	\$133,676	\$139,878	\$133,676
2029	\$133,676	\$139,878	\$133,676
2030	\$133,676	\$139,878	\$133,676
2031	\$133,676	\$139,878	\$133,676
2032	\$133,676	\$139,878	\$133,676
2033	\$133,676	\$139,878	\$133,676
2034	\$133,676	\$139,878	\$133,676
2035	\$133,676	\$139,878	\$133,676

Appendix B Operation Forecast

B.1 – Operation Forecast Assumptions and Source

The additional operation forecast is 1% of the value of new plantings - both Council and Developer funded.

B.2 – Operation Forecast Summary

Table B2 - Operation Forecast Summary

Year	Operation Forecast	Additional Operation Forecast	Total Operation Forecast
2021	\$55,109	\$2,736	\$57,845
2022	\$55,109	\$5,471	\$60,580
2023	\$55,109	\$8,207	\$63,316
2024	\$55,109	\$10,942	\$66,051
2025	\$55,109	\$13,678	\$68,787
2026	\$55,109	\$16,413	\$71,522
2027	\$55,109	\$19,149	\$74,258
2028	\$55,109	\$21,884	\$76,993
2029	\$55,109	\$24,620	\$79,729
2030	\$55,109	\$27,356	\$82,465
2031	\$55,109	\$30,091	\$85,200
2032	\$55,109	\$32,827	\$87,936
2033	\$55,109	\$35,562	\$90,671
2034	\$55,109	\$38,298	\$93,407
2035	\$55,109	\$41,033	\$96,142

Appendix C Maintenance Forecast

C.1 – Maintenance Forecast Assumptions and Source

The additional maintenance forecast is 1% of the value of new plantings - both Council and Developer funded.

C.2 – Maintenance Forecast Summary

Table C2 - Maintenance Forecast Summary

Year	Maintenance	Additional Maintenance	Total Maintenance
	Forecast	Forecast	Forecast
2021	\$399,899	\$2,736	\$402,635
2022	\$402,634	\$2,736	\$405,370
2023	\$405,370	\$2,736	\$408,106
2024	\$408,105	\$2,736	\$410,841
2025	\$410,841	\$2,736	\$413,577
2026	\$413,576	\$2,736	\$416,312
2027	\$416,312	\$2,736	\$419,048
2028	\$419,047	\$2,736	\$421,783
2029	\$421,783	\$2,736	\$424,519
2030	\$424,518	\$2,736	\$427,254
2031	\$427,254	\$2,736	\$429,990
2032	\$429,989	\$2,736	\$432,725
2033	\$432,725	\$2,736	\$435,461
2034	\$435,461	\$2,736	\$438,197
2035			

Appendix D Renewal Forecast Summary

D.1 – Renewal Forecast Assumptions and Source

A rate of \$450/tree is used for renewal forecasting. This is the amount imposed on developers who bond their works.

D.2 - Renewal Project Summary

Trees are replaced individual as required, there are no large replacement projects to be summarised.

D.3 - Renewal Forecast Summary

Table D3 - Renewal Forecast Summary

Year	Renewal Forecast	Renewal Budget	Cumulative Renewal Gap
2021	\$210,600	\$75,932	\$134,668
2022	\$85,950	\$75,932	\$144,686
2023	\$48,600	\$75,932	\$117,354
2024	\$68,400	\$75,932	\$109,822
2025	\$87,750	\$75,932	\$121,640
2026	\$67,050	\$75,932	\$112,758
2027	\$75,600	\$75,932	\$112,426
2028	\$105,750	\$75,932	\$142,244
2029	\$62,100	\$75,932	\$128,412
2030	\$270,450	\$75,932	\$322,930
2031	\$35,550	\$75,932	\$282,548
2032	\$136,350	\$75,932	\$342,966
2033	\$32,850	\$75,932	\$299,884
2034	\$79,200	\$75,932	\$303,152
2035	\$124,650	\$75,932	\$351,870

D.4 –Renewal Plan

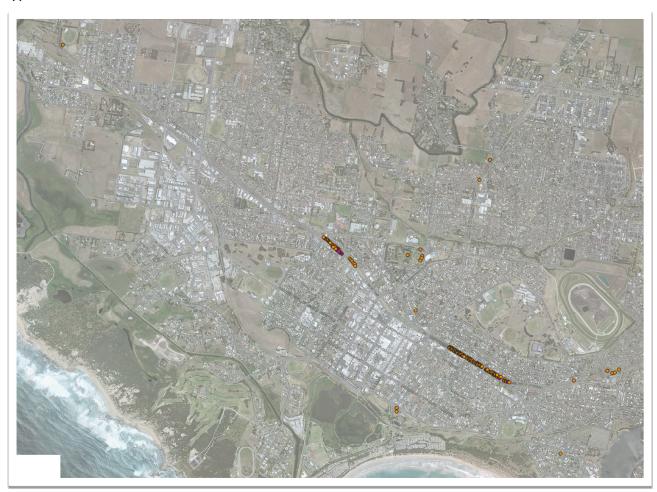
Refer to Council's Asset Management System for the full 15-year renewal plan

Appendix E Budget Summary by Lifecycle Activity

Table F1 – Budget Summary by Lifecycle Activity

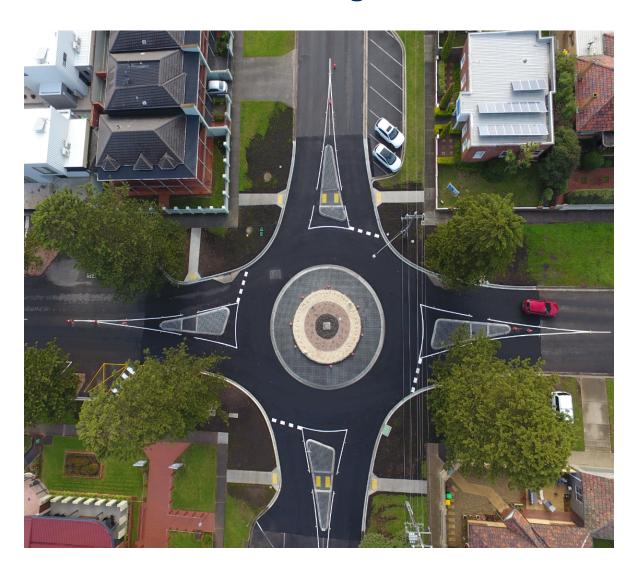
Year	Acquisition	Operation	Maintenance	Renewal	Disposal	Total
2020	\$133,676	\$55,109	\$399,899	\$75,932	\$0	\$664,616
2021	\$133,676	\$55,109	\$399,899	\$75,932	\$0	\$664,616
2022	\$133,676	\$55,109	\$399,899	\$75,932	\$0	\$664,616
2023	\$133,676	\$55,109	\$399,899	\$75,932	\$0	\$664,616
2024	\$133,676	\$55,109	\$399,899	\$75,932	\$0	\$664,616
2025	\$133,676	\$55,109	\$399,899	\$75,932	\$0	\$664,616
2026	\$133,676	\$55,109	\$399,899	\$75,932	\$0	\$664,616
2027	\$133,676	\$55,109	\$399,899	\$75,932	\$0	\$664,616
2028	\$133,676	\$55,109	\$399,899	\$75,932	\$0	\$664,616
2029	\$133,676	\$55,109	\$399,899	\$75,932	\$0	\$664,616
2030	\$133,676	\$55,109	\$399,899	\$75,932	\$0	\$664,616
2031	\$133,676	\$55,109	\$399,899	\$75,932	\$0	\$664,616
2032	\$133,676	\$55,109	\$399,899	\$75,932	\$0	\$664,616
2033	\$133,676	\$55,109	\$399,899	\$75,932	\$0	\$664,616
2034	\$133,676	\$55,109	\$399,899	\$75,932	\$0	\$664,616

Appendix F Critical Tree Locations





Roads Asset Management Plan



Document Control		Asset Management Plan					
Documen	Document ID :						
Rev No	Date	Revision Details	Author	Reviewer	Approver		
1.0	May 2021	Draft plan	Viknesh Balendra				
1.1	August 2021	Draft plan updated	Viknesh Balendra				

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1.0 EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

Roads Asset Management Planning is a comprehensive process ensuring delivery of services from Warrnambool City Council's road infrastructure is provided in a financially sustainable manner.

This Asset Management Plan (AMP) details information about infrastructure assets with actions required to provide an agreed level of service in the most cost-effective manner while outlining associated risks. The plan defines the services to be provided, how the services are provided and what funds are required to meet these needs over a 15 year planning period. The Asset Management Plan will link to Council's Long-Term Financial Plan (LTFP) which typically covers a 10 year period.

This plan covers the infrastructure assets that provide the road network. The primary objective for managing road infrastructure is to facilitate the movement of vehicular traffic for the local community, businesses, industries, and visitors, both within the Council region and to neighbouring areas, and to provide parking facilities to the community.

1.2 Asset Description

The road network comprises:

- Sealed Road Pavements → 2,550,937 m2
- Unsealed Road Pavements → 193,637 m2
- Road Surfaces Spray Seal → 1,865,229 m2
- Road Surfaces Asphalt → 740,880 m2
- Road Surfaces Concrete/Other → 7,619 m2
- Kerb and Channel (incl. traffic islands; pedestrian refuge; roundabout centres) → 465km
- Parking meter Ticket Machines → 92 No.
- Signalised crossings → 6 No.
- Speed humps/ wombat crossings → 27 No.
- Guard rails/ Safety rails → 615m
- Shoulders
- Reflectors
- Traffic signs
- Fire hydrants
- CBD Street Name Plates

The above infrastructure assets have a total replacement value estimated at \$274,829,850.

1.3 Levels of Service

Our present funding levels are insufficient to continue to provide existing services at current service levels in the medium term.

The main service consequences of the Planned Budget are:

- Deferred delivery of new and upgraded road infrastructure
- Delayed renewal and replacement of existing road infrastructure assets

- Increased maintenance costs due to unfunded preventative practices
- Reduced road quality from deferred renewal activities
- Shortened asset lives due to Climate Change impacts (refer to Section 4.5).
- On-road bicycle paths not meeting cyclists' needs
- All-accessibility parking not meeting community expectations

Operational budgets will be managed as to not impact the frequency of street sweeping.

1.4 Future Demand

The main demands for new services are created by:

- Population Growth
- Future developments and redevelopments in the municipality
- Change of vehicle types utilising local roads, especially heavy vehicles
- Increased number of cyclists on roads
- Demand for increased levels of service
- Tourism

These demands will be approached using a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand. Demand management practices may also include a combination of non-asset solutions, insuring against risks and managing failures.

- Regular monitoring using traffic counts
- Implementation of the Road Hierarchy Review
- Implementation of the Sustainable Transport Strategy
- Monitor increase in tourist numbers
- Investigate funding options
- Monitor community expectations on levels of service

1.5 Lifecycle Management Plan

1.5.1 What does it Cost?

The forecast lifecycle costs necessary to provide the services covered by this AMP includes operation, maintenance, renewal, acquisition, and disposal of assets. This AMP is prepared for a 15 year period so that it can inform the Long-Term Financial Planning period of 10 years.

Over the 15 years of this plan, **\$7.5M** on average must be spent each year to meet the stated levels of service. Another **\$12.3M** of capital improvements is also flagged, but not yet scheduled as these could be contributed by other authorities and developments.

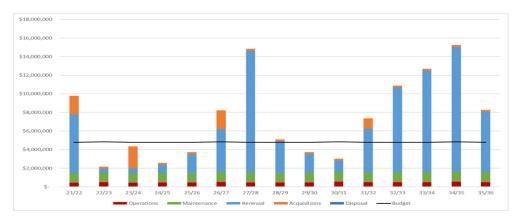
1.6 Financial Summary

1.6.1 What we will do

The planned budget for the 10 year LTFP period is **\$4.79M** on average per year. This is **83%** of the cost to sustain the current level of service at the lowest lifecycle cost.

The infrastructure reality is that only what is funded in the long-term financial plan can be provided. The Informed decision making depends on the AMP emphasising the consequences of Planned Budgets on the service levels provided and risks.

The anticipated Planned Budget for Roads leaves a shortfall of **\$0.96M** on average per year of the forecast lifecycle costs required to provide services in the AMP compared with the Planned Budget currently included in the Long-Term Financial Plan. This is shown in the figure below.



Forecast Lifecycle Costs and Planned Budgets

We plan to provide road services for the following:

- Operation, maintenance, renewal and upgrade of road infrastructure assets as detailed in Table 2.1a to meet service levels set in annual budgets.
- Major renewals and upgrades as identified in Appendix A and Appendix B within the 10 year planning period

1.6.2 What we cannot do

We currently do **not** allocate enough budget to sustain these services at the proposed standard or to provide all new services being sought. Works and services that cannot be provided under present funding levels are:

- Provide a road infrastructure network which meets Victoria's Infrastructure Design Manual standards for functionality and capacity
- Assess and improve all road safety concerns
- Implement all prioritised upgrades of unsealed roads
- Implement all recommended upgrades and expansions to parking facilities
- Improve the connectivity of the on-road bicycle path network throughout the municipality
- Address and mitigate impacts of Climate Change on roads
- Complete condition assessments for all road infrastructure assets

1.6.3 Managing the Risks

Our present funding levels are insufficient to continue to manage risks in the medium term.

The main risk consequences are:

- Increased accidents and vehicle damage due to poor quality roads
- Lack of connectivity and traffic delays
- Not meeting community expectations on cleanliness of roads and availability of parking

We will endeavour to manage these risks within available funding by:

- Operating in accordance with the Municipal Road Management Plan
- Maintenance inspections and works plan
- Road Safety Audits and Road Safety Strategy
- Implementation of Road Hierarchy Review
- Customer Request Process
- Compliance with design standards for roads
- Undertake a regular review of this Asset Management Plan to ensure alignment with Council's strategic planning cycle and to inform the investment need through the Long Term Financial Plan

1.7 Asset Management Practices

Council is using a systemised approach to monitor and manage the Council's Road Infrastructure which has helped to improve the productivity and efficiency in Asset Management and are as follows:

- Technology One: Council's financial management information system
- Conquest: Council's asset management information system that contains the asset register, asset data, description and hierarchy, condition inspection and defects and spatial data
- Assetic Predictor: Used to model asset degradation and produce renewal programs.

The method used to generate the capital renewal plan for roads is to import the road condition data into Assetic Predictor to model the renewal costs and timing of all assets. Non-network assets from Conquest are then also reviewed and added to the capital works plan.

The degradation of road condition is modelled by Assetic Predictor to determine the renewal requirements of each asset.

1.8 Monitoring and Improvement Program

The next steps resulting from this AMP to improve asset management practices are:

- Identify whether Retaining Walls should be listed in the Roads AMP or in the Buildings AMP
- Measure gaps in the connectivity of the on-road bicycle path network
- Determine how many additional parking spaces are required and the associated costs
- Determine percentage of population that currently use bicycles to travel on roads
- Align re-sheeting of unsealed roads (depreciating) with investment type (renewal)
- The impact of climate change on assets is a new and complex discussion and further opportunities will be developed in future revisions of this AMP.

2.0 Introduction

2.1 Background

This Roads Asset Management Plan communicates the actions required for the responsive management of assets, compliance with regulatory requirements, and funding needed to provide the required levels of service over a 15 year planning period. The plan combines management, financial, engineering and technical practices to ensure that the required levels of service for roads infrastructure are met by the most efficient means with consideration for Council's fiscal and resource limitations.

The Roads Asset Management Plan is to be read in conjunction with relevant Warrnambool City Council planning documents. This should include the Asset Management Policy and Asset Management Strategy, where developed, along with other key planning documents:

- Municipal Road Management Plan 2017
- Council Plan 2021-2025
- Warrnambool Municipal Road Hierarchy Review and Traffic Management Plan 2017
- Warrnambool City Council Safe Systems Road Infrastructure Program Road Safety Infrastructure Projects 2020
- Street Tree Planting and Management Policy 2021
- Street Tree Planting and Management Guidelines 2021
- Nature Strip Landscaping Policy 2017
- Nature Strip Landscaping Guidelines 2017
- Warrnambool City Centre Parking Strategy 2015
- Warrnambool City Centre Revitalisation Structure Plan
- Warrnambool 2040
- Road Users Plan 2018-2026
- Sustainable Transport Strategy 2010-2020
- Roads and Drainage Maintenance Levels of Service 2014
- Various Growth Area Structure Plans

Council has over \$830 million in assets under its management. These assets are predominantly used to provide services and amenity to the Warrnambool community and visitors. The standard to which these assets are maintained, and the extent of expansion and improvement, are key considerations in setting and delivering our Council Plan.

The infrastructure assets covered by this Asset Management Plan include sealed and unsealed roads; kerb and channel; assets in street reserve; parking amenities; traffic calming/traffic signal devices; and roadside assets within the Warrnambool City Council area.

These road infrastructure assets are used to facilitate the movement of vehicular traffic for the local community, businesses, industries, and visitors, both within the Council region and to neighbouring areas, and to provide parking facilities to the community.

Table 2.1a - Assets Covered by this Plan

Asset Category	Asset Component
Sealed roads	Sealed Pavement
	Surface (Spray Seal; Asphalt; Concrete)
	Kerb & Channel
	Formation/Earthworks
	Shoulders
Unsealed roads	Unsealed Pavement
	Formation
	Shoulders
Parking amenities	Car parks (on-road and off-street)
	Parking meters
Traffic calming devices	Line-marking (incl. pedestrian crossings; on-road cycling lanes; stat cons)
	Pedestrian refuges/traffic islands
	Roundabout centres
	Reflectors
Signalised crossings	Traffic lights (incl. pedestrian lights)
	Traffic detector loops
Traffic safety devices	Traffic signs
	Safety rails
	Safety fences
	Guard rails
	Speed humps/ wombat crossings
Roadside assets	CBD Street Name Plates
	Fire hydrants

Note: Shared boundary roads are included in this plan

The following assets are NOT INCLUDED in this plan:

- Arterial Roads (Raglan Pde, Caramut Rd, Bridge Rd, Hopkins Hwy, which are owned by VicRoads)
- Port of Warrnambool assets access roads, carparks, traffic signs, lighting etc.
- Street Furniture bollards, seats, bicycle racks, bins (Open Space AMP)
- Bus Stops & Shelters (PTV Assets unless there is an agreement with WCC)
- Reserve Lighting (Open Space AMP)
- Street Lighting (Powercor Assets)
- Table Drains (Drainage AMP)
- Retaining Walls
- Nature Strips/ Verges

<u>Improvement Action 1: Identify whether Retaining Walls should be listed in the Roads AMP or in the Buildings AMP</u>

For a detailed summary of the assets covered in this Asset Management Plan refer to Table 5.1.1 in Section 5.

The infrastructure assets included in this plan have a total replacement value of \$274,829,850.

Key external stakeholders in the preparation and implementation of this Asset Management Plan are shown in Table 2.1b.

Table 2.1b: Key External Stakeholders in the AMP

Key Stakeholder	Role in Asset Management Plan
Road Authorities (VicRoads / DOT)	Interested party re allocation of resources to meet planning objectives in providing services while managing risks, Ensure service sustainable.
Community in general	Customer
Road users – Motorists, Cyclists and Pedestrians (including all abilities and age groups)	Customer
Tourists and visitors to the area	Customer
Commercial and Industrial transport operators	Customer
Public transport services including school buses	Customer
Emergency Agencies	Customer
Utilities (Water, sewerage, gas, electricity, telecommunications)	Interested party re location of services
Land Developers	Interested party re accessibility
Contractors and suppliers	Interested party re supply of goods and resources to provide services
State and Federal Government	Interested party re governance of road services
Council's Insurer	Interested party to ensure auditing, maintenance and reporting are undertaken
Road Safety organisations	Interested party re safety considerations for road users

Key internal stakeholders in the preparation and implementation of this Asset Management Plan are shown in Table 2.1c.

Table 2.1c: Key Internal Stakeholders in the AMP

Key Stakeholder	Role in Asset Management Plan
Asset Custodian	Regulatory authority responsible for the care and control of the road infrastructure network to service community service needs
Asset Management	Responsible for development of the Roads Asset Management Plan and renewal modelling
Executive Management Team	Management – responsible for corporate review, resourcing and ensuring implementation of the Roads Asset Management Plan
Councillors	Council authority – Approval of the Roads Asset Management Plan and approval of annual budgets and long term financial planning

Roles and Responsibilities for asset management of the portfolio of roads infrastructure within Warrnambool City Council is described as follows:

Service Managers are responsible for acquiring, planning, controlling, directing and delivering Council services, and developing Service Plans for the future provision of assets. The primary service manager for roads assets is the Manager Infrastructure Services, who is responsible for the oversight of the acquisition, planning, design, operations, maintenance and delivery of works. The table below lists the breakdown of the roles and responsibilities vested with each service manager.

Designation	Responsibility
Manager Infrastructure Services	Emergency Management
	Engaging internal project management, assets and procurement support for roads construction and acquisition
	Overseeing the preparation of Roads Service Plans (short and long term)
	Community Engagement/Consultation
Coordinator Infrastructure Management	Improve/enhance the quality, capacity and functionality of the roads network
	Providing input for required levels of service such as performance and safety
	Directing the delivery of renewal and new/upgrade programs
	Engaging internal procurement support for the design of road infrastructure assets
Coordinator Municipal Operations	Ensure the performance of road infrastructure assets with periodic maintenance and operational activities
	Develop and monitor operating and maintenance budgets and maintenance plans
Coordinator Strategic Assets	Implementation and management of the Asset Management System for road infrastructure assets
	Conducting asset condition audits and data collection
	Co-ordinating renewal planning and long-term capital works priorities
Manager Finance	Development of Long-Term Financial Plan, Strategic Resource Plan, and annual budget
	Prepare Financial reports on assets based on accounting standards and Financial reporting regulations

2.2 Goals and Objectives of Asset Ownership

Our goal in managing infrastructure assets is to meet the defined level of service (as amended from time to time) in the most cost effective manner for present and future consumers. The key elements of infrastructure asset management are:

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and infrastructure investment,
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
- Identifying, assessing and appropriately controlling risks, and
- Linking to a Long-Term Financial Plan which identifies required, affordable forecast costs and how it will be allocated.

