

Planning and Environment Act 1987

Panel Report

**Greater Geelong Planning Scheme Amendment C372 and
Permit Applications 662/2017 and 663/2017
Hams Road, Waurn Ponds subdivision**

28 October 2019

Planning and Environment Act 1987

Panel Report pursuant to section 25 of the Act

Greater Geelong Planning Scheme Amendment C372 and Permit Applications 662/2017 and 663/2017

Hams Road, Waurin Ponds subdivision

28 October 2019



Sarah Carlisle, Chair



Catherine Wilson, Member

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Glossary and abbreviations

1 percent AEP	1 percent Annual Exceedance Probability
Act	<i>Planning and Environment Act 1987</i>
AS2017:2016	<i>Australian/New Zealand Standard 2107:2016 Acoustics - Recommended design sound levels and reverberation times for building interiors</i>
BAL	Bushfire Attack Level
CFA	Country Fire Authority
Council	Greater Geelong City Council
dB	decibels
DDO45	Design and Development Overlay Schedule 45
DELWP	Department of Environment, Land, Water and Planning
EPA	Environment Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>
ERR	Earth Resources Regulation Branch of the Department of Jobs, Precincts and Regions
FFG Act	<i>Flora and Fauna Guarantee Act 1988</i>
Hams Road intersection	intersection of Hams Road, Ghazeepore Road and Sugargum Drive
MRSD Act	<i>Mineral Resources (Sustainable Development) Act 1990</i>
NIRV	<i>Noise from Industry in Rural Victoria Guidelines</i> , EPA, 2011
Planning Scheme	Greater Geelong Planning Scheme
PTV	Public Transport Victoria
Rail Noise Policy	<i>Victorian Passenger Rail Infrastructure Noise Policy</i>
RFI	Request for Further Information
SEPP N1	<i>State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade) No. N-1</i>
Substation Noise Report	<i>Waurin Ponds Zone Substation corner Ghazeepore Road and Hams Road - Detailed Measurement and Analysis of Noise Sources Present at the Site and Options for Control of Noise Emissions to Proposed Residential Development Site West and South of the Zone Substation, Watson Moss Growcott, 9 April 2018</i>

TfV	Transport for Victoria
Urban Stormwater Guidelines	<i>Urban Stormwater - Best Practice Environmental Management Guidelines</i> , Victorian Stormwater Committee, 1999
WMG	Watson Moss Growcott
WSUD	Water Sensitive Urban Design

Overview

Amendment summary

The Amendment	Greater Geelong Planning Scheme Amendment C372 and Permit Applications 662/2017 and 663/2017
Common name	Hams Road, Waurin Ponds subdivision
Brief description	Combined amendment and permit applications to facilitate the residential subdivision of land in Hams Road, Waurin Ponds
Subject land	- 35 Hams Road, Waurin Ponds - 69-93 Hams Road, Waurin Ponds
The Proponent	Echin Pty Ltd and Waurin Ponds Trust
Planning Authority	Greater Geelong City Council
Authorisation	22 February 2019 subject to a condition: - To ensure the issue of the buffer to the adjacent quarry is fully resolved a condition should be included requiring direct notice of the amendment to the Environment Protection Authority and the Department of Jobs, Precincts and Regions (Earth Resources Division)
Exhibition	13 March to 26 April 2019
Submissions	Number of submissions: 165 - 6 supported, did not object or provided comments - 159 objected (including 77 pro forma submissions) A list of submitters is provided at Appendix A

Panel process

The Panel	Sarah Carlisle (Chair) and Catherine Wilson
Directions Hearing	Geelong, 22 July 2019
Panel Hearing	Geelong, 22, 23, 26 and 27 August 2019
Site inspections	Unaccompanied, 26 August 2019
Appearances	Greater Geelong City Council represented by Peter Smith Echin Pty Ltd and Waurin Ponds Trust represented by Jeremy Gobbo QC and Jennifer Trehwella, instructed by Norton Rose Fulbright, calling: - Jason Walsh of Traffix Group (traffic) - Tim de Young of GTA Consultants (traffic peer review) - Yasmin Kelsall/ Lincoln Kern of Practical Ecology (ecological matters) – report provided but experts not called - Gillian Lee of Marshall Day (noise)

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- John Guise of Tomkinson (drainage)– report provided but expert not called
 - John Bourke of BAL Assessments (bushfire risk) - – report provided but expert not called
 - Jason Black of Insight Town Planning (planning)
- Powercor represented by Peter Dawson of Spiire, assisted by Daniel Anderson, Customer Development Manager at Powercor
- VicTrack represented by Kate Kraft, assisted by Nick Collins of the Department of Transport
- Lukas McVey
- Richard Loth
- Terri Spronken
- Mark Spronken
- Mark Cooper represented by Terri Spronken
- Dean Smith
- David Jones
- Barry Mulholland
- Michael and Sylvia Williams
- Mal Strickland
- Ross Hayward
- Ross Carlson
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Citation	Greater Geelong PSA C372 [2019] PPV
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Date of this Report	28 October 2019
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Executive summary

(i) Summary

Greater Geelong Planning Scheme Amendment C372 (the Amendment) seeks to rezone the land at 35 Hams Road and 63-69 Hams Road Waurin Ponds from Farming Zone to General Residential Zone, and to apply Design and Development Overlay Schedule 45 to guide the residential development of the land. The Amendment was accompanied by two permit applications (draft Permit 662/2017 and draft Permit 663/2017), which seek permission to subdivide the land, remove native vegetation, and remove a gas easement from the land at 69-93 Hams Road that is no longer required.

The land is surrounded by the Geelong Ring Road, the Geelong to Warrnambool railway line, Hams Road and Ghazeepore Road. It is the last remaining parcel of Farming Zone land inside the Geelong Ring Road in this part of Geelong. It is close to the Waurin Ponds Station, Deakin University's Waurin Ponds campus, the Waurin Ponds shopping centre and the Armstrong Creek West Growth Area.

The Grange Park Estate, which has larger semi-rural style lots, is located to the immediate north of the subject land, and the Powercor Waurin Ponds Zone Substation abuts the north east corner of the subject land. The land to the south of the railway line is owned by Boral, and has a current approved Work Authority for limestone, scoria and basalt extraction and quarrying. A high pressure gas pipeline is located within the VicRoads road reserve of the Geelong Ring Road, close to the western boundary of the subject land.

Council received 165 submission in response to the exhibition of the Amendment and draft permits. 159 of those submissions objected to the proposal (including 77 pro forma submissions). Submissions raised many and varied issues, but the key concerns related to the proposed density of the subdivision, and traffic. Other concerns included:

- noise from the substation and surrounding roads and rail
- drainage and flooding issues, including impacts on a VicTrack culvert under the railway corridor
- ecological issues, including loss of native vegetation and loss of habitat
- issues relating to the interface with the neighbouring substation and the quarry
- cultural heritage impacts
- potential contamination
- bushfire risk and emergency vehicle access
- social issues.

The Amendment is well founded and strategically justified, and should proceed. The strategic framework identifies the land for future residential development. The rezoning is consistent with a number of high level State policy directions, including ensuring an adequate supply of residential land, providing for a diversity of housing choice, and providing housing in locations that are close to public transport, employment and services. At a more regional and local level, the rezoning meets policy directions in the G21 Regional Growth Plan aimed at minimising the continued expansion of the urban footprint and providing a mix of infill development in suitable locations. The Panel recommends some

minor amendments to the exhibited Design and Development Overlay Schedule 45, which are shown in Appendix C of this report.

On balance, the Panel considers that the development represented on the revised Masterplan will produce an acceptable outcome that will deliver net community benefit and sustainable development. The permits should be granted, subject to the conditions contained in Appendices D and E of this report.

Traffic

The material presented to the Panel in relation to traffic, particularly on Ghazeepore Road, raises a conundrum. On the one hand, the expert evidence concluded with some confidence that there is more than adequate capacity in the current road network to accommodate the development traffic. On the other, residents have told the Panel that they are already experiencing significant traffic congestion under current conditions, and that adding the extra traffic will make things worse – some say unacceptable.

On balance, the Panel is satisfied that the development is likely to add a relatively small amount of additional traffic to Ghazeepore Road and the surrounding network, and there are no traffic reasons to not support the proposed development. That said, Council acknowledges that the traffic in Ghazeepore Road is currently causing difficulties for the local residents, and both experts considered that Ghazeepore Road would be designed differently if it was being designed today. The Proponent has volunteered to contribute \$500,000 toward a traffic improvement study in Ghazeepore Road, and any improvement works recommended by that study. The Panel regards this as an appropriate response.

The Panel supports the proposed roundabout at the intersection with Hams Road, Ghazeepore Road and Sugargum Drive. This should contribute to resolving some of the existing traffic concerns in Ghazeepore Road.

Based on the evidence, the Panel does not anticipate that the proposed development is likely to result in significant traffic increased in Grange Park Drive. It does not support turn bans at the intersection of Grange Park Drive and Hams Road, as this would place unreasonable restrictions on the existing residents of the Grange Park Estate.

The Panel generally supports the proposed upgrades to Hams Road, and considers that they will create more than enough capacity to accommodate the development traffic. It does not, however, support the 3.0 metre wide shared path on the south side of Hams Road requested by Transport for Victoria. It considers that the shared path through the creek reserve is sufficient, and that the cross section of Hams Road will be more functional and deliver better outcomes for the residents of the proposed development and the surrounding community if the shared path is not included. Council should seek agreement from Transport for Victoria (which is a determining referral authority) to remove this requirement.

Submitters raised concerns about the internal road layout, including that local streets would not be wide enough for emergency vehicles to access lots within the subdivision. Based on Council's submissions, the evidence and the response from the Country Fire Authority, the Panel is satisfied that the internal road layout, including the width of local streets, is appropriate and in line with accepted subdivision standards. It was also not persuaded that

the location of the main access road into the subdivision, opposite the entrance to Champagne Court, was inappropriate.

Housing density and neighbourhood character

The Panel supports the proposed density reflected in the revised Masterplan, and does not consider that it will result in an unacceptable impact on the neighbourhood character. Larger lots are proposed along Hams Road and around the perimeter of the site, providing an appropriate interface with the Grange Park Estate. The current policy framework does not support the larger lot sizes and lower densities sought by many submitters. In fact, it supports higher densities than those proposed, given the proximity of the land to Waurn Ponds Station and other local and regional services and employment opportunities.

Noise

The subject land is in a noise constrained environment. Nearby noise sources include the Geelong Ring Road and Baanip Boulevard, the Geelong to Warrnambool railway line, the Powercor substation, the Boral quarry and the proposed pump station on the site.

Noise assessments conducted to date indicate that noise from the substation exceeds the applicable criteria. Noise mitigation measures will be required to ensure the noise criteria can be met. Noise attenuation measures must not increase noise levels at existing dwellings to the north and east of the substation. This will require further assessment.

Noise assessments conducted to date indicate that noise levels from the railway line exceed investigation thresholds specified in the *Victorian Passenger Rail Noise Policy*. Noise mitigation measures will also be required to address impacts on dwellings near the railway line.

While noise assessments conducted to date concluded that predicted traffic noise levels would be appropriate, the Panel has some concerns with the Traffic Noise Assessment and considers that traffic noise needs to be reassessed, and the need for noise mitigation further considered. Suitable permit conditions have been included to ensure that this occurs.

Flooding and drainage

Subject to some further minor refinements, the proposed drainage scheme will improve the currently degraded waterway traversing the site, and will improve existing local flooding conditions including the periodic flooding of the retarding basin and surrounding properties in the Grange Park Estate, and the flooding that occurs across Hams Road. The rehabilitated waterway will have reduced sediment loads through better erosion control, good connectivity through the site and improved water quality. External drainage works will be required, including upgrades to the culverts in Hams Road and Ghazeepore Road.

One of the more controversial issues relating to the proposed drainage scheme was the use of, and impacts on, VicTrack's aging brick culvert under the Geelong to Warrnambool railway corridor. The culvert is currently not performing as it should, largely due to sediment build up, and there can be significant ponding of water on both sides of the railway line. VicTrack initially objected to the development draining through the VicTrack culvert. This is not reasonable, as the culvert is located on the natural drainage line and there is no other logical point (other than a new culvert under the railway line) that could be used.

That said, the culvert will need to be upgraded or possibly replaced to allow the subject land to be safely and effectively drained without impacting on the railway line. Ultimately the question of whether the culvert should be upgraded or replaced needs to be resolved through further negotiations between the Proponent, VicTrack and other stakeholders (including Council, who is the local drainage authority). The Panel makes the observation, however, that whether the culvert is upgraded or replaced, VicTrack will have reduced maintenance costs and an asset with improved functionality and a longer life. The Panel considers it is unreasonable to expect the Proponent to bear the full responsibility and cost of the upgrade or replacement.

Ecological issues

The exhibited permit conditions were not sufficiently rigorous to deliver acceptable biodiversity outcomes. However the Panel supports the revised permit conditions provided by Council with its Part B submissions. Subject to minor refinements, they will ensure that native vegetation to be retained will be properly identified and protected, and that vegetation to be lost will be appropriately replaced or offset. Some changes are required to permit conditions to better protect frog species on the land (including determining whether the Growling Grass Frog is present), but the Panel is satisfied that the revised permit conditions will, if implemented, deliver a better biodiversity outcome on the land and for the surrounding area than currently exists.

The quarry

Boral's current Work Authority allows stone extraction up to the edge of the Boral land. It is appropriate to apply a 250 metre extractive industry buffer to both permits, and to reference this buffer in the Design and Development Overlay Schedule 45. Subdivision and development of land within the buffer should not be permitted without the consent of the Earth Resources Regulation Branch of the Department of Jobs, Precincts and Regions. While the Panel has some reservations about the impact of possible blasting activity on the Boral land, there was insufficient evidence or information before it to justify imposing a larger 500 metre buffer from the boundary of the Boral land, which would result in most of the subject land being potentially undevelopable.

The substation

The Panel is satisfied that the impacts of the substation on the proposed development (and the reverse amenity impacts of the development on the substation) can be appropriately managed. Permit conditions are required to ensure that the drainage system does not allow for any flooding of the substation site, and to ensure that future dwellings on the land incorporate appropriate measures to attenuate the noise generated by the substation.

Other issues

In relation to the other issues raised by submitters, the Panel considers that:

- Council's revised permit conditions requiring further assessment of the site for contamination adequately address any potential contamination concerns.
- The recommendations of the Cultural Heritage Management Plan, which has been assessed and approved by the Wathaurung Aboriginal Corporation, are appropriate to manage any impacts of the proposed development on cultural heritage.

- The bushfire risk is low, and can be appropriately managed.
- There is no basis for concluding that the development will result in crime, social problems, 'ghettoes' or 'slums'.

(ii) Recommendations

Primary recommendations

Based on the reasons set out in this Report, the Panel makes the following primary recommendations:

- 1. Adopt Greater Geelong Planning Scheme Amendment C372 as exhibited, with the changes to the Design and Development Overlay Schedule 45 as shown in Appendix C.**
- 2. Issue Planning Permit 662/2017 for the multi-lot staged subdivision and removal of native vegetation on land at 35 Hams Road Waurin Ponds, subject to the permit conditions contained in Appendix D.**
- 3. Issue Planning Permit 663/2017 for the multi-lot staged subdivision, removal of native vegetation and removal of an easement (gas) on land at 69-93 Hams Road Waurin Ponds, subject to the permit conditions contained in Appendix E.**

Based on the reasons set out in this Report, the Panel makes the following detailed recommendations in relation to changes to the Design and Development Overlay Schedule 45 and the draft permit conditions for Permits 662/2017 and 663/2017. These detailed recommendations are based on the exhibited version of the Design and Development Overlay Schedule 45, and the revised draft permit conditions for Permits 662/2017 and 663/2017 attached to Council's Part B submission.

Changes to the exhibited Design and Development Overlay Schedule 45 (Appendix C)

- 4. Remove references to the shared path on the south side of Hams Road from the Design and Development Overlay Schedule 45.**
- 5. Include Council's proposed changes relating to housing density and lot sizes attached to its Part A submission, but delete the following requirement:**

Lots fronting Hams Road must include a restriction preventing them from containing more than one dwelling and being further subdivided.

In the alternative, reword the requirement as follows:

A section 173 agreement must be entered into in respect of the lots fronting Hams Road preventing the construction of more than one dwelling on each lot, and preventing the lots from being further subdivided.

- 6. Amend the Design and Development Overlay Schedule 45 to include the following additional requirement under the heading 'Urban Design':**

An acoustic report prepared by a suitably qualified acoustic consultant must be provided that:

- recommends appropriate noise attenuation measures to ensure that noise emissions from the Powercor substation:
 - comply with the recommended maximum noise levels in EPA Publication 1411, *Noise from Industry in Regional Victoria* (NIRV) at all dwellings and other noise sensitive uses proposed on the land at 35 Hams Road
 - are not increased at any existing dwellings located to the north and east of the Powercor substation
 - demonstrates to the satisfaction of the Responsible Authority and Powercor that the above requirements can be met.
7. Amend the Design and Development Overlay Schedule 45, to include the following additional requirement under the heading 'Urban Design':

An acoustic report prepared by a suitably qualified acoustic consultant must be provided that:

- reassesses predicted noise levels from the Geelong Ring Road and from Baanip Boulevard at future dwellings on the subject land in accordance with the noise criteria in AS2017:2016 and the VicRoads Traffic Noise Reduction Policy. The assessment must include dwellings along the Geelong Ring Road, dwellings along Baanip Boulevard and dwellings along Hams Road with a line of sight to the Geelong Ring Road
 - recommends appropriate noise attenuation measures to ensure that predicted noise emissions from the Geelong Ring Road and from Baanip Boulevard comply with the noise criteria in AS2017:2016 and the noise objectives in the VicRoads Traffic Noise Reduction Policy
 - demonstrates to the satisfaction of the Responsible Authority that the above requirements can be met.
8. Amend the second design objective in the Design and Development Overlay Schedule 45 to read:

To reinstate the natural east-west waterway and make it a central feature of the development including opportunities for environmental restoration, suitable habitat for native fauna, open space and stormwater management.

9. Amend the Design and Development Overlay Schedule 45 to include the following additional design objective:

To maintain an appropriate buffer between development and the quarry and extractive industries located to the south, where required.

Changes to revised Permits 662/2017 and 663/2017 (Appendices D and E)

10. Include the following sub-conditions in condition 1 of each permit, in relation to changes to the Overall Subdivision Masterplan:

- (#) remove references to turn bans at the Grange Park Drive/Hams Road intersection;
 - (#) the active pedestrian path through the creek reserve to be a minimum of 3.5 metres wide and connected to the existing shared path that runs alongside the Geelong Ring Road;
 - (#) show an extractive industry buffer extending 250 metres from the boundary of the land zoned Special Use Zone 7 to the south of the railway line;
11. Amend condition 1(g) in Permit 662/2017 to insert the words 'ultra low floor' after 'a 12 m long', as shown in Appendix D.
12. Amend the conditions in Permit 662/2017 to specify that the roundabout at the Hams Road intersection must be constructed as part of the Stage 1 roadworks for Hams Road.
13. Seek the agreement of Transport for Victoria to withdraw its requirement for conditions requiring a 3 metre wide shared path on the south side of Hams Road.
- a) If Transport for Victoria agrees, include the following sub-condition in condition 1 of each permit, in relation to changes to the Overall Subdivision Masterplan:
 - (#) remove the shared path on the south side of Hams Road.
 - b) If Transport for Victoria does not agree, include the following conditions in both permits:
 - A sub-condition in condition 1 that reads "a minimum 3 metre wide shared user path (off road), on the southern side of Hams Road from the Geelong Ring Road underpass, along the length of Hams Road, across Ghazeepore Road connecting to Sugargum Drive"
 - A new condition that reads "Unless otherwise agreed to in writing with the Head, Transport for Victoria, prior to the issue of a Statement of Compliance for any subdivision stages that contain or abut Hams Road, the shared user path (off road) on the south side of Hams Road must be constructed to the satisfaction of and at no cost to the Head, Transport for Victoria."
14. Reword condition 9 of Permit 663/2017 to read:
- Unless otherwise approved in writing, works for stage 1 of the development cannot commence unless the works to upgrade Hams Road required under both this permit and Permit 662/2017 are completed to the satisfaction of the Responsible Authority.
15. Include a condition in Permit 662/2017 to require revised acoustic report(s) that:
- a) makes recommendations for noise mitigation measures to ensure noise emissions from the Powercor substation:
 - meet the maximum recommended noise levels in *Noise from Industry in Rural Victoria* at all future dwellings on the land

- are not increased at existing dwellings to the north and east of the substation
 - b) demonstrates (including through further modelling) that the above requirements can be met, to the satisfaction of the Responsible Authority and Powercor.
16. Include a condition in both permits to require revised acoustic report(s) that:
- a) reassess the need for noise mitigation measures to ensure noise emissions from the Geelong Ring Road and Baanip Boulevard meet relevant policy requirements
 - b) demonstrates (including through further modelling) that the above requirements can be met, to the satisfaction of the Responsible Authority and Powercor.
17. Include conditions in both permits that ensure that the recommendations of the revised acoustic report(s) are implemented to the satisfaction of the Responsible Authority, including (where appropriate) through restrictions on the titles of relevant lots.
18. Amend the rail noise conditions in both permits to specify noise criteria to be met rather than specific noise attenuation measured to be incorporated into future dwellings.
19. Amend the conditions relating to drainage engineering plans (condition 15 in both permits) to require the plans to:
- a) be prepared by a suitably qualified engineer;
 - b) incorporate the recommendations of the Surface Water Management Strategy relating to geotechnical investigations, watertight wetland bases and non-dispersive topsoil;
 - c) include all external drainage works;
 - d) include any temporary drainage works that may be required if one part of the land develops before the other;
 - e) ensure that no water is discharged to the Powercor utility site during a 1% AEP flood event;
 - f) provide for further modelling (if required by the Responsible Authority) to demonstrate that the drainage scheme can meet the requirements of the permit before the Responsible Authority endorses the drainage engineering plans.
20. Amend condition 29 in Permit 662/2017 to:
- a) include the upgrade of the Hams Road culvert (as well as the drainage works in the VicRoads road reserve, the Ghazeepore Road culvert and the VicTrack culvert);
 - b) refer to 'cleaning, upgrading or replacing, where necessary' the VicTrack culvert, to the satisfaction of the Responsible Authority and VicTrack.
21. Amend the native vegetation conditions in both permits to require:
- a) the draft Ecological Vegetation Classes present on the site to be confirmed;

- b) the final offset to be provided for each site to be determined by a suitably qualified professional once the design of the subdivision and the Hams Road upgrades are finalised;
- c) offsets to be provided onsite where possible.

22. Amend the fauna conditions in both permits to require:

- a) a pre-clearance survey to assess the presence of Growling Grass Frog, Golden Sun Moth, Ballion's Crake and Barking Owl – the survey must be undertaken during the optimal breeding season for the Growling Grass Frog;
- b) the salvage and relocation of any frog species under the supervision of a qualified zoologist prior to works commencing.

23. Include the following conditions on both permits:

Department of Jobs, Precincts and Regions – Earth Resources Regulation Branch

Land affected by the 250 metre extractive industry buffer as shown on the endorsed plan must not be subdivided or developed without the further written agreement of the Department of Jobs, Precincts and Regions.

24. Include a condition on both permits requiring the Construction Management Plan to reflect the recommendations of the approved Cultural Heritage Management Plan, as shown in Appendices D and E.

25. Seek clarification from Downer as to what capacity it recommended the conditions contained in its letter dated 14 September 2017 (part of Document 14). If the conditions were recommended in its capacity as a determining referral authority, include them in Permit 663/2017 unless Downer agrees otherwise.

Changes to the draft section 173 agreement

26. Include provisions in the section 173 agreement requiring the Proponent to pay the voluntary contribution of \$500,000 towards a traffic study and traffic improvements in Ghazeepore Road, and requiring Council to undertake the study and improvements within two years of receiving the payment.

27. If drainage works are required on the Powercor site to achieve no water discharge to the Powercor site during a 1% AEP flood event, include them in the section 173 agreement.

28. Amend clause 6.2 of the exhibited draft section 173 agreement by:

- a) inserting the words 'cleaning, upgrading or replacing, where necessary, the' before the words 'Geelong-Warrnambool railway culvert';
- b) inserting the words 'and VicTrack' after the words 'to the satisfaction of the Responsible Authority'.

1 Introduction

1.1 The proposal

(i) The Amendment

The Amendment seeks to facilitate the residential subdivision of land at 35 and 69-93 Hams Road Waurin Ponds (the subject land). Specifically, the Amendment proposes to:

- rezone the subject land from Farming Zone to General Residential Zone
- apply a new Schedule 45 to the Design and Development Overlay (DDO45) to the subject land
- rezone an existing Barwon Water reserve to the south of the subject land from Farming Zone to Public Use Zone.

(ii) The permit applications

The Amendment is accompanied by draft planning permits for the residential subdivision of the subject land. The permissions sought are summarised in Table 1.

Table 1 Permission sought under permits 662 and 663

Land parcel	Draft permit number	Permission sought
35 Hams Road	662/2017	- staged subdivision - removal of native vegetation
69-93 Hams Road	663/2017	- staged subdivision - removal of native vegetation - removal of gas easement

(iii) The Masterplan

The application for the Amendment and permits was accompanied by a Masterplan version MP5, dated 7 June 2017. It showed 271 standard residential lots, 22 larger interface lots along Hams Road a 1.3 hectare medium density superlot in the south west corner. Council assessed that this version of the Masterplan could have delivered in the order of 320 lots.

Following internal and external referrals and a Request for Further Information (RFI), the Proponent submitted a revised Masterplan (MP17 dated 30 October 2019), extracted in Figure 1 below. This version reduced the number of standard residential lots, retained the larger lots along Hams Road and included two medium density superlots, one along the eastern side of the site and one on the western side, surrounding the substation. Council assessed that this version could have delivered in the order of 300 lots. This version was put on exhibition.



Source: Council's Part A submission

The Proponent provided a further revised version of the Masterplan (MP19 dated 24 July 2019), which (among other things) removed the medium density superlots and provided more larger lots around the perimeter of the site (not just along Hams Road). This reduced the lot yield to around 245 lots. A copy is extracted in Figure 2 below.



The Amendment and draft permits were exhibited together with a draft agreement under section 173 of the *Planning and Environment Act 1987* (the Act) to require the Proponent to undertake infrastructure works and to pay development contributions.

The Amendment and permit applications were accompanied by a number of technical reports which were exhibited together with the Amendment and draft permits.

Report	Author	Date	Comments
Town Planning Report	Taylors	November 2018	- Outlines the proposed development, provides an assessment against the Planning Scheme and recommends the Amendment be approved and permits be granted - Accompanied by plans prepared by Taylors (Masterplan package MP17)

Report	Author	Date	Comments
Cultural Heritage Management Plan	Benchmark Heritage Management	31 October 2018	- Outlines specific measures to manage cultural heritage on the site - Approved by the Wathaurung Aboriginal Corporation on 29 November 2019
Surface Water Management Strategy	Neil Craigie Pty Ltd	19 September 2013	- Outlines the surface water management strategy for the proposed residential development - Based on an earlier iteration of the subdivision design, involving an engineered linear east-west drainage line
Flood Modelling	Water Technology	30 October 2018	- Undertaken in response to RFI from Council and the Corangamite Catchment Management Authority - Outlines the hydrological and hydraulic investigation for the site and catchment, and builds on the Surface Water Management Strategy - Based on a revised subdivision and drainage scheme design, based on a drainage line that follows the natural course of the creek
Traffic Engineering Assessment	Traffix Group	October 2018	- Traffic engineering assessment of the internal road layout and access arrangements, and likely impacts of the proposed development on the surrounding road network
Buffer Study	GHD	March 2018	- Purpose was to assess any potential buffer constraints to the site from existing industry - Considered buffers to the Boral quarry and associated operations
Updated Addendum to Flora and Fauna Assessment and Native Vegetation Impact Analysis	Practical Ecology	October 2018	- Undertaken in response to RFI from Council - Updates an earlier report prepared in 2014, to include impacts on a patch of native vegetation in the Hams Road reserve, and reflect the updated creek reserve alignment

Report	Author	Date	Comments
Growling Grass Frog, Natural Spring, and Bird Habitat Surveys	Practical Ecology	February 2015	- Targeted survey for Growling Grass Frog, Wedge-tailed Eagle and Swift Parrot, and for the potential presence of a natural spring - To address community concerns and guide a decision on referral under <i>the Environment Protection and Biodiversity Conservation Act 1999</i>
Safety Management Study	OSD Pty Ltd	17 April 2014	- Documents Safety Management Study (SMS) workshop, purpose of which was to identify, review and validate the credibility of potential threats to the high pressure gas transmission pipeline and identify measures to mitigate and/or control those threats
Traffic Noise Assessment	Marshall Day Acoustics	11 October 2018	- Prepared to address potential noise impacts on the development due to adjacent roads and the railway line
Powercor Substation Noise Report	Watson Moss Growcott	9 April 2018	- Prepared on behalf of Powercor (not the Proponent) - Measures and models noise emissions from the substation and assesses them against applicable noise limits - Discusses options for noise control, including on-site attenuation on the substation, and measures on the subject land
Preliminary Site Investigation	Tonkin and Taylor	January 2018	- Preliminary desktop assessment to identify potential sources of historical contamination at the site, the types of contaminants that may be present, and the constraints they may pose for residential use of the site

(vi) The Proponent's statement in response to submissions

In response to submissions, the Proponent issued a Statement, indicating that it proposed to (among other things):

- reduce the density of the proposed subdivision by removing the medium density superlots shown on the exhibited Masterplan and providing more larger lots around the perimeter of the development (not just along Hams Road)

- make a voluntary contribution of \$500,000 toward a traffic study and any rectification works recommended by that study to improve the capacity, capability and safety of Ghazeepore Road.

The Statement notes that restrictions will be placed on the titles to the lots to stop them from being further subdivided.

1.2 The subject land and surrounds

The Amendment applies to land shown in Figure 3 below. The subject land is shown in pink. Figure 3 also shows the land to be rezoned Public Use Zone.

The subject land is around 24 hectares in size, and is bounded by:

- Hams Road to the north
- the Geelong Ring Road (Princes Freeway) to the west
- Baanip Boulevard and the Melbourne to Warrnambool railway line to the south
- Ghazeepore Road to the east.

The subject land is currently used for grazing, and contains some outbuildings and farming infrastructure that is largely in poor condition.

A tributary of Armstrong Creek traverses the subject land, flowing from the north west to the south east. The tributary is a designated waterway under the *Water Act 1989*. The land 200 metres either side of the creek is an area of cultural heritage sensitivity.

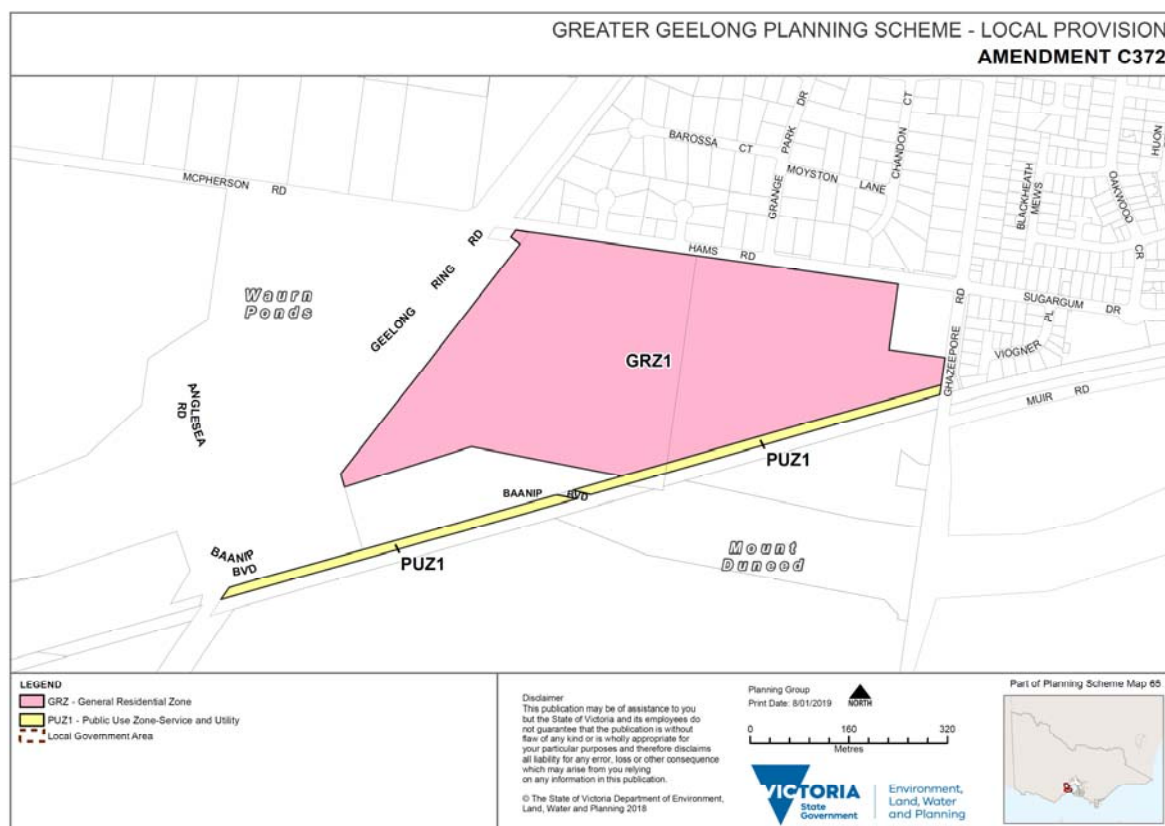


Figure 3 Subject land

Source: Exhibited documents

The immediate surrounds include:

- a Powercor substation to the immediate north east
- the Grange Park Estate north of Hams Road, with predominantly larger semi-rural style lots
- a retarding basin on the north side of Hams Road which services the Grange Park Estate
- a high pressure gas easement to the immediate west, within the road reserve of the Geelong Ring Road
- a powerline easement in favour of Powercor, which runs along the southern boundary of the subject land and connects to the substation through the subject land
- land owned by Boral to the south, east and south east, which has a current approved Work Authority for scoria, limestone and basalt extraction and quarrying.

Other features in the surrounding area include:

- the Waurn Ponds train station to the east
- established residential areas further to the north and north east, with generally more conventional lot sizes
- the Waurn Ponds shopping centre to the north
- Deakin University's Waurn Ponds campus and Epworth Hospital further to the north
- part of the Armstrong Creek West Growth Area to the south east, which is currently vacant but is identified in the relevant precinct structure plan for conventional and medium density housing.

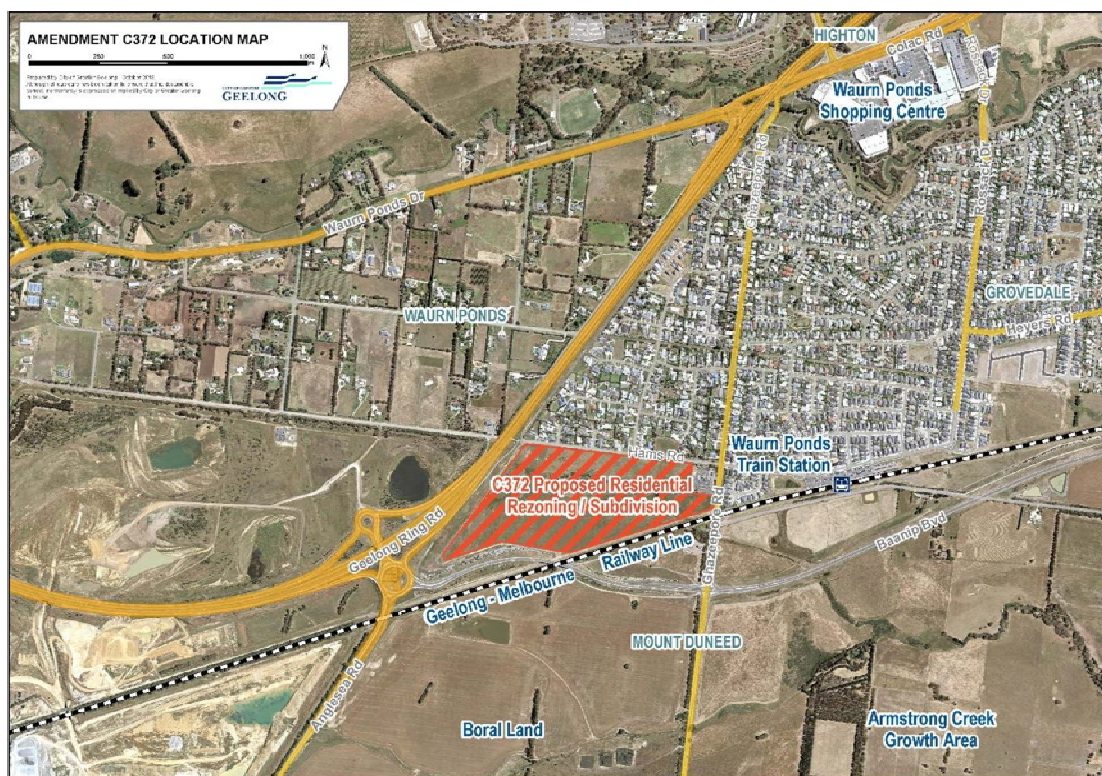


Figure 4 Subject land and surrounding context
Source: Council's Part A submission

1.3 Background

(i) Chronology

Council's Part A submission included a chronology of the Amendment. Key steps are set out in Table 3.