Key elements of the planning framework are

- Levels of service specifies the services and levels of service to be provided,
- Future demand how this will impact on future service delivery and how this is to be met,
- Lifecycle management how to manage its existing and future assets to provide defined levels of service,
- Financial summary what funds are required to provide the defined services,
- Asset management practices how we manage provision of the services,
- Monitoring how the plan will be monitored to ensure objectives are met,
- Asset management improvement plan how we increase asset management maturity.

Other references to the benefits, fundamentals principles and objectives of asset management are:

- International Infrastructure Management Manual 2015 ¹
- ISO 55000²

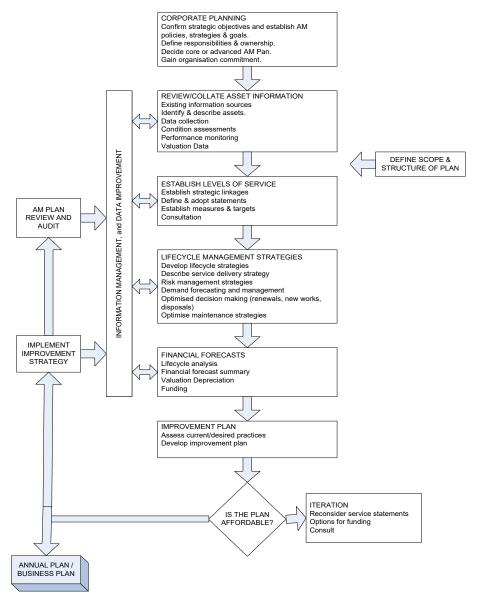
A road map for preparing an Asset Management Plan is shown below.

¹ Based on IPWEA 2015 IIMM, Sec 2.1.3, p 2| 13

² ISO 55000 Overview, principles and terminology

Road Map for preparing an Asset Management Plan

Source: IPWEA, 2006, IIMM, Fig 1.5.1, p 1.11



3.0 LEVELS OF SERVICE

Traffic management

Parking facilities

3.1 Customer Research and Expectations

This Asset Management Plan is prepared to facilitate consultation prior to adoption of levels of service by the Warrnambool City Council. Future revisions of the Asset Management Plan will incorporate customer consultation on service levels and costs of providing the service. This will assist the Warrnambool City Council and stakeholders in matching the level of service required, service risks and consequences with the customer's ability and willingness to pay for the service.

Table 3.1a summarises the results from our Customer Satisfaction Survey. Table 3.1b summarises the results from the Warrnambool City Centre Parking Strategy.

Performance Measure	Satist	action Level (%)	
Condition of sealed local roads	48 (2020) <mark>∺</mark>	58 (2019) 🗯 53 (2018)	
Condition of local streets and footpaths	56 (2020) 	64 (2019) = 58 (2018)	

59 (2019) 22 52 (2018)

45 (2019) 33 (2018)

50 (2020) X

38 (2020) \ ★

Table 3.1a: Customer Satisfaction Survey Levels

Table 3.1b: Warrnambool City Centre Parking Strategy -	- Customer Survey Outcomes
--	----------------------------

Survey/Audience	Result/Outcome
Warrnambool City Centre Parking Strategy 2015 (Customer survey)	54% customers are satisfied with the availability of parking in on-street areas
	54% have not experienced difficulty parking in off-street areas
	Weekday long-term parking is in high demand in mid-west to south sections of the City Centre. Increased parking supply in the area will assist

3.2 Strategic and Corporate Goals

This Asset Management Plan is prepared under the direction of the Warrnambool City Council vision, mission, goals and objectives.

Our vision for Warrnambool is:

A thriving city at the heart of coast and country

Our missions are:

Warrnambool will be a city where all people thrive

Warrnambool will be Australia's most liveable regional city

Warrnambool will be Australia's most sustainable city

Warrnambool will be Australia's most resilient & thriving regional economy

Strategic goals and objectives have been set in the Warrnambool City Council Plan. The relevant goals and objectives and how these are addressed in this Asset Management Plan are summarised in Table 3.2.

Table 3.2: Council Plan Goals and Objectives and how these are addressed in this Plan

Goal	Objective	How Goals and Objectives are addressed in the AMP
	Leadership and governance: Council will be a high-functioning team committed to respectful relationships, collaboration and ongoing engagement. It will provide strong, effective leadership, sound governance and informed decision-making	Improve asset management practices for Council's road infrastructure. The preparation, adoption and regular updates of this asset management plan for the roads asset class.
	Engaged and informed community: Council will ensure ongoing community engagement to identify changing needs and priorities when developing and delivering services and programs.	Identifies service demand drivers to determine upgrades to roads and expansion of parking areas that are necessary to meet future community needs. Communicates when and where to allocate funding for road safety projects.
An effective Council	Customer-focused services: Council will continue to develop a program of Council services that are delivered to the community's satisfaction.	Identify asset maintenance requirements to continue to provide current levels of service and maintain safe and reliable road infrastructure.
	Organisational and financial sustainability: Council will ensure organisational and financial sustainability through the effective and efficient use of Council's resources and assets.	Identifies current levels of investment against need to inform Council's LTFP and reports the asset renewal funding ratio Utilise asset condition modelling to determine renewal funding requirements. Highlights the benefits of improved data confidence and knowledge in refining future funding requirements.
	Risk mitigation: Council will mitigate and manage organisational risks through sound management systems and processes.	The preparation, adoption and updates of this asset management plan adheres to Councils risk management framework and processes in ensuring key strategic and operational decision making considers risk factors.
A healthy community	An accessible city: Council will improve physical and social accessibility to community services, facilities, places and precincts.	Identifies service demand drivers to determine upgrades and expansion of all-accessibility parking areas that are necessary to meet future community needs.
A connected, inclusive place	A connected community: Council will enhance Warrnambool's connectivity through the delivery of, or advocacy for, improvement to roads, public	Identifies upgrades necessary to improve the connectivity of the road network within Warrnambool and surrounding areas.

transport, footpaths, trails and digital infrastructure.	Identifies service demand drivers to determine upgrades to roads and expansion of parking areas that are necessary to meet future community needs. Identifies service demand drivers to determine how to improve the connectivity of the on-road cycling network within Warrnambool.
Sustainable practices: Council will promote and encourage the implementation of sustainable design across the municipality including the attractiveness, safety, accessibility and functionality of our built environment.	Identifies renewal requirements and upgrades needed to continue to provide roads that are designed to last longer, and meet the functionality, safety and reliability requirements of road infrastructure for the community.

3.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. Legislative requirements that impact the delivery of the roads service are outlined in Table 3.3.

Table 3.3: Legislative Requirements

Legislation	Requirement
Local Government Act 2020	Sets out the role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by infrastructure and asset management plans for sustainable service delivery.
Road Management Act, 2004	
Road Management Act 2004 Codes of Practice - Management of Road & Utility Infrastructure in Road Reserves	Defines Council as the Responsible Authority in relation to the management of local roads. The Warrnambool Municipal Road Management Plan is a statutory document prepared under the Road Management Act 2004 to establish a management system for Council to inspect, maintain and repair its public roads based on policy and operational objectives having regard to available resources. These roads are listed on Council's Register of Public Roads.
Road Management Act 2004 Codes of Practice - Operational Responsibilities for Public Roads	The Municipal Road Management Plan details the various legislative requirements, standards and codes of practice applicable to management of the road network.

Road Management (General) Regulations 2005	Sets out additional matters for the review and amendment of a Road Management Plan not contained in the 2004 Road Management Act for consultation with the community. The regulation also prescribes certain matters that must be recorded on a register of public roads and provides for the protection of roads and property. Provides for a coordinated management system for public roads including use of the road reserves for other legitimate purposes such as the provision of utility services and drainage. It defines the responsible authorities , and makes Council the controlling authority for public local roads, boundary roads and parts of declared roads within the municipal area, which also makes Council responsible for managing the infrastructure assets within them.
Road Safety Act 1986 (Amended 2004)	The purpose of this act in relation to this plan is to provide safe, efficient and equitable road use, set out general obligations for road users and ensure equitable distribution within the community of costs of road use.
Roads to Recovery Act 2000	An Act to provide funding to local governing bodies to supplement expenditure on roads.
Subdivisions Act 1988	The purpose of the Subdivision Act 1988 is to set out the procedure for the subdivision and consolidation of land, including buildings and airspace, and for the creation, variation or removal of easements or restrictions.
Transport Integration Act 2010	Integrates the legislation contained within: • Transport (Compliance and Miscellaneous) Act 1983; Road Management Act 2004; Road Safety Act 1986 Also outlines Council's responsibility to manage financial risk in relation to the management and maintenance of road assets. Requires land use authorities to provide a transport system that is integrated and sustainable with transport decisions made based on a triple bottom line assessment.
Environmental Protection Act 1970	The legislative framework for the protection of the environment in Victoria. Legal requirements in relation to stormwater runoff from roads into water ways.
Environment Protection & Biodiversity Conservation Act 1999	The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) is the Australian Government's environmental legislation. It covers environmental assessment and approvals, protects significant biodiversity and integrates the management of important natural and cultural places.
Council Local laws	Council is responsible for the implementation and enforcement of the Road Safety Act and Regulations.
Disability Discrimination Act 1992	Provides protection for Australians against discrimination based on disability. It encourages everyone to be involved in implementing the Act and to share in the overall benefits to the community and economic benefits that flow from participation by the widest range of people
Occupational Health and Safety Act 1985	Legal requirements for employers/employees in relation to workplace safety. Requirements on those who design, manufacture, import or supply any plant for use in the workplace.
No Go Zone	Energy Safe Victoria have developed a best practice approach for operating mechanical plant and equipment near overhead power lines.

Trades Practices Act 1974	The objective of the Act, as set out in the legislation, is to enhance the welfare of Australians through the promotion of competition and fair trading and providing for consumer protection
Emergency Management Act 2013	The objective of the Act is to establish new governance arrangements for emergency management in Victoria, including within municipalities
Heavy Vehicle National Law Application Act 2013	The main objectives of this Act are to provide for the application of a National Law to regulate the use of heavy vehicles on roads
Rail Safety Act 2006	The Act addresses: Safety interface assessment by relevant road manager of public roadway or pathway: • A relevant road manager in relation to a public roadway or public pathway must: – Identify and assess, so far as is reasonably practicable, risks to safety that may arise from the existence or use of any rail or road crossing that is part of the road infrastructure of that public roadway or that is a public pathway because of, or partly because of, rail infrastructure operations; – Determine measures to manage, so far as is reasonably practicable, any risks identified and assessed. • A relevant road manager must have regard to: – The principal object of road management; and – The works and infrastructure management principles; and – The functions, powers and duties of infrastructure managers under the Road Management Act 2004 - When determining measures to manage risks identified under subsection (1). • A relevant road manager must seek to enter into a safety interface agreement with any rail infrastructure manager whose rail infrastructure operations are identified as contributing to a risk identified under subsection (1) for the purposes of managing that risk.

3.4 Customer Values

Service levels are defined in three ways, customer values, customer levels of service and technical levels of service.

Customer Values indicate:

- what aspects of the service is important to the customer,
- whether they see value in what is currently provided and
- the likely trend over time based on the current budget provision

Table 3.4: Customer Values

Customer Values	Customer Satisfaction Measure	Current Feedback	Expected Trend Based on Planned Budget
Roads provide smooth path of travel	Number of customer requests for road maintenance	190 Total Requests for 2019/20	Council meets its requirement for reactive maintenance under the RMP. Funding shortfall for planned maintenance is likely to increase in line with asset growth leading to a greater number of reactive customer requests.
Streets are kept clean and clear	Customer Satisfaction Survey	2020 – 56% customers satisfied to very satisfied with the cleanliness of streets	Street sweeping frequency may decrease in future to meet the static operational budget
Minimal delay in commute	Customer Satisfaction Survey	2020 - 50% customers satisfied to very satisfied with traffic management	Increased delays due to population growth, works being carried out and unfunded road projects identified in the road hierarchy review.
Roads and supporting infrastructure are safe for users	Number of accidents	Total of 51 accidents in 2019 (VicRoads Crash Statistics)	Anticipated that the number of accidents will decrease due to Road Safety Strategy funding.
Sufficient parking facilities	Customer Satisfaction with the availability of parking	54% customers satisfied (2015 Parking Strategy Survey)	The proposed budget is not sufficient to improve the availability of parking facilities in line with the growth in population

3.5 Customer Levels of Service

The Customer Levels of Service are considered in terms of:

Quality How good is the service ... what is the condition or quality of the service?

Function Is it suitable for its intended purpose Is it the right service?

Capacity/Use Is the service over or under used ... do we need more or less of these assets?

In Table 3.5 under each of the service measures types (Quality, Function, Capacity/Use) there is a summary of the performance measure being used, the current performance, and the expected performance based on the current funding level.

These are measures of fact related to the service delivery outcome e.g. number of occasions when service is not available, condition %'s of Very Poor, Poor/Average/Good, Very Good and provide a balance in comparison to the customer perception that may be more subjective.

Table 3.5: Customer Level of Service Measures

Type of	Level of	Performance	Current Performance	Expected Trend
Measure	Service	Measure	(2019/2020)	Based on Planned Budget
Condition	Roads provide smooth path of travel	Percentage of sealed roads in poor/very poor condition	4.6% of sealed road surfaces are in poor/very poor condition 6.7% of sealed road pavements are in poor/very poor condition	Percentage of sealed road pavements in poor/very poor condition will increase due to lack of budget to meet lifecycle costs and superficial 'band-aid' treatments of the surface.
	Confidence levels		High	Medium
Function	Road network is appropriate for users' needs	Unsealed roads assessed for upgrade.	Unsealed roads assessed on a needs basis under special charge schemes	The shortfall in budget is likely to result in more assets not meeting expectations or be upgraded in the shorter term.
	Roads are safe for user's needs	Number of Road Safety Strategy projects completed	On average, six road safety strategy projects are delivered per year via the following programs: - Safe Systems Road Infrastructure Program - TAC Community Road Safety Grant Federal Blackspot Program	Likely to remain unchanged
	All accessibility parking is provided where expected by the community	Number of customer requests about all accessibility parking facilities not meeting expectations	Total customer requests in: 2017/18 = 2 2018/19 = 1 2019/20 = 2 Number of customer complaints about accessibility issues regarding disabled parking has remained a low number	Likely to remain unchanged
	Road network has provision for cyclists	Number of gaps in the on-road bicycle path network throughout the municipality	Performance is yet to be measured (to be informed by STS)	No change in the connectivity of the bicycle path network

Type of Measure	Level of Service	Performance Measure	Current Performance (2019/2020)	Expected Trend Based on Planned Budget
	Confidence levels		Low	Low
Capacity	Road capacity is appropriate to service hierarchy (needs)	Road Hierarchy Review 2017 – Number of roads that are under- utilised or over- utilised	4 roads have average traffic volumes in a 24 hour period higher than the maximum limit based on collector/link/access hierarchy according to IDM guidelines 3 roads have average traffic volumes in a 24 hour period lower than the minimum value based on collector/link/access	Road utilisation will be site specific due to new growth precincts being developed and expected delays or congestion on some routes due to the lag time of DCP construction
	Availability of parking	Customer Satisfaction with the availability of parking	54% customers satisfied	The proposed budget is not sufficient to improve the availability of parking facilities in line with the growth in population
	Confidence levels		Medium	Low

Improvement Action 2: Identify gaps in the connectivity of the on-road bicycle path network

3.6 Technical Levels of Service

Technical Levels of Service – To deliver the customer values, and impact the achieved Customer Levels of Service, are operational or technical measures of performance. These technical measures relate to the activities and allocation of resources to best achieve the desired customer outcomes and demonstrate effective performance.

Technical service measures are linked to the activities and annual budgets covering:

- Acquisition the activities to provide a higher level of service (e.g. widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (e.g. a new library).
- **Operation** the regular activities to provide services (e.g. opening hours, cleansing, mowing grass, energy, inspections, etc.
- Maintenance the activities necessary to retain an asset as near as practicable to an
 appropriate service condition. Maintenance activities enable an asset to provide service
 for its planned life (e.g. road patching, unsealed road grading, building and structure
 repairs),
- Renewal the activities that return the service capability of an asset up to that which it had originally provided (e.g. road resurfacing and pavement reconstruction, pipeline replacement and building component replacement),

Service and asset managers plan, implement and control technical service levels to influence the service outcomes.³

Table 3.6 shows the activities expected to be provided under the current Planned Budget allocation, and the Forecast activity requirements being recommended in this AMP.

Table 3.6: Technical Levels of Service

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
	Construction within new developments	Developer contribution	Developers constructing roads to meet structure plan requirements	Set design and materials standards that require less funding to operate, maintain and renew in the future.
	Delivery of projects identified in Road Hierarchy Review document	Budget allocated	Limited by the existing new/upgrade capital budget where \$175,000 is allocated annually	Increase funding to meet the needs of the growing number of road users
	Expansion of parking facilities	Budget allocated	There is an existing new/upgrade capital budget of \$50,000 allocated annually to the construction/expansion of parking facilities. However, it has not been determined how many additional parking spaces are required annually to improve parking capacity	To be determined
	On-road bicycle path creation	Budget allocated	There is no budget allocated	Bidding for funding allocation for recommended projects through the STS (Sustainable Transport Strategy)
	Delivery of Road Safety Strategy & Audit projects	Budget allocated	Limited by existing budget	Increase in funding to accelerate delivery of road safety projects
		Budget	\$175,000	\$443,333
Operation	Streets are clean and clear	Street sweeping frequency	All Council roads twice yearly. CBD including car parks on a daily basis. Raglan Parade once per month.	Maintain at current performance level

³ IPWEA, 2015, IIMM, p 2|28.

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
	Condition audits and performance monitoring	Frequency of audits	All sealed roads are condition assessed every 4 years	Suitable and in line with industry standards
		Budget	\$434,016	\$486,016
Maintenance	Grading of unsealed roads as planned	Alignment with the delivery of the service level agreement	Unsealed roads are graded in accordance with performance standards in the service level agreement	Maintain at current performance level
	Repair of potholes to ensure roads provide smooth path of travel	Alignment with the delivery of the service level agreement	Potholes to be repaired as per the ongoing inspection program in accordance with performance standards in the service level agreement	Slight budget increase required to maintain current performance level
	Line-marking to provide adequate and clear signage	Alignment with the delivery of the service level agreement	Annual inspection of road line-markings in accordance with performance standards in the service level agreement	Slight budget increase required to maintain current performance level
	Maintenance and replacement of traffic signs to provide adequate and clear signage	Alignment with the delivery of the service level agreement	Traffic signs are programmed to be repaired or replaced in accordance with performance standards in the service level agreements	Slight budget increase required to maintain current performance level
		Budget	\$980,688	\$1,016,688
Renewal	Renewal of unserviceable assets	Local Roads Rehabilitation Program, Reseal program	3.3% of network resealed annually0.6% of pavement network rehabilitated annually	Additional funding required to fund renewal backlog
		Budget	\$3,133,558	\$5,295,448
Disposal	Rationalisation and removal of assets surplus to need	Budget Allocation	None	Remains the same
	rent activities relat	Budget	\$0	\$0

Note: * Current activities related to Planned Budget 2020/21.

It is important to monitor the service levels provided regularly as these will change. The current performance is influenced by work efficiencies and technology, and customer priorities will change over time.

<u>Improvement Action 3: Determine how many additional parking spaces are required and the associated costs</u>

^{**} Forecast required performance related to forecast lifecycle costs.

4.0 FUTURE DEMAND

4.1 Demand Drivers

Drivers affecting demand include things such as population change, regulations, changes in demographics, seasonal factors, vehicle ownership rates, consumer preferences and expectations, technological changes, economic factors, agricultural practices, environmental awareness, etc.

4.2 Demand Forecasts

The present position and projections for demand drivers that may impact future service delivery and use of assets have been identified and documented.

4.3 Demand Impact and Demand Management Plan

The impact of demand drivers that may affect future service delivery and use of assets are shown in Table 4.3.

Demand for new services will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices can include non-asset solutions, insuring against risks and managing failures.

Opportunities identified to date for demand management are shown in Table 4.3. Further opportunities will be developed in future revisions of this Asset Management Plan.

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Population growth	34,757 people in 2020 (ABS Census Data)	Increase to 46,210 people by 2036 (ABS Census Data)	Increased demand for improved and additional roads Increased demand for additional parking facilities	Implementation of the Road Hierarchy Review
Future developments and redevelopments in the municipality	Growth precincts outlined in Council structure plans	Additional infrastructure required for new developments	New road assets will be acquired which in turn will add to maintenance spend annually	0.25% increase in maintenance spend each year on acquisitions for the next ten years. Monitor.
Change of vehicle types utilising local roads especially heavy vehicles	Dairy and Forestry industries are expanding with both having high dependence on heavy commercial vehicles	Increased impact on road pavements on identified routes	Increased maintenance costs	Monitor with regular traffic counts and allocate funding accordingly

Table 4.3: Demand Management Plan

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Increased number of cyclists on roads	Percentage of population that currently use bicycles to travel on roads is yet to be determined	Increase in percentage of population that use bicycles to travel on roads	Construction of wider roads and safer roads for cyclists	Implementation of the STS will help Council identify where road upgrades are required for cyclists
Continual demand for increased level of service	Moderate expectations with increased road safety awareness, advances in technology and improved standards of living however well documented lack of resources for major upgrades	Increased expectations of safe, smooth travel Increased expectations on better parking facilities	Increased maintenance, operation, acquisition and renewal costs	Monitor community expectations on levels of services and allocate funding accordingly
Tourism	1,115 overnight visitors to Warrnambool per day in 2019 – an increase of 5% each year from 2013 – 2019 (Tourism Research Australia Statistics)	Increase to 2,555 overnight visitors to Warrnambool by 2036 – based on 5% increase each year (Tourism Research Australia Statistics)	Increased peak periods of traffic and duration on roads Impact on road user behaviour and knowledge of road rules Increased demand for additional parking facilities	Monitor increase in tourist numbers in Warrnambool through census data and traffic counts and use as input into developing future works programs.