Table 3 Chronology of the Amendment and permit applications

Date	Step
5 Oct 2016	Pre-application meeting between Council and Taylors (acting for the Proponent)
19 May 2017	Incomplete application lodged
29 June 2017	Full application for amendment and permits lodged
2 Aug 2017	Application and technical reports referred to internal departments within Council
4 Aug 2017	Application and technical reports referred to external government agencies/referral authorities
10 Oct 2017	Council issued a Request for Further Information (RFI) to the applicant
16 May 2018	Taylors submitted response to the RFI and revised application docs
15 June 2018	Revised application re-referred internally and externally
30 Nov 2018	Further revised application documents provided by applicant
11 Dec 2018	Council resolved to prepare and exhibit Amendment C372
20 Feb 2019	Minister's delegate authorised exhibition
13 Mar to 26 April 2019	Public exhibition
25 June 2019	Council considered submissions and resolved to refer to a Panel

(ii) Amendment C276

A previous proposal (Amendment C276) was exhibited in 2014. It proposed to rezone the land to Residential and apply a Design and Development Overlay to the subject land, but was not accompanied by permit applications. Amendment C276 was exhibited, and subsequently abandoned by Council in April 2015 in response to community opposition. It was not referred to a panel.

1.4 Procedural issues

(i) Mr Smith's expert witnesses

Mr Dean Smith proposed to call Dr Jones and Mr Mulholland as independent expert witnesses. The Proponent objected to them being called as independent experts, as both had made a submission objecting to the proposal.

Dr Jones prepared a separate expert witness statement. Mr Mulholland did not prepare any additional material to his original submission (which was in three parts).

The Panel ruled that it would accept the material prepared by Dr Jones and Mr Mulholland as submissions, rather than as expert evidence. As submitters to the Amendment, they did not meet the criteria for an independent expert witness. Both presented to the Hearing (Dr Jones in person and Mr Mulholland via teleconference) as submitters.

(ii) The Proponent's expert witnesses

The Proponent tabled expert witness statements from:

- Jason Black of Insight Planning in relation to planning
- Jason Walsh of Traffix Group in relation to traffic
- Tim de Young of GTA Consultants, who peer reviewed the traffic assessment submitted with the application
- Gillian Lee of Marshall Day Acoustics in relation to noise from the surrounding roads, railway line and substation
- John Guise of Tomkinson in relation to drainage (Mr Guise assessed the flood modelling and Surface Water Management Strategy submitted with the application)
- Yasmin Kelsall and Lincoln Kern of Practical Ecology in relation to ecological matters
- John Bourke of BAL Assessments in relation to bushfire risk.

Mr Black, Mr Walsh, Mr de Young and Ms Lee appeared before the Panel to present their evidence and answer questions. The Proponent offered to call the other witnesses should the Panel have questions for them, but it did not.

Mr McVey provided an email (Document 19) requesting the Panel to “*reject any information related to planning matters, boundary or buffer zones*” on the basis that the information was inaccurate and incomplete. His key points were that the GHD Buffer Assessment submitted with the application failed to consider fly rock from blasting as an air emission, ground vibration and noise from blasting had not been addressed, and land contamination issues had not been adequately addressed.

The Proponent responded that the Proponent's planning evidence, as well as its traffic evidence, was prepared in accordance with the PPV Guide to Expert Evidence and circulated in accordance with the Panel's directions (albeit a couple of hours late), and should be accepted by the Panel. The Proponent submitted that it was not seeking to present either the GHD Buffer Assessment or the Preliminary Site Assessment as expert evidence.

The Panel ruled that it would accept the Proponent's planning evidence. Mr Black's witness statement was prepared in accordance with the PPV Guide to Expert Evidence, and the Panel was satisfied that the witness was independent, and had made the necessary declarations that all relevant matters had been considered and brought to the Panel's attention. The Panel noted that the Proponent was not seeking to rely on either the GHD Buffer Assessment or the Preliminary Site Assessment as expert evidence, and confirmed that it would not treat those reports as expert evidence.

1.5 Summary of issues

Most submitters did not object to the rezoning of the subject land to allow residential development. Their key concern was the density of the proposed development. Key issues included:

- the proposed density and smaller lot sizes are inconsistent with the character of the Grange Park Estate, which has larger semi-rural style lots
- traffic in the area is already problematic, and would be exacerbated by the additional people living in the proposed development, creating safety and amenity concerns
- noise from the substation, the surrounding roads and rail and the quarrying operations has not been adequately considered
- drainage and flooding issues, including backflow into the Grange Park Estate and flooding across Hams Road
- ecological issues, including the loss of native vegetation both within the subject land and the Hams Road reserve, loss of habitat for frogs, destruction of a natural spring on the land and impacts on Wedge-tailed Eagles and other birds that use the subject land
- the interface with the neighbouring quarry has not been adequately considered
- cultural heritage impacts have not been adequately considered
- potential contamination of the subject land, both from historical on-site uses and adjacent operations including the rail line and the substation
- bushfire risk and emergency vehicle access
- social concerns associated with higher density and perceived lower socio-economic housing, including increased crime rates and overcrowding associated with rental and student accommodation and registered and unregistered rooming houses
- concerns that the existing infrastructure and services in the area (including roads, footpaths, bike paths, drainage infrastructure and local shops) are inadequate to cope with the additional population
- lack of open space in Waurin Ponds (several submitters felt that the land should be converted to open space)
- impacts of construction vehicles accessing and leaving the site
- concerns with the consultation process, including errors and misleading information, a lack of community consultation and that the consultation was rushed.

The key issues for Powercor were:

- reverse amenity impacts associated with housing being developed in close proximity to its existing substation
- potential flooding impacts on the substation.

The key issues for VicTrack and the Department of Transport were:

- the use of the culvert under the railway line to drain stormwater from the subject site
- potential flooding of VicTrack land.

The key issues for VicRoads were:

- concerns over aspects of the Marshall Day noise assessment assessing noise impacts from the Geelong Ring Road.

The key issues for the Environment Protection Authority (EPA) were:

- impacts of the quarry and suitable buffers to the quarry

- potential contamination of the subject land
- noise impacts from the substation and from the proposed sewerage pump station in the south east corner of the subject land
- health impacts of traffic-related pollution.

All submissions remain outstanding.

1.6 The Panel's approach

The Panel considered all written submissions made in response to the exhibition of the Amendment, observations from site visits, and submissions, evidence and other material presented to it during the Hearing. It has reviewed a large volume of material, and has had to be selective in referring to the more relevant or determinative material in the Report. All submissions and materials have been considered by the Panel in reaching its conclusions, regardless of whether they are specifically mentioned in the Report.

This Report deals with the issues under the following headings:

- Planning context and strategic justification
- Traffic
- Housing density and neighbourhood character
- Noise
- Flooding and drainage
- Ecological issues
- The quarry
- Other issues
- The planning permits.

2 Planning context and strategic justification

2.1 Planning policy framework

Council submitted that the Amendment is supported by various clauses in the Planning Policy Framework. The Panel has summarised Council's submission below.

Victorian planning objectives

The table below summarises Council's submissions about how the Amendment will assist in implementing State policy objectives set out in section 4 of the Act.

Table 4 Assessment of the Amendment against Victorian planning objectives

Objective	Consistency
Providing for fair, orderly, economic and sustainable use and development of land	Development of the land for urban purposes will assist in consolidating the urban setting of the area and will result in better use of local facilities
Providing for the protection of natural and man-made resources and the maintenance of ecological processes and genetic diversity	The Armstrong Creek tributary, which provides important east-west habitat corridors and connectivity through the region, will be protected during development and converted to open space
Securing a pleasant, efficient and safe working, living, and recreational environment for all Victorians and visitors to Victoria	The Amendment contains requirements that regulate the subdivision of land so as to create pleasant residential neighbourhoods in close proximity to jobs, services and recreational facilities
Protecting public utilities and other assets and enable the orderly provision and coordination of public utilities and other facilities for the benefit of the community	- Drainage infrastructure will be upgraded to cater for urban development and allow for natural flows into retarding basins or wetlands - Urban development is appropriately setback from the power substation - The rail corridor and Baanip Boulevard have appropriate acoustic treatments
Balancing the present and future interests of all Victorians	Providing for urban development in the area will ensure additional housing supply for this part of the municipality. It provides an opportunity for a diversity of residential lot sizes and housing types to benefit future generations of residents

Clause 11 (Settlement)

Council submitted that the Amendment supports Clause 11 by:

- facilitating residential growth in an orderly manner close to educational and community services in a broader established residential context (Clause 11.01-1S Settlement)

- facilitating growth in an area identified to support planned growth, and optimising the use of existing infrastructure and services (Clause 11.01-1R Settlement Geelong (G21))

Clause 15 (Urban design)

Council submitted that the Amendment supports Clause 15 by:

- the subdivision and open space layout creating a safe, healthy, functional and enjoyable urban environment that contributes to a sense of place and cultural identity.

Clause 21 (the Municipal Strategic Statement)

The table below summarises Council's submissions about how the Amendment supports the Municipal Strategic Statement.

Table 5 Assessment of the Amendment against the Municipal Strategic Statement

Clause of the MSS	Consistency
Clause 21.02 City of Greater Geelong Sustainable Growth Framework	The Amendment provides a logical consolidation of development within an established and growing urban area
Clause 21.04 Municipal Framework Plan	The Amendment delivers new residential land within an area identified as urban and adjacent to areas identified as urban growth areas
Clause 21.06 Settlement and Housing	The Amendment locates development in an area that is well serviced and has the capacity to accommodate sustainable development
Clause 21.08 Development and Community Infrastructure	The Amendment delivers new residential land near existing and planned infrastructure and transportation
Clause 21.11 Armstrong Creek Urban Growth Area	The Amendment adds to the residential opportunities provided in the Armstrong Creek growth area, helping to support facilities proposed near Waurin Ponds Station, and continuing the creek reserve and biodiversity corridor outlined within the framework plan along Armstrong Creek

2.2 Other relevant planning strategies and policies

(i) G21 Regional Growth Plan

The *G21 Regional Growth Plan* (Geelong Region Alliance, 2013) is listed as a Policy document at Clause 11.01-1S. It seeks to deliver co-ordinated growth in the region to 2051 and make land supply available to provide for the predicted population of 500,000 people. It seeks to minimise the continued expansion of the urban footprint and provides for a mix of infill development and targeted new development areas in suitable locations. The G21

Residential Land Supply Monitoring Project June 2015 identifies the site as 'potential residential' land.

(ii) Settlement Strategy

In October 2018 Council adopted the *City of Greater Geelong Settlement Strategy*. The Settlement Strategy is the new planning framework to meet the housing needs of Greater Geelong until 2036. The purposes of the strategy are to:

- analyse future housing needs and trends
- develop a clear policy framework that will guide planning and decision-making
- help meet Greater Geelong's future housing needs.

It supports the requirement of the State Planning Policy Framework that all Victorian councils must plan to accommodate projected population growth over a 15-year period.

The Settlement Strategy identifies the subject land for urban growth and shows it within the indicative Permanent Settlement Boundary in the Housing Framework Plan.

The Strategy has been through a public consultation process and was adopted by Council on 9 October 2018. It will be implemented into the Planning Scheme by Amendment C395ggee, which will introduce new and revised policy and maps into the Municipal Strategic Statement. Amendment C395ggee is discussed in more detail in Chapter 2.4.

(iii) Armstrong Creek Urban Growth Plan

The *Armstrong Creek Urban Growth Plan*, Volume 1, May 2010 (amended September 2012) is a reference document at Clause 21.11 of the Planning Scheme. It sets long term strategic planning directions to guide the creation of sustainable urban growth within the Armstrong Creek growth area, which is located to the south east of the subject land.

Chapter 6 of the Urban Growth Plan refers specifically to the subject land on pages 128-129:

An isolated area of rural zoned land is located north west of the growth area... The land is between the future quarry area, the railway line and residential land, and is likely to be affected by [what is now Baanip Boulevard].

It is recommended that land on the northern side of [Baanip Boulevard] that is not required for road purposes be considered for future residential and/or recreational zoning. This may add to the existing residential area to the north and increases the population within the catchment of the proposed [what is now Waurm Ponds Station] and associated local activity centre.

The Future of this land should be confirmed after the alignment of [Baanip Boulevard] is determined by VicRoads and take into account amenity issues created by the road
...

2.3 Planning scheme provisions

A common zone and overlay purpose is to implement the Planning Policy Framework.

(i) Zones

The purposes of the Farming Zone (the current zone) are (as relevant):

To provide for the use of land for agriculture.

To encourage the retention of productive agricultural land.

To ensure that non-agricultural uses, including dwellings, do not adversely affect the use of land for agriculture.

To encourage the retention of employment and population to support rural communities.

The purposes of the General Residential Zone (the proposed zone) are:

To encourage development that respects the neighbourhood character of the area.

To encourage a diversity of housing types and housing growth particularly in locations offering good access to services and transport.

To allow educational, recreational, religious, community and a limited range of other non-residential uses to serve local community needs in appropriate locations.

(ii) Overlays

The land is not subject to any overlays.

(iii) Other provisions

Relevant particular provisions include Clause 56 (Residential subdivision), the purposes of which are:

To create liveable and sustainable neighbourhoods and urban places with character and identity.

To achieve residential subdivision outcomes that appropriately respond to the site and its context for:

- Metropolitan Melbourne growth areas.
- Infill sites within established residential areas.
- Regional cities and towns.

To ensure residential subdivision design appropriately provides for:

- Policy implementation.
- Liveable and sustainable communities.
- Residential lot design.
- Urban landscape.
- Access and mobility management.
- Integrated water management.
- Site management.
- Utilities.

Clause 56 contains Objectives that describe the desired outcome to be achieved in the completed subdivision, and Standards that contain the requirements to meet the Objective. Clause 56 states:

A standard should normally be met. However, if the responsible authority is satisfied that an application for an alternative design solution meets the objective, the alternative design solution may be considered.

2.4 Amendment C395ggee

Amendment C395ggee seeks to implement the Settlement Strategy and the *Northern and Western Geelong Growth Areas Framework Plan*, which was adopted by Council in March 2019. It proposes to (among other things):

- replace the Municipal Framework Plan at Clause 21.04 of the Scheme to implement the Settlement Strategy
- replace and amend Clauses 21.06 (Settlement and Housing), 21.08 (Development and Community Infrastructure) and 21.14 (The Bellarine Peninsula) to implement the Settlement Strategy.

Amendment C395ggee has completed exhibition, and will soon be considered by a panel. According to Council, no submissions to that amendment relate directly to the subject land, although Boral made a submission seeking support for future urban use of its land to the south and west of the subject land that is currently used for quarrying.

According to Council, Amendment C395ggee “will clarify the role of the C372 land as a future residential area”.

2.5 Ministerial Directions

The Explanatory Report and Council’s Part A submission discuss how the Amendment meets the relevant requirements of Ministerial Direction 11 (Strategic Assessment of Amendments) and *Planning Practice Note 46: Strategic Assessment Guidelines*, August 2018 (PPN46). That discussion is not repeated here.

2.6 Evidence and submissions

Council submitted that the rezoning is strategically justified because:

- the Amendment provides an infill development opportunity to consolidate the existing urban area of Waurin Ponds and make efficient use of surrounding physical and community infrastructure
- the site is strategically well located for residential development, being:
 - within walking distance of Waurin Ponds Station
 - accessible by major roads
 - close to the major employment, education and retail hubs of the Epworth Hospital, Waurin Ponds Shopping Centre and Deakin University
- the Amendment provides an opportunity for much needed open space for the southern part for Waurin Ponds and a creek reserve along the Armstrong Creek tributary
- the site is a fragmented piece of farm land not suitable for agricultural practices.

Council noted that the land is the last Farming Zone site inside the Ring Road in this part of the municipality, and that strategic justification for the rezoning is provided in part by the Armstrong Creek Urban Growth Plan, the G21 Regional Growth Plan and the City’s recently adopted Settlement Strategy, by delivering residential land supply in urban Geelong to accommodate future population growth.

The Proponent submitted that there is a “*strong foundation*” for the Amendment and permits, including in Clause 11 which promotes sustainable growth and development and the delivery of opportunity and choice for all Victorians, and seeks to focus investment and growth in Geelong. It submitted that the proposed subdivision builds on existing and planned infrastructure, and focuses growth along key road and rail networks, consistent with State and regional policy.

The Proponent noted that Clause 21.04 of the Municipal Strategic Statement identifies the land as being within an existing urban area, and that local policy recognises that there is “*an environmental, economic and social imperative to reduce urban sprawl and improve accessibility to urban services, principally by consolidating urban development around places of activity and public transport infrastructure*”.

Jason Black gave planning evidence for the Proponent. His evidence was that rezoning the land to General Residential will:

- ensure that the current zone conflict between Farming and General Residential is addressed
- apply a zone which is consistent with the direction envisaged in the Settlement Strategy
- ensure that future subdivision and development respects the neighbourhood (residential) character of the area
- encourage a diversity of housing types and housing growth in a location that is offering good access to services and transport.

2.7 Discussion and conclusion

The Panel is satisfied that the land is no longer suitable for agricultural use given its size and context. The purposes of the Farming Zone can no longer be achieved.

The strategic framework identifies the land for future residential development. Its role as residential land will be reinforced by the Settlement Strategy and the upcoming Amendment C395ggee (assuming it is adopted and approved in generally the form it was exhibited). The rezoning is consistent with a number of high level State policy directions, including ensuring an adequate supply of residential land, providing for a diversity of housing choice, and providing housing in locations that are close to public transport, employment and services.

At a more regional and local level, the rezoning meets policy directions in the G21 Regional Growth Plan aimed at minimising the continued expansion of the urban footprint and providing a mix of infill development in suitable locations. The land is identified in the G21 Residential Land Supply Monitoring Project and the Armstrong Creek Urban Growth Plan as potential residential land, and the Settlement Strategy identifies it as land for urban growth, within the indicative Permanent Settlement Boundary for Geelong.

The Panel concludes that the rezoning is supported by, and implements, the relevant sections of the policy framework. The Amendment is well founded and strategically justified, and should proceed.

The permits allowing the subdivision of the land also need to be consistent with the policy framework if they are to be supported. This requires consideration of more specific policy

directions around creating sustainable urban development, protecting biodiversity and waterways, addressing noise and other amenity impacts from surrounding land uses and so on. These issues are considered in the following chapters.