<u>Improvement Action 4: Determine percentage of population that currently use bicycles to travel on roads</u>

4.4 Asset Programs to meet Demand

The new assets required to meet demand may be acquired, donated or constructed. Additional assets are discussed in Section 5.4.

Acquiring new assets will commit the Warrnambool City Council to ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs for inclusion in the long-term financial plan (Refer to Section 5).

4.5 Climate Change and Adaption

The impacts of climate change can have a significant impact on the assets we manage and the services they provide. In the context of the Asset Management Planning process climate change can be considered as both a future demand and a risk.

How climate change will impact on assets can vary significantly depending on the location and the type of services provided, as will the way in which we respond and manage those impacts.

As a minimum we should consider both how to manage our existing assets given the potential climate change impacts, and then also how to create resilience to climate change in any new works or acquisitions.

Opportunities identified to date for management of climate change impacts on existing assets are shown in Table 4.5.1.

Table 4.5.1 Managing the Impact of Climate Change on Assets

Climate Change Description	Projected Change	Potential Impact on Assets and Services	Management
Storm intensity	More extreme weather events	Localised flooding	Ensure maintenance of kerb and channel and roadside drainage
			Floodplain Management Plans
			Ensure emergency response procedure is up to date
			Ensure insurance cover is adequate.
Rainfall	Drier climate or periods of drought	Cost of water could increase road construction costs	Include increased water costs in road management budgets
			Consider opportunities in IWM planning
	More heavy rainfall events	Inundations may reduce the life of the road pavement	Monitor with regular condition assessments
Temperatures and solar radiation	Increased temperatures and solar radiation	Will reduce the life of the road due to breakdown of materials and petrochemicals	Monitor with regular condition assessments
Hot weather / heat waves	More severe and sporadic	Issues with capital works (bleeding reseals)	Improve contract management to plan for and avoid delays in delivery of works
			Modify pavement design and improve design standards/ guidelines for road pavements.
			Monitor with regular condition assessments

Additionally, the way in which we construct new assets should recognise that there is opportunity to build in resilience to climate change impacts. Building resilience will have benefits:

- Assets will withstand the impacts of climate change
- Services can be sustained
- Assets that can endure may potentially lower the lifecycle cost and reduce their carbon footprint

Table 4.5.2 summarises some asset climate change resilience opportunities.

Table 4.5.2 Building Asset Resilience to Climate Change

New Asset Description	Climate Change impact these assets?	Build Resilience in New Works
Kerb & Channel	More extreme weather events and heavier rainfall	Any new kerb and channel works needs to accommodate increased flow from storm surges,
Road Pavement (incl. carparks)	More extreme weather events and heavier rainfall causing water over roads if it cannot get away	Consider permeable pavement designs
	Degradation of pavements due to hot weather	Material types considered for reducing the fatigue rates of pavements Modify pavement design and improve design standards/guidelines for road
		pavements
Signs	Severe storm damage can displace signs	Selecting products for new signs that have a higher strength rating (better footing, better strength in the poles, etc.) and are therefore, better resistant to handling extreme weather events like storms

<u>Improvement Action 5: The impact of climate change on assets is a new and complex discussion and further opportunities will be developed in future revisions of this Asset Management Plan.</u>

5.0 LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how the Warrnambool City Council plans to manage and operate the assets at the agreed levels of service (Refer to Section 3) while managing life cycle costs.

5.1 Background Data

5.1.1 Physical parameters

The assets covered by this Asset Management Plan are shown in Table 5.1.1.

These include local roads and kerb and channel under the management of Warrnambool City Council.

The age profile of the assets included in this AMP are shown in Figure 5.1.1.

Table 5.1.1: Assets covered by this Plan

Asset Category	Dimensions	Replacement Value
Surface - Spray Seal (Sealed Road)	1,865,229m2	\$12,466,656
Surface - Asphalt (Sealed Road)	740,880m2	\$20,501,113
Surface - Concrete/Other (Sealed Road)	7,619m2	\$681,587
Pavement - Sealed Road	2,550,937m2	\$198,282,542
Pavement - Unsealed Road Kerb and Channel (incl. traffic islands;	193,637m2	\$5,023,470
pedestrian refuges; roundabout centres)	465km	\$34,828,867
Parking meters/Ticket machines	92 No.	\$861,270
Signalised crossings	6 No.	\$627,617
Speed humps/wombat crossings	27 No.	\$1,527,616
Guard rails/ Safety rails	615m	\$29,112
TOTAL		\$274,829,850

*Values from Asset Information System (Conquest) as of 10 May 2021

Note: There are additional assets Council is responsible for but these are minor costs and are covered by maintenance budgets.

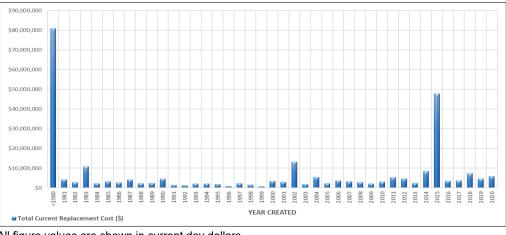


Figure 5.1.1: Asset Age Profile

All figure values are shown in current day dollars.

Council's road assets hold a wide range of ages. There is high confidence in recently constructed road data, however there is less confidence in data for roads constructed prior to 1980. Roads of this era have been aggregated.

Most of the spend has come in the past twenty years with the large peak in 2015 possibly due to gaps in our asset register data which have been filled with an approximate year. There was also large peaks in investment prior to 1980 which may see significant spend required on renewal of road assets in the future.

5.1.2 Asset capacity and performance

Assets are generally provided to meet design standards where these are available. However, there is insufficient resources to address all known deficiencies. The Warrnambool Municipal Road Hierarchy Review and Traffic Management Plan 2017 (Road Hierarchy Review) has identified locations where roads are under capacity. Locations which need immediate upgrades due to current deficiencies in service performance are detailed in Table 5.1.2.

Table 5.1.2: Known Service Performance Deficiencies

Current Assets Under Capacity/Performance
Intersection of Wangoom Road/ Aberline Road
Intersection of Walsh Road/ Giffen Street

5.1.3 Asset condition

Warrnambool City Council undertakes condition assessments of its road infrastructure on a 4 yearly basis of the following asset categories:

- Pavement for sealed and unsealed roads
- Seal for sealed roads
- Kerb and Channel

These condition audits assist with the efficient collection of critical information used for the development of prioritised renewal and maintenance programs. The condition audits are also used to monitor the performance of the road network relating to agreed service levels; and to identify long-term condition trends which guide strategies for optimising the performance of the road network.

Condition is measured using a 1-5 grading system⁴ as detailed in Table 5.1.3. It is important that consistent condition grades be used in reporting various assets across an organisation. This supports effective communication. At the detailed level assets may be measured utilising different condition scales, however, for reporting in the AMP they are all translated to the 1-5 grading scale.

Condition
Grading

Description of Condition

Very Good: only planned maintenance required

Good: minor maintenance required plus planned maintenance

Fair: significant maintenance required

Poor: significant renewal/rehabilitation required

Very Poor: physically unsound and/or beyond rehabilitation

Table 5.1.3: Simple Condition Grading Model

The condition profile of our assets is shown in Figure 5.1.3. This chart shows the condition profile for all of Council's road pavements and surface only – excludes kerb and channel; and shoulders; and other road asset categories.

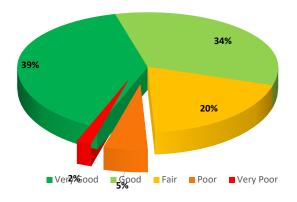


Figure 5.1.3: Asset Condition Profile

This chart indicates that the majority of Council's roads are in "very good" or "good" condition, and approximately 7% of Council's roads are in "poor" or "very poor" condition, which do not meet the desired levels of service and are hence above intervention level.

5.2 Operations and Maintenance Plan

Operations include regular activities to provide services. Examples of typical operational activities include cleaning, street sweeping, asset inspection, and vegetation control.

⁴ IPWEA, 2015, IIMM, Sec 2.5.4, p 2|80.

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating. Examples of typical maintenance activities include line-marking, asphalt patching, parking meter repairs and guard rail maintenance and installation.

The trend in maintenance budgets are shown in Table 5.2.1.

Table 5.2.1: Maintenance Budget Trends

Year	Maintenance Budget
2018/2019	\$932,714
2019/2020	\$948,767
2020/2021	\$980,668
2021/2022 (projected)	\$980,668

Maintenance budget levels are considered to be inadequate to meet projected service levels, which may be less than or equal to current service levels. Where maintenance budget allocations are such that they will result in a lesser level of service, the service consequences and service risks have been identified and are highlighted in this AMP and service risks considered in Appendix F - Road Infrastructure Risk Register.

Reactive maintenance is carried out in accordance with response levels of service detailed in Council's Roads and Drainage Maintenance Levels of Service 2014.

Asset hierarchy

An asset hierarchy provides a framework for structuring data in an information system to assist in collection of data, reporting information and making decisions. The hierarchy includes the asset class and component used for asset planning and financial reporting and service level hierarchy used for service planning and delivery.

The service hierarchy is shown in Table 5.2.2.

Table 5.2.2: Asset Service Hierarchy

Service Hierarchy	Service Level Objective
Link	Carry the heaviest volumes of traffic including commercial vehicles and provide the principal routes for traffic flows in and around the municipality.
Collector	Carry significant volumes of traffic and provide access by connecting residential areas to the link roads. They also provide links between the various arterial roads.
Access	Carrying moderate volumes of traffic and primarily serve as property access roads for the local community.
Lane	Roads carrying local traffic, typically providing secondary access to properties with more than one road frontage

Summary of forecast operations and maintenance costs

Forecast operations and maintenance costs are expected to vary in relation to the total value of the asset stock. If additional assets are acquired, the future operations and maintenance costs are forecast to increase. If assets are disposed of, the forecast operation and

maintenance costs are expected to decrease. Figure 5.2 shows the forecast operations and maintenance costs relative to the proposed operations and maintenance Planned Budget.

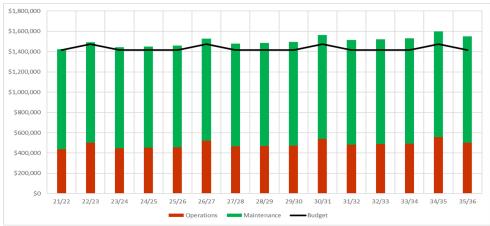


Figure 5.2: Operations and Maintenance Summary

All figure values are shown in current day dollars.

This expenditure is in line with the levels of service outlined in Council's Roads and Drainage Maintenance Levels of Service 2014. The expenditure is also set to increase by 0.25% of \$1.8M annually in line with the growth of the asset base due to gifted assets from new growth developments.

The proposed operations and maintenance budget will not be adequate to cover the increasing maintenance and operations costs due to acquiring new assets due to new growth developments and ageing infrastructure.

Deferred maintenance (i.e. works that are identified for maintenance activities but unable to be completed due to available resources) should be included in the risk assessment and analysis in Appendix F - Road Infrastructure Risk Register.

Maintenance is funded from the operations and maintenance budget where available. This is further discussed in Section 7.

5.3 Renewal Plan

Renewal is major capital work which does not significantly alter the original service provided by the asset, but restores, rehabilitates, replaces or renews an existing asset to its original service potential.

Typical renewal of road infrastructure includes the replacement of kerb and channel; resealing of road bitumen surfaces; road pavement rehabilitation using cement stabilisation works; or replacement of parking meter ticket machines.

Work over and above restoring an asset to original service potential is considered to be an upgrade or acquisition resulting in additional future operations and maintenance costs.

Road pavements and surfaces requiring renewal are identified using Assetic Predictor. Assetic Predictor is a predictive modelling software that simulates asset performance characteristics that will enable analysis of the future performance of the asset portfolio over its entire lifecycle.

The method used to generate the capital renewal plan for road pavements and surfaces is to import the road condition data into Assetic Predictor to model the renewal costs and renewal timing of all assets. Non-network assets (eg: signs, guardrails, traffic lights) are then also included from Conquest or maintenance teams' knowledge.

Road condition data, useful lives and asset degradation curves are used by Assetic Predictor to determine the renewal requirements of each asset. The condition at which an asset is proposed for renewal is called the intervention level. Typically, assets nearing the end of useful life or at "Very Poor" or "Poor" condition are deemed as at intervention level and are prioritised earlier for renewal.

The typical useful lives of assets used to develop projected asset renewal forecasts are shown in Table 5.3. Asset useful lives are reviewed on an annual basis.

Table 5.3: Useful Lives of Assets

Asset Category	Useful life
Sealed road pavements	60 years
Sealed road surface	
Surface – Spray Seal	16 years
Surface – Asphalt	40 years
Surface – Concrete/Other	85 years
Unsealed road	25 years
Kerb and Channel (incl. traffic islands; pedestrian refuges; roundabout centres)	80 years
Parking meters/Ticket machines	10 years
Signalised crossings	20 years
Speed humps/wombat crossings	50 years
Guard rails/ Safety rails	40 years

The estimates for renewals in this Asset Management Plan were based on Asset Valuation and Renewal Calculations 2019/20 and associated data in Conquest that forms the asset register.

5.3.1 Renewal ranking criteria

Asset renewal is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g. replacing a bridge that has a 5 t load limit), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. condition of a playground).⁵

⁵ IPWEA, 2015, IIMM, Sec 3.4.4, p 3|91.

It is possible to prioritise renewals by identifying assets or asset groups that:

- Have a high consequence of failure,
- Have high use and subsequent impact on users would be significant,
- Have higher than expected operational or maintenance costs, and
- Have potential to reduce life cycle costs by replacement with a modern equivalent asset that would provide the equivalent service.⁶

The ranking criteria used to determine priority of identified renewal proposals is detailed in Table 5.3.1.

Criteria	Priority Level
Condition	1 (High)
Road Hierarchy	1 (High)
Road Surface Type	2 (Medium)
Traffic Count	2 (Medium)
Bus Route	3 (Low)
Heavy Vehicle Count	3 (Low)

Table 5.3.1: Renewal Priority Ranking Criteria

5.4 Summary of future renewal costs

Forecast renewal costs are projected to increase over time if the asset stock increases. The forecast costs associated with renewals are shown relative to the proposed renewal budget in Figure 5.4.1. A detailed summary of the forecast renewal costs is shown in Appendix B.

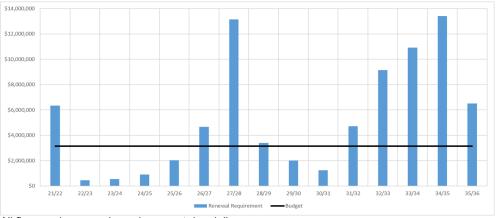


Figure 5.4.1: Forecast Renewal Costs

All figure values are shown in current day dollars.

The graph above shows that is it forecasted that there will be a significant backlog of renewals to address initially in the first year. Over the short term of the next five years, there is more

⁶ Based on IPWEA, 2015, IIMM, Sec 3.4.5, p 3|97.

than adequate budget to meet the renewal requirements, with a budget surplus. However, over the long term projection of 15 years, there are significant peaks of renewal backlogs in 2027/28, and from year 2032 to year 2036. It is projected that the renewal budget is not adequate to cover these large peaks in investment that is required to meet these renewal backlogs.

The graph highlights that based on current information, the current backlog of unfunded, poor condition road infrastructure assets requiring replacement will increase from \$2.7M to more than \$25M over the next 15 years. Council is managing the backlog through short-lived bandaid road surface treatments to prolong the life of the road, where a full pavement rehabilitation needs to be delayed due to shortfalls in funding.

Over the next 15 years, there is an average annual budget shortfall of \$2.2M. A reduction in service levels will be seen as a result of the budget shortfall, which will likely result in delayed renewal and replacement of existing road infrastructure assets. The delay in renewal of road assets may elevate the risk of increased accidents and vehicle damage due to poor quality roads.

5.5 Acquisition Plan

Acquisition reflects new assets that did not previously exist or works which will upgrade or improve an existing asset beyond its existing capacity. They may result from growth, demand, social or environmental needs. Assets may also be gifted to Warrnambool City Council at no cost.

Provision of new or upgrade works fall into the following categories depending upon the extent and type of works:

- · Council funded, or
- Developer funded as part of subdivisional development, or
- Contribution to the cost by either the developer and/or Council through DCP (Development contributions plan) funding, or
- Contribution to the cost by property owners in accordance with special charge schemes

Where possible, developers of new subdivisions are required, as part of the development approvals process, to provide the road infrastructure to the standard appropriate for that development and to IDM (Infrastructure Design Manual) standards.

In addition, as Council acquires new assets through the subdivision development process, it is important the consequential costs (i.e. operations and maintenance works) are established and allowed for in future budgets. Alternatively, Council may decide to not allocate additional funds for the treatment of new assets and accept a reduction in levels of service.

5.5.1 Selection criteria

Proposed new and upgrade projects are identified from various sources such as community requests, proposals identified by strategic plans or partnerships with others. Potential upgrade and new works should be reviewed to verify that they are essential to Council's needs. Proposed upgrade and new work analysis should also include the development of a preliminary renewal estimate to ensure that the services are sustainable over the longer term. Verified proposals can then be ranked by priority and available funds and scheduled in future works programmes.

Through the implementation of the recommendations from the Warrnambool Municipal Road Hierarchy Review and Traffic Management Plan 2017 (Road Hierarchy Review) and Safe System Road Infrastructure Program (SSRIP), a total of approximately \$20M of road infrastructure assets have been identified for new and upgrade projects to improve the overall connectivity of the road infrastructure network, reduce traffic delays and improve road safety. The timing of the construction of these projects was dependent on a number of factors including whether the project is subject to development and DCP funding; or whether VicRoads has joint ownership of the project; or subject to SSRIP funding. The projected upgrade/new capital works program is shown in Appendix A.

The priority ranking criteria for new/upgrade of assets is detailed in Table 5.5.1 and was developed during the implementation of the Road Hierarchy Review.

Criteria	Priority Level	
Network connectivity	1 (High)	
Crash statistics	1 (High)	
External funding availability	1 (High)	
Traffic volumes	2 (Medium)	
Emergency vehicle access	2 (Medium)	
Pedestrian and cyclist movements	2 (Medium)	
Public transport access	2 (Medium)	
Freight movements	3 (Low)	

Table 5.5.1: Acquired Assets Priority Ranking Criteria

Summary of future asset acquisition costs

Forecast acquisition asset costs are summarised in Figure 5.5.1 and shown relative to the proposed acquisition budget. The forecast acquisition capital works program is shown in Appendix A.

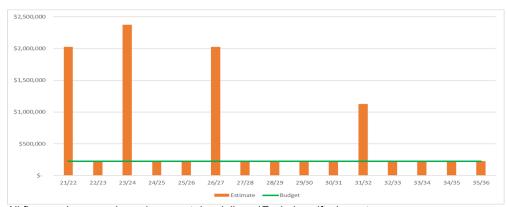


Figure 5.5.1: Acquisition (Constructed) Summary

All figure values are shown in current day dollars. *Excludes gifted assets.

The above graph indicates that there is a significant shortfall in new/upgrade budget to deliver the acquisition requirements over the 15 year period. Over the next 15 years, there is a budget shortfall of approximately \$443,000 each year. However, this budget shortfall is actually likely to be much higher as there are also other new/upgrade projects that may be delivered within the next 15 years, but have not yet been allocated a year of delivery (Appendix A). The timing for these projects is yet to be determined as the funding for these projects is yet to be finalised.

With a total expenditure of \$12.3M over the 10-year Capital New/Upgrade Program, these projects rely on external funding or other resources to be completed in future. Namely, these projects rely on either DCP funding, or joint funding arrangements with VicRoads, or SSRIP funding.

Ultimately, a reduction in service levels will be seen as a result of the budget shortfall, which will likely result in a reduction of investment and provision of new and upgraded road infrastructure, as well as a reduction in provision of on-road bicycle paths for cyclists, and a reduction in provision of all accessibility parking to meet community expectations.

This may elevate the risk of a lack of connectivity of the road infrastructure network and traffic delays; as well as the risk of not meeting community expectations on the availability of all accessibility parking, and the provision of on-road cycling lanes for cyclists.

When Warrnambool City Council commits to new assets, they must be prepared to fund future operations, maintenance and renewal costs. They must also account for future depreciation when reviewing long term sustainability. When reviewing the long-term impacts of asset acquisition, it is useful to consider the cumulative value of the acquired assets being taken on by Warrnambool city Council. The cumulative value of all acquisition work, including assets that are constructed and contributed shown in Figure 5.5.2.

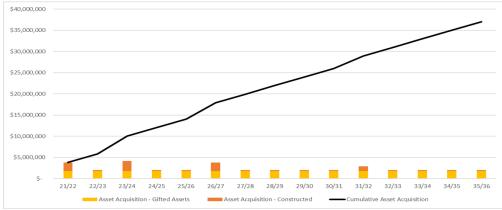


Figure 5.5.2: Acquisition Summary

All figure values are shown in current dollars.

Expenditure on new assets and services in the capital works program will be accommodated in the long-term financial plan, but only to the extent that there is available funding.

Due to projected population growth and new growth precincts in Warrnambool there will be a demand for new assets. Although the new assets will be constructed by a developer, Warrnambool City Council will need to factor ongoing operations, maintenance and renewal costs into the future. Road Safety Strategy costs especially new roads currently accounts for most of the acquisition costs per year and this will remain stable. Overall acquisition of new assets will remain minimal.

Summary of asset forecast costs

The financial projections from this asset plan are shown in Figure 5.5.3. These projections include forecast costs for acquisition, operation, maintenance, renewal, and disposal. These forecast costs are shown relative to the proposed budget.

The bars in the graphs represent the forecast costs needed to minimise the life cycle costs associated with the service provision. The proposed budget line indicates the estimate of available funding. The gap between the forecast work and the proposed budget is the basis of the discussion on achieving balance between costs, levels of service and risk to achieve the best value outcome.

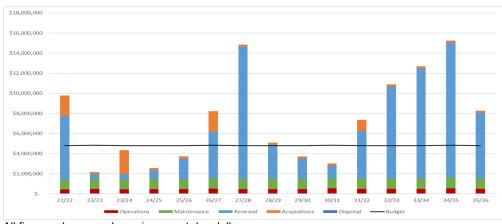


Figure 5.5.3: Lifecycle Summary

All figure values are shown in current day dollars.

The short-term level of service over the next five years can be managed within the proposed budget. However, over the long-term, the proposed budget will not fund all the forecast costs.

The renewal backlog can be balanced over the short-term, but a spike in renewal requirement in the medium-term will need to be managed. Regular condition monitoring will ensure assets are replaced at the optimal time to balance treatment costs and community expectations.

If the renewal backlog is not addressed in these periods, this will increase asset risk and potentially decrease levels of service.

5.6 Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5.6. A summary of the disposal costs and estimated reductions in annual operations and maintenance of disposing of the assets are also outlined in Table 5.6. Any costs or revenue gained from asset disposals is included in the long-term financial plan.

Warrnambool City Council has not identified any road assets for disposal.

Table 5.6: Assets Identified for Disposal

Asset	Reason for Disposal	Timing	Disposal Costs	Operations & Maintenance Annual Savings
Nil				

6.0 RISK MANAGEMENT PLANNING

The purpose of infrastructure risk management is to document the findings and recommendations resulting from the periodic identification, assessment and treatment of risks associated with providing services from infrastructure, using the fundamentals of International Standard ISO 31000:2018 Risk management – Principles and guidelines.

Risk Management is defined in ISO 31000:2018 as: 'coordinated activities to direct and control with regard to risk'7.

An assessment of risks⁸ associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event occur. The risk assessment should also include the development of a risk rating, evaluation of the risks and development of a risk treatment plan for those risks that are deemed to be non-acceptable.

6.1 Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. Failure modes may include physical failure, collapse or essential service interruption.

By identifying critical assets and failure modes an organisation can ensure that investigative activities, condition inspection programs, maintenance and capital expenditure plans are targeted at critical assets.

Through the risk management process, it has been identified that Warrnambool City Council does not have any critical road assets.

6.2 Risk Assessment

The risk management process used is shown in Figure 6.1 below.

It is an analysis and problem-solving technique designed to provide a logical process for the selection of treatment plans and management actions to protect the community against unacceptable risks.

The process is based on the fundamentals of International Standard ISO 31000:2018.

⁷ ISO 31000:2009, p 2

⁸ Appendix F – Road Infrastructure Risk Register

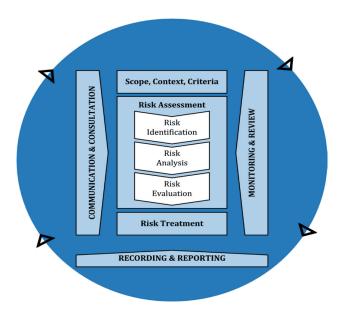


Fig 6.1 Risk Management Process – Abridged Source: ISO 31000:2018, Figure 1, p9

The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, development of a risk rating, evaluation of the risk and development of a risk treatment plan for non-acceptable risks.

An assessment of risks associated with service delivery has identified risks that will result in public disruption, personal injury, a 'financial shock' or reputational impacts. These risks are presented in Appendix F - Road Infrastructure Risk Register. The residual risk of implementing the selected treatment plan/control is also shown. Note that the residual risk is the risk remaining after the selected risk treatment plan is implemented.

Critical risks are those assessed with 'Very High' (requiring immediate corrective action) and 'High' (requiring corrective action) residual risk ratings. It is essential that any critical risks are reported to management and Director City Infrastructure.

Through the risk management process, all of the credible road infrastructure risks were assessed as having a residual risk ratings lower than 'High', therefore there are no critical risks. Warrnambool City Council manages all risks using proactive, efficient and systematic risk management procedures.

6.3 Infrastructure Resilience Approach

The resilience of our critical infrastructure is vital to the ongoing provision of services to customers. To adapt to changing conditions we need to understand our capacity to 'withstand a given level of stress or demand', and to respond to possible disruptions to ensure continuity of service.

Resilience is built on aspects such as response and recovery planning, financial capacity, climate change and crisis leadership.

Our current measure of resilience is shown in Table 6.3 which includes the type of threats and hazards and the current measures that the organisation takes to ensure service delivery resilience.

Table 6.3: Resilience

Threat / Hazard	Current Resilience Approach
Flooding	Floodplain Management Plan
	Emergency Response Procedure - On call staff to respond to flood emergency
Limited availability of contractors/plant and equipment/supply of road material	Continual communication with local and Metro contractors on their availability.
	Continual communication with suppliers on availability of plant and equipment, and material. Having a secondary source available if required.
Limited road material	Continual communication with suppliers on material availability. Having a secondary source available if required.
Climate Change impacts - increasing temperature and increased rainfall	Material types considered for reducing the fatigue rates of pavements due to increasing temperature and more rainfall.
Lengthy periods of dry summers/ drought can cause degradation of road pavements	Modify pavement design and improve design standards/guidelines for road pavements.
Reduced grant funding	High reliance on external R2R funding, continuously advocating for more internal investment.
Financial shock	Early intervention of high risk road assets.

6.4 Service and Risk Trade-Offs

The decisions made in adopting this AMP are based on the objective to achieve the optimum benefits from the available resources.

6.4.1 What we cannot do

There are some operations and maintenance activities and capital projects that are unable to be undertaken within the next 10 years. These include:

- Provide a fully compliant road infrastructure network to meet the safety, functionality and capacity requirements of Victoria's Infrastructure Design Manual standards
- Complete condition assessments for all road infrastructure assets
- Implement all recommended upgrades and expansions to parking facilities
- Implement all prioritised upgrades of unsealed roads
- Improve the connectivity of the on-road bicycle path network throughout the municipality
- Address and mitigate impacts of Climate Change on roads

6.4.2 Service trade-off

If there is forecast work (operations, maintenance, renewal, acquisition or disposal) that cannot be undertaken due to available resources, then this will result in service consequences for users. These service consequences include:

- Deferred delivery of new and upgraded road infrastructure
- Delayed renewal and replacement of existing road infrastructure assets
- Increased maintenance costs due to unfunded preventative practices
- · Reduced road quality from deferred renewal activities
- Shortened asset lives due to Climate Change impacts, particularly caused by extreme weather degrading pavements.
- · On-road bicycle paths not meeting cyclists' needs
- · All-accessibility parking not meeting community expectations

Operational budgets will be managed as to not impact the frequency of street sweeping.

6.4.3 Risk trade-off

The operations and maintenance activities and capital projects that cannot be undertaken may sustain or create risk consequences. These risk consequences include:

- Increased accidents and vehicle damage due to poor quality roads
- · Lack of connectivity and traffic delays
- · Not meeting community expectations on cleanliness of roads and availability of parking

These actions and expenditures are considered and included in the forecast costs, and where developed are included in Appendix F - Road Infrastructure Risk Register.

7.0 FINANCIAL SUMMARY

This section contains the financial requirements resulting from the information presented in the previous sections of this Asset Management Plan. The financial projections will be improved as the discussion on desired levels of service and asset performance matures.

7.1 Financial Statements and Projections

7.1.1 Asset valuations

The best available estimate of the value of assets included in this Asset Management Plan are shown below. The assets are valued at depreciated replacement cost.

Current (Gross) Replacement Cost \$281,708,562

Depreciable Amount \$281,708,562

Depreciated Replacement Cost \$172,589,151

Annual Depreciation \$5,006,815

Through a budget review process it was identified that unsealed road re-sheeting is an operational activity, however unsealed roads are a depreciating asset without a capital renewal allocation.

Improvement Action 6: Align re-sheeting of unsealed roads (depreciating) with investment type (renewal)

7.1.2 Sustainability of service delivery

There are three key indicators of sustainable service delivery that are considered in the Asset Management Plan for this service area. These are:

- asset renewal funding ratio (proposed renewal budget for the next 15 years / forecast renewal costs for next 15 years);
- asset renewal funding ratio (proposed renewal budget for the next 10 years / forecast renewal costs for next 10 years) in line with LTFP; and
- medium term forecast calculated as all asset lifecycle costs / proposed budget (10 year forecast in line with LTFP).

Asset Renewal Funding Ratio¹⁰ (15 year period)

Asset Renewal Funding Ratio for the 15 year period of this Plan is 59%

The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next 15 years we only expect to have 59% of the funds required for the optimal renewal of assets. This ratio indicates that we are only funding 59% of Council's renewal requirement over every 15 years on average. This shortfall adds to the renewal gap which has been growing over time.

⁹ Also reported as Written Down Value, Carrying or Net Book Value.

¹⁰ AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

Asset Renewal Funding Ratio¹⁰ (10 year period – LTFP)

Asset Renewal Funding Ratio for the 10 year period of the LTFP is 90%

For Council's Long Term Financial Plan (LTFP), the Asset Renewal Funding Ratio illustrates that over the next 10 years in alignment with the LTFP, we expect to have 90% of the funds required for the optimal renewal of assets.

This ratio indicates that over the next 10 years, Council's renewal requirement is slightly underfunded with 90% of the renewal requirement funding achieved.

Anything less than 100% funding will increase Council's renewal gap liability. There is currently a renewal gap to be managed over the next 10 years.

The forecast renewal work over the next 10 years is illustrated in Appendix B.

Medium term - 10 year financial planning period

This Asset Management Plan identifies the projected operations, maintenance and capital renewal expenditures required to provide an agreed level of service to the community over a 10 year period. This provides input into 10 year financial and funding plans aimed at providing the required services in a sustainable manner.

These projected expenditures can be compared to the proposed budget over the 10 year period to identify any funding shortfall.

The projected operations, maintenance and renewal costs over the 10 year planning period is \$4.95M on average per year.

The estimated (budget) operations, maintenance and renewal funding is \$4.57M on average per year giving a 10 year funding shortfall of about \$380,000 per year. This indicates that 92% of the projected expenditures needed to provide the services documented in this Asset Management Plan are accommodated in the proposed budget. As most of the new assets come from new development of which Council has little control in timing, upgrade/new assets have been excluded from this chapter.

Providing services from infrastructure in a sustainable manner requires the management of service levels, risks, projected expenditures and financing to achieve a financial indicator of approximately 1.0 for the first years of the Asset Management Plan and ideally over the 10 year life of the Long-Term Financial Plan.

7.1.3 Projected expenditures for the long-term financial plan

Table 7.1.3 shows the projected expenditures for the 10 year long-term financial plan.

Projected expenditures are shown in 2020/2021 dollar values.

Table 7.1.3: Projected Expenditures for the Long-Term Financial Plan

Year	Acquisition	Operations	Maintenance	Renewal	Disposal
21/22	\$2,025,000	\$438,516	\$985,188	\$6,338,318	\$0
22/23	\$225,000	\$503,016	\$989,688	\$447,542	\$0
23/24	\$2,375,000	\$447,516	\$994,188	\$534,669	\$0
24/25	\$225,000	\$452,016	\$998,688	\$898,973	\$0
25/26	\$225,000	\$456,516	\$1,003,188	\$2,031,460	\$0
26/27	\$2,025,000	\$521,016	\$1,007,688	\$4,670,930	\$0
27/28	\$225,000	\$465,516	\$1,012,188	\$13,144,732	\$0

28/29	\$225,000	\$470,016	\$1,016,688	\$3,392,081	\$0
29/30	\$225,000	\$474,516	\$1,021,188	\$2,011,740	\$0
30/31	\$225,000	\$539,016	\$1,025,688	\$1,242,162	\$0

7.2 Funding Strategy

The proposed funding for assets is outlined in Warrnambool City Council's annual budget and Long-Term Financial Plan.

For new/upgrade of road infrastructure assets, Warrnambool City Council is generally allocated some funding from state and federal grants, as well as capital from other funding streams like DCP Funding (Development Contributions Plan), SSRIP (Safe Systems Road Infrastructure Program) Funding and Special Charge Schemes.

Also, some new/upgrade of road assets are jointly funded by VicRoads in instances where upgrades are planned for both the adjoining road managed by Council and the arterial road managed by VicRoads.

Council may, as a result of this AMP, consider the funding or renewal treatment arrangements over the coming years to manage the discrepancies between available and required renewal funding amounts to ensure the existing service levels are maintained. If this cannot be achieved, Council may alternatively decide to achieve a lower level of service for road infrastructure and manage the associated additional risk.

7.3 Valuation Forecasts

Asset values are forecast to increase as additional assets are added to the service, as well as the increased construction costs in line with CPI.

Additional assets will generally add to the operations and maintenance needs in the longer term. Additional assets will also require additional costs due to future renewals. Any additional assets will also add to future depreciation forecasts.

Determination of future renewal demand in today's dollars is also likely to underestimate Council's future liability.

7.4 Key Assumptions Made in Financial Forecasts

In compiling this Asset Management Plan, it was necessary to make some assumptions. This section details the key assumptions made in the development of this AMP and should provide readers with an understanding of the level of confidence in the data behind the financial forecasts.

Key assumptions made in this Asset Management Plan are:

- All figures are in current day dollars and do not account for inflation
- Budgets remain the same amount each year for the 10 year period
- The contributed asset value from gifted assets (growth from new developments) remains unchanged at an additional \$1.8M each year
- The operations and maintenance expenditure increases by 0.25% of \$1.8M annually in line with growth due to gifted assets
- Growth of the asset base will continue with the previous 10 year average

7.5 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this AMP are based on the best available data. For effective asset and financial management, it is critical that the information is current and accurate. Data confidence is classified on a A - E level scale¹¹ in accordance with Table 7.5.1.

Table 7.5.1: Data Confidence Grading System

Confidence Grade	Description
A. Highly reliable	Data based on sound records, procedures, investigations and analysis, documented properly and agreed as the best method of assessment. Dataset is complete and estimated to be accurate $\pm~2\%$
B. Reliable	Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate ± 10%
C. Uncertain	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated ± 25%
D. Very Uncertain	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy \pm 40%
E. Unknown	None or very little data held.

The estimated confidence level for and reliability of data used in this AMP is shown in Table 7.5.2.

Table 7.5.2: Data Confidence Assessment for Data used in AMP

Data	Confidence Assessment	Comment		
Demand drivers	В	Derived from Census data and some professional judgement used		
Acquisition forecast	С	Averages of past acquisitions, this is largely dependent on developers of which Council has little control. The Road Hierarchy Review identifies additional new/upgrade asset requirements		
Operation forecast	С	Operations expenditure is budget driven, not service driver requirement to be confirmed		
Maintenance forecast	С	Maintenance expenditure is budget driven, not service driven, requirement to be confirmed		
Renewal				
forecast		Based on actual invoices for road infrastructure projects, however		
 Asset values 	В	replacement cost of some asset types are ballpark estimates only		
- Asset useful lives	С	Useful lives for pavements and surfaces founded on industry benchmarks. However, useful lives have been estimated based on expert knowledge for other asset types like kerb and channel, guard rails, speed humps and signalised crossings		

¹¹ IPWEA, 2015, IIMM, Table 2.4.6, p 2|71.

Condition modelling	В	All roads are condition assessed on a rolling program of every 4 years; advanced predictive modelling software Assetic Predictor used for modelling the deterioration of roads using road asset data within Conquest; however no condition assessment has been recorded for other asset types including guard rails and speed humps which are equal to less than 10% of total asset value.
Disposal forecast	NA	Not applicable

The estimated confidence level for and reliability of data used in this AMP is considered to be C.

<u>Improvement Action 7</u>: To improve the Confidence Level from Uncertain (C) to Reliable (B) <u>as a minimum</u>

8.0 PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices¹²

8.1.1 Accounting and financial data sources

This Asset Management Plan utilises accounting and financial data. All financial processes including budgets, forecasts, profiling and transactions are recorded in Council's corporate financial system Technology One.

8.1.2 Asset management data sources

Warrnambool City Council's road asset data is stored in Conquest, Council's Asset Management System Software. The accuracy and extent of data across the various asset categories varies significantly, however, the asset register attribute data includes the asset location, description, dimension, condition, function, replacement cost, written down value, useful life, construction date, inspection and maintenance histories, and more.

All data is stored and maintained solely within Conquest, providing confidence in having a single point of truth for asset data. Road infrastructure assets are represented spatially using Council's Corporate GIS, as well as being available via MapInfo and QGIS for analytical purposes.

Council also uses predictive modelling software Assetic Predictor to model road pavement and surface degradation and produce renewal programs.

8.2 Improvement Plan

The asset management improvement plan generated from this Asset Management Plan is shown in Table 8.2.

Table 8.2: Improvement Plan

Task	Chapter Ref. No	Task	Responsibility	Timeline
1	2.1	Identify whether Retaining Walls should be listed in the Roads Asset Management Plan or in the Buildings Asset Management Plan	Coordinator Infrastructure Management	Immediate
2	3.5	Measure gaps in the connectivity of the on-road bicycle path network	Coordinator Strategic Asset Management	Medium Term
3	3.6	Determine how many additional parking spaces are required and the associated costs	Coordinator Infrastructure Management	Short Term
4	4.3	Determine percentage of population that currently use bicycles to travel on roads	Coordinator Infrastructure Management	Short Term
5	4.5	The impact of climate change on assets is a new and complex discussion and further opportunities will be developed in future revisions of this Asset Management Plan.	Infrastructure Services Unit	Long Term
6	7.1	Align re-sheeting of unsealed roads (depreciating) with investment type (renewal)	Manager Financial Services	Medium Term

¹² ISO 55000 Refers to this the Asset Management System

7	7.5	To improve the Confidence Level from Uncertain (C) to Reliable (B) as a	Coordinator Strategic Asset	Medium Term
		minimum	Management	

8.3 Monitoring and Review Procedures

This Asset Management Plan will be reviewed during the annual budget planning process and revised to show any material changes in service levels, risks, forecast costs and proposed budgets as a result of budget decisions.

The AMP will be reviewed and updated annually to ensure it represents the current service level, asset values, forecast operations, maintenance, renewals, upgrade/new and asset disposal costs and proposed budgets. These forecast costs and proposed budget will be incorporated into the Long-Term Financial Plan once completed.

The AMP has a maximum life of 4 years and is due for complete revision and updating every 4 years from the date of adoption.

8.4 Performance Measures

The effectiveness of this Asset Management Plan can be measured in the following ways:

- Progress with the implementation of the Improvement Actions as identified in Table 8.2
- The degree to which the required forecast costs identified in this Asset Management Plan are incorporated into the long-term financial plan,
- The degree to which the 1-5 year detailed works programs, budgets, business plans and corporate structures take into account the 'global' works program trends provided by the Asset Management Plan,
- The degree to which the existing and projected service levels and service consequences, risks and residual risks are incorporated into the Strategic Plan and associated plans,
- The Asset Renewal Funding Ratio achieving the target of 1.0

9.0 REFERENCES

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- Warrnambool Municipal Road Hierarchy Review and Traffic Management Plan 2017
- Warrnambool City Council Safe Systems Road Infrastructure Program Road Safety Infrastructure Projects 2020
- Warrnambool City Council Street Tree Planting and Management Policy 2021
- Warrnambool City Council Street Tree Planting and Management Guidelines 2021
- Warrnambool City Council Nature Strip Landscaping Policy 2017
- Warrnambool City Council Nature Strip Landscaping Guidelines 2017
- Warrnambool City Centre Parking Strategy 2015
- Warrnambool City Centre Revitalisation Structure Plan
- Warrnambool 2040
- Warrnambool City Council Road Users Plan 2018-2026
- Warrnambool City Council Sustainable Transport Strategy 2010-2020
- Warrnambool City Council Roads and Drainage Maintenance Levels of Service 2014
- Warrnambool City Council Various Growth Area Structure Plans
- Infrastructure Design Manual
- Tourism Research Australia https://www.tra.gov.au/
- ABS Census Data https://www.abs.gov.au/census
- Victorian Legislation https://www.legislation.vic.gov.au/

10.0 APPENDICES

Appendix A Projected New/Upgrade 10 year Capital Works Program

This is subject to funding and priority change. Refer to Road Hierarchy Review or Safe Systems Road Infrastructure Program for further details of the project.

Year	Project Description	Cost
2021/22	Intersection of Wangoom Rd/ Aberline Rd	\$900,000
	Intersection of Walsh Rd/ Giffen St	\$900,000
2023/24	Intersection of Wollaston Rd/ New Road (North)	\$900,000
	Intersection of Wollaston Rd/ New Road (South)	\$900,000
	Intersection of Caramut Rd/ Wollaston Rd	\$350,000
2026/27	Intersection of Moore St/ Garden St	\$900,000
	Intersection of Moore St/ Cramer St	\$900,000

In addition to the above list, the following new/upgrade projects may be included in the 10 year capital works program, however, the timing for these projects is yet to be determined due to one of these contributing factors below:

- i. Project timing is subject to DCP (Development Contributions Plan) funding;
- ii. Project timing is subject to joint ownership arrangements with VicRoads;
- iii. Project timing is subject to SSRIP (Safe Systems Road Infrastructure Program) funding.