2.8 Recommendation

The Panel recommends:

Adopt Amendment C372 with the changes to the Design and Development Overlay Schedule 45 as shown in Appendix C.

3 Traffic

3.1 Introduction

(i) The Design and Development Overlay

The exhibited DDO45 includes the following design objective:

To provide a safe and interconnected transport network that includes opportunities for walking and cycling, minimises impact on adjoining streets and directs car traffic to an upgraded Hams Road/Ghazeepore Road intersection.

Under the exhibited DDO45, a residential subdivision must meet the following requirements:

Traffic and Pedestrian Movement

- An integrated and continuous network of safe and convenient footpaths and shared paths including a shared pathway along Hams Road and the full length of the creek reserve with connections to Hams Road, Ghazeepore Road and the Princes Freeway path.
- Vehicle access to the site to be from Hams Road only with no direct access to Ghazeepore Road.
- Upgrading of the intersection at Hams Road and Ghazeepore Road including a safe pedestrian and cycle crossing of Ghazeepore Road.
- Upgrading and widening of Hams Road between the Hams Road court bowl and the intersection at Ghazeepore Road.
- Local area traffic management treatments to discourage and minimise vehicle movements from the development into Grange Park Drive.

Council proposed adding a further requirement to the DDO45 to address the Proponent's offer to contribute \$500,000 to improvements in Ghazeepore Road outlined in its Statement in response to submissions (refer to Chapter 1.1(vi)).

(ii) Permit conditions

Permit conditions and/or the draft section 173 agreement exhibited with the Amendment and permits require the owner of the land to:

- construct a roundabout at the intersection of Hams Road, Ghazeepore Road and Sugargum Drive (referred to in this report as the Hams Road intersection)
- upgrade Hams Road between the Geelong Ring Road and Ghazeepore Road
- upgrade Ghazeepore Road along the boundary of the land.

(iii) The Traffic Engineering Assessment

The combined Amendment and draft permits were exhibited with a Traffic Engineering Assessment prepared by Traffix Group dated October 2018. The Assessment concluded that there are no traffic engineering reasons why permits should not be granted. Specifically:

- traffic predicted to be generated by the proposed development will easily be accommodated by the existing road network and intersections without any unacceptable impacts
- the Council required roundabout at the Hams Road intersection could be delayed until after the initial stages of development

- turn bans at the Hams Road/Grange Park Drive intersection would discourage site generated traffic from using Grange Park Drive
- the proposed road reservations can accommodate appropriate carriageways, footpaths, services, etc, and parking, pedestrian and cycle provisions are consistent with the requirements of relevant standards and current practice
- all relevant vehicles will be able to adequately access the site including service and emergency vehicles.

3.2 The issues

The vast majority of submissions identified traffic impacts as a key issue. Concerns included:

- impact of traffic volumes generated by the proposed development on Ghazeepore Road and the surrounding road network
- treatment of the Hams Road intersection
- impact of development traffic on Grange Park Drive
- the treatment of Hams Road
- the appropriateness of the proposed active transport connections
- the appropriateness of the proposed internal road network, including impacts on Champagne Court
- impacts of construction traffic.

3.3 Relevant policies and strategies

Clause 21.08-2 of Council's MSS includes the following objective:

To develop a safe, accessible, equitable and efficient traffic, transport and freight network.

Clause 32.08 (General Residential Zone) requires an application to be accompanied by, among other things, information in relation to the likely effects on adjoining land including traffic, and for the Responsible Authority to consider the safety, efficiency and amenity impacts of traffic to be generated by the proposal.

Clause 56.06 (Residential subdivision, access and mobility management) includes the following objectives:

To contribute to community health and wellbeing by encouraging walking and cycling as part of the daily lives of residents, employees and visitors.

To provide safe and direct movement through and between neighbourhoods by pedestrians and cyclists.

To provide for direct, safe and easy movement through and between neighbourhoods for pedestrians, cyclists, public transport and other motor vehicles using the neighbourhood street network.

To design and construct street carriageways and verges so that the street geometry and traffic speeds provide an accessible and safe neighbourhood street system for all users.

3.4 Ghazeepore Road and the wider road network

(i) Introduction

Ghazeepore Road is classified as a 'Main Distributor' in Council's Municipal Public Road Register. It runs north-south, connecting Colac Road in the north and Grossmans Road (near Torquay) in the south. Sections to the north and south of the subject land are paved, and there is a gravel section further to the south over Dickins Road (towards Torquay). North of Hams Road, it has a pavement width of around 10 metres (narrower in sections), and south of Hams Road it has a pavement width of around 7 metres. It has a speed limit of 60kph.

The Melbourne to Warrnambool railway line crosses Ghazeepore Road at the south east corner of the subject land, with a boom gate controlled level crossing.

A number of traffic counts have been undertaken to ascertain the capacity of the Hams Road intersection, and to inform upgrades to that intersection. These counts included traffic in Ghazeepore Road travelling both north and south:

- Traffic Group undertook counts in October 2016, on which the Traffic Engineering Assessment submitted with the application was based
- Mr Walsh of Traffic Group undertook updated traffic counts in May 2019
- Mr de Young of GTA Consultants undertook his own traffic counts in August 2019.

Mr Carlson also provided some information on traffic volumes in Ghazeepore Road in his submission.

(ii) Evidence and submissions

Submitters

Many submitters cast doubt on the accuracy of the traffic counts in the Traffic Engineering Assessment exhibited with the combined Amendment and permit applications, submitting that the Assessment was outdated and inaccurate. For example, Mr Mulholland submitted that the Traffic Engineering Assessment was now two years old, and that there had been a number of significant developments in the area since then that have contributed to increased traffic. He submitted that the Traffic Engineering Assessment failed to take into account the opening of Waurin Ponds Station, the completion of Baanip Boulevard, the proposed duplication of the railway to Waurin Ponds, and the proposed construction of the Waurin Ponds stabling yards to the south west of the site (both of which would result in more 'down time' for the boom gate at the level crossing).

Several other submitters made similar observations about the Traffic Engineering Assessment being outdated and missing key information, including Ms Spronken who submitted that it failed to take into account the two bus routes that operate in the area. She submitted that private school buses also use local roads. Several submitters, including Dr Jones and Mr Carlson, noted that the traffic counts in the Traffic Engineering Assessment were done in a non-teaching week at Deakin University, and likely underestimate traffic in the area for that reason.

The Traffic Engineering Assessment and the Proponent's experts (Mr Walsh and Mr de Young) assumed nine daily vehicle movements per dwelling, for the purposes of calculating

the daily traffic volumes likely to be generated by the development. Some submitters, including Mr Hayward, questioned this figure. Mr Hayward noted that a lot of housing in the area is being used for student housing, with up to 4 to 5 vehicles per household. He submitted that the daily vehicle movements per dwelling are therefore likely to be higher.

Many submissions raised concerns about the current condition of Ghazeepore Road and the impact that additional traffic from the proposed development would have on what they felt were already congested conditions. Submitters pointed out the increases in traffic as a result of new housing estates in Armstrong Creek and Torquay and the opening of Waurin Ponds Station. Access to the Station is off Ghazeepore Road into Sugargum Drive. Submitters also referred to traffic coming from the south to access Colac Road, Deakin University and Waurin Ponds Shopping Centre. Submitters felt that:

- Ghazeepore Road is too narrow, can't handle current traffic volumes and is difficult to navigate when cars are parked on the road
- there are already safety issues, which could become worse with the additional traffic generated by the development
- residents had difficulty entering and exiting streets off Ghazeepore Road at peak times, and difficulty accessing their driveways (particularly with boats in tow)
- the findings and outcomes of Council's 2015 transport report on the area have not been properly implemented
- upgrades to the level crossing in Ghazeepore Road and access to the Station from the south need to occur before more development is allowed
- pedestrians already have difficulty crossing the road to access bus stops and the Station, which is only likely to get worse with the additional traffic generated by the proposed development.

For example Mr Hayward cited his experience of difficulty accessing Ghazeepore Road from side streets due to the heavy traffic and buses, and a number of near misses with traffic trying to get out of the side streets into Ghazeepore Road. He submitted *"any further increase in traffic volumes would be unacceptable and unsafe"*.

Mr Carlson made a detailed submission to the Panel about traffic in Ghazeepore Road and other surrounding roads. He submitted that current traffic volumes in Ghazeepore Road are in the order of 7,000 vehicles per day, and that an extra 3000 vehicles per day to and from Hams Road *"will inject community apathy, mayhem, and danger, into an already stressed Ghazeepore Road"*. He submitted that volumes in Ghazeepore Road had increased substantially in recent years with surrounding developments, including Armstrong Creek, and that existing residents of Ghazeepore Road are experiencing significant difficulty accessing their driveways and are unwilling to park on the street.

Mr Carlson submitted that a significant number of large vehicles use Ghazeepore Road from the very early hours, creating disturbance for the local residents, including from noise and flashing lights. He noted that there had been a number of accidents on Ghazeepore Road, even when the traffic volumes were much lower. He submitted that traffic exiting the development from Hams Road would almost all turn right into Ghazeepore Road, as there are no services, employment or education facilities to the south. He submitted that this would worsen the already unacceptable conditions in Ghazeepore Road.

Mr Carlson raised a number of concerns about traffic in the wider road network, including traffic volumes in Rossack Drive and Torquay Road, and Council's failure to construct a bridge over the railway line to connect Rossack Drive to Armstrong Creek.

The Proponent

The Proponent called traffic evidence from Jason Walsh of Traffix Group at the Hearing. Mr Walsh was not involved in the preparation of the Traffic Engineering Assessment that accompanied the combined application, although it was prepared by his firm.

Mr Walsh undertook traffic counts in May 2019. On his counts, Ghazeepore Road (north of Hams Road) has a daily two-way volume in the order of 5,800 vehicles. He estimated that base case traffic volumes in Ghazeepore Road (not including new traffic generated by the development) would increase 3 percent per year, representing a 30 percent increase over 10 years. He then sensitivity tested the results by assuming a 50 percent growth in traffic on Ghazeepore Road over 10 years.

Mr Walsh estimated that the proposed subdivision (assuming 245 lots) will generate in the order of 2,200 movements per day, including 220 vehicle movements in peak hours. This is consistent with the assumptions in the Traffic Engineering Assessment. He concluded that there is sufficient traffic capacity for the proposed subdivision as well as growth in traffic on Ghazeepore Road and Sugargum Drive.

Mr Walsh responded to submissions that Ghazeepore Road is not wide enough for current traffic volumes. He acknowledged that a section of the road north of Hams Road between Acacia Lane and Oakwood Crescent narrows to around 8.5 metres pavement width, and that even at 10 metres, with kerbside parking on both sides, the 5.8 metres left for two-way traffic *"is relatively tight and would be uncomfortable for some drivers at the posted speed limit of 60km/h"*. However, based on his observations it was rare to get cars parked opposite each other, and he considered that the road *"operates reasonably well"*. He concluded:

I am of the view the addition of the subdivision traffic can be accommodated by the current operation of Ghazeepore Road. Notwithstanding the above, I agree if Ghazeepore Road was being designed as a greenfields road, it would not be constructed with a 10 metre pavement. A more functional pavement width would be a minimum of 10.6 metres (desirably 11.6 metres) to allow for 2 x 3 metre traffic lanes and 2 x 2.3 metre parking lanes.

The Proponent engaged Tim de Young of GTA Consultants to peer review the Traffic Engineering Assessment submitted with the application, and to present evidence at the Hearing. He undertook fresh traffic counts at the Hams Road intersection, and provided an opinion on the ability of the immediately adjacent road network (including Ghazeepore Road) to safely and satisfactorily accommodate the expected traffic generation of the subdivision.

Mr de Young's traffic counts and future traffic estimates varied slightly from Mr Walsh's. He estimated:

- current traffic volumes of around 5,700 vehicle movements per day (slightly lower than Mr Walsh's 5,800)

- a future base case of 8,000 vehicle movements per day in 2029 (slightly higher than Mr Walsh's 7,550, as Mr de Young assumed a more conservative 40 percent growth rate whereas Mr Walsh assumed a 30 percent growth rate)
- a future post-development volume of 9,300 vehicle movements per day (assuming that the development will generate an additional 2,200 vehicle movements per day).

While Mr de Young assumed a growth rate of 40 percent, he endorsed the 30 percent assumed in the Traffic Engineering Assessment (and Mr Walsh), which he verified with data from the Victorian Integrated Transport Model.

Mr de Young also reviewed the 2011 GTA report prepared for Armstrong Creek West referred to in Dr Jones' submission. His evidence was that *"I am satisfied that my analysis is not inconsistent with its assumed traffic volumes"*. He thought that the specific reference made by Dr Jones may have quoted volumes on Baanip Boulevard rather than Ghazeepore Road.

Mr de Young shared Mr Walsh's views about the existing width of Ghazeepore Road being slightly too narrow to comfortably accommodate kerbside parking on both sides of the road in addition to clear traffic lanes. He observed that kerbside car parking is limited, with most drivers instead preferring to park on the verge. He stated *"in my view, the absence of high on-street parking demands reduces the impact of the 10.0m width"*. He noted the Proponent's offer to contribute \$500,000 for improvements on Ghazeepore Road, and stated:

In my view, this financial contribution is more than reasonable given I am not satisfied that there is a clear need for the improvement works as a consequence of the proposal.

Council

Council acknowledged that Ghazeepore Road has experienced increased traffic volumes due to residential development in Torquay and Armstrong Creek and the opening of the Waurin Ponds Station. Council undertook traffic counts in Ghazeepore Road in September 2017, which indicated that in less than 2 years, the traffic volumes have increased by 30 to 35 percent, and in Sugargum Drive by about 17 percent. It expressed some concern over Mr Walsh's assumption of a 3 percent annual growth rate, but was satisfied on the basis of Mr Walsh's sensitivity analysis (which assumed a 5 percent annual growth rate) that growth rates had been properly accounted for.

Council advised in its Part A submission that its traffic engineers consider the most pressing issues on Ghazeepore Road are:

- the impact to traffic caused by on-street parking and the two bus stops in the narrow section between Oakwood Crescent and Acacia Lane
- the operation of the Hams Road intersection (discussed in Chapter 3.5).

Other issues include illegal parking on nature strips, speeding and lack of on-road bike lanes.

Council welcomed the Proponent's offer to contribute \$500,000 to improvements on Ghazeepore Road, submitting that *"this is a tangible way to help address existing issues and to offset the impact of increased traffic volumes from the proposed development"*. It advised

that potential improvements could include indented car parking bays within the nature strips, indented bus stops and on-road bike lanes. It noted that Council would need to collate data, consult with all residents and stakeholders and undertake design work before the improvements could commence.

Council recommended that the Proponent's \$500,000 contribution could be included in the section 173 agreement that accompanies the amendment and permits.

Transport for Victoria

Council referred the Amendment and draft permits to Transport for Victoria (TfV). The Head of TfV is a determining referral authority under Clause 66.02-11 (as the permits are for residential subdivision comprising 60 or more lots). TfV's response dated 29 June 2018 (part of Document 14) stated that given most lots are within walking distance to Waurin Ponds Station, a safe crossing point for pedestrians and cyclists across Ghazeepore Road must be considered.

(iii) Discussion

The material presented to the Panel in relation to traffic on Ghazeepore Road and in the surrounding area raises a conundrum. On the one hand, the expert evidence from both Mr Walsh and Mr de Young state with some confidence that there is more than adequate capacity in the current road network to accommodate the traffic likely to be generated by the proposed development, along with general traffic growth. On the other, residents have told the Panel that they are already experiencing significant traffic congestion under current conditions, and that adding the extra traffic likely to be generated by the proposed development will make things worse – some say unacceptable.

The Panel acknowledges the many submissions to the effect that the Traffic Engineering Assessment is outdated. The traffic counts used in the Traffic Engineering Assessment are now more than two years old, and the Panel agrees that they are unlikely to be accurate given the recent developments in the area outlined by Mr Mulholland and others. If this was the only assessment the Panel was presented with, it would have some concerns.

However the evidence of Mr Walsh and Mr de Young were based two sets of independent traffic counts undertaken in May and August this year. Mr Walsh's counts suggest 5,800 two-way movements per day, and Mr de Young's suggest 5,700 movements per day. These counts are closely correlated, notwithstanding that they were conducted some months apart. Both counts were conducted during a teaching period at Deakin University.

Mr Carlson submitted that current traffic volumes in Ghazeepore Road are 7,000 vehicles per day, somewhat higher than Mr Walsh's or Mr de Young's counts suggest. Based on the projections extracted in his submissions estimating 5,200 vehicles per day in 2011, traffic in Ghazeepore Road may have increased by up to 35 percent in 8 years. This is somewhat higher than the future growth rate assumed by Mr Walsh of 30 percent over 10 years.

However, the Panel is not able to place significant weight on Mr Carlson's figures. He refers to a traffic counter in position from 7 June 2019 until 18 June 2019 in support of his submission that current volumes are 7,000 vehicles per day, but it is not clear who installed the traffic counter, or who collected and analysed the data. Mr Carlson did not provide the

raw data from these counts. It is also not clear where the traffic projections extracted in his submission were sourced from, or what they are based on.

Mr Walsh assumed a traffic growth rate of 30 percent over 10 years (3 percent per annum) in Ghazeepore Road, and 20 percent over 10 years in Sugargum Drive. In light of the information from Council and residents about the growth in traffic in Ghazeepore Road in particular over the past few years, this assumed growth rate may be somewhat low. However Mr Walsh undertook sensitivity testing assuming a 50 percent growth rate in Ghazeepore Road and a 30 percent growth rate in Sugargum Drive. His conclusion that there was sufficient capacity in the road network to accommodate development traffic did not change. Mr de Young also assumed a 40 percent growth rate, and similarly concluded that the surrounding network could accommodate the development traffic. The Panel is satisfied that this is a conservative approach, and that the projected growth rates are unlikely to be too low.

The Panel acknowledges Mr Hayward's submissions about the amount of student housing in the area which generally has higher rates of car ownership per household. However it is not persuaded that this would necessarily directly correlate with higher than average daily vehicle movements. Student commute patterns may vary from the average household commute patterns assumed by Mr Walsh (9 daily movements per household). The Panel notes that Mr de Young supported Mr Walsh's assumption of 9 daily vehicle movements per household (2,200 daily vehicle movements in total), and it is not persuaded that this assumption is inappropriate.

Ghazeepore Road is a 'Main Distributor – Category 4' road, which according to Mr de Young's evidence can accommodate 5,000 to 10,000 vehicles per day. Mr de Young estimated 9,300 vehicle movements per day in the 2029 post-development scenario. Although this is at the upper end of the road's capacity, the Panel is satisfied that Ghazeepore Road (at least according to its classification) is capable of accommodating the additional traffic likely to be generated by the propose development.

That said, current conditions in Ghazeepore Road are generating a significant amount of concern among the local community. It appears that Ghazeepore Road used to be classified as a local road. Mr Carlson provided photographs indicating that at some point in recent years, 'local traffic only' signs had been removed. It is not clear on what basis Council decided to reclassify it as a main distributor road, or whether any upgrades have been done in association with its reclassification. Further, both Mr Walsh and Mr de Young indicated that if Ghazeepore Road was being designed from scratch as a main distributor, it would be designed differently, with a wider carriageway.

The Proponent has offered to contribute \$500,000 toward traffic improvements in Ghazeepore Road, on a voluntary basis, to try to address the community's concerns. Council is not requiring this contribution, although it welcomes it. The Panel supports this voluntary contribution, and agrees with Council that the proposed section 173 agreement is an appropriate mechanism to deal with the contribution. Given the pressing nature of the issues submitters have raised, it is appropriate that the section 173 agreement requires Council to undertake these works within a specified timeframe. The Panel considers that two years from the date the payment is made is a suitable timeframe.

Given the voluntary nature of this contribution, the Panel does not consider it should be included as an additional requirement in the DDO45 as proposed by Council.

Concerns about the wider road network, including traffic on Torquay Road and Rossack Drive and the bridge to connect Rossack Drive to Armstrong Creek, are beyond the scope of the Amendment.

(iv) Conclusions and recommendations

The Panel concludes:

- It is satisfied on the basis of the evidence that, while there may be existing traffic problems in Ghazeepore Road, the relatively small amount of traffic likely to be added by the development will not seriously exacerbate these problems.
- The proposed section 173 agreement is a suitable mechanism to deal with the Proponent's voluntary contribution of \$500,000. The agreement should require Council to spend the contribution on traffic improvements in Ghazeepore Road within two years after it is paid.
- The DDO45 should not refer to the \$500,000 contribution, given its voluntary nature.

The Panel recommends:

Include provisions in the section 173 agreement requiring the Proponent to pay the voluntary contribution of \$500,000 towards a traffic study and traffic improvements in Ghazeepore Road, and requiring Council to undertake the study and improvements within two years of receiving the payment.

3.5 The Hams Road intersection

(i) Introduction

The Hams Road intersection is currently controlled with give way signs at Hams Road and Sugargum Drive (requiring drivers to give way to traffic in Ghazeepore Road). The proposed DDO45 requires this intersection to be upgraded, and proposed conditions for Permit 662/2017 require the Proponent to provide a detailed design for, and construct, a roundabout at this intersection.

(ii) Evidence and submissions

Submitters

Submitters were concerned that the Hams Road intersection would not be able to cope with the additional traffic to be generated by the development. Some submitters called for a signalised intersection (traffic lights) instead of a roundabout, submitting that this would provide better safety for pedestrians. Ms Spronken submitted that a number of students live in the Grange Park Estate who have to cross Ghazeepore Road every morning and afternoon in peak times to get to and from school. She submitted:

The new development not only puts strain on an already at capacity school network but will increase the risks associated in safely riding or walking to school which is encouraged. I urge the Panel to note in its report that the intersection of Hams and

Ghazeepore Rd and also the intersection on Grange Park Drive and Hams Rd be given very careful consideration to get the solution right.

Mr and Mrs Williams submitted:

Without having the benefit of our own traffic evidence, we can only offer a common sense perspective from our own experiences. We use this intersection every day, as do the emerging Armstrong Creek area residents and Surf Coast communities who 'short cut' down Ghazeepore Road. The wider Geelong area, not just locals, uses Ghazeepore Road.

We can envisage significant bank up of cars waiting to safely enter onto the roundabout at peak times. The bank up from the subdivision would 'stack down' Hams Road and cause unnecessary congestion. The site is otherwise land locked. The common sense response is to restrict the density so that Hams Road cannot be complicated by undue and unwanted traffic congestion.

Mr Dean Smith submitted that the boom gates at the railway crossing in Ghazeepore Road are down up to 31 times per day, and that this number is likely to increase with the upgrades to the railway line and the construction of the stabling yards further west of the site. He submitted that this will create a bank up of traffic north of the boom gates and into the proposed roundabout. Mr Mulholland raised similar concerns.

The Proponent

In addition to the traffic counts conducted in May 2019, Mr Walsh visited the site on Wednesday 31 July 2019, during the evening peak hour, to observe traffic at the Hams Road intersection. His evidence was:

In my opinion the intersection, for the most part, operated well with motorists able to make turns safely and with very little delay and queues. In the time I was observing the intersection, there were two train arrivals, around 5:20pm and 5:55pm. There was a noticeable increase in traffic along Sugargum Drive, immediately after the train arrivals, related to passengers departing the train station car park. The later train arrival was busier and at this time, queues in Sugargum Drive did extend and motorists departing did experience some delay, albeit only lasting for 5-10 minutes.

Traffix Group undertook a SIDRA analysis of the upgraded intersection to undertake an assessment of the performance of the roundabout in 2029. Mr Walsh's evidence was that the results show the roundabout will operate at 'excellent' and 'very good' levels in the morning and evening peaks, with "*modest*" queues and delays. Mr Walsh then conducted a sensitivity analysis, and assumed a 50 percent growth rate in network traffic, rather than 30 percent. Mr Walsh stated that even with the higher growth the roundabout will still operate within the 'excellent' and 'good' categories for the peaks. He concluded:

The roundabout will provide sufficient traffic capacity for the proposed subdivision as well as growth in traffic on Ghazeepore Road and Sugargum Drive.

Mr de Young noted that the peak usage of the Hams Road intersection is between 5.30pm and 6.30pm on weekdays, when trains from Melbourne arrive at Waurin Ponds Station. He noted that the traffic volumes through the intersection had increased since the October 2016 surveys on which the Traffic Engineering Assessment was based, probably due to the opening of a large commuter carpark at the Station. During this peak, he observed rolling queues in Sugargum Drive of roughly 5 minutes. In his opinion, this congestion would likely decrease in future because:

- the duplication of the rail line from Geelong to Waurin Ponds (a committed government project) will allow more train services, effectively spreading the traffic coming from the commuter car park
- the Armstrong Creek West Precinct Structure Plan includes a proposed local activity centre and commuter car park on the southern side of the rail line, which will take the pressure of the existing commuter car park on the north side (on Sugargum Drive).

He emphasised that this would not reduce the total traffic volumes at the intersection, but the “*highly tidal nature*” of traffic flows to and from the commuter car park on Sugargum Drive will reduce. His opinion was:

The Ghazepore Road/Sugargum Drive/Hams Road intersection can be expected to continue to operate with an ‘excellent’ level of service under Year 2029 post-development traffic volumes for the existing intersection [ie without the roundabout] and proposed roundabout configurations.

Notwithstanding that the intersection as currently configured would operate with ‘excellent’ service levels, Mr de Young supported the proposed roundabout, on the basis that it will:

- improve the operation of the side roads, in favour of through traffic on Ghazepore Road which currently do not have to give way to any traffic flows, which is likely to aid vehicles exiting Sugargum Drive, including traffic from the commuter car parking
- reduce vehicle speeds on Ghazepore Road, improving the safety of the intersection
- potentially reduce the attractiveness of travel along Ghazepore Road by non-local traffic.

Mr de Young considered that minor improvements can be made to the design of the roundabout to further improve safety at the intersection, and improve east-west pedestrian and cycling movements. His suggested improvements include:

- providing pedestrian refuge islands on the east, north and west approaches (in addition to the south as proposed)
- increasing the size of the central mountable section of the traffic island (by reducing the circulating carriageway width), and altering the design of the approach lanes, to enhance deflection through the roundabout
- providing “sharrow” line marking on the east and west approaches to better notify the presence of cyclists.

He recommended that these improvements be investigated at the detailed design stage for the roundabout, and that if they could not be accommodated (which he thought was unlikely), speed mitigation measures (such as a raised speed platform) be incorporated on the north and south approaches to slow vehicle speeds.

Mr Black (who gave planning evidence for the Proponent) considered that the requirement to construct the roundabout should be triggered by the creation of the 100th lot across both titles, since there is no traffic engineering reason for constructing the roundabout (or any other intersection upgrade). He considered that this would allow the development of the land to generate some funds before the roundabout needs to be constructed. Mr de Young

agreed that construction of the roundabout could be deferred to a later stage, although he did not specify a trigger.

Council

Council submitted that either a roundabout or traffic lights would be a good solution to safely control traffic flows at this intersection. It acknowledged that traffic lights provide a safe pedestrian crossing, but noted that the analysis shows that vehicle queues would be longer than with a roundabout. Council submitted that a roundabout would allow better traffic flow, make east-west through movement safer and slow speeds in Ghazeepore Road. It noted that the roundabout would incorporate a safe crossing with a pedestrian refuge in the road centre on the southern leg of the intersection.

Transport for Victoria

TfV's referral authority response dated 29 June 2018 (part of Document 14) included a condition that the roundabout be designed to accommodate ultra low floor buses, to the satisfaction of Public Transport Victoria (PTV). Specific reference to ultra low floor buses has not been included in the exhibited Permit 662/2017, or in Council's revised Permit 662/2017 attached to its Part B submission.

(iii) Discussion

Neither of the Proponent's traffic experts considered that the Hams Road intersection needed to be upgraded to accommodate development traffic, although both supported the proposed roundabout as it would improve traffic flows from side streets into Ghazeepore Road, slow traffic in Ghazeepore Road and provide a safe crossing point for pedestrians. The Panel also supports the roundabout for those reasons, and notes that the Proponent does not oppose the requirement to construct the roundabout.

The Panel notes the submissions calling for a signalised intersection rather than a roundabout, but it was not persuaded that this is necessary. It accepts Council's submission that a roundabout will provide for better traffic flows through the intersection, which will in turn hopefully ease some of the traffic problems currently being experienced by the residents in Ghazeepore Road. It is satisfied based on the evidence that the roundabout can be designed to include safe pedestrian crossings. While the Panel acknowledges the submissions that raised concerns about traffic banking up in the roundabout, the traffic evidence did not substantiate these concerns.

Mr de Young recommended some minor design changes to the roundabout, including providing pedestrian refuges on all legs, not just the southern leg. The Panel observes that a pedestrian crossing on the northern leg would provide additional safety for the residents of the Grange Park Estate wanting to cross Ghazeepore Road at this point, but it is not convinced that this is a need that is generated by the proposed development. That said, the Panel considers that the final design of the roundabout is not a matter that needs to be resolved now. This can be finalised as part of the detailed design process, which must be to Council's satisfaction.

The exhibited draft Permit 662/2017 contains potentially conflicting conditions relating to the timing of the roundabout construction. Condition 1(i) requires the roundabout to be

constructed as part of the Stage 1 roadworks for Hams Road, whereas condition 32 states that the intersection must be completed prior to a Statement of Compliance issuing for Stage 2.

The Panel acknowledges the evidence of Mr Black and Mr de Young about the timing of the construction of the roundabout. However it was not persuaded that the timing proposed in draft Permit 662/2017 is inappropriate. The residents have raised significant concerns in relation to the current operation of Ghazeepore Road, and both traffic experts supported the roundabout on the basis that (among other things) it should improve the operation of Ghazeepore Road. The Panel considers that the roundabout should be constructed as part of Stage 1 of the subdivision. Conditions 1(e) and 32 should be reworded to make this clear.

As TfV is a determining referral authority, the condition about ultra low floor buses must be included in Permit 662/2017 (by virtue of section 62(1)(a) of the Act). Condition 1(h) in draft Permit 662/2017 refers to 'a 12 m long bus (primary design vehicle)' – this should be amended to insert the words 'ultra low floor' after 'a 12 m long', as shown in Appendix D.

(iv) Conclusions and recommendations

The Panel concludes:

- It supports the proposed roundabout at the Hams Road intersection, and considers that the final design of the roundabout can be resolved pursuant to permit conditions.
- The proposed roundabout should be constructed as part of the Stage 1 roadworks for Hams Road.

The Panel recommends:

Amend condition 1(g) in Permit 662/2017 to insert the words 'ultra low floor' after 'a 12 m long', as shown in Appendix D.

Amend the conditions in Permit 662/2017 to specify that the roundabout at the Hams Road intersection must be constructed as part of the Stage 1 roadworks for Hams Road, as shown in Appendix D.

3.6 Grange Park Drive

(i) Evidence and submissions

Several submitters were concerned that traffic from the development would use Grange Park Drive to travel north, as an alternative to Ghazeepore Road. They were concerned about the safety and amenity impacts of additional traffic down this street, which has no footpaths and is used by families and children. For example, Ms Spronken (a resident of the Grange Park Estate) submitted:

[Road users] will take the fastest route possible to get to their destination and judging by road use at the moment I can tell the Panel that this will be straight down Grange Park Drive. Traffic group had counters in the estate recently July 30th which should have captured the lack of traffic that flows through the estate at present. I am not disputing that the road may be able to handle a traffic increase, what I do have a problem with is the community's safety due to this proposed increase.

In response, the Proponent indicated that it was willing to introduce turn bans to prevent traffic turning from Hams Road into Grange Park Drive (and vice versa).

Ms Spronken did not support the turn bans. She submitted that residents should have a choice as to how to access their properties, and she did not believe that road users will take any notice of the turn bans. Mr and Mrs Williams also opposed the turn bans.

Mr de Young did not consider the turn bans to be necessary (or practicably enforceable) given any traffic increases on Grange Park Drive *“are likely to be modest and well within the acceptable thresholds of this road”*. He noted that traffic counts on Grange Park Drive in July 2019 indicate an existing volume of around 900 vehicle movements per day, well within its design threshold of 2,000 to 3,000 vehicle movements per day. Mr Walsh did not believe that Grange Park Drive would be an attractive access route for future residents of the development, but considered that the turn bans would further encourage future residents to use Ghazeepore Road rather than Grange Park Drive.

Council noted that submissions were both for and against the turn bans at the intersection of Hams Road and Grange Park Drive. It submitted that Council’s traffic engineer did not support the turn bans but that it would need to consider this holistically as part of the Local Area Traffic Management treatments required under the proposed permit conditions. Council recommended that the permit and DDO45 continue to include requirements to make Grange Park Drive difficult to access from the proposed development, to minimise impacts on the street and neighbourhood.

(ii) Discussion

The Panel notes that neither of the traffic experts consider that turn bans into and out of Grange Park Drive are necessary. Mr Walsh did not directly oppose the turn bans, although Mr de Young did. They are also not supported by Council’s traffic engineer, and are opposed by a number of Grange Park Estate residents.

In light of the evidence from both Mr de Young and Mr Walsh that the bulk of the development traffic is likely to use Ghazeepore Road rather than Grange Park Drive, and the evidence that Grange Park Drive is currently operating well within its capacity, the Panel does not support turn bans at Grange Park Drive. It agrees with Mr de Young and Ms Spronken that they are difficult to enforce, and considers that they are an unreasonable imposition on the residents of the Grange Park Estate.

The Panel acknowledges Council’s submission that the proposed permit conditions require Local Area Traffic Management measures to be agreed and implemented to Council’s satisfaction. Measures to discourage the use of Grange Park Drive by residents of the new subdivision (other than turn bans) should be considered. The Panel agrees with Council that these measures can be resolved pursuant to permit conditions.

(iii) Conclusions and recommendations

The Panel concludes:

- Based on the evidence, the Panel does not anticipate that the proposed development is likely to result in significant traffic increases in Grange Park Drive.

- Nevertheless, measures to discourage the use of Grange Park Drive by residents of the new subdivision (other than turn bans) should be considered as part of the Local Area Traffic Management measures required under the proposed permit conditions.

The Panel recommends:

Include the following sub-condition in condition 1 of each permit, in relation to changes to the Overall Subdivision Masterplan, as shown in Appendices D and E:

- (#) remove references to turn bans at the Grange Park Drive/Hams Road intersection;**

3.7 Hams Road upgrades

(i) Introduction

Hams Road is to be upgraded and widened from the Ring Road to Ghazeepore Road.

There have been two versions of the cross section for the Hams Road upgrades. The first version (which is appended to the Traffic Engineering Assessment) was developed by Traffix Group in consultation with Council officers. It shows a 10 metre wide carriageway including a 2.5 metre shared parking/cycle lane on the northern side, 6 metre traffic lanes and a 1.5 metre on-road cycle path on the south side. It also provides for indented parking where required and a 1.5 metre wide footpath on the south side.

The revised Hams Road cross section (which is Appendix D to Mr Walsh's evidence) was prepared by Traffix Group in response to comments from TfV. It removes the on-road cycle lanes and the footpath on the south side of Hams Road and replaces them with an off-road shared path in the southern verge of Hams Road.

Both the exhibited and revised Masterplans show a shared path along the south side of Hams Road.

(ii) Evidence and submissions

Shared path

TfV (which is a determining referral authority for the permits) highlighted the need to connect the site into the broader active and public transport networks and nearby services such as Waurin Ponds Station, Waurin Ponds Shopping Centre and the University. TfV's referral response stated:

As such, TfV is concerned with the submitted [original] cross sections for Hams Road. Whilst the proposal for Hams Road provides a 1.5 metre dedicated cycle lane for westbound cyclists, only a shared parking/cycling lane is provided for eastbound movement. This does not align with the objectives of the Victorian Cycling Strategy. Connector roads without dedicated cycle lanes are likely to cause conflict between vehicles and vulnerable road users.

TfV required conditions to be included on the permits to the effect that a 3 metre wide shared path be provided on the south side of Hams Road.

Council did not support the shared path on the south side of Hams Road. It submitted that a 1.5 metre footpath is sufficient, and that *“there must be opportunities for indented parking bays, street trees and as much nature strip as possible to provide for a non-pervious surface, reduce the heat island effect and provide space for services”*. TfV’s conditions relating to the shared path on the south side of Hams Road are not included in the exhibited draft permits, or Council’s revised draft permits attached to its Part B submission.

Pavement width

Some submitters called for the pavement width in Hams Road west of Champagne Court to be reduced, to discourage traffic from using Grange Park Drive. Others called for a footpath to be provided on the north side of the road, noting that currently pedestrians (including parents with prams and young children) are forced to use the carriageway.

Council responded that the upgrade of Hams Road (along with the proposed roundabout at the Hams Road intersection) will provide much more capacity than required for the volume of traffic generated by the development. It noted that Hams Road will be improved with the footpath on the south side, on-road cycle paths and indented parking on the south side.

Mr Walsh’s evidence was that the eastern end of Hams Road (east of the main access road into the subdivision) will have a daily two-way volume in the order of 2,700 vehicles (including existing traffic accounting for growth, and traffic from the development). At this volume, Hams Road falls within the ‘access street level 2’ category and only requires a 7 to 7.5 metre pavement. He considered that the revised cross section (which has a pavement width of 7.3 metres) is *“more than adequate”* to accommodate the projected traffic volumes. Mr de Young also supported the revised cross section for Hams Road.