	Project Description	Cost
Subject to DCP	New North-South link	\$2,000,000
Funding	New East-West link	\$2,000,000
	Intersection of Raglan Pde/ New Road (Central)	\$600,000
	Intersection of Raglan Pde/ Horne Rd	\$600,000
	Dales Rd	\$400,000
	Intersection of Russell St/ Drummond St	\$400,000
	Intersection of Caramut Rd/ Coghlans Rd	\$300,000
	Intersection of Raglan Pde/ Drummond St/ Harrington St	\$300,000
	Intersection of Raglan Pde/ Caramut Rd	\$300,000
	Intersection of Raglan Pde/ Botanic Rd/ Fitzroy Rd	\$600,000
Subject to Joint Ownership -	Mortlake Rd is a highway/main road intersecting with Breton St which is a local road	\$600,000
VicRoads	Intersection of Banyan St/ Darling St	\$600,000
	Intersection of Mortlake Rd/ Moore St	\$600,000
	Intersection of Raglan Pde/ Foster St	\$600,000
	Intersection of Raglan Pde/ Hider St	\$600,000
	Intersection of Raglan Pde/ Banyan Street	\$600,000
	Intersection of Raglan Pde/ Kelp Street	\$600,000
	Timor St – midblock Banyan St/ Liebig St – Pedestrian Crossing - Wombat	\$94,000
Subject to SSRIP Funding	Liebig St – midblock Timor St/ Smith Av – Pedestrian Crossing - Wombat	\$94,000
	Flaherty Lane – Off-Street Car Park Access	\$7,000
	Merrivale Drive – Cycling, Pedestrian and Reducing speed infrastructure	\$406,345

Appendix B 10 year Capital Renewal Program

This is subject to our annual review as new works are identified or as budgets and priority change.

Year	Recommended Treatment for Road Projects	Cost
	Cement Stabilisation	\$4,143,601
	Deep Lift and Overlay	\$103,580
	Foam Bitumen Stabilisation	\$1,051,924
21/22	Localised Deep Lift Patch	\$489,235
21/22	Rubber Crack Sealing	\$1,079
	Spray Seal Overlay	\$113,539
	Kerb and Channel Replacement	\$435,361
	Total	Renewal \$6,338,318
	Rubber Crack Sealing	\$5,680
22/23	Spray Seal Overlay	\$6,501
22/23	Kerb and Channel Replacement	\$435,361
	Total	Renewal \$447,542
	Rubber Crack Sealing	\$19,654
23/24	Spray Seal Overlay	\$79,655
23/24	Kerb and Channel Replacement	\$435,361
	Total	Renewal \$534,669
	Deep Lift and Overlay	\$10,228
	Double Spray Seal Overlay	\$40,666
24/25	Rubber Crack Sealing	\$108,129
24/25	Spray Seal Overlay	\$304,590
	Kerb and Channel Replacement	\$435,361
	Total	Renewal \$898,973
	Deep Lift and Overlay	\$74,078
	Double Spray Seal Overlay	\$127,063
25/26	Rubber Crack Sealing	\$322,367
23/20	Spray Seal Overlay	\$1,072,590
	Kerb and Channel Replacement	\$435,361
	Total	Renewal \$2,031,460
	Deep Lift and Overlay	\$1,436,258
	Double Spray Seal Overlay	\$119,642
26/27	Rubber Crack Sealing	\$526,553
20/27	Spray Seal Overlay	\$2,153,116
	Kerb and Channel Replacement	\$435,361
	Total	Renewal \$4,670,930
	Deep Lift and Overlay	\$3,152,348
	Double Spray Seal Overlay	\$404,836
27/28	Rubber Crack Sealing	\$1,569,457
	Spray Seal Overlay	\$7,582,730
	Kerb and Channel Replacement	\$435,361

		Total Renewal	\$13,144,732
	Cement Stabilisation		\$303,970
	Deep Lift and Overlay		\$732,931
	Double Spray Seal Overlay		\$81,602
28/29	Rubber Crack Sealing		\$312,261
	Spray Seal Overlay		\$1,525,956
	Kerb and Channel Replacement		\$435,361
		Total Renewal	\$3,392,081
	Cement Stabilisation		\$30,100
	Deep Lift and Overlay		\$494,794
	Rubber Crack Sealing		\$72,731
29/30	Spray Seal Overlay		\$242,754
	Kerb and Channel Replacement		\$435,361
	Parking Meter – Ticket Machine Replacement		\$736,000
		Total Renewal	\$2,011,740
	Asphalt Overlay		\$68,458
	Cement Stabilisation		\$105,272
	Deep Lift and Overlay		\$373,162
	Foam Bitumen Stabilisation		\$71,900
30/31	Microsurfacing		\$24,067
	Rubber Crack Sealing		\$43,940
	Spray Seal Overlay		\$120,002
	Kerb and Channel Replacement		\$435,361
		Total Renewal	\$1,242,162

Appendix C Operations Forecast

C.1 – Operations Forecast Assumptions and Source

Initial forecast based on 2020/2021 budget, plus additional 0.25% of \$1.8M (average value of gifted assets each year) for assets contributed due to growth. Additional 60,000 is forecasted once every 4 years, in 22/23, 26/27 and 30/31 for Condition Audits.

C.2 - Operations Forecast Summary

Table B2 - Operations Forecast Summary

Year	Forecast	Additional Costs	Total Forecast
21/22	\$438,516	\$4,500	\$438,516
22/23	\$498,516	\$9,000	\$503,016
23/24	\$438,516	\$13,500	\$447,516
24/25	\$438,516	\$18,000	\$452,016
25/26	\$438,516	\$22,500	\$456,516
26/27	\$498,516	\$27,000	\$521,016
27/28	\$438,516	\$31,500	\$465,516
28/29	\$438,516	\$36,000	\$470,016
29/30	\$438,516	\$40,500	\$474,516
30/31	\$498,516	\$45,000	\$539,016

Appendix D Maintenance Forecast

D.1 – Maintenance Forecast Assumptions and Source

Initial forecast based on 2020/2021 budget, plus additional 0.25% of 1.8M (average value of gifted assets each year) for assets contributed due to growth.

D.2 - Maintenance Forecast Summary

Table C2 - Maintenance Forecast Summary

Year	Forecast	Additional Costs	Total Forecast
21/22	\$985,188	\$4,500	\$985,188
22/23	\$985,188	\$9,000	\$989,688
23/24	\$985,188	\$13,500	\$994,188
24/25	\$985,188	\$18,000	\$998,688
25/26	\$985,188	\$22,500	\$1,003,188
26/27	\$985,188	\$27,000	\$1,007,688
27/28	\$985,188	\$31,500	\$1,012,188
28/29	\$985,188	\$36,000	\$1,016,688
29/30	\$985,188	\$40,500	\$1,021,188
30/31	\$985,188	\$45,000	\$1,025,688

Appendix E Budget Summary by Lifecycle Activity

Figures based on New/Upgrade, Renewal, and Operations/Maintenance Budgets, and Long Term Financial Plan for Warrnambool City Council.

Table E1 – Budget Summary by Lifecycle Activity

Year	Acquisition	Operations	Maintenance	Renewal	Disposal	Total Budget
21/22	\$225,000	\$434,016	\$985,188	\$3,133,558	\$0	\$4,773,262
22/23	\$225,000	\$494,016	\$985,188	\$3,133,558	\$0	\$4,833,262
23/24	\$225,000	\$434,016	\$985,188	\$3,133,558	\$0	\$4,773,262
24/25	\$225,000	\$434,016	\$985,188	\$3,133,558	\$0	\$4,773,262
25/26	\$225,000	\$434,016	\$985,188	\$3,133,558	\$0	\$4,773,262
26/27	\$225,000	\$494,016	\$985,188	\$3,133,558	\$0	\$4,833,262
27/28	\$225,000	\$434,016	\$985,188	\$3,133,558	\$0	\$4,773,262
28/29	\$225,000	\$434,016	\$985,188	\$3,133,558	\$0	\$4,773,262
29/30	\$225,000	\$434,016	\$985,188	\$3,133,558	\$0	\$4,773,262
30/31	\$225,000	\$494,016	\$985,188	\$3,133,558	\$0	\$4,833,262

Appendix F Road Infrastructure Risk Register

	Risk Identific	cation	R	isk Analysis		Risk Treatment	R	esidual Risk	
Risk Description	Risk Type	Causes	Consequence	Likelihood	Risk Rating	Risk Treatment Plan	Consequence	Likelihood	Risk Rating
On road accidents - vehicle on vehicle collision	Safety & People (Staff and Public)	Driver behaviour Inappropriate speed, priority or control (give way, stop) Ineffective/missing signs/devices Water across road Straying stock Falling limbs	Major	Possible	High	Road Safety Audits and Road Safety Strategy Maintenance inspections and works plan (Road Management Plan)	Major	Unlikely	Medium
Off road accident - vehicle leaving the road way	Safety & People (Staff and Public)	Shoulder drop-off Road roughness/corrugati ons Road design Slippery surface Large stones/debris Embankment Ineffective/missing signs/devices Potholes Road flooding, water across road	Major	Possible	High	Road Safety Audits and Road Safety Strategy Maintenance inspections and works plan Risk assessment program of road side barriers Street Lighting Improvement Program	Moderate	Possible	Medium

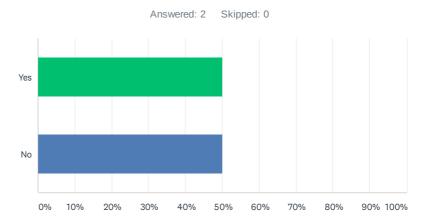
	Risk Identific	cation	R	isk Analysis	3	Risk Treatment	R	esidual Risk	(
Risk Description	Risk Type	Causes	Consequence	Likelihood	Risk Rating	Risk Treatment Plan	Consequence	Likelihood	Risk Rating
Pedestrian crossing accident	Safety & People (Staff and Public)	Failure to give way Ineffective/missing signs/devices Poor lighting Poor sight lines	Major	Unlikely	Medium	Compliance with current design standards Risk assessment with crossing upgrade undertaken Sign maintenance inspections School crossing supervision	Major	Rare	Medium
Traffic congestion and delays	Public Disruption	Population growth	Minor	Likely	Medium	Implementation of Road Hierarchy Review Allocation of capital budget for upgrades and widening of roads Monitoring traffic volumes with latest traffic count data Customer request process Media / communications	Minor	Possible	Medium

	Risk Identific	cation	R	isk Analysis		Risk Treatment	Residual Risk		
Risk Description	Risk Type	Causes	Consequence	Likelihood	Risk Rating	Risk Treatment Plan	Consequence	Likelihood	Risk Rating
Road closures, delays and diversions	Public Disruption	Road works Flooding or water across the road Fallen limbs Land slippage	Minor	Possible	Medium	Roads and drainage maintenance programs Customer request process Media / communications On-call depot team	Minor	Unlikely	Low
		Slow oversize vehicles	Insignificant	Possible	Low	Network planning for truck routes Overtaking lanes	Insignificant	Unlikely	Low
Defects hazardous to road users	Safety & People (Staff and Public)	Edge drop off Movement of kerb and channel Potholes Loose material	Moderate	Unlikely	Medium	Road Management Plan Recurrent budgets for maintenance	Moderate	Rare	Low
Bicycle or pedestrian hazard	Safety & People (Staff and Public)	Edge drop off Movement of kerb and channel Potholes Loose material	Moderate	Unlikely	Medium	Road Management Plan Recurrent budgets for maintenance	Moderate	Rare	Low
Not meeting community expectations / Customer complaints	Community/ Government Public Image and Reputation	Maintenance issues Road condition issues	Moderate	Possible	Medium	Managing customer expectations and meeting customer charter obligations	Insignificant	Possible	Low
III health - due to dust	Safety & People (Staff and Public)/ Legal/ Governance and Compliance	Drifting dust Dwelling location Prevailing winds Truck volumes	Minor	Possible	Medium	Risk assessment with dust suppression maintenance program	Minor	Unlikely	Low

	Risk Identific	ation	R	isk Analysis		Risk Treatment	R	esidual Risk	(
Risk Description	Risk Type	Causes	Consequence	Likelihood	Risk Rating	Risk Treatment Plan	Consequence	Likelihood	Risk Rating
Early road asset failures - bleeding, potholes	Financial/ Safety & People (Staff and Public)	Unexpected hot weather Lack of preventative maintenance (reseals, crack seals) Flooding/water across road Poor design (drainage/materials)	Minor	Possible	Medium	Improved timing and specification of works Allocation of recurrent budget for maintenance activities	Minor	Unlikely	Low
Degradation of road pavements due to Climate Change	Financial/ Safety & People (Staff and Public)	Unexpected hot weather Increased rainfall events	Minor	Possible	Medium	Material types considered for reducing the fatigue rates of pavements Modify pavement design and improve design standards/guidelines for road pavements.	Minor	Unlikely	Low
Poor Investment Decision Making	Financial/ Community/ Government Public Image and Reputation	Reduction in funding Reduction in staff resources	Moderate	Unlikely	Medium	Regular condition and defect inspections, performance audits, discussions with asset maintainers	Minor	Unlikely	Low

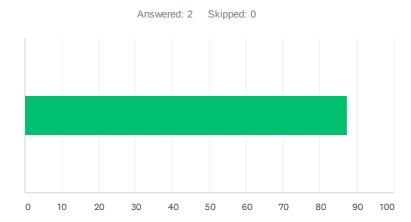
	Risk Identific	cation	R	isk Analysis		Risk Treatment	R	esidual Risk	(
Risk Description	Risk Type	Causes	Consequence	Likelihood	Risk Rating	Risk Treatment Plan	Consequence	Likelihood	Risk Rating
Emergency Services vehicle getting lost	Safety & People (Staff and Public)	Ineffective, confusing, duplicated names, missing signs Signs illegible	Moderate	Unlikely	Medium	Maintenance inspections Introduce road safety audit/review program VicMap Road Naming guidelines for new developments Use of ESTA markers for non-address sites	Moderate	Rare	Low
Vehicle damage	Financial	Potholes Corrugated or rough surface Edges Debris Vegetation on road Driveway entries Endwalls Speed humps	Insignificant	Possible	Low	Maintenance inspections and works plan Customer request process Compliance with design standards	Insignificant	Unlikely	Low

Q1 Have you read the Draft Roads Asset Management Plan?



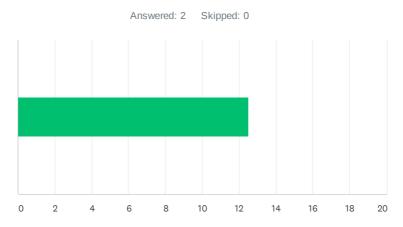
ANSWER CHOICES	RESPONSES	
Yes	50.00%	1
No	50.00%	1
TOTAL		2

Q2 How important to you is the management of local roads?



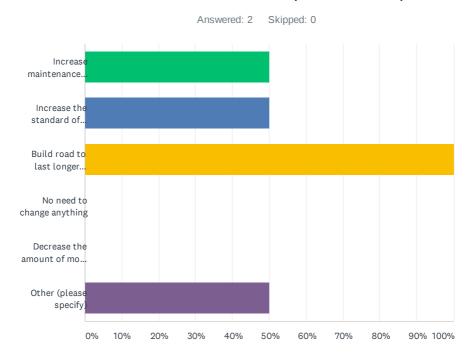
ANSWER C	HOICES	AVERAGE NUMBER		TOTAL NUMBER		RESPONSES	
			88		175		2
Total Respon	ndents: 2						
#						DATE	
1	100					8/20/2021 9:40 PM	
2	75					8/15/2021 1:38 PM	

Q3 How satisfied are you with Warrnambool City Council's performance in management of local roads?



ANSWER C	CHOICES	AVERAGE NUMBER		TOTAL NUMBER		RESPONSES	
			13		25		2
Total Respo	ondents: 2						
#						DATE	
1	0					8/20/2021 9:40 PM	
2	25					8/15/2021 1:38 PM	

Q4 How can the management of local roads be improved? (You can choose more than one option or none)



ANSWER CHOICES	RESPONSES	
Increase maintenance (routine works)	50.00%	1
Increase the standard of roads (larger projects)	50.00%	1
Build road to last longer (design process)	100.00%	2
No need to change anything	0.00%	0
Decrease the amount of money spent on roads	0.00%	0
Other (please specify)	50.00%	1
Total Respondents: 2		

#	OTHER (PLEASE SPECIFY)	DATE
1	Stop spraying roundup/chemicals on the verges. People can pay a fine if they leave their verge unkempt. Council/remand workers can cut everything else manually. Weed chemicals get washed straight into the ocean otherwise and its unnacceptable.	8/15/2021 1:38 PM

Q5 What do you like most about Local Roads in Warrnambool City Council

Answered: 1 Skipped: 1

#	RESPONSES	DATE
1	The varying quality and diverse standards of workmanship	8/20/2021 9:40 PM

Q6 What do you like least about Local Roads in Warrnambool City Council?

Answered: 2 Skipped: 0

#	RESPONSES	DATE
1	Poor standard of maintenance and road standards in design and quality	8/20/2021 9:40 PM
2	way to many potholes and rough surfaces that destroy our tyres.	8/15/2021 1:38 PM

Q7 Additional comments

Answered: 0 Skipped: 2

#	RESPONSES	DATE
	There are no responses.	

Q8 Please provide contact details

Answered: 1 Skipped: 1

ANSWE	R CHOICES	RESPONSES	
Name		100.00%	1
Company	/	0.00%	0
Address		0.00%	0
Address	2	0.00%	0
City/Tow	n	0.00%	0
State/Pro		0.00%	0
		100.00%	1
Post Cod	de		
Country		0.00%	0
Email Ad	ldress	100.00%	1
Phone N	umber	0.00%	0
#	NAME	DATE	
1	Diana	8/15/2021 1:38	PM
#	COMPANY	DATE	
	There are no responses.		
#	ADDRESS	DATE	
	There are no responses.		
#	ADDRESS 2	DATE	
	There are no responses.		
#	CITY/TOWN	DATE	
	There are no responses.		
#	STATE/PROVINCE	DATE	
	There are no responses.		
#	POST CODE	DATE	
1	3280	8/15/2021 1:38	PM
#	COUNTRY	DATE	
	There are no responses.		
#	EMAIL ADDRESS	DATE	
1	diana71@y7mail.com	8/15/2021 1:38	PM
#	PHONE NUMBER	DATE	
	There are no responses.		



Warrnambool City Council Domestic Animal Management Plan 2021 - 2025



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Document Control

Document title:	Domestic Animal Management Plan
Policy type:	Council
Responsible branch:	City Amenity
Responsible officer:	Peter McArdle, Coordinator Local Laws
Document status:	Ongoing
Approved by:	Council
Adopted date:	4 December 2017
Review date:	Annually

Review type:	Review date:	Completed by:
Internal	29 August 2017	Manager, Coordinator and officers of the Animal Control department.
Internal	October 2018	Manager, Coordinator and officers of the Animal Control department.
Internal	November 2019	Manager City Amenity, Coordinator Local Laws and Local Laws Officers.
Public		Manager City Amenity, Coordinator Local Laws and Local Laws Officers. Public consultation.

1. Introduction

Animal management is one of Council's primary responsibilities. The City's Domestic Animal Management Plan (the plan) for 2021 - 2025 provides a clear overview of the Council's plans for the current and future management of domestic animals within our municipality and ensures the City meets its statutory requirements.

The plan highlights the most important aspects of responsible pet ownership which, together with education, will be a particular focus for domestic animal management within the municipality. There is a strong emphasis on community safety and the need to reduce the number of dog attacks, animals' at large and public complaints.

The plan also discusses the importance of pet owners having their pets desexed, which will help reduce unwanted litters of puppies and kittens placing pressure on our pound services, and significantly adding to the cost of operating the pound.

Basic pet ownership responsibilities, including picking up your dog's waste and ensuring your cat is contained between sunset and sunrise, help protect the environment and ensures pets are kept safe and healthy. Registration and microchipping, controlling barking dogs and maintaining 'effective control' over your dog when out walking are all key responsibilities of pet ownership.

Council aims to offer our community a fair and balanced environment – where everyone can enjoy our community and the many open public spaces, regardless of whether or not they are a pet owner.

Residents have access to a range of dedicated off and on-lead areas, including beach locations, a large enclosed off leash park and most sporting precincts, which are listed on Councils website. For the remainder of the municipality, owners are required to keep their dogs on a lead at all times.

The City's Domestic Animal Management Plan for 2021 – 2025 will provide Council with the framework to work with the community to ensure animal management services are sufficient for the City's population of pets.



2. Legislative requirements

Under Section 68A of the Domestic Animals Act, every Council must prepare a domestic animal management plan, as follows:

68A Councils to prepare domestic animal management plans

- (1) Every Council must, in consultation with the Secretary (of the Department of Jobs, Precincts & Regions), prepare at 4 year intervals a domestic animal management plan.
- (2) A domestic animal management plan prepared by a Council must—
 - (a) set out a method for evaluating whether the animal control services provided by the Council in its municipal district are adequate to give effect to the requirements of this Act and the regulations; and
 - (b) outline programs for the training of authorised officers to ensure that they can
 properly administer and enforce the requirements of this Act in the Council's
 municipal district; and
 - (c) outline programs, services and strategies which the Council intends to pursue in its municipal district—
 - (i) to promote and encourage the responsible ownership of dogs and cats;
 - (ii) to ensure that people comply with this Act, the regulations and any related legislation; and
 - (iii) to minimise the risk of attacks by dogs on people and animals;
 - (iv) to address any over-population and high euthanasia rates for dogs and cats; and
 - (v) to encourage the registration and identification of dogs / cats;
 - (vi) to minimise the potential for dogs and cats to create a nuisance; and
 - (vii) to effectively identify all dangerous dogs, menacing dogs and restricted breed dogs in that district and to ensure that those dogs are kept in compliance with this Act and the regulations;
 - (d) provide for the review of existing orders made under this Act and local laws that relate to the Council's municipal district with a view to determining whether further orders or local laws dealing with the management of dogs and cats in the municipal district are desirable; and
 - (e) provide for the review of any other matters related to the management of dogs and cats in the Council's municipal district that it thinks necessary; and
 - (f) provide for the periodic evaluation of any program, service, strategy or review outlined under the plan.
- (3) Every Council must-
 - (a) review its domestic animal management plan annually and, if appropriate, amend the plan; and
 - (b) provide the Secretary with a copy of the plan and any amendments to the plan; and
 - (c) publish an evaluation of its implementation of the plan in its annual report.

3. Purpose of the plan

For the purpose of this plan, a "domestic animal" is defined as an animal covered by the Domestic Animals Act 1994, which are predominantly dogs and cats.

This document will set the future guidelines of domestic animal management for the Warrnambool City Council.

The plan identifies strategies and actions to implement the vision, aims and objectives for animal management.

The plan contains recommendations to be implemented in a structured program. These actions will enable Council to maintain a balance between all interested parties and to meet all legislative requirements.

Animal Management Officers developed the plan, with data and information from the following internal and external parties:

- RSPCA;
- · Warrnambool veterinary clinics;
- Dog obedience / training clubs;
- The public; and,
- The Southwest Authorised Officer Group.

The community was invited to comment on the proposed plan for four weeks prior to being submitted to Council for adoption. Any submissions were referred to Council and where necessary incorporated into the plan.

The current Plan is available at the Council Offices and on the Council website.

Review or improvements raised during the year may be considered and added to the plan, or considered for further investigation and discussion as part of the annual review process.



4. Warrnambool - municipal demographic

The City of Warrnambool is located in Southwest Victoria; approximately 260km west of Melbourne and covers approximately 120sqkm.

The City is surrounded by the Shire of Moyne and the Southern Ocean.

It has a population of approximately 36,000 residents which also includes the townships of Allansford, Bushfield, Dennington and Woodford.

The City economy is based on tourism, education, farming and food production.



5. Council organisational structure

Elected Council



Director City Infrastructure



Manager City Amenity



Coordinator Local Laws



Local Laws Officers - Four EFT



Operations Officer (Administration)

6. Current Services provided to assist with Animal Management statistics.

	2017 - 18	2018 - 19	2019 - 20	2020 - 21
Officer weekend patrols	37	63	97	67 Covid Lockdown
24 hour emergency contact	Ongoing	Ongoing	Ongoing	Ongoing
Cage Request for stray cats	71	63	51	26
Provide trial barking aid equipment	Ongoing	Ongoing	Ongoing	Ongoing
Investigate nuisance complaints	233	210	227	220
Dog at large complaints	135	128	135	168
Investigate reported dog attacks	29	16	22	41
Return dogs home	26	37	68	70
School / Community groups etc.	3	5	3	2
information sessions				
Door knock / Letter registration follow up	Ongoing	Ongoing	Ongoing	Ongoing

Current Animal data:

Warrnambool City Key Statistics	2017 - 18	2018 - 19	2019 - 20	2020 - 21
Council:				
Population	35,000	35,400	35,700	36,000
Area	120sqkm	120sqkm	120sqkm	120sqkm
Current, not for profit or future properties	18,000	18,000	18,500	18,800
(approx. tenements)				
Domestic Animal Businesses	2	3	3	4
Declared Menacing (currently in City)	24	17	9	21
Declared Dangerous (currently in City)	3	2	0	1
Declared Restricted Breed (currently in City)	0	0	0	0
Dogs:				
Registered.	4204	4297	4318	4,478
Impounded RSPCA Admit. Data = Council	228	137	103	115
= Public	122	137	143	116
Returned to owner.	207	143	100	104
Rehoused.	118	102	102	87
Euthanized.	18	16	17	13
Cats:				
Registered.	1603	1681	1739	1,833
Impounded RSPCA Admit. Data = Council	70	66	82	40
= Public	423	445	525	341
Returned to owner.	33	28	29	24
Rehoused.	348	268	430	352
Euthanized.	83	109	102	58

Pound totals do not tally due to rescue, foster & feral animal data.

7. Training of Authorised Officers

The purpose of this section is to ensure all Animal Management Officers are skilled and appropriately trained to deliver the Council services and programs under Section 68 A(2)(b) of the Domestic Animals Act 1994.

Warrnambool City Local Laws Team consists of:

- a coordinator;
- two full-time Supervisors;
- · Four permanent part-time officers;
- one administration support officer (shared position).

The officers manage animal complaints relating to nuisance, attacks, registration and dogs at large.

Officers assist the promotion of responsible pet ownership by conducting foot and bike patrols along the city walking paths, also talking to schools and service support groups.

Animal control is one component of the Authorised Officer duties, which include traffic management, local laws, fire and litter control.

Current and Planned Training

(Training was limited during 2020 due to Covid restrictions)

Authorised officer training	(2019 - 20)	(2020 – 21)	Planned
Ontificate IV/ Agine at One to a 10			
Certificate IV Animal Control & Regulation			
Coordinator (1)	Completed		
Full Time Officer (2)	Completed		
Full Time Officer (3)		Commenced	
Permanent part time Officer (4)			No
Permanent part time Officer (5)			No
Permanent part time Officer (6)			No
Permanent part time Officer (7)			No
OH&S training & Dealing with difficult customers etc			
Coordinator (1)	Attended		Ongoing
Full Time Officer (2)	Attended		for
Full Time Officer (3)	Attended		All Staff
Permanent part time Officer (4)	Attended]
Permanent part time Officer (5)	Attended]
Permanent part time Officer (6)	Attended]
Permanent part time Officer (7)		Attended	

Authorised officer training	(2019 – 20)	(2020 – 21)	Planned
Bureau of Animal Welfare or Industry information days			
Coordinator (1)	Attended		Ongoing
Full Time Officer (2)	Attended		depending
Full Time Officer (3)	Attended		on
Permanent part time Officer (4)	Attended		location
Permanent part time Officer (5)	Attended		& content
Permanent part time Officer (6)		Attended	
Permanent part time Officer (7)		Attended	
Australian Institute of Animal Management Annual Conference			
Coordinator (1)	Attended		Ongoing
Restricted Breed Identification			
Coordinator (1)	Attended		
Dog (self-preservation, awareness & harm reduction strategies) training			
Coordinator (1)	Attended		
Full Time Officer (2)	Attended		
Full Time Officer (3)	Attended		
Permanent part time Officer (4)	Attended		
Permanent part time Officer (5)	A 44 a 15 al a al		
Permanent part time Officer (6)	Attended		
Permanent part time Officer (7)			
Personal defence training			
Coordinator (1)		Attended	
Full Time Officer (2)		Attended	
Full Time Officer (3)		Attended	Review
Permanent part time Officer (4)		Attended	For all
Permanent part time Officer (5)		Attended	officers
Permanent part time Officer (6)		Attended	
Permanent part time Officer (7)		Attended	
Animal Handling			
Permanent part time Officer (5)			Attended
Permanent part time Officer (7)			Attended
Permanent part time Officer (5)	Attended		
RSPCA data online system		All	
Internal process / procedures		All	Ongoing
Cattle handling & movement	All		All
Fist aid Officer (3)	Attended		Attended

Actions:

Ensure that all Animal Management Officers receive training to a level that they can complete all requirements of the Act, Regulations and Local Laws within OHS guide lines, and community needs.

Activity	When	Evaluation
Coordinator to identify minimum	During	Training needs to be finalised and
training requirements and updates	annual	incorporated into the
for the position.	Council	Organisational Development plan
	appraisal	by October each year.
	program	
Identify additional training needs	Ongoing	Course dependant.
by consultation with Organisation		
Development Dept.		

Ensure completion of the Certificate 4 in Statutory Compliance & Animal Control by full-time Animal Management Officers.

Activity	When	Evaluation
This qualification is preferred in the	12 month	Receiving accreditation from the
position description for staff as it	qualification.	service provider.
covers all aspects of the position.	Dependant on	Recorded with the Organisation
	the service	Development dept.
	provider.	

Ensure all Animal Management Officers have completed their minimum in-house training requirements within 2 months of appointment.

Activity	When	Evaluation
Basic animal handling. Computer training. Internal procedures.	Within 2 months of appointment.	Coordinator to monitor and maintain records.



8. Responsible Pet Ownership & Compliance with Legislation.

Council is committed to providing a visible presence with officers wearing distinct uniforms and driving dedicated vehicles with Local Laws and Animal Control identification.

This creates a public awareness of the Local Laws team and patrols that extend afterhours including weekends. Officers, where practical, will also conduct patrols on foot and bicycle, to engage with the public.

There is also information on domestic animal ownership available on Council's website, www.warrnambool.vic.gov.au and information pamphlets at the Civic Centre reception.

Council will continue to promote the benefits & legal requirements of microchipping, desexing of pets, the off-lead areas within the city, the RSPCA Million Paws Walk and dog litter collection.

Officers carry poo bags and pamphlets on patrol, and distribute to assist local residents and tourists to the area.

Council will also:

- Door-knock an area if there are specific ongoing concerns;
- Conduct promotions through the media;
- Place newspaper advertisements, publish articles in the Council newsletter and install posters around the city, and social media.
- Promote the availability of cages for hire to contain feral or nuisance cats.



During the 2020 / 21 pandemic, Council officers observed an increase in complaints and incidents. Council believe this was partly due to exercise being one reason to leave home, and a spike in pet adoption, for company in the home. This lead to a number of uneducated dogs interacting with the public and their pets.

Governance

Council Local Laws provide a comprehensive description of regulations governing pet ownership, the responsibilities of the Council and the responsibilities of pet owners. Council policies, procedures and legislation describe the processes Council will follow to ensure compliance with Local Laws to ensure that domestic animal owners can enjoy their pets and that non-owners are not adversely impacted by domestic animals within the municipality.

- Use of life time tags for dogs and cats.
- Renewal notices are generated and mailed to all previously registered animals.
- Registration forms are available from customer service, website and RSPCA.
- Registrations are paid at the Warrnambool City Council Civic Centre, or online at www.warrnambool.vic.gov.au
- Council charges additional fees for dangerous / restricted breed dogs;
- Dangerous / restricted dogs must be microchipped, desexed and housed according to legislation prior to registration;
- Pensioner discounts are available on request; and,
- Local Laws' vehicles are complete with computer and printer access, plus scanners to link directly to Council records and Central Animal (microchip) Records for assistance in returning pets to owners.
- Enforcement of unregistered animals.

Compliance

Council will use a number of strategies to ensure compliance with Domestic Animals laws including:

- Patrolling for dogs at large.
- Patrolling for owners with dogs off-lead.
- Monitoring for dogs in prohibited areas and playgrounds etc.
- Monitoring Declared Dogs for compliance.
- Issue infringements for impounded dogs.
- · Issuing renewal notices annually.
- Door knocking / phone call for non-renewed registrations.
- Door knocking "problem areas" for compliance.
- Opportunistic registration checks whilst completing other investigations.
- Leaving business cards requesting contact.
- Enforcement of dog littering.
- Advice on barking dogs (including a sheet of tips on causes and what to do).
- Hire bark control and citronella collars.
- Cat curfew under Local Laws.
- After hours patrols, door knocks, phone calls and SMS message reminders.
- Confirm animal information of all pets at a property of complaint.
- Promote the owners responsibility relating to animal litter.
- Hire cat cages for feral / nuisance cats.
- Council Local Law restricting the number of animals at a property.
- Use of warning notices in some situations.
- Monitoring housing compliance of Declared Dangerous Dogs.
- Enforcement of animal registration.

Council website provides information on designated areas, including on and off lead locations. This information is also available in a pamphlet format from the Council office, information centre and relevant locations.



Policies and Procedures

Local Laws relating to registration and identification include:

- Local Law 2 (33) the owner of any cat must confine the cat to the owner's property, between the hours of sunset and sunrise;
- Local Law 2 (31) relates to the control of dogs or cats in certain areas;
 (Prohibited areas, off leash areas and playgrounds etc);
- Local Law 2 (30)(1) relates to the number of animals that may be kept at a property without a permit; and,
- Local Law 2 (35)(1)(2) relates to animal litter.

Actions:

Update brochures:

Activity	When	Evaluation
Review and update brochures.	As required	Use and feedback.

Council website:

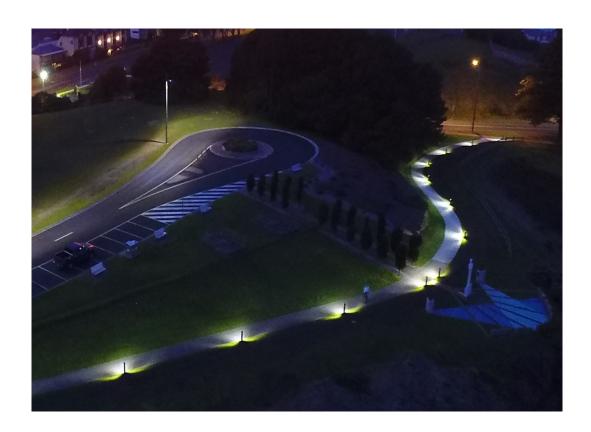
Activity	When	Evaluation
Update Council website and links to	October 2021	Use and feedback.
relevant sites with Council		
communication team.		

City entrance:

Activity	When	Evaluation
Update corflute signs, placed at the	November	Tourist information.
3 entrances to the City	2021	

Afterhours Patrols:

Activity	When	Evaluation
Record officer patrol sheet and feedback to vary patrol times.	Ongoing	Public interaction.



9. Animal population and euthanasia

Section 68 A(2)(c)(iv) of the Domestic Animals Act 1994 relates to overpopulation & euthanasia compliance.

Council encourages pet owners to take responsibility for environmental issues associated with roaming pets, and encourages desexing of domestic pets.

The chart below highlights:

- Low euthanasia & high reclaim percentages for dogs.
- Higher euthanasia & lower reclaim percentages for cats.
- Consistent percentage of dogs rehoused & high percentage for cats.

DOGS	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Impounded	415	394	374	350	274	246	231
Council &							
Public							
Total	27	32	32	18	16	17	13
euthanized							
%	7	8	9	5	6	7	6
Reclaimed by	273	245	228	207	143	100	104
Owner							
%	66	62	61	59	52	41	45
Rehoused	115	119	114	118	102	102	87
%	28	30	30	34	37	41	38
Total dogs	3011	4064	4211	4204	4297	4,318	4,478
registered							
Total desexed						3435	3,871
%						80	86

RSPCA data does not tally due to rescue, foster & feral animals & movement between shelters etc.

CATS	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Impounded Council & Public	322	305	441	493	511	607	381
Total euthanized	86	49	82	83	109	102	58
%	27	16	19	17	21	17	15
Reclaimed by Owner	20	22	29	33	28	29	24
%	6	7	7	7	5	5	6
Rehoused	217	239	276	348	268	430	352
%	67	78	63	71	52	71	92
Total cats registered	1123	1490	1591	1603	1681	1,739	1,833
Total desexed						1568	1,818
%						90	99
Requests for cat cages	35	68	60	71	63	51	26

RSPCA data does not tally due to rescue, foster & feral animals & movement between shelters etc.

Local Laws, Council Policies and Procedures

- Warrnambool City does not require pets to be de sexed prior to registration.
- Council Local Law 2 (30) (1) allows 2 dogs & 2 cats without a permit.
- Registration discounts.
- Officers conduct patrols after hours, and on weekends which includes animal control, speaking with and explaining to pet owners about Local Laws, off lead areas, benefits of desexing and possible infringements for dogs at large.
- Hire of cat cages for stray / nuisance cats in residential areas.
- Local Law 2 (33) the owner of any cat must confine the cat to the owner's property, either within the dwelling or within another escape proof building between the hours of sunset and sunrise.
- Council does not support immediate euthanasia after the mandatory holding period. Data supplied by the pound operator indicates a State average length of stay is 22.8 days.

Education and Promotion - animal population control

- Support the RSPCA Adult Cat Adoption program.
- Promote the Bureau of Animal Welfare programs including: "Who's for Cats?" campaign, education and promotion of de sexing programs.
- Support the purchase of pets from the RSPCA as they are de-sexed and microchipped.
- Whilst on patrol, engage with the public in regards to animal control, laws, infringements etc.
- If an animal is returned to the owner, explain the reason and possible costs for an animal at large.
- Provide pamphlets & Council webpage information to the public.
- Speak to public service groups.

Compliance

- Animals may be euthanised after the required holding period of the Domestic Animals Act if they do not pass the temperament test etc.
- Cat cages are hired to the public for feral / nuisance cats.
- · Officer patrols including weekends, for dogs at large.
- Local Law 2 (33) the owner of any cat must confine the cat to the owner's property, either within the dwelling or within another escape proof building between the hours of sunset and sunrise.
- 24hr emergency service provided.

Actions:

Monitor cat cage requests.

Activity	When	Evaluation
Record the number of requests to Council to hire a cat cage. Collate the number of cats collected, how many were de sexed, reclaimed, re-housed or euthanized.	Ongoing.	Collate the figures annually. Number of Cage requests Cats caught Desexed Reclaimed Rehoused Euthanased

Promote public awareness of feeding stray cats.

Activity	When	Evaluation
Implement "Who's for Cats?" education campaign in local area. Utilise the following resources (available from Bureau of Animal	Ongoing	Measure number and type of education materials distributed
Welfare): • "Are you feeding a bigger problem?" (Who's for Cats? campaign fact sheet) -		Record number of campaign queries received by council
distributed throughout the Municipality and placement on the Council Website.		Number of media stories published
 Template media release - for publication in local newspapers Conduct information door knocks in problem areas 		 Measure uptake on any promotions to encourage people to take responsible ownership of cats

10. Registration and identification

This section outlines the strategies to encourage pet registration, required for compliance under Section 68A (2)(c)(v) of the Domestic Animals Act 1994.

The Warrnambool City Local Laws team deals with a broad range of issues associated with the management of domestic animals in our community.

During the Covid pandemic the number of complaints, due to people being confined to home, and the number of incidents in public places due to people exercising new purchases, or dogs not used to being on a leash increased.

The table below summarises registration totals and impounded animals:

Dogs	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Total registrations	3011	4064	4211	4211	4297	4318	4,478
Council impounded	295	264	236	228	137	103	115
Public admitted	120	130	138	122	137	143	116
Reclaimed	273	245	228	207	143	100	104
Adopted	115	117	114	118	102	102	87
Euthanased	27	32	32	18	16	17	13

Cats	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Total registrations	1123	1490	1591	1603	1681	1739	1,833
Council impounded	37	36	49	70	66	82	40
Public admitted	285	269	392	423	445	525	341
Reclaimed	20	22	29	33	28	29	24
Adopted	216	234	276	348	268	430	352
Euthanased	86	49	82	83	109	102	58

Council provides a number of initiatives to assist with registration & identification, these include:

- Provision of advice to the community in relation to animal matters;
- Dealing with customer questions and complaints;
- Providing the collection of lost, stray and/or unwanted dogs and cats;
- · Investigations into alleged dog attacks;
- Inspections / registration of relevant animal businesses;
- Inspection of dangerous/restricted breed dog premises for compliance;
- Educating and promoting responsible pet ownership to residents;
- Ensuring Council completes its legislative duty of care;
- · After-hours emergency service;
- Working cooperatively with the RSPCA, and other councils and,
- · Educational activities.
- Weekend bike & foot patrols talking to the public about any concerns.
- Provides registration discounts for concession card holders, and desexed animals.
- Random door knocks to discuss animal issues including registration, benefits, such as the ability to return a pet home instead of impounding.

When an animal is collected by an officer the first priority is to return it to the owner.

The vehicles have computer access to the Council registration system, and Central Animals microchip data base.

When returning the animal, the officer will discuss registration and provide advice if the dog is escaping on a regular basis.

Actions:

Conduct a media campaign highlighting the requirement and benefits of pet registration:

registration.		
Activity	When	Evaluation
Conduct an annual media campaign	January /	The success will be measured by
before the April 10 th registration	February	the number of follow up visits /
renewal date (include press	-	phone calls required in May
releases, adverts, highway		relating to unpaid registration.
promotional display boards, renewal		
notices, providing pamphlets		Compare registration figures from
through Customer Service,		the previous years.
information sessions for public		
groups), to highlight benefits of		
registration.		

After April 10th conduct a follow up for non-renewed registrations:

After April 10 Conduct a follow up for front-fellowed registrations.					
Activity	When	Evaluation			
Officers' conduct door knocks in different locations across the city (including weekend and after hours) checking non renewed or unregistered pets, and leaving pamphlets if owner is not home	May	 Collate the number of new registrations following the random door knocks. 			
 Follow up phone calls and 		 To be compared with the 			
SMS messages to owners of unpaid renewals.		total registered pet numbers from the previous year			

Improve records by cross referencing data:

Activity	When	Evaluation
 Registration paid at office. Pound purchase data. Data collected during a complaint investigation, or random door knock. Requesting mobile & e-mail. 	Prior to a new registration or release.	Ongoing

Continue to promote benefits of registration:						
Activity	When	Evaluation				
 In conjunction with Vets promoting microchipping days. RSPCA Million Paws Walk. Walking tracks, off lead areas. After hours patrols. Improvements to facilities, including off lead areas and fenced dog parks. Public information sessions. 	Ongoing	Public feedback and registration numbers.				

11. Nuisance

To minimise the potential for a dog or cat to create a nuisance as outlined in Section 68A (2)(c)(vi) of the Domestic Animals Act 1994.

To encourage people to manage pets in a way that protects the health and welfare of the animals, maximises the companion benefits of their pet and minimises potential for nuisance or harm to others.

In 2019, Council opened another off leash enclosure. This was designed and constructed by a committee of Council staff and members of the public.

Council has a cat curfew that requires all cats to be confined to the residence, or a cat enclosure, between sunset and sunrise. This will prevent nuisances such as spraying and fighting, and to protect native wildlife.

Council logs all complaint / request data electronically.

Council witnessed a spike in complaints and incidents during the initial Covid out break.

Complaint	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Nuisance complaints	182	189	137	233	210	227	220
Dog at large complaints	152	172	163	210	97	135	168
Dog attacks	24	32	22	29	16	22	41
Cat cage requests	48	64	64	71	63	51	26
Stock on roads	34	56	74	52	64	54	25



Local Laws, Council Policies and Procedures

- Local Law 2 (33) states that the owner of any cat must confine the cat to the owner's property between the hours of sunset and sunrise.
- Local Law 2 (31) relates to the control of dogs or cats in certain areas. (Prohibited areas, off-leash areas, playgrounds etc).
- Local Law 2 (30)(1) relates to the number of animals that may be kept at a property without a permit.
- Local Law 2 (35)(1)(2) relates to animal litter.

Council provides a 24-hour emergency service for attacks, dog's at large, stock on roads and injured animals.