Timing of the upgrades

Mr Black did not support condition 9 of Permit 663/2017 which states:

Unless otherwise approved in writing Works for stage 1 of development may not commence unless stage 1 of PP-662-2017 is complete, or the works are completed concurrently, to the satisfaction of the Responsible Authority.

He considered that this condition inappropriately restricts the development of 69-93 Hams Road (the western section of the subject land) by making it a pre-condition that the developer of 35 Hams Road (the eastern part) has completed Stage 1 of its development.

Council explained that the intent of this condition is to ensure Hams Road is widened sequentially, to avoid a situation where the western part of the site is developed before the eastern part, and before the eastern part of Hams Road is upgraded.

(iii) Discussion

Shared path

The Panel does not support the 3.0 metre wide shared path on the southern side of Hams Road. It considers that this is overkill, given the shared path along the creek reserve (discussed in the next chapter). The Panel prefers the original cross section appended to the Traffic Engineering Assessment, with a wider carriageway, on-road cycle lanes on the north and south sides of Hams Road, and a 1.5 metre wide footpath on the south side. It agrees with Council that there are benefits in retaining as much pervious surface in the southern

verge as possible. If the revised cross section were adopted, there would be very little impervious verge in the sections where indented parking is provided.

The Panel notes TfV's concerns around potential traffic conflicts between vehicles and cyclists on Hams Road, but does not consider that the volumes of vehicular traffic on Hams Road (which ends in a cul de sac at the Ring Road) are likely to be significant. It is not persuaded that a separate off-road cycle path along Hams Road is justified.

However, given that TfV is a determining referral authority, the Panel's hands are tied in this regard. Unless Council is able to persuade TfV to amend its determining referral authority response, the conditions requiring the shared path on the south side of Hams Road must be included.

Pavement width

The Panel does not consider that there is a need to reduce the width of Hams Road west of Champagne Court in order to discourage traffic from the development using Grange Park Drive. The Panel considers that the use of Grange Park Drive by development traffic is unlikely, for the reasons set out in Chapter 0. While reducing the width of Hams Road west of the main access road might better assist in the retention of a small patch of native vegetation in the Hams Road reserve (discussed in Chapter 0), the construction of driveways and indented parking along the south side of Hams Road presents some practical challenges for the retention of this vegetation.

Timing of the upgrades

The Panel supports in principle the proposed condition that seeks to ensure Hams Road is upgraded for its entire length before the western portion is developed, but considers that the condition should be more clearly worded to reflect this intent.

(iv) Conclusions and recommendations

The Panel concludes:

- The proposed upgrades to Hams Road will create more than enough capacity to accommodate the development traffic.
- The Panel does not support the 3.0 metre wide shared path on the south side of Hams Road. References to it should be removed from the DDO45. However unless Council is able to persuade TfV to amend its determining referral authority response, the permits will need to include the conditions required by TfV.
- The Panel does not support a narrower pavement width on the eastern end of Hams Road (east of the main access into the development).
- The Panel supports the proposed condition 9 in Permit 663/2017, subject to rewording to better reflect the intent.

The Panel recommends:

Remove reference to the shared path on the south side of Hams Road from the Design and Development Overlay Schedule 45.

Seek the agreement of Transport for Victoria to withdraw its requirement for conditions requiring a 3 metre wide shared path on the south side of Hams Road.

- a) If Transport for Victoria agrees, include the following sub-condition in condition 1 of each permit, in relation to changes to the Overall Subdivision Masterplan, as shown in Appendices D and E:

(#) remove the shared path on the south side of Hams Road

- b) If Transport for Victoria does not agree, include the following conditions in both permits:

A sub-condition in condition 1 that reads “a minimum 3 metre wide shared user path (off road), on the southern side of Hams Road from the Geelong Ring Road underpass, along the length of Hams Road, across Ghazeepore Road connecting to Sugargum Drive”

A new condition that reads “Unless otherwise agreed to in writing with the Head, Transport for Victoria, prior to the issue of a Statement of Compliance for any subdivision stages that contain or abut Hams Road, the shared user path (off road) on the south side of Hams Road must be constructed to the satisfaction of and at no cost to the Head, Transport for Victoria.”

Reword condition 9 of Permit 663/2017 to read:

Unless otherwise approved in writing, works for stage 1 of the development cannot commence unless the works to upgrade Hams Road required under both this permit and Permit 662/2017 are completed to the satisfaction of the Responsible Authority.

3.8 Active transport connections

(i) Introduction

The Masterplan shows a shared path along the south side of Hams Road and a shared path within the creek reserve, to connect Ghazeepore Road with the existing shared paths running along the side of and under the Geelong Ring Road. It proposes 1.5 metre wide footpaths on all residential streets, other than on the side of roads adjacent to open space or the creek reserve.

(ii) Evidence and submissions

TfV “*strongly supported*” the shared path along the creek reserve, which would encourage “*recreational and low speed cycling and walking activities*”. It required a condition on the permits that the shared path be a minimum of 3.5 metre wide, and connected to the existing Princess Freeway shared path (ie the path that runs alongside the Geelong Ring Road). It also requested an additional shared path along the south side of Hams Road, which is discussed in the previous chapter.

Mr and Mrs Williams submitted:

The site at present is a ‘blank canvas’. If you want to establish and create ‘community’ as opposed to a commutable satellite suburb, it is imperative to include designated bike and pedestrian laneways now. We are concerned the design response presents no meaningful attempt to integrate pedestrian linkages and that the essence of

sustainable communities in this modern time, ought to make new space as eco-friendly and inviting as possible.

Mr Walsh's evidence was that the proposed road reservations within the subdivision allow footpaths to be provided in accordance with the relevant standards and common practice. Cyclists would have to share the carriageway with other motorists along the proposed access streets, but he was comfortable with this.

Mr de Young considered that the active travel network contained within or immediately adjacent the proposed subdivision is appropriate and should encourage walking and cycling as modes of transport (particularly for linkages to nearby public transport services). He supported a shared path on the southern side of Hams Road, which would connect to the underpass under the Ring Road (one of the three safe pedestrian crossings of the corridor over a distance of approximately 2.2kms).

As noted in the previous chapter, Council did not support the shared path on the south side of Hams Road, submitting that the shared path in the creek reserve was adequate.

(iii) Discussion

The Panel is satisfied that DDO45 and the proposed subdivision respond appropriately to policy directions and requirements in Clause 56.06 that encourage sustainable transport and interconnected communities. The shared path along the creek reserve provides connections from the land on the western side of the Ring Road (via the underpass), through the subdivision and to Ghazeepore Road, where cyclists and pedestrians can then access the Waurin Ponds Station via Sugargum Drive.

The Panel does not support the 3.0 metre wide shared path on the southern side of Hams Road, for the reasons discussed in the previous chapter. The Panel does not consider that both shared paths are required. That said, on-road cycling lanes along Hams Road should be provided, to give cyclists the option of taking a more direct route to the Station via Hams Road, or an off-road route via the creek reserve.

Footpaths will be provided on the south side of Hams Road, and through the creek reserve, providing pedestrian connections and active recreation opportunities.

As TfV is a determining referral authority, its condition about the minimum width of the shared path along the creek reserve must be included.

(iv) Conclusions and recommendations

The Panel concludes:

- Subject to removing references to the shared path along Hams Road, the DDO45 and the Masterplan represent an appropriate response in relation to active transport connections.

The Panel recommends:

Include the following sub-condition in condition 1 of each permit, in relation to changes to the Overall Subdivision Masterplan, as shown in Appendices D and E:

- (#) the active pedestrian path through the creek reserve to be a minimum of 3.5 metres wide and connected to the existing shared path that runs alongside the Geelong Ring Road;

3.9 The internal road network

(i) Evidence and submissions

Mr Walsh's evidence was that the proposed internal road reservation widths and cross-sections are generally in accordance with the requirements of the Planning Scheme and the Infrastructure Design Manual. His evidence was that the main access street is suitable for traffic volumes of 2,500 to 3,000 vehicles per day, and is able to safely accommodate the expected vehicle movements (2,200 per day) likely to be generated by the development. Mr de Young agreed, and thought that the proposed 16 metre wide reservations could be narrowed to 13 metres.

Mr Walsh noted the narrower road reservations adjacent to open space areas, and stated that this was relatively common practice within subdivisions as it allows the verge adjacent to the open space to be reduced without affecting the road pavement and pedestrian connectivity on the development side.

Emergency vehicle access

Submitters raised concerns that the internal road layout was unsafe. They were concerned that large emergency vehicles such as fire trucks would not be able to access the narrow internal roads in the subdivision. Mr Dean Smith provided photographic evidence of a fire truck in the local streets in the Grange Park Estate which demonstrates that when cars were parked opposite each other, the streets are too narrow for a fire truck to get through (see below). Other submitters were concerned that, in the event of an emergency, the surrounding roads would become too congested to allow people to leave the area safely, as all exits from the subject land (even if access is allowed via Grange Park Drive) end up on Ghazeepore Road.



Figure 5 Photographs showing access for emergency vehicle in internal roads (3.6-1)
Source: Mr D Smith's presentation (Document 35)

Mr Walsh considered that the minimum 7.3 metre wide carriageway for the local access streets is adequate to facilitate relevant service and emergency vehicles, and is consistent with typical Country Fire Authority (CFA) requirements. The court bowls meet or exceed the Infrastructure Design Manual and CFA requirements. He also noted that the proposed subdivision provides two accesses to Hams Road, which allows for access and egress if one is blocked.

Council's response was that the upgrade of Hams Road and the proposed roundabout will increase the capacity of Hams Road, and that if it was blocked in an emergency vehicles could still travel up Grange Park Drive. It pointed out that the application was referred to the CFA, which provided no objection on this issue.

The Champagne Court intersection

Submitters in Champagne Court raised concerns about the location of the main access into the estate from Hams Road, submitting that it is not sufficiently offset from Champagne Court. Mr and Mrs Williams advised the Panel that there is a respite facility for disabled children in Champagne Court that is serviced by a private bus. There is also a house used for family day care on the corner of Champagne Court and Hams Road, and they were concerned that traffic entering and exiting the development would cause traffic conflicts and safety concerns for these existing facilities, as well as the residents of Champagne Court.

Mr and Mrs Williams submitted that the main access road should be located further to the east, creating a T intersection with Hams Road, rather than a cross intersection with Champagne Court. This would improve the safety of the intersection, and reduce its amenity impacts (for instance through headlights shining into Champagne Court). Neither Mr Walsh nor Mr de Young considered that this was necessary from a safety or traffic engineering perspective.

Internal cross intersections

Some submissions suggested that the two internal four way cross intersections should be constructed as a roundabout.

Mr Walsh considered that the two cross-intersections within the development should be treated with some form of traffic management, which could be determined as part of detailed design. Mr de Young considered that the cross-intersection in Stage 3 of the proposed subdivision should be designed with a roundabout given it will carry most of the traffic in and out of the subdivision. He expected that a suitable roundabout could be accommodated within the proposed road reservations.

Draft permit conditions require the road reserves to be wide enough to accommodate roundabouts at the cross intersections. In response to questions from the Panel, Council submitted that the conditions should be retained, so that a final decision about the need for internal roundabouts could be made at the detailed design stage.

(ii) Discussion

The Panel accepts the evidence of Mr Walsh and Mr de Young that the internal road layout meets relevant standards, and will provide more than enough capacity to accommodate traffic generated by the subdivision. It notes that neither Council nor the CFA raised any

concerns in relation to emergency vehicle access internally in the subdivision, safe egress for residents via Ghazeepore Road in an emergency, or otherwise. The Panel supports Council's position that a final decision about the need for internal roundabouts should be made as part of the detailed design process.

Mr and Mrs Williams' submissions about offsetting the main access into the development from Champagne Court had some merit. However in response to questions from the Panel, neither Council nor either of the Proponent's experts considered that this would be necessary. Champagne Court is a no through road that provides access to six properties. While the Panel notes Mr and Mrs Williams' submission that additional bus traffic is generated by the respite centre, the Panel was not persuaded that the traffic volumes in and out of Champagne Court are likely to be sufficiently great to result in conflicts with the relatively low volumes of traffic on Hams Road.

The Panel notes the Williams' submission about amenity impacts (for example from headlights of traffic turning out of the development into Hams Road), but does not consider that the volumes are sufficiently high to justify a redesign of the subdivision to offset the intersection. The Panel observed on its site visit that most of the houses in Champagne Court (with the exception of the two houses with side frontages to Hams Road) are set back from the street and at least partially screened from Hams Road by vegetation or other structures.

The Panel is satisfied on the basis of the evidence and its observations on its site visit that the internal road layout is appropriate.

(iii) Conclusion

The Panel concludes:

- The internal road layout, including the intersection of the main access road and Hams Road, is appropriate.

3.10 Construction traffic

(i) Submissions

Submitters were concerned that construction vehicles would exacerbate traffic problems over a long period of time, with only one access road in and out of the development. The pro forma submission signed by 77 submitters states that construction activities would cause "*traffic chaos*".

Dr Jones noted that the Traffic Engineering Assessment failed to take into account construction traffic. He submitted that the construction phase (including the construction of dwellings) would take between 2 and 5 years, and that construction traffic rates similar to those being generated in the construction of the Armstrong Creek development to the south east of the subject land could be expected.

Mr McVey submitted:

Given the precedent set with construction traffic prohibited from traversing Ghazeepore Road from recent developments such as Baanip Boulevard can you advise how this site will be constructed and the construction impacts associated with

this. Council enforced a total ban on all construction traffic down Ghazeepore Road and surely this is going to be enforced if any future development was to be considered. I ask if you cannot build it, why rezone it!

(ii) Discussion

Construction traffic will inevitably impact on the surrounding road network. However no evidence was presented to the Panel which supports submissions that construction would result in 'traffic chaos'. Council did not raise any particular concerns in relation to construction traffic impacts, or the fact that these were not specifically addressed in the Traffic Engineering Assessment or the expert witness reports. The draft permits include conditions requiring a Construction Management Plan that (among other things) shows access locations for construction vehicles, details of where construction personnel will park, and hours and days of construction, including deliveries. These must all be to Council's satisfaction. The Panel is not aware of what mechanisms Council may have employed to prohibit construction traffic from recent developments in the area using certain roads, but notes that these mechanisms could presumably be used to ensure construction traffic associated with this development does not use roads that are not capable of accommodating the construction traffic.

(iii) Conclusion

The Panel concludes:

- It was not persuaded that construction traffic would cause unacceptable impacts that would justify not supporting the Amendment or refusing the permits. Construction traffic impacts can be appropriately managed through permit conditions.

4 Housing density and neighbourhood character

4.1 Introduction

The exhibited DDO45 included the following design objective:

To ensure an appropriate transition and interface between the subject land and the residential area to the north of Hams Road.

It included the following requirements:

Urban Design

- Subdivision design should provide a range of lot sizes and densities to encourage a variety of housing types.
- Residential lots fronting Hams Road must have a minimum lot size of 800 square metres and a minimum frontage to Hams Road of 25 metres.
- Lots fronting Hams Road must include a restriction preventing them from containing more than one dwelling and being further subdivided.

As noted in Chapter 1.1(iii), the Masterplan submitted with the original application proposed a development in the order of 320 lots. This was reduced to in the order of 300 lots in the exhibited version, and the Proponent now proposes to further reduce the density to around 245 lots, as outlined in its Statement in response to submissions, and the revised Masterplan version MP19 (refer to Figure 2).

4.2 The issue

The issue is whether the Amendment and draft permits allow for an appropriate density of housing.

4.3 Evidence and submissions

Many submitters did not oppose the rezoning of the land for residential purposes, but they were concerned that the Amendment and draft permits allowed an inappropriate housing density. They were concerned about the relatively small lot sizes compared to the larger lots in the Grange Park Estate, and were particularly concerned about the two proposed medium density super lots in the exhibited Masterplan. Submitters felt that the proposed subdivision pattern is not consistent with the semi-rural feel of this part of Waurin Ponds, or the character and density of the adjoining Grange Park Estate.

Dr Jones submitted:

The proposed development is completely inconsistent with adjoining residential developments, and in fact an allotment <200m² cannot be found in the existing residential Waurin Ponds suburb. Thus, this proposal contradicts the intent and purpose the City of Greater Geelong Planning Scheme is seeking to protect and respect the amenity of places and suburbs ensuring that disjunct differences of density and place character has a degree of spatial and character separation. Thus, the justification by the developer that developable land is not available in the locality and that any land needs to be developed to the same density of Armstrong Creek sets in train a false argument about the need for a diversity of allotment and densities that prioritises density and choice over amenity...

Submitters were concerned that the higher density proposed in the subdivision would create a range of other amenity impacts, particularly traffic. For example, Mr Anwar Hosen submitted:

I don't support such a high density new development in this area as it is not a local norm of this area. As per my understanding, such development may create a lot of problems for us, such as heavy traffic movement that affects emergency service, reduce sense of place, etc.

By way of another example, Ms Hudson submitted:

The Medium Density Superlot has been placed on the corner of the Grange Park Estate which we can only assume will contain multi complex unit blocks (student accommodation and/or public housing) which also do not conform with the Grange Park Estate and will increase crime and traffic to the corner of Hams Road and Ghazeepore Roads.

The Proponent's Statement in response to submissions acknowledged concerns "*with reference to the unknown – medium density housing sites and townhouse lots which are perhaps not common in the local area of Wauran Ponds and could be seen as a conflict to character*". It indicated that it intended to revise the proposed subdivision to:

- remove the two medium density superlots that could have produced 40 dwellings
- remove all lots less than 300sqm and replace them with lots of at least 400sqm
- replace approximately 50 lots ranging from 300 to 400sqm with 30 lots of at least 800sqm (in addition to the larger lots already allowed for along Hams Road).

These changes are reflected in the revised Masterplan tabled at the Hearing (refer to Figure 2).

Mr Black noted that the revised Masterplan (MP19) provided a lot yield of 245 lots, a density of 13.8 lots per net developable hectare and an average lot size of 513sqm, which he noted was "*slightly lower*" than what is currently being delivered in greenfields sites around Geelong. His evidence was:

The broader spread of lots sizes from 300 [sic] – 1260sqm ensures that there is a high level of diversity in lot sizes which will attract a range of future residents from single households through to large families.

Mr Black pointed to the fact that the *Greater Geelong Housing Framework Plan* contained in the Settlement Strategy shows the eastern part of the subject land (within 800 metres of the Wauran Ponds Station) as being within an area where the Strategy seeks to 'Investigate Opportunities for higher density development in rail corridor'. His evidence was that the Strategy supports higher densities around train stations, stating:

It is clear from the directions contained within [the Settlement Strategy] that relate to the subject land that the rezoning to General Residential is supported and residential growth of varying densities is envisaged.