A customer request record is initiated once Council receives a complaint.

Local Laws officers will attempt to reunite animals with owners through available owner details, use of scanners and 24-hour computer data access.

Council hires out to the public cat traps to assist with feral and stray cats.

Council also hire citronella collars and bark houses for the public to try prior to purchasing their own.

A door knock of surrounding neighbours will be completed before a permit to house extra animals is issued.

Education and Promotion about nuisance animals

To assist the public:

- Pamphlets are issued during registration door knocks.
- After-hours patrols in residential areas are carried out and bike patrols along bike paths.
- Signage and mapping is being improved along walking tracks.
- Pet ownership pamphlets will be updated to reflect any changes in off-lead and prohibited areas and pamphlets will be made available from City Assist (customer service area at the Civic Centre) and information on the Council website.
- · Cat cages will be hired out for feral and nuisance cats.
- Where required media releases will be issued and advertisements placed with local media.
- Relevant information may be posted on highway display boards, at the 3 entrance roads to the city.
- Desexing of pets will be encouraged to reduce pets at large.
- Local Laws Officers will carry pamphlets to educate residents and visitors about collecting their pets' waste.

Compliance

Council use a number of strategies to reduce nuisance complaints:

- Barking procedure, which includes issuing information on causes and tips.
- Cat curfew will be enforced.
- After-hours patrols, doorknocks, phone calls and SMS reminders may be issued.
- Accuracy of information on file will be confirmed at the property about which a complaint has been made.
- Prohibited areas will be patrolled for dogs.
- Warning notices may be issued in some situations.
- Housing compliance for Declared Dangerous Dogs will be monitored.
- Dog littering laws will be enforced.



Actions:

Continue to provide and improve weekend and after hours patrols:

Activity	When	Evaluation
Officers patrolling in vehicles, on foot, and on mountain bikes. Activities include: public relations,	Ongoing	Positive public feedback. Monthly collation of figures from patrol sheets.
dogs off-leash or in prohibited areas, animal litter control and to		patroi sneets.
improve signage on walking tracks.		

Off lead park improvements:

Activity	When	Evaluation
Install seating and playground equipment.	2021	Public satisfaction and feedback.

Improve and promote prohibited / off-leash area information:

Activity	When	Evaluation
Update Council information for prohibited and off lead areas to include new areas and required information.	2021	Feedback during the holiday season. The number of requests for information, and complaints

New technology:

Activity	When	Evaluation
Further investigate new products to assist the reduction in nuisance complaints.	2021	Public satisfaction and feedback.

12. Dog attacks

This section highlights Council's service and strategy to minimise the risk of a dog attack on a person or pet, compliant with Section 68 A(2)(c)(iii) of the Domestic Animals Act 1994.

Council is proactively trying to minimise the risk of injury or fear in the community due to the presence or actions of a dog.

Because dogs at large have the potential to attack, or rush without provocation, officers patrol regularly, including at weekends and provide a 24hour emergency service.

	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Dog attacks	24	32	22	29	16	22	41

Local Laws, Council Policies and Procedures

- Local Law 2 (31) relates to the control of dogs or cats in certain areas. (Prohibited areas, off leash areas, playgrounds and sporting grounds etc.)
- Local Law 2 (30) (1) regulates the number of dogs and cats that may be housed at a property without a permit.
- All complaints / requests are recorded on the Council Customer Request system.
- Officers will collect any dog at large and may return it to the owner if there is a microchip, or registration. Otherwise the animal will be impounded.
- All dog attacks, declarations, and seizures are investigated and acted on in accordance with the Domestic Animal Act.
- Council has developed a procedure manual for incident investigations.
- Dogs must be on leash, unless in a designated off lead area.



Education and Promotion about dog attacks

The importance of avoiding dog attacks, are assisted by initiatives including:

- After-hours patrols are conducted across the city in vehicles, on foot and bicycle.
- Officers provide information to the public when required.
- Animal welfare information is sent out with registration renewals.
- On request, Local Laws officers will present information sessions to schools, dog obedience training groups and other community groups.
- Relevant information is made available on Council's website and newsletter and, where required, via media release.
- Council works in relation with the Warrnambool branch of the RSPCA when required.

Compliance

All incident reports are investigated immediately, that includes:

- All dog attack reports will trigger an immediate response from Local Laws officers, with Council providing a 24-hour emergency service.
- Weekend patrols will be conducted along with regular patrols in higher incident areas.
- Random inspections of declared dangerous dog enclosures and signage are conducted.
- Dogs declared dangerous, menacing or restricted are recorded on the Victorian Declared Dog Register.

Actions:

Improve officer patrol procedure:

Activity	When	Evaluation
Officers to discuss and collate	Monthly	Public feedback and improved information collated from running
patrol running sheets for problem areas.		sheets.
Improve interaction with public (foot and bike patrols)	Ongoing	Public confidence in the service provided by Council.
and sine pariotoj		Letters to the local press on animal
		control.

Regular contact with obedience groups:

Activity	When	Evaluation
Develop a direct contact person within businesses and community groups that have contact with dogs in the city to discuss problem areas and specific concerns.	Every 6 months	Chart and date any concerns raised.

Recording devices:

Activity	When	Evaluation
Purchase recording devices to assist with incident investigation	2021	Accurate data retention.
interviews.		

Develop a spreadsheet of incident locations:

Activity	When	Evaluation
Develop & record incident locations.	2021	Chart frequency and location over a long period to identify any trends that could be assisted by education.

13. Dangerous, Menacing and Restricted Breed Dogs

The Domestic Animals Act 1994 Section 68 A (2)(c)(vii) relates to effectively identifying all Dangerous, Menacing and Restricted Breed dogs in the City and to ensure housing etc. compliance.

The Council objective is to minimise the risk of injury or fear in the community due to the presence or actions of a declared dog.

Compliance and control measures around dangerous dogs and dog attacks include:

- All dog attack reports receive immediate response from officers.
- Council provide a 24hour / 7days a week emergency service.
- Conduct weekend patrols.
- · Conduct patrols in high incident areas.
- Promote ramifications for having a dog off-leash or at large.
- · Conduct patrols in prohibited areas for dogs.
- All dogs declared (dangerous / menacing / restricted) are recorded on the Victorian Declared Dog Register.
- Local Laws Officers carry a current register of all declared dogs whilst on patrol, in case an animal with the distinguishing collar is observed.
- Council Officers randomly inspect the premises of Declared Dogs to ensure compliance of housing requirements.

Warrnambool currently has 1 Declared Dangerous dog, 21 Declared Menacing dogs and no Restricted Breed dogs listed on the Victorian Declared Dog Register, housed in the City.

Declared menacing by breed (2020 / 21)	No. in Warrnambool	Declared dangerous by breed (2020 / 21)	No. in Warrnambool
Blue Heeler	2	Red Heeler	1
German Shepherds	1		
Bulldogs	2		
Mastiff	2		
Jack Russell	1		
Golden Retriever	1		
Staffordshire Terrier	2		
Boxer	1		
Cocker Spaniel	1		
Corso	1		
Kelpie	1		
Lampard Terrier	1		
Rottweiler	2		
Ridgeback	1		
Bull Terrier	1		
Cattle Dog	1		

Local laws, council policies & procedures

Council declarations are governed by the requirements of the Domestic Animals Act:

- Council does not refuse the registration of a declared dog that meets all legislative and Council requirements of the declaration.
- Higher registration fees are charged for Declared Dangerous & Restricted Breed dogs but not Menacing dogs.
- Following an investigation, Council will issue a letter of proposed declaration explaining the incident, reasons and requirements. This may be followed by a letter including reasons for the declaration.
- Declared dogs are listed on the Victorian Declared Dog Register.
- All declared dogs, at a minimum are required to be on lead at all times & muzzled.

Education and Promotion about dangerous, menacing and restricted breeds

Council officers assist the public by:

- Providing pamphlets to the community about the legislative requirements of Dangerous, Menacing and Restricted Breed dogs.
- Media releases following an incident when possible.
- Educational media releases when possible.
- Officer patrols in the industrial area for guard dogs.
- Regular contact with owners of dogs on the register to monitor the dog, provide advice and assistance.
- Information sessions at schools and local service groups as requested.

Compliance

- Ensure all dogs declared by Council are registered on the Victorian Declared Dog Register.
- Conduct unannounced inspections of declared dogs to maintain the requirements of the declaration.
- Communicate and assist with region RSPCA inspectors.
- Ensure the details on the register are updated.
- Immediate response to complaints relating to declared dogs.

Actions:

Effectively inspect and audit all declared dog premises to ensure they are implementing all legislative requirements:

Activity	When	Evaluation
Unannounced visits to the listed	Twice yearly	Meeting the requirements of the
address of a declared dog to ensure		declaration.
requirements of the declaration are		Keep a spread sheet of results and
implemented.		required actions.

Regularly review procedure manual and educational material:

Activity	When	Evaluation
Discuss procedure manual following any major incident to ensure it is current.	Ongoing	Investigations completed with relevant information recorded.
Maintain a supply of Department of Economic Development, Jobs, Transport and Resources (DEDJTR) and Council pamphlets to assist with education.		Public feedback.

14. Domestic animal businesses

Ensure all Domestic Animal Businesses (DABs) are managed appropriately and comply with Section 68 A(2)(c)(ii) of the Domestic Animals Act 1994.

The Warrnambool City Council objective is to work in partnership with domestic animal businesses to achieve State Government Legislative requirements. Warrnambool currently has 4 registered domestic animal businesses.

- 1 boarding facility (cats).
- 1 pound (The RSPCA).
- 2 pet shops.

These businesses are registered and inspected twice a year.

- · Council staff are trained in dealing with conflict and difficult customers.
- Council meet regularly with the RSPCA to discuss the procedures / management of the Council's shelter.

Actions:

Identify and register all domestic animal businesses in the municipality:

Activity	When	Evaluation
Identify any businesses that should be registered.	Ongoing	Compare number of registered DABs from the previous year

Annually inspect and audit all registered domestic animal businesses:

Activity	When	Evaluation
Visit all registered businesses and check for compliance and animal condition.	April and October	Those requirements of the Act are met.

15. Other matters

This section provides for the review of other matters related to the management of animals in the City, and compliant with Section 68 A(2)(e) of the Domestic Animals Act 1994.

Animals play a significant role in our lives. Victorians own dogs, cats, birds and horses. In addition there are cattle and sheep, pigs and poultry, and many more.

While it is difficult to quantify wildlife populations, human interest in the welfare of native animals can be reflected in the wildlife shelters, foster carers currently authorised to rehabilitate wildlife in Victoria, and the native animals which are treated in Victorian shelters each year.

Many types of emergencies in Victoria inevitably affect animals. Furthermore, recent disasters in Australia and overseas highlighted that bonds between people and animals strongly influence decision making in times of crisis. The lack of adequate planning for the management of animals and their welfare in emergencies often results in poor, last minute decisions with dangerous or fatal consequences for animals and their owners or carers.

Before, during and after an emergency, persons in charge of animals retain the ultimate 'duty of care' to provide for the needs of animals in their charge. In the event of an emergency, Government acknowledges the supporting role it can play in helping owners or carers meet their requirements.

Victoria's emergency management arrangements define the Department of Economic Development, Jobs, Transport and Resources as the primary agency for livestock and companion animal welfare support services during an emergency response. As the closest level of government to the affected community, local government also has a key role in supporting emergency animal welfare activities. Numerous non-government organisations assist in the management of animal welfare, with the RSPCA, Australian Veterinary Association and Animal Welfare Victoria having specific capacities to assist.

Actions:

Develop a local animal emergency welfare plan:

Activity	When	Evaluation
In conjunction with relevant local parties & government departments, create a local sub plan to the Municipal Emergency Plan, with a contact list for emergency situations for rangers.	2021	Adopted plan.

Establish a brochure for the public:

Activity	When	Evaluation
Create and distribute a brochure for	2021	The availability of brochures for
the public on what you need, where		the public.
to go, and who to contact in an		
emergency.		

16. Annual Review of the Plan and Reporting

Section 68A (3) of the Domestic Animals Act 1994 states:

Every Council must—

- (a) Review its domestic animal management plan annually, and if appropriate, amend the plan.
- (b) Provide the Department of Jobs, Precincts and Regions (DJPR) Secretary with a copy of the plan and any amendments to the plan.
- (c) Publish an evaluation of its implementation of the plan in its annual report.

Actions:

Conduct an annual review of the Domestic Animal Management Plan:

Activity	When	Evaluation
Conduct an annual, internal department review of the current plan.	November	Comparison with previous plan.

Reporting of results:

Activity	When	Evaluation
Provide results for Council's annual report.	Annually.	Evaluate results against the requirements of the Domestic
Notify the Secretary (DJPR) of	Annually.	Animals Act 1994.
review. Conduct a major review every four years	Four-yearly	

From:

Sent: Tuesday, 31 August 2021 6:13 PM

To: Glenn Reddick < greddick@warrnambool.vic.gov.au >

Subject: Draft Domestic Animal Plan

CAUTION: This email originated from outside of Warrnambool City Council. Do not follow guidance, click links, or open attachments unless you recognise the sender and know the content is safe.

Type your submission here.

Make Warrnambool Main beach from Surf club to Breakwater no dogs at all- all year round.

No dogs at all!

Better patrol stingray bay and main beach for dogs in Sumner period

Better patrol and fines for dogs in caravan parks by guests and guest visitors.

I have read the draft plan, I feel there is little focus on compliance of dogs off leads in <u>on</u> lead areas and very little focus on compliance of dogs in No Dog areas.

There is no discussion about actually issuing fines for dogs in no dog area- it is all "education".

It says "patrolling" and "monitoring" has on multiple occasions but no one actually gets fined. There is no deterrent. Please change this to fines rather than "patrols".

Warrnambool has become a dog town with dog owners just going where they want, doing what they want.

I want to use the beach. I can't if a dog is there. You need to do more to enforce no dogs on the beach in the summer months. You need to do more to ensure dogs are not off lead on the beach in winter months. I am not able to go for a walk on the beach in winter because of the amount of dogs off lead on main beach in winter.

All power is for the dog owner. I feel I have no space I can enjoy in Warrnambool anymore because of dogs. The last 5 years and particularly since dogs were allowed on the main beach, my life has been significantly disadvantaged. My access to the beach has been restricted.

Do something about the dogs in the caravan parks in summer too!

Your draft is just words and not backed up by physical action.

I want the level of patrol and fines to increase so Warrnambool dog owners are at risk of being fined if they do the wrong thing. Currently so many dogs are off lead and in no dog areas because the reality is there is no consequence.

Dog owners are running the show.

Please get out of the van when doing patrols of beach!

I would be interested in the number of patrols claimed in report that are actually out of the van and on foot at Lake Pertobe and the beach.

Had enough of dogs off lead and dogs in gardens, Lake Pertobe, on the beach in no dog period and off lead on the beach all year round.

I do not feel I have a "<u>fair and balanced environment where EVERYONE can enjoy our community and the many open public spaces"</u>





Warrnambool City Council



Community Development Fund Grant Program

2021/22 Guidelines

Supporting our sporting, recreational, environmental, cultural activities and community events to deliver health and wellbeing outcomes for our residents, contributing to the liveability of the city.



Warrnambool 2040



The Community Development Fund supports not-for-profit organisations based in Warrnambool to fund projects, activities and events which meet the grant program eligibility and criteria and contribute to the liveability of the City.

Warrnambool City Council has a very strong sense of community, high rates of volunteering and a strong social conscious that has been established over decades of community members volunteering their time, passion and commitment to establishing and maintaining over 240 volunteer based sporting clubs, community groups and organisations.

Council has funded and administered the Community Development Fund since 1999, focusing on providing support to clubs, groups and organisations for the provision of programs, projects, activities or events that deliver outcomes for the benefit of Warrnambool residents.

In response to Covid-19, the requirement for groups to meet the funding ratio for eligibility has been removed. Funding for the 2021/22 round, may cover the entire cost of the project or part thereof, allowing groups to continue to make a valuable contribution to the well-being, social and cultural fabric of the City.

Information and Assistance

For grant information and online applications: $\underline{www.warrnambool.vic.gov.au/community-funding-programs}$

For specific advice on applications, Council Officers can be contacted during office hours on 1300 003 280 or (03) 5559 4900

Category	Contact	Email
General grant questions	Strategic Community Planning	communityplanning@warrnambool.vic.gov.au
Sport & Recreation / Culture & Arts	Recreation Team	recreation@warrnambool.vic.gov.au
Environment & Sustainability	Sustainability & Environment Team	green@warrnambool.vic.gov.au
Festivals & Events	Events and Promotion Team	events@warrnambool.vic.gov.au

Grant Round Dates

Applications are accepted from Thursday 1 July to Monday 6 August 2021.

Funding Round Open	9:00am Thursday 1 July 2021
Funding Round Close	9.00am Friday 6 August 2021
Report submitted for endorsement to Council	Monday 6 September 2021
Applicants notified of funding outcome	Tuesday 7 September 2021
Civic Reception for all successful recipients	Thursday 16 September 2021
Project completed and acquitted for all other programs	30 April 2022
Project completed and acquitted for events and vegetation programs	30 June 2022

Grant Categories and Funding

The funding pool for 2021/22 round is \$251,000.

Applications that are eligible will fall under one of the following categories:

SPORT & RECREATION

Up to \$5,000

Doing Sport Differently Innovative projects that increase opportunities for participation in sport and recreation by people who are less active

Access & Inclusion Projects that increase access to sport or active recreational activities for women & girls, juniors and people with a disability

Increasing Participation & Membership Promotional activities that raise awareness of the club/organisation and invites participation

Capacity Building Training and/or development opportunities that increases the strength and capacity of the club or organisation

Purchase of Equipment Purchase of assets that contribute to the capacity of a club organisation to deliver programs

CULTURE & ARTS

Up to \$5,000

Innovative Opportunity Encourage grassroots participation in creative outcomes

Access & Inclusion Projects that increase access to creative activities for people with a disability or young people (aged 17-24 years)

Increasing Participation & Membership Promotional activities that raise awareness of the club/organisation and invites participation

Capacity Building Training and/or development opportunities that increases the strength and capacity of the club or organisation

Purchase of Equipment Purchase of assets that contribute to the capacity of a club organisation to deliver programs

ENVIRONMENT & SUSTAINABILITY

Up to \$5,000

Green Warrnambool Development and delivery of environmental or sustainability projects or programs within the municipality

Zero Warrnambool Renewable energy, water efficiency & sustainability improvements to community buildings and facilities to reduce greenhouse gas emissions and/or save water

Adaptable Warrnambool Works, activities or programs that support and prepare the club or organisation for climate change adaption

Wise Warrnambool Projects that support, incorporate or develop a waste free or plastic free event

Naturally Warrnambool Projects that undertake revegetation or weed control activities, including maintenance and infill planting of previous revegetation sites

Blue Warrnambool Projects and programs that save water and protect waterways, coastal areas and the marine environment

Increasing Participation & Membership Promotional activities that raise awareness of the club/organisation and invites participation

Capacity Building Training and/or development opportunities that increases the strength and capacity of the club or organisation

Purchase of Equipment Purchase of assets that contribute to the capacity of a club organisation to deliver environmental or sustainability programs.

FESTIVALS & EVENTS

Up to \$5,000

Seed Funding Supports the development of new events that demonstrate a strong community focus

Growth funding Supports existing events which demonstrate sustainability (financially & socially); have operated for over three years; provide significant benefits to the city (economic, social and cultural growth) and are able to provide a post-event report from previous events to illustrate achieved outcomes and continuous improvement.

Funding and Limitations

Funding may cover the entire cost of the project or part thereof. If the funding does not cover the cost of the whole project you will need to demonstrate that you have sufficient funds to cover the entire project.

Decisions are final and cannot be disputed. Feedback, post assessment may be sought however applicants must understand that this is a competitive process and the dollars applied for often exceed the funding available.

Assessment Criteria

This criteria is used to assess applications and must be addressed in the grant application.

If the project involves children, the group must meet its obligations under the Child Safe Standards. For more information visit www.ccyp.vic.gov.au/child-safety/being-a-child-safe-organisation/

Assessment Criteria	Weighting
The application addresses a community need and describes how the community will benefit from the project/event	30%
The application encourages and enables participation of a variety of local residents and provides evidence of community support and involvement	30%
The applicant is able to successfully manage the described project, and meet its proposed outcomes and details how the fund will assist in the development or sustainability of the group	25%
The application aligns with Council's Plan or other strategic reports and all required information has been submitted	15%

Making an Application

The Community Development Fund provides funding to support Warrnambool clubs, organisations and community groups to deliver programs, projects, activities or events that build community and club capacity and sustainability, promotes participation, delivers environmental and sustainability benefits, promotes visitation or increases economic opportunities.

Preparation Checklist

If '	you have a	any c	uestions,	call or	email	the	Strategic	Communit	/ Planning	contact

Read the Community Development Fund Grant 2021/22 Guidelines
Ensure your group is eligible to apply
Ensure your project is eligible for funding
Know what category you are applying for
Check whether the grant closing and notification dates fit with your project time table
You may choose to prepare a draft application on the downloadable copy of the application
form from the Grants Page www.warrnambool.vic.gov.au/community-funding-programs
Ensure answers to application questions address the Assessment Criteria
Prepare a draft budget
Gather all required documentation to support your application. A group or organisation's
financial statements and quotations are compulsory
Set up a SmartyGrants login and password – preferably use your group / organisation email
address - and record it in a secure place for future use.

Auspiced Grant Projects

Grant funds are only paid to a legally incorporated group. Groups and Organisations based in Warrnambool that are not legally incorporated, may apply for a grant if their project is for the benefit of the Warrnambool City community and they are auspiced by a legally incorporated, not-for-profit group or organisation.

An auspice organisation manages the funds on behalf of the applicant's group and is fully responsible for ensuring that the grant funds are applied, managed, expended and acquitted in accordance with these Guidelines.

Organisation Eligibility

Who is eligible to apply?

An applicant must;

- Be based in Warrnambool City.
- Be registered as a not-for-profit legal entity, eg: incorporated association.