Mr Black supported retaining the medium density superlot around the substation, noting that this provided the opportunity for the denser built form associated with townhouses to attenuate noise from the substation. He pointed to the fact that the Settlement Strategy identifies this part of the site as being suitable for medium density housing given its proximity to Wauran Ponds Station, which he described as consistent with sound planning principles.

Council submitted that it supported the exhibited Masterplan, as it would potentially provide further housing choices to the Geelong community. It submitted:

There are a range of lot sizes proposed which would suit different homebuyers and demographics ranging from medium density sites and small conventional house lots to larger allotments of 850 square metre plus along Hams Road. Officers consider the density and lot layout in the exhibited plan is in accordance with State and Local planning policies and is supportable on planning grounds.

Council however accepted the revised Masterplan, and proposed changes to the DDO45 in response to concerns raised by submitters and the Proponent's Statement:

To ensure an appropriate transition of housing density and interface between the subject land and the residential area to the north of Hams Road.

- Subdivision design should provide a range of lot sizes and densities to encourage a variety of housing types including larger lots of a minimum 700 square metres around the perimeter of the site and conventional lots of a minimum 300 square metres towards the core of the site.
- Residential lots fronting Hams Road must have a minimum lot size of 800 square metres and a minimum frontage to Hams Road of 25 metres.
- All residential ~~Lots fronting Hams Road~~ must include a restriction on title preventing them from containing more than one dwelling and being further subdivided.

Council responded to Mr Black's evidence in its Part B submission:

We agree a medium density housing outcome may be a solution to this difficult part of the subject land [around the substation]. This conflicts with the proponent's post exhibition statement and plans which reduced density and provided larger lots. However, on the other hand it may result in a better solution to deal with noise from the electricity substation.

4.4 Discussion

The Panel acknowledges the concerns of submitters, particularly those in the Grange Park Estate, but the policy framework simply does not support lot sizes on the subject land that reflect those in the Grange Park Estate (which was developed some years ago). The policy framework, both existing and emerging, requires the efficient use of urban land, and the establishment of a permanent settlement boundary around Geelong. While the land is on the edge of Geelong's urban area, it is well serviced by roads, public transport, local services and employment opportunities. These are exactly the characteristics that the policy framework has identified as suitable for conventional or higher density residential development.

The Panel considers that concerns relating to the character of the Grange Park Estate were adequately responded to in the earlier versions of the Masterplan (MP5 and MP17), which proposed larger lots along the south side of Hams Road that are generally in keeping with the Grange Park Estate lots on the north side of Hams Road. The Panel does not consider that smaller lots internal to the subject land would impact on the neighbourhood character. Apart from Hams Road, the subject land is surrounded by large scale infrastructure including the Geelong Ring Road, Baanip Boulevard and the railway line that create a clear separation between the subject land its surrounds. The subject land reads as quite separate to the rural

residential neighbourhood on the other side of the Ring Road, and the Boral land to the south of Baanip Boulevard and the railway line.

Nevertheless, the Panel notes that the Proponent has offered to reduce the density of the subdivision in response to submitters' concerns. Council supports the reduced density, notwithstanding that the policy framework encourages higher densities. The Panel respects Council's position as the planning authority.

The Panel does not support Mr Black's recommendation that a medium density superlot be reinstated around the substation. While it agrees with Mr Black that the policy framework supports medium density housing in this location, particularly because of its proximity to Waurin Ponds Station, the Panel does not consider it appropriate to put more housing in a location that is affected by one of the key noise sources in the surrounding area, unless it can be demonstrated, through further noise modelling and negotiations with Powercor, that medium density housing with a façade that acts as a noise barrier is the best noise attenuation.

The Panel has no difficulty with the changes to the DDO45 proposed by Council in response to submitters' concerns about density. However it does not support the DDO45 requiring all lots to have a restriction on title preventing them from containing more than one dwelling or being further subdivided. Restrictive covenants registered on title are difficult to vary or remove, and given the Panel's conclusion that the policy framework would support higher densities in this location, it does not consider it appropriate to 'lock in' the densities in this way. The other changes to the DDO45 proposed by Council will be sufficient to ensure an appropriate density is delivered.

If Council disagrees, the requirement should be reworded to require a section 173 agreement rather than restrictions on title. This, at least, would allow a statutory mechanism that is part of the planning system to vary or remove the restrictions in future should Council consider it appropriate to do so. The process for amending or ending a section 173 agreement set out in the Act provides for consideration of possible disadvantage to any person, whether or not they are party to the agreement. This would include possible disadvantage to the surrounding residents if the density restrictions were to be lifted. For these reasons, a section 173 agreement is a more appropriate mechanism than a restrictive covenant registered on title, which effectively seeks to regulate density through private arrangements.

4.5 Conclusions and recommendations

The Panel concludes:

- The proposed densities reflected in the revised Masterplan (MP19, Document 10) are supported, notwithstanding that the policy framework would support higher densities.
- The Panel does not support medium density housing around the substation, as recommended by Mr Black.

The Panel recommends:

Include Council's proposed changes relating to housing density and lot sizes attached to its Part A submission in the Design and Development Overlay Schedule 45 as shown in Appendix C, but delete the following requirement:

Lots fronting Hams Road must include a restriction preventing them from containing more than one dwelling and being further subdivided.

In the alternative, reword the requirement as follows:

A section 173 agreement must be entered into in respect of the lots fronting Hams Road preventing the construction of more than one dwelling on each lot, and preventing the lots from being further subdivided.

5 Noise

5.1 Introduction

The subject land is within a heavily noise constrained environment. It has the Geelong Ring Road running the entire length of its western boundary, the Warrnambool to Geelong railway line and Baanip Boulevard on its southern boundary, the Boral quarry site to its west, south and east and a Powercor substation abutting it on the north east corner, all of which currently emit or have the potential to emit noise. Lesser noise contributors are the other roads and a proposed on-site sewerage pump station.

(i) Design and Development Overlay

The exhibited DDO45 includes the following requirement:

- Appropriate buffer treatments, interfaces, setbacks and acoustic treatments (where required) must be provided to: the Powercor electrical substation utility; Princes Freeway and Baanip Boulevard; Geelong-Warrnambool Railway Line and the land south of the railway line which may be subject to future extractive industry.

(ii) Permit conditions

The exhibited permits included conditions requiring restrictions to be applied to:

- any lot directly opposite the railway line prohibiting the construction of a dwelling without specified noise attenuation treatments to the facade, glazing to habitable rooms and the roof
- any lot directly opposite the Geelong Ring Road prohibiting the construction of a dwelling without wall or facade treatments to achieve the requirements of Australian/New Zealand Standard 2107:2016 *Acoustics - Recommended design sound levels and reverberation times for building interiors* (AS2017:2016) for sleeping and living areas.

(iii) Technical reports

Traffic Noise Assessment

The combined Amendment and permit applications were exhibited with a Traffic Noise Assessment by Marshall Day Acoustics dated 11 October 2018, which provided a preliminary assessment of road and rail noise. The Assessment concluded that appropriate acoustic treatment can be implemented in the design to comply with applicable noise criteria. Specifically, it concluded:

- No noise mitigation measures are required to properties adjacent to the Geelong Ring Road, Baanip Boulevard, Ghazeepore Road or Hams Road to meet the requirements of the VicRoads *Traffic Noise Reduction Policy*.
- Nevertheless, dwellings with a direct line of sight to the roads should have facade and glazing treatments to achieve the requirements of AS2017:2016 for sleeping and living areas.

- Dwellings along the southern boundary will need facade treatments to control railway noise and meet the requirements of the *Victorian Passenger Rail Infrastructure Noise Policy* (the Rail Noise Policy).
- Acoustic treatments should be selected in consultation with a suitably qualified acoustic engineer at the detailed design stage.

Substation Noise Report

Powercor engaged Watson Moss Growcott (WMG) to undertake a focused assessment of the noise emissions from the substation's key noise emitting equipment (three transformers and a chiller). The results are contained in a report titled *Waurin Ponds Zone Substation corner Ghazeepore Road and Hams Road - Detailed Measurement and Analysis of Noise Sources Present at the Site and Options for Control of Noise Emissions to Proposed Residential Development Site West and South of the Zone Substation*, 9 April 2018 (the Substation Noise Report). A copy of this report was exhibited with the Amendment and draft permits.

WMG based its assessment on EPA's *Noise from Industry in Rural Victoria Guidelines* (NIRV), as the substation and the subject site are just outside the Geelong Urban Centre Boundary. However the properties on the north side of Hams Road are within the Geelong Urban Centre Boundary, and as such the noise limits in *State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade) No. N-1* (SEPP N1) apply to the north and north east of the subject site.

The Substation Noise Report concluded that noise emissions from the substation exceed the NIRV recommended maximum noise levels, and that noise attenuation measures would be required. Specifically:

- a 5 metre high noise barrier on the boundary of the substation site would enable compliance with the NIRV 'day' and 'evening' limits, but it would not be possible to achieve compliance with the 'night' limit
- if the substation equipment is required to operate at close to capacity at night and is to remain in its present form, even with 5 metre high boundary noise barriers in place there would need to be a significant buffer area from which houses are excluded
- alternatively, attenuation and/or replacement of the transformer (number) 2 fans and the chiller can be considered, which would allow for a reduced buffer area.

The report also pointed out that noise emissions from transformers can gradually increase over time due to wear and tear, and there is therefore a possibility that noise emissions may increase over a period of years.

5.2 The issues

The issues are:

- noise from the substation
- noise from surrounding roads
- noise from the railway line
- potential noise from the quarry and pump station.

5.3 Relevant policies and strategies

(i) Planning Scheme

Clause 13.05-1S (Noise abatement) aims to assist the control of noise effects on sensitive land uses. Strategies include the use of urban design and land use separation techniques. The relevant policy documents to be considered include:

- SEPP N1
- *Interim Guidelines for Control of Noise from Industry in Country Victoria* (Environment Protection Authority, 1989) – this has been replaced by NIRV
- *A Guide to the Reduction of Traffic Noise*, VicRoads, 2003 – this has been replaced by the *VicRoads Traffic Noise Reduction Policy* 2005.

(ii) Guidelines

NIRV sets recommended maximum noise levels in different land use zones for day, evening and night time periods to provide for normal use of dwellings and sleep at night. The recommended maximum noise levels for the subject site are:

- 41 dB(A) during the evening period
- 36 dB(A) during the night time period.

The *VicRoads Traffic Noise Reduction Policy* sets a traffic noise objective for new and upgraded roads controlled by VicRoads. The objective specifies that if predicted noise is 63 dB_{LA10 (18h)} or above, then developers should either provide sound insulation to residential dwellings to achieve compliance with AS2107:2016 or erect traffic noise barriers. It also states that VicRoads will not undertake amelioration where new buildings or subdivision are built next to existing roads controlled by VicRoads.

AS2107:2016 lists recommended internal noise levels for various areas of a dwelling, for example it has a recommended internal noise level of 35-40 dB LA_{eq} for sleeping areas.

The Rail Noise Policy sets investigation thresholds for noise from passenger trains where there is a land use change near an existing rail corridor. If the thresholds are exceeded, noise mitigation needs to be considered. The external investigation thresholds are:

- 65 dB LA_{eq} or 85 dB LA_{max} for day time
- 60 dB LA_{eq} or 85 dB LA_{max} for night time (10pm to 6am).

5.4 Substation noise

The Waurin Ponds Zone Substation is located at 25 Hams Road. It is on the corner of Hams and Ghazeepore Roads and directly abuts the subject site. The substation converts electricity from 66KV to 22KV for distribution and supply to Waurin Ponds and parts of the Surf Coast Shire. The substation is shown in aerial photos in 1972 and has been operated by Powercor since 1984. It contains several items of equipment that emit noise, including three transformers and a chiller.

(i) Evidence and submissions

Powercor

Spiire made a submission to Council on behalf of Powercor (Submission 113), and appeared for Powercor at the Hearing. Relying on the Substation Noise Report prepared by WMG and an assessment of the Amendment and permit documentation by SLR Consultants (which is attached to Submission 113), Powercor objected to the Amendment and permits on the basis that:

- the Marshall Day Traffic Noise Assessment does not address the potential noise impacts of the substation
- the Substation Noise Report demonstrated that the noise emissions from the substation exceed the NIRV night time limit by a significant margin, over a large area of land proposed for residential development
- the exhibited Masterplan and technical reports do not adequately address noise impacts from the substation.

WMG's testing was undertaken in January 2018, at night time and when the temperatures and therefore the electricity demand were high. WMG found that when the three transformers and the chiller were operating at close to capacity, the maximum noise at the boundary of the subject site and substation site, with tonal adjustment as required by NIRV, was 54 dB(A). WMG modelled the noise contours, and determined that the NIRV 36 dB(A) noise contour (the NIRV recommended maximum noise level for the 'night' period) extends well into the land at 35 Hams Road.

Testing involved turning the middle, and oldest transformer and its associated chiller on and off. The chiller was found to be the largest noise source. While three transformers had similar noise emissions levels, when the fans associated with the middle transformer were turned on, noise emissions increased by 5 dB(A) which WMG considered to be significant.

WMG considered options to reduce the substation noise impacts on 35 Hams Road, including installing a 5 metre high noise barrier on the boundaries of the substation site (discussed above). While this would enable compliance with the 'day' and 'evening' limits, it would not be possible to achieve compliance with the 'night' limit of 36 dB(A). Other options considered by WMG included:

- changing the substation equipment such as replacing the middle transformer's fans with quieter fans, replacing the chiller, or replacing the middle transformer with a transformer that does not require a chiller and has quieter fans
- providing open space rather than dwellings in the affected area.

SLR Consulting concluded that:

- the wording of DDO45 does not provide adequate protection to the operations of the substation in relation to noise
- the exhibited draft Permit 662/2017 (for 35 Hams Road) does not provide any conditions to protect the operations of the substation in relation to noise
- the exhibited Masterplan and supporting documentation has not adequately addressed noise from the substation, and has not adequately detailed how it will mitigate noise from the substation to achieve compliance with relevant noise targets.

SLR noted that the exhibited Masterplan showed that acoustic treatment will be required at the boundary of the subject site and the substation, but no treatment details were provided. It considered that further work was required to demonstrate that the objectives in section 4 of the Act (which include the protection of public utilities) can be met, and how the noise limits will be achieved.

In its submission to the Panel and an associated memo (Documents 20 and 21), Powercor submitted that a 5 metre high acoustic barrier may not be an appropriate aesthetic outcome. It submitted that if the noise barrier were pursued, there would need to be careful consideration of the materials used so that the barrier does not reflect noise back towards the established residential dwellings at the north and east of the site. It also submitted that enclosure of the chiller may be an option, but it could cost up to \$5 million. Powercor had no plans to upgrade any of the equipment on the substation in the next 10 years.

The Proponent

The Proponent submitted that there is a continuing dialogue with Powercor over the noise issues and it is confident that the issue can be handled in permit conditions. It also indicated that it would keep planning and designing to achieve a satisfactory outcome.

Gillian Lee of Marshall Day presented acoustic evidence for the Proponent. She considered substation noise as well as road and rail noise. In her expert witness statement (Document 6), she estimated that without attenuation measures, a 330 metre buffer into 35 Hams Road (or about half the site) would be required to meet the noise limit.

Ms Lee considered alternative measures to achieve the noise limits, and provided examples of several fully enclosed substations in Melbourne that are near residential buildings which do not generate noise issues. Possible noise mitigation measures included:

- Enclosure of the chiller together with other mitigation measures such as localised screening around the transformers – her evidence was that these types of measures had been used at substations in metropolitan Melbourne.
- Using built form to act as an acoustic barrier, for example dwellings which are at least 2 storeys high, with closed facades with no openable elements such as windows.
- A combination of approaches.

Ms Lee pointed out that if a noise barrier is proposed, it will need to account for the substantial gap created by the electrical easement.

Mr Black gave planning evidence for the Proponent (Document 2). He suggested that medium density townhouses around the substation as shown on the exhibited Masterplan (MP17), rather than individual lots shown on the revised Masterplan (MP19), could double as a noise barrier. According to Mr Black, townhouses with no openable areas at the rear is an approach often used around freeways and other high noise environments in Melbourne. He considered that the visual outcome could be enhanced through the use of a range of treatments such as varied materials.

Powercor responded to the evidence of Mr Black and Ms Lee relating to the use of built form to act as a noise barrier. It submitted that a closed facade is inconsistent with building and

sustainable development standards with respect to solar orientation, northern outlooks and private open space for dwellings, and that further design would be required to demonstrate that an appropriate built form outcome could be achieved. Powercor also submitted that potential mitigation options would all be subject to further modelling, which should be at the Proponent's expense.

Council

Council address substation noise in its Part B submission. It submitted that Ms Lee did not progress the way forward for resolving the noise mitigation measures required at the substation boundary, and expressed concern about the visual impact of a 5 metre acoustic barrier as suggested in WMG's Substation Noise Report. Council indicated that it was open to Mr Black's suggestion of using built form to attenuate noise, but it needed acoustic evidence to support it. Council submitted that further engagement with stakeholders was required to explore the use of building design, urban design and land use separation to ameliorate noise and to ensure the objectives of Clause 13.05-1S of the Planning Scheme are met.

Council proposed some changes to the DDO45 and the exhibited draft permits in response to submissions and evidence about substation noise. A revised DDO45 was attached to Council's Part A submission (Document 1), and revised permits were attached to the Part B submission (Document 11).

DDO45

Council proposed including the following additional requirement in DDO45:

Residential lots impacted by noise from the electricity substation must include a restriction on title that requires dwellings to be designed, constructed and maintained to include noise attenuation measures. These noise attenuation measures must ensure that all industrial noise received at new residential or other noise sensitive uses complies with the requirement of EPA Publication 1411, Noise from Industry in Regional Victoria (NIRV), and associated recommended maximum noise levels, at all external locations (if fixed glazing precludes external measurements, internal measurements must comply with inferred internal noise limits specified under SEPP N-1).

The Proponent suggested alternative wording in a revised DDO45 attached to its main submission (Document 16):

Any noise mitigation measures required to be installed to protect dwellings from noise associated from the operations of the Powercor utility in accordance with the NIRV and having regard to recommended maximum noise levels.

Powercor responded that neither Council's nor the Proponent's version of the DDO45 defines the lots impacted by noise, and proposed that the wording be updated to refer to *"residential lots which exceed the NIRV recommended Maximum Noise Levels during the day, evening and night period"*. It submitted that lots impacted by noise should have appropriate restrictions placed on title or alternately the impacted lots could be shown on approved plans.

Permit 662/2017

Council's revised draft Permit 662/2017 (for 35 Hams Road) includes an additional condition that requires a restriction to be placed on any lot within close proximity to the substation requiring details of suitable noise attenuation treatments to protect dwellings from substation noise in accordance with NIRV, to the satisfaction of Powercor and the Responsible Authority.

In response, the Proponent suggested the condition be reworded to require an acoustic report to the satisfaction of Powercor and the Responsible Authority that includes noise mitigation measures to protect dwellings from substation noise in accordance with NIRV, and that the recommendations of the report be implemented prior to occupation of the dwellings.

At the Hearing, the Panel asked Council whether it had received any complaints about the substation noise, given that there are existing houses in close proximity to the substation on the north side of Hams Road and the east side of Ghazeepore Road. Council responded that it was not aware of having received any complaints, although it had not researched the matter. It also noted that the EPA had not raised any concerns about substation noise, and they would generally alert Council if they had received complaints. Powercor indicated that if complaints are received then there is a possibility the substation could be de-rated and disruptions to electricity supply may result.

Other submitters

Other than Powercor, few submitters mentioned the noise from the substation. EPA (in Submission 29) made a general comment that Council "*should avoid incompatible uses, loss of compliance for industry or unsatisfactory amenity for residents*", noted the non-compliance with the noise limits in the area near the substation and suggested that Council should give consideration to the recommendations in the Substation Noise Report, including conditions in the permit, to ensure compliance is achieved.

(ii) Discussion

There was no dispute that the substation will, without any upgrade of the substation's equipment, exceed NIRV recommended noise levels over a sizable portion of the 35 Hams Road site. Various suggestions about treatment were proposed, including a noise barrier on the substation boundary, a buffer, using built form (in the form of medium density housing) as a noise barrier, noise attenuation treatments on future dwellings, or a combination of measures. The appropriate treatment was unresolved, and further work is required to determine which is the most acceptable.

It is not the Panel's role to recommend a particular treatment method. Nor did it have information before it that would allow it to suggest a particular treatment option in favour of other treatment options. That said, the Panel has some observations in relation to the treatment options discussed through evidence and submissions.

Like Council and Powercor, the Panel has some concerns with the visual and other impacts of a noise barrier on the substation boundary. A barrier of 5 metres high would have significant visual impacts, and would not (on its own) achieve the NIRV night period limit.

The effectiveness of the barrier would likely be reduced by having to incorporate a gap across the electricity easement, and there is the potential for the noise barrier to reflect noise back, increasing the noise levels at existing dwellings to the north and east.

The most logical approach to ameliorate the noise from the substation and meet the NIRV limits may be for the substation to be enclosed, as happens at other substations in urban environments. However this does not appear to be an option that Powercor is willing to entertain, although it did consider that the enclosure of the chiller could be possibility.

Whichever treatment (or combination of treatments) is ultimately adopted, detailed acoustic modelling will be required, taking into account the substation operating at maximum capacity, to demonstrate to Council's and Powercor's satisfaction that the applicable NIRV limits can be met. The modelling will need to consider onsite and offsite noise impacts and possible increases in noise as the substation equipment ages. Noise testing at the existing dwellings to the north and east may be advisable, both to demonstrate compliance with current SEPP N1 limits, and to provide a benchmark for assessing the impact of proposed treatments.

The Panel supports the Proponent's proposed permit condition requiring a revised acoustic report that recommends appropriate noise attenuation measures to enable the NIRV recommended maximum limits to be met. However the Proponent's wording does not consider possible noise impacts the attenuation measures may have on the existing dwellings to the north and east of the subject site. It will need to be demonstrated that any noise attenuation measures do not exacerbate noise impacts at these existing dwellings.

The Proponent submitted that an extra condition should be included that requires the recommendations of the revised acoustic report to be implemented prior to future dwellings being occupied. While the Panel supports the principle behind this condition, the condition presupposes that the revised acoustic report will only recommend noise attenuation measures on future dwellings, rather than other noise attenuation measures such as works on the substation site (or, for that matter, buffers around the substation). The condition needs to be broadened to ensure that all recommendations are implemented appropriately.

Insofar as the Proponent's condition relates to ensuring that future dwellings incorporate any noise mitigation measures recommended in the revised acoustic report, the permit relates to subdivision, not the construction or use of future dwellings (for which no permission is required). The Panel does not consider that it is appropriate to include such a condition on a subdivision permit, and it prefers Council's approach of ensuring that affected lots are subject to a restriction on title that ensures that any relevant recommendations of the report are met when future dwellings are constructed. Council's proposed condition should be reworded for clarity.

Both Powercor and Mr Black suggested that the Masterplan be amended to identify the lots potentially impacted by substation noise. While the Panel supports this approach, it was not presented with information at the Hearing which allowed it to readily identify which lots are affected. As recognised in the Substation Noise Report, the location of the noise contours will be impacted by the noise mitigation measures that are ultimately adopted. Accordingly, the Panel considers that the permit requirements relating to substation noise should apply to all lots on the 35 Hams Road site, unless otherwise agreed by the Responsible Authority.

If the Proponent can demonstrate to Council's satisfaction that only some lots are affected, then the restriction will only need to apply to those lots.

The Panel also considers that Council's proposed wording for the additional requirement in DDO45 needs some modification to ensure that substation noise impacts (including on existing dwellings) are appropriately dealt with in the event that the permits are not acted on and another development is proposed for the subject land.

(iii) Conclusions and recommendations

The Panel concludes:

- The Proponent should continue to negotiate with Powercor until the best possible resolution can be arrived at to ensure that substation noise can achieve compliance with the applicable noise limits, and that noise levels at existing dwellings are not increased.
- Given that noise mitigation measures are yet to be resolved, and it is not possible to accurately identify at this stage which lots are potentially affected by substation noise, the substation noise conditions should apply to all lots on 35 Hams Road, unless otherwise agreed by the Responsible Authority.
- Permit conditions should be included to require:
 - revised acoustic report(s) that recommend any noise mitigation measures required to ensure substation noise complies with the NIRV limits, and that demonstrates (including through further modelling) that this can be achieved
 - restrictions on title to all lots on 35 Hams Road (unless otherwise agreed by the Responsible Authority) that ensure that recommendations relating to noise mitigation treatments on dwellings (if any) are implemented
 - other recommendations of the revised acoustic report(s) to be implemented to the satisfaction of the Responsible Authority and Powercor.

The Panel recommends:

Amend the Design and Development Overlay Schedule 45 as shown in Appendix C, to include the following additional requirement under the heading 'Urban Design':

An acoustic report prepared by a suitably qualified acoustic consultant must be provided that:

- **recommends appropriate noise attenuation measures to ensure that noise emissions from the Powercor substation:**
 - **comply with the recommended maximum noise levels in EPA Publication 1411, *Noise from Industry in Regional Victoria* (NIRV) at all dwellings and other noise sensitive uses proposed on the land at 35 Hams Road**
 - **are not increased at any existing dwellings located to the north and east of the Powercor substation**
- **demonstrates to the satisfaction of the Responsible Authority and Powercor that the above requirements can be met.**

Include a condition in Permit 662/2017 as shown in Appendix D, to require revised acoustic report(s) that:

- a) make recommendations for noise mitigation measures to ensure noise emissions from the Powercor substation:
 - meet the maximum recommended noise levels in *Noise from Industry in Rural Victoria* at all future dwellings on the land
 - are not increased at existing dwellings to the north and east of the substation
- b) demonstrate (including through further modelling) that the above requirements can be met, to the satisfaction of the Responsible Authority and Powercor.

Include conditions in Permit 662/2017 as shown in Appendix D, that ensure that the recommendations of the revised acoustic report(s) are implemented to the satisfaction of the Responsible Authority, including (where appropriate) through restrictions on the titles of relevant lots.

5.5 Road traffic noise

The subject land is bound by:

- Geelong Ring Road to the west
- Hams Road to the north
- Baanip Boulevard to the south
- Ghazeepore Road to the east.

Ghazeepore Road is set back from the subject site by about 100 metres by the substation, and to a lesser distance by the pump station and tree reserve to the immediate south of the substation. It is not considered to be a significant contributor to traffic noise.

(i) Evidence and submissions

The Traffic Noise Assessment

Marshall Day recorded noise measurements between 30 January and 9 February 2018 at three locations on the western boundary of the subject land, one on the southern boundary and the other on the south eastern boundary. Its findings are presented in the Traffic Noise Assessment. Based on its measurements, Marshall Day considers that the subject land will be impacted by traffic noise from the Geelong Ring Road and Baanip Boulevard. It concluded that traffic noise from Hams Road and Ghazeepore Road were not a concern.

The following table shows the highest levels of noise measured by Marshall Day at the three sites on the subject site's boundary with the Geelong Ring Road.

Table 6 Geelong Ring Road highest measured ambient Noise

Monitoring location	Highest traffic noise level L ₁₀ 18hr
North	59 dB
Middle	56 dB
South	58 dB

Based on VicRoads traffic data, Marshall Day forecast traffic growth on the Geelong Ring Road to 2029. It then used the traffic forecasts together with the monitoring results to predict noise levels on the western boundary of the subject site in 2029 (a 10 year horizon following completion of development). Its predictions were based on the 2018 Masterplan, which had a medium density superlot on the western boundary. The medium density superlot has been replaced in the revised Masterplan (MP19) with larger conventional residential lots.

Marshall Day estimated that the increased traffic on the Ring Road will result in less than 2 dB increase in noise at the western boundary. The highest noise level predicted by Marshall Day is 62 dB $L_{A10(18h)}$ on the western boundary, 1 dB lower than the traffic noise objective of 63 dB in the VicRoads Traffic Noise Policy. Ms Lee's evidence was that the VicRoads criteria only apply to the ground floor of dwellings.

As the predicted 2029 noise levels on the western boundary of the subject site are predicted to be below the VicRoads policy objective, the Traffic Noise Assessment concluded that no mitigation treatment is required. However Marshall Day considered it would be appropriate that facades facing the Ring Road be constructed so that internal noise levels comply with AS2107:2016. Marshall Day also recommended these treatments be applied to the dwellings on Hams Road that are in direct line of sight to the Ring Road.

Baanip Boulevard, which links to the Geelong Ring Road, was completed in 2015. Marshall Day did not have any traffic data for this road when it completed the Traffic Noise Assessment, but assumed that Baanip Boulevard will have similar traffic flow increases as the Geelong Ring Road. It estimated that noise at the closest dwelling will be 59 dB $L_{A10(18h)}$ in 2029, which is below the VicRoads noise policy objective and that no special treatment of the dwellings along Baanip Boulevard is required.

Transport for Victoria and VicRoads

The Amendment was referred to TfV and VicRoads. TfV generally supported the Amendment subject to the various conditions discussed in Chapter 3. VicRoads (Submission 147) expressed concerns about the Traffic Noise Assessment due to the following:

- The noise levels at the three monitoring sites on the boundary of the Geelong Ring Road were averaged, which VicRoads did not consider appropriate due to varying gradients, traffic volumes and traffic flows in this section of the freeway.
- There is an inconsistency in the actual year to which the traffic volumes are predicted (2028 or 2029).
- According to *Requirements of Developers - Noise Sensitive Uses* the adopted noise attenuation requirement is for 10 years after the development has been finalised. Marshall Day used 2029 as the assessment year rather 10 years after the expect finalisation year.

Ms Lee stated in her expert witness statement (Document 15) that it is assumed that 10 years after finalisation of the development refers to the completion of civil subdivision works, and not the construction of houses.

During the Panel's site inspection it noted that the Ring Road is elevated above the subject land, and noise barriers along the Ring Road stop at the north side of Hams Road. Council

advised the Panel that the barriers stop there because it is the end of the (current) urban area. Submitter Dean Smith and others told the Panel that the noise walls on the Geelong Ring Road had reduced the traffic noise but not eliminated it. This was consistent with the Panel's observations on its site visit, which included the courts in the Grange Park Estate that back onto the Ring Road.

The Panel also noted that there are noise barriers along other sections of Baanip Boulevard. According to Council the reason for Baanip Boulevard's wide reserve is for a future expansion of Baanip Boulevard.

Council

Council proposed a condition on both planning permits requiring a restriction on lots directly opposite the Ring Road to require dwellings to incorporate wall or facade treatments to achieve the requirements of AS2017:2016 for sleeping and living areas. The Proponent proposed an alternative approach, of requiring a revised acoustic report to include noise mitigation measures to achieve the requirements of AS2017:2016 and the VicRoads Traffic Noise Reduction Policy, and a condition requiring the recommendations of the revised acoustic reports to be implemented.

(ii) Discussion

The Panel has some concerns with the Traffic Noise Assessment, given VicRoads' submission. The Panel considers that a revised assessment should be required, and it supports the Proponent's proposed condition requiring revised acoustic report(s), subject to some modification. The revised acoustic report(s) should consider the concerns raised by VicRoads, and should be completed for an updated 10 year horizon (noting that the neither the subdivision nor the subsequent construction of dwellings will be completed by 2029).

Local residents told the Panel that the noise barriers along the Ring Road to Hams Road have reduced the traffic noise impacts. An extension to the noise barrier along the Ring Road should be included in possible traffic noise mitigation options considered in the revised acoustic report(s), as this will reduce the individual dwelling mitigation treatments required and introduce a sense of equity and uniformity for those living north and south of Hams Road. Based on the VicRoads policy, this would need to be constructed at the Proponent's expense.

The Traffic Noise Assessment indicates that the lots on Hams Road near the Geelong Ring Road interface may be adversely impacted by traffic noise. The proposed wording of the DDO45 and the permit conditions would benefit by being explicit that these lots be included in the further acoustic assessments. The revised acoustic report(s) should also consider traffic data now available for Baanip Boulevard.

(iii) Conclusions and recommendations

The Panel concludes:

- The highest traffic noise levels on the subject site are currently, and predicted to be, due to traffic impacts from the Geelong Ring Road. The Traffic Noise Assessment predicted that noise levels from the Ring Road in 2029 would be only 1 dB lower than the VicRoads policy objective.

- There is uncertainty about the predicted noise levels on the subject site from Baanip Boulevard due to the lack of traffic data on Baanip Boulevard when the Traffic Noise Assessment was undertaken.
- Given these factors, and the concerns raised by VicRoads in relation to the assessment, predicted traffic noise levels should be reassessed in a revised acoustic report, and the need for mitigation measures to attenuate noise from both the Ring Road and Baanip Boulevard should be reconsidered. This should include the continuation of the noise barriers along the Ring Road.
- The Hams Road lots with a line of sight to the Geelong Ring Road need to be included in the revised assessment, as well as the lots interfacing with Baanip Boulevard.
- DDO45 and the permit conditions need to be revised to reflect the requirement for a further acoustic assessment.

The Panel recommends:

Amend the Design and Development Overlay Schedule 45 as shown in Appendix C, to include the following additional requirement under the heading 'Urban Design':

An acoustic report prepared by a suitably qualified acoustic consultant must be provided that:

- **reassesses predicted noise levels from the Geelong Ring Road and from Baanip Boulevard at future dwellings on the subject land in accordance with the noise criteria in AS2017:2016 and the VicRoads Traffic Noise Reduction Policy. The assessment must include dwellings along the Geelong Ring Road, dwellings along Baanip Boulevard and dwellings along Hams Road with a line of sight to the Geelong Ring Road**
- **recommends appropriate noise attenuation measures to ensure that predicted noise emissions from the Geelong Ring Road and from Baanip Boulevard comply with the noise criteria in AS2017:2016 and the noise objectives in the VicRoads Traffic Noise Reduction Policy**
- **demonstrates to the satisfaction of the Responsible Authority that the above requirements can be met.**

Include a condition in both permits as shown in Appendices D and E, to require revised acoustic report(s), that:

- a) reassess the need for noise mitigation measures to ensure noise emissions from the Geelong Ring Road and Baanip Boulevard meet relevant policy requirements**
- b) demonstrate (including through further modelling) that the above requirements can be met, to the satisfaction of the Responsible Authority and Powercor.**

Include a condition in both permits to require the recommendations of the revised acoustic report(s) to be implemented to the satisfaction of the Responsible Authority.

5.6 Rail noise

(i) Evidence and submissions

The Warrnambool to Geelong railway line is an un-electrified rail line used by both passenger and freight trains. Diesel powered trains use the line and there are no plans for the electrification of the line.

The Waurn Ponds to Melbourne passenger trains terminate at Waurn Ponds so the only passenger trains passing the subject land on a weekday are the eight V/Line services to and from Warrnambool and a lesser number during the weekend (according to the V/Line timetable). PTV anticipates that an extra return service to Warrnambool will operate in the future. For the purposes of the Traffic Noise Assessment (which also considered rail noise), Marshall Day were advised that there is currently one to two freight trains travelling in both directions past the subject land daily and that freight train usage is expected to double in the near future.

A train stabling yard is being built about 3 kms south west of the subject land. Once it is completed it is expected that there will be an increase in the number of trains passing the subject land. Advice from the Department of Transport discussed in Chapter 6.7 below indicates that it is unclear whether there will be track duplication on the section of the line that runs past the subject land.

Marshall Day measured noise levels from the rail line between 30 January and 9 February 2018 at one location about mid-way along the rail corridor interface. Marshall Day stated that *"the measured noise levels have been taken as being representative of the likely noise exposure of a building located 25 metres from the near side rail"*.

Its analysis of the monitoring data found that the maximum noise level near the rail line was 100 dB L_{Amax} . The Rail Noise Policy (which applies to passenger trains only) is based on the 95th percentile of the maximum noise which in this case, for the night time period was 90 dB L_{Amax} . This is above the policy's night time investigation threshold of 85 dB L_{Amax} . Marshall Day's monitoring data recorded 20 events over the 85 dB threshold, in spite of much of the data being not been able to be used due to adverse weather conditions. Furthermore, the highest measured average noise level during the night due to rail was 62 dB $L_{Aeq,8hr}$ which exceeds the policy investigation threshold of 60 dB $L_{Aeq,8hr}$.

The Traffic Noise Assessment recommended internal design criteria of:

- 55 dB L_{Amax} for bedrooms (on the basis that this criteria was previously accepted by PTV for a residential development in Braybrook)
- 60 dB L_{Amax} for living areas.

The Assessment outlined potential acoustic treatments to meet the internal noise criteria, based on a two storey house within 100 metres of the rail line and with direct line of sight. The treatments include glazing, facade and roof treatments as well installation of a noise barrier along the interface, or using the dwellings as a noise barrier.

In their submissions to Council, PTV (Submission 161) and VicTrack (Submission 164) did not comment on noise impacts from trains using the rail corridor. VicTrack explained at the Hearing that it discourages the use of noise barriers as VicTrack does not consider them to

be very effective