- Be a not-for-profit unincorporated group that is auspiced by a group that is registered not-for-profit legal entity.
- Have an Australian Business Number (ABN) or submit a Australian Taxation Office Statement by Supplier form.
- Submit an audited financial statement or financial report prepared for an annual general meeting from the last financial year with your application (if applicable)

Have provided acquittal reports for all previous Council funding (upon completion of the project).

Please note: Council will accept applications from group/s who have not completed an acquittal from the 2020/21 round, only after the groups have sought and successfully received an extension due to COVID-19.

Who cannot apply?

Those ineligible for a grant are:

- Individuals
- Any Committees of the Council including Advisory Committees, Committees of Management or Sub-Committees.
- A club or organisation that operates electronic gaming machines or is a gambling venue
- A club or organisation that occupies Council owned or managed land without a current seasonal tenancy, license or lease agreement with Council.
- Organisations who have not completed an Acquittal (Financial Reporting Form) for any previous Community Development Fund grant. (**Council will accept applications from groups who have not completed an acquittal from 2020/21 round only if they have sought and successfully received an extension due to COVID-19)
- A club or organisation that has an outstanding debt/account with Council or is already receiving substantial financial support from Council
- Organisations that have access to substantive levels of current funding not generally available to local clubs or organisations
- For-profit or commercial organisations
- For programs or activities considered the responsibility of the State or Federal Government.

Project Eligibility

What will not be funded?

- Capital or maintenance work on a building or facility
- General administration, wages or contracts, insurance premiums or debt payments
- Projects that have already commenced or events and activities that have already occurred
- Recurrent funding for ongoing projects or projects that have already been funded (excluding Events)
- Tradeshows, conferences, teaching programs/lectures, university open days, commercial theatre, recurring markets
- Events or activities that have a political or religious purpose, or that denigrate, exclude or offend parts of the community
- Fundraising activities, prize money, trophy/medal production, awards, travel, accommodation, catering

Help is available

Council Officers are available if you have any questions or require assistance applying online. Applicants are encouraged to contact the relevant Council Officer prior to submitting an application

Smartygrants

Refer to the Smarty Grants User Manual on <u>Community Grants - Application Help</u> for detailed instructions on how to review and submit your application.

If you have technical issues or need assistance with your password, please contact service@smartygrants.com.au or (03) 9320 6800.

Approvals, permits and licences

You may need to apply for specific approvals, permits and licenses to run an event or project. Applicants should discuss their project with the responsible agency e.g Council or a Victorian Government Department, prior to submitting their application. Successful applications will be made conditional that they obtain regulatory approvals.

Successful applications will be made conditional on obtaining regulatory approvals.

Council's Events and Promotions Branch can assist applicants with the process of gaining approvals. Refer to https://www.warrnambool.vic.gov.au/events

Please note criteria and conditions for each category vary.

Making your project accessible for all

Grant applicants should ensure their project is accessible and inclusive for all. This includes physical access to activities, and ensuring written materials developed are virtually accessible.

Resources that may assist you include: Section 5.3 of The Event Planning Guide

Companions Card

As part of Council's commitment to improve participation for all community members and in order to comply with existing Disability Anti-Discrimination Legislation, it is a condition that any events/activities funded under this program must accept the Companion Card (i.e. you must not charge an admission or participation fee for the attendant carer/support person of the person who holds a Companion Card).

For more information on the Companion Card: www.companioncard.org.au

Assistance conducting an event

A number of resources have been developed to assist groups running events in Warrnambool.

Refer to The Event Planning Guide or call Council's Events and Promotions branch on 5559 4800.

Warrnambool 2040 - Our Plan, Our Future

In the application form you will be asked to select which W2040 goal aligns best with your application. Warrnambool 2040 is a community plan developed through an extensive community-led process. The plan captures the community's aspirations for the future of Warrnambool via visions and goals which cover Warrnambool's Environment, Economy, Place and People.

You may want to familiarise yourself with this document and decide which best matches your project.

A copy of the W2040 plan is at http://www.w2040.com.au/

Budget

Grant Funding Ratio

Funding may cover the entire cost of the project or part thereof.

If the funding does not cover the cost of the whole project, the applicant will need to demonstrate that sufficient funds are available to cover the entire project.

The Application Form and Budget Information

The application form has one budget table to fill out, which requires information about income and expenditure.

Income Table

The income table shows the income sources that will be used to deliver your project. Items to list in the Income Table include:

- · The community grant amount you are requesting
- The cash contribution of your group or organisation (if applicable)
- Funds from other sources such as bank loans, other grants or sponsorship (please indicate whether the amount is confirmed or not)
- Income expected from the project eg. entry fees, DVD sales

Expenditure Table

The expenditure table includes itemised project expenses. These are the materials, equipment or services that you are proposing to purchase or pay for to complete the project.

Project expenses listed must be the total costs including any GST that is included in a quotation.

Written Quotations

One written quote is required for each individual item or service up to the value of \$1,000. Two written quotes are required for each item or service over the value of \$1,000 (including GST if applicable). Quotes for professional services should indicate the qualification or certification of the professional being engaged.

Applicants are encouraged to seek local quotes and spend funding locally.

Australian Business Number (ABN) and Goods and Services Tax (GST)

GST registration status can be checked by looking up an ABN at www.abr.gov.au Organisations that do not have an ABN must supply a completed Australian Taxation Office Statement by a Supplier form, and attach it to their application.

If your group is registered for GST, the fund amount you receive will include GST.

If your group is not registered for GST the fund amount will not include GST.

Assessment, Notification and Receiving funds

Assessment and Notification

Submitted grant applications are assessed by a panel of four. (1) Council Officer (with expertise in the category), one (1) Council Manager (with expertise in the category), one (1) Independent Community Member and one (1) Grant Probity Officer.

Recommendations will be provided for Council endorsement, after which applicants will be advised in writing via the contact email provided of the outcome of their application.

An applicant may re-submit an unsuccessful grant application to the next round of Community Development Grants on advice from Council Officer.

Receiving Funds

Successful applicants will be sent an email, an official letter and the Terms and Conditions of receiving funding. Funds are preferably sent by electronic funds transfer to your group's bank account, or in some cases by cheque.

Funding Conditions

The letter will highlight the general conditions of funding and, if applicable, Special Conditions required to be met before funds can be forwarded to your group. Successful applicants must read, understand and comply with the Terms and Conditions sent to them which will include any special funding conditions.

Acquitting your Grant

At the conclusion of a funded project your group is required to prepare and send an acquittal report to Council. The Project Completion Form or Event Completion Form is accessed by logging into your group/organisation account in SmartyGrants and going into 'my submissions'.

Organisations are required to provide details of how the funding has benefited the club and submit evidence of how the funding was spent (receipts, photos and media promotion).

Terms and conditions

In accepting a Community Development Fund grant, you must be willing to adhere to and agree to the following grant conditions:

- Funds made available through the Community Development Fund are to be spent on the activities
 described in the application by the required time. Any significant change to the activity must be
 made in writing and approved by Council.
- 2. Allocated funds are to be expended by 30 April 2022 for all grant applications, except those for events and revegetation which can be expended by 30 June 2022, unless otherwise agreed to by Council. Accurate financial records of the recipient organisation must be maintained and made available to Council staff in the event of any further audit by Council into the use of the Grant.
- 3. Funded groups will need to complete a Name and Address Register (NAR) form and grant acquittal report. Council will provide the templates. The NAR form needs to be submitted before any payment can be made. The acquittal report must be completed at the end of the project and before 30 April 2022, or 30 June 2022 for events and revegetation grants. The group will be ineligible for any further grants if this report is incomplete, unless approval has been provided for an extension.
- 4. It is the responsibility of all applicants to supply the relevant taxation and insurance documentation in the application form.
- 5. Activities arising from the grant allocation must take place within the City of Warrnambool and benefit Warrnambool residents.
- 6. Funded groups are required to acknowledge the assistance of Council in all project/event related promotions.
- 7. Copies of any "products" must be provided to Council prior to the completion of the project.
- 8. Council officers may request meetings with the applicant to check progress during the period of the activity, or undertake an independent audit of the books and records of the Applicant.
- Council is not responsible for meeting any shortfall should the project run over budget.
- 10. Any Council funds that are not expended on the project are to be returned to the Council.
- 11. Funded groups are required to obtain any necessary Council permits or other permits for the event/program to take place. Any event/program/project that is to be held on Council property (this includes Council owned buildings, parks and all other open space areas) is required to have the written approval of Council.
- 12. Funded events are required to meet all statutory requirements determined by Council and other relevant authorities; submit a completed,
 - Event Application Form;
 - Register their event with Council via the online event registration form;
 - Create an Australian Tourism Data Warehouse (ATDW) listing for their event and
 - Submit a post event evaluation report on the event delivery including any identified improvements and key event outcomes.
 - Provide evidence of the impact/success of the event including survey data, photos and media exposure.
- 13. Council will publicly report all grants awarded.
- 14. The Council, its servants, agents and employees shall not be responsible at any time for any liabilities incurred or entered into by the recipient organisation as a result of, or arising out of that organisation's responsibilities under the Grant Agreement.
- 15. The recipient shall release and indemnify the Council, its servants and employees against any claim, demand, liability, costs, expenses, actions arising out of or in any way connected with the activities of the recipient, or the recipient's agents in consequence of the authorisation/funding agreement except where the claim, demand, liability, costs or action are caused by the Council, its servants or agents.

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MEETING MINUTES

ECONOMIC DEVELOPMENT & TOURISM ADVISORY COMMITTEE								
Date:	10 September	10 September 2021 Time: 12-1.30pm Location: Zoom						
Cr. Debbie Arnott, Chair Cr Max Taylor Paul Dillon Martin Ellul Penny Irons Kate Lindsey Leanne Williams								
Council Of	ficer Invitees	Andrew Paton Director of C Robert Crack Manager of E Designated Area Migration City Growth Support Office	conomic Agreem	Development ar ent Coordinator				
No.								
1.	Welcome and	Introductions						
	Opened meeting at 12pm EDTAC members provided a summary of their industry background and experience.							
2.	Apologies							
	Nil							
3.	Terms of Reference							
_	EDTAC noted the Terms of Reference to guide the governance and operations of the Advisory Committee. (Attached) Conflict of Interest Declarations							
4.								
	No conflicts of interest declared. The importance of declaring any conflicts of interest was discussed to ensure such items are managed appropriately as per the Terms of Reference and recorded in the minutes of the meeting.							

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5. Member discussion around Warrnambool Economy – Challenges and Opportunities Open discussion on how the Warrnambool economy was performing and what types of challenges and opportunities exist that EDTAC might wish to explore as part of their remit. Items discussed, in no particular order, included: The economic and wellbeing impacts of COVID19; The importance of events and place-making activity to build confidence in our community about recovery efforts; o A wider lens on the region and the sources of population and employment growth across the region; o The importance of leveraging State and Federal agencies and other regional peak bodies (Great Ocean Road Regional Tourism; Great South Coast Food and Fibre) to assist Warrnambool economic development implementation; Skills shortages across the region and the tools available (such as Education pathways and Skilled migration programs) to assist; The importance of housing availability and diversity to new and existing residents of the City; o Significance of education pathways and promoting and working with South West TAFE and Deakin Warrnambool; Absence of a peak body with the vision to be the single voice of the Warrnambool business community is a significant gap in the City's offering. Discussion around potentially inviting high performing peak bodies from other regional cities / areas to meet with interested persons in Warrnambool; Warrnambool's image outside the region; ACTION: Themes from the above will be scheduled in future EDTAC agendas to further inform the work being presently undertaken and what are the gaps that might be prioritised by EDTAC. **Strategic References** 6. Warrnambool Economic Development & Investment Strategy 2020 final Final Report Great South Coast Economic Futures December 2019 COVID-19 Business Support Plan All reports noted ACTION: Further strategic documents such as the Events Strategy and Destination Warrnambool Action Plan (to be renewed in 2021/22) to be presented at future meetings. **Economic Data Update** 7. Discussion around the importance of economic data and evidence base to inform decision-making.

Chart pack detailing Economic indicators to be sent to members for comment and discussion at the next meeting.

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8.	General Business
	Chair thanked members for their contributions, noting the broad mix of skillsets and experience in the group and looked forward to working with EDTAC over the course of the term.
	Meeting closed 1.15pm.
9.	Next Meeting
	Next Meeting: 12pm - 26 th November 2021.

MINUTES

Date:	21 ST September 2	Time:	5pm	Location:	Zoom			
Attendance David I Les Ga Greta I		Cr. Otha Akoch, Chair David McKenzie Les Gardiner Greta Perry Geoff Spencer	Cr. Otha Akoch, Chair David McKenzie Les Gardiner Greta Perry					
Council O	fficer Attendance	Andrew Paton (AP) - Dir Robert Crack (RC) – Mar		•	nent & Tour	rism		
No.	What							
1.	• Comm	 Community and International Relations Advisory Committee (CIRAC) members provided a summary of their background and experience. 						
2.	Apologies John Co	ok, Richard Stone						
3.	 Terms of Reference Background provided on the formation of CIRAC, its key objectives and how it will build on the work of the previous International Relations Advisory Committee. Discussion around the ToR and how the objectives of CIRAC extend to 'Community' with a particular focus on enha City's approach towards welcoming and inclusive initiatives, in addition to oversight of our City's Sister City program Members thanked for providing feedback and questions of clarification on CIRAC Terms of Reference. Term of CIRA confirmed as being through to June 2025. CIRAC noted the Terms of Reference to guide the governance and operations of the Advisory Committee. 					to 'Community' with a particular focus on enhancing the ion to oversight of our City's Sister City programs. ion on CIRAC Terms of Reference. Term of CIRAC		

4. Conflict of Interest Declarations No conflicts of interest declared. The importance of declaring any conflicts of interest was discussed to ensure such items are managed appropriately as per the Terms of Reference and recorded in the minutes of the meeting. 5. Member discussion around priorities and action plan Members discussed a range of ideas and priorities to inform an action plan and future agenda items. Key themes were: o Need for an evidence base of all our community groups/community leaders and to better understand who is doing what across the municipality to enhance welcoming and inclusive communities. o Strong theme of the role of CIRAC will be to engage and listen to community groups and build trust. Development of an engagement plan and initiating some informal meetings to listen to community groups agreed as a priority. o Importance of festivals and events to celebrate culture and to bring our community together and promote education and awareness of cultural diversity and inclusion practices. Sport and recreation also identified as an important enabler towards this objective. o Action AP – to co-ordinate internally to provide a listing of community groups and contacts and report back to CIRAC with the view of developing an engagement plan to listen to community groups to understand their priorities and challenges. o Importance of raising the profile of CIRAC and how Council's communications team can provide advice and assist with communications, collateral, media releases etc. where required. 6. Sister City Update Miura, Japan and Changchun, China o Discussion around the background and history of the two Sister Cities. o Action AP – an invitation from CIRAC to a number of Warrnambool residents whom have previously lived and worked in Miura, Japan as Language and Cultural Teachers to relay their experiences.

o Project in planning to upgrade the Miura Friendship Garden with \$10,000 support from the Fletcher Jones Foundation and \$20,000 from Warrnambool City Council. This project will be delivered through 2021/22 and CIRAC will have oversight of this project. o CIRAC members were advised of Council Officer engagement with the Department of Foreign Affairs and Trade (DFAT) and the supply of information to DFAT to comply with Declaration of Foreign Arrangements requirements. 7. Strategic References Warrnambool 2040 Council Plan **Welcoming Cities Standard** Documents circulated to members for noting and to inform future discussions. Discussion around the role of CIRAC and its alignment with the Council Plan and W2040. General Business/Questions 8. Discussion around meeting frequency and there was willingness from all members to continue to communicate between meetings via email and telecon, where required. Business cards to be prepared for each CIRAC member to assist with engagement in the community. Action RC. 9. **Next Meeting** Meeting closed 6.20pm. Next meeting Tuesday 16th November 2021.

Informal Meeting of Council Record

mornia mooning or obtained record							
Name of Committee or Group (if applicable):	Informal Meeting of Council (Cour	ncillor Briefing)					
Date of Meeting:	13 September 2021						
Time Meeting Commenced:	3.00pm						
Councillors in Attendance:	Cr. V. Jellie AM, Mayor/Chairman Cr. O. Akoch Cr. D. Arnott Cr. B. Blain Cr. A. Paspaliaris Cr. M. Taylor Cr. R. Ziegeler						
Council Officers in Attendance:	Peter Schneider, Chief Executive Officer Peter Utri, Director Corporate Strategies Andrew Paton, Director City Growth David Leahy, Director City Infrastructure Richard Stone, Acting Director Community Development Ashish Sitoula, Manager Strategic Community Planning & Policy Glenn Reddick, Manager City Amenity John Finnerty, Co-ordinator Strategic Asset Management Jodie McNamara, Manager City Strategy & Development Luke Coughlan Manager City Infrastructure						
Other persons present:							
Apologies	Nil.						
Matters Considered:	 Warrnambool Municipal Public Health and Wellbeing Plan 2021-25 Domestic Animal Plan Update Community Housing Transfer Finalisation Road Asset Management Plan – Post Consultation Report 						
Other Matters Considered	 Woodford Heights Development Plan Proposed presentation to Economic Development & Tourism Advisory Committee by a young entrepreneur Opportunities for Trader Support Fisher Street fence completion Review of social media posts 						
Councillor Conflicts of inter	est Disclosures:						
Councillor /officer Name	Cr Debbie Arnott and Cr Max Taylor - Direct interest in Trader Support discussion	Left the meeting at 4:15 pm and returned at the end of this part of the discussion at 4:25pm					
Meeting close time:	4:48pm						
Record Completed by:	Peter Utri Director Corporate Strategies						

Informal Meeting of Council Record

Name of Committee or Group (if applicable): Date of Meeting: 20 September 2021 Time Meeting Commenced: Cr. V. Jellie AM, Mayor/Chairman Cr. O. Akoch Cr. O. Akoch Cr. O. Akoch Cr. O. Akoch Cr. Mayor Cr. V. Jellie Executive Officer Peter Schneider, Chief Executive Officer Peter Utri, Director City Growth David Learly, Director Community Development Ashish Sitoula, Manager Strategic Asset Management Jodie McNamran, Manager Strategy & Development Alison Kemp, Manager Recreation & Culture Thomas Hall, Senior Projects Leader, Facilities & Projects Julie Glass, Co-ordinator City Strategy Brendan McDonald, Analyst, Strategic Asset Management Nicole Wood, Travel Smart Officer Nick Higgins, Manager Communications Paul Cugley, Coordinator Infrastructure management Kyme Rowe, Service Manager Recreation and Culture Other persons present: Other persons present: Apologies Matters Considered: Strategic Planning – Land Use Port of Warmambool Dredging Tree Asset Management Plan Peteral Blackspot Funding Application Kepler Lava Intersection Principal Pedestrian Network Status Community Development Fund 2021/22 Australia Day Awards Warmambool Library update Sports grounds Fee model September 2021 Mayoral Diary Update Other Matters Considered Funding opportunity for desexing cats Opportunities in framing media responses Food business support Councillor Conflicts of interest Disclosures: Councillor fofficer Name Meeting close time: Record Completed by: Peter Utri Director Copporate Strategies								
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	Record Completed by:							

Informal Meeting of Council Record

Name of Committee or Group (if applicable):	Informal Meeting of Council (Councillor Briefing)	
Date of Meeting:	27 September 2021	
Time Meeting Commenced:	3.00pm	
Councillors in Attendance:	Cr. V. Jellie AM, Mayor/Chairman Cr. O. Akoch Cr. D. Arnott Cr. B. Blain Cr. A. Paspaliaris Cr. M. Taylor Cr. R. Ziegeler	
Council Officers in Attendance:	Peter Schneider, Chief Executive Officer Peter Utri, Director Corporate Strategies Andrew Paton, Director City Growth David Leahy, Director City Infrastructure Richard Stone, Acting Director Community Development Glenn Reddick, Manager City Amenity Jodie McNamara, Manager City Strategy & Development Bree Ryan, General Counsel, Strategy & Procurement Aaron Huttig, Manager Facilities & Projects Lauren Schneider, Co-ordinator, Natural Environment Paul Wickson, Coordinator Building strategy and services Kim White, Senior Recreation Officer	
Other persons present:		
Apologies	Nil.	
Matters Considered:	 Design Approach - McGennans Placemaking Project Footpath Trading Fees Local Councils Outdoor Eating and Entertainment Package Grant – Update Business Initiatives Grants Round 2 – Update Middle Island Project Season Report 2020-2021 Woodford Heights Development Plan Procurement Policy Cleaning Services Main Council Buildings Contract Christmas-New Year Close Down Communications Strategy and News Media Policy Shared ICT Project & Rural Councils Transformation Program Funding Opportunity Port of Warrnambool Dredging - Verbal Report Local Government Business Concierge and Hospitality Support Program Development Facilitation Program - 6 and 7 Eccles Street, Lot 2 Eccles Street Economic Development & Tourism Advisory Committee meeting minutes - 10 Sept 2021 Warrnambool Community Garden Gully and Storm Water Diversion Project – Next Steps 	
Other Matters Considered	 Dennington Drummond Street crossing Merri Crescent potential changed parking considerations Weed management strategies 	

	 West Warrnambool Neighbourhood House utilisation Progress of Saleyard upgrade works Introduction of wheel chair swing or alternate accessible play equipment Potential for amenity upgrades including seating to old Aquarium site 		
Councillor Conflicts of interest Disclosures:			
Councillor /officer Name	Cr Debbie Arnott and Cr Max Taylor direct interest local trader support	Crs Taylor and Arnott left the meeting at 3:15pm returning at 3:25pm at the conclusion of the item	
	Cr Vicki Jellie item in relation to a planning matter close personal relationship	Cr Jellie left the meeting at 4:25pm returning at returned at 4:40pm at the conclusion of the item. Cr Ziegler assumed the chair for the duration of the Absence	
Meeting close time:			
	7:10pm		
Record Completed by:	Peter Utri Director Corporate Strategies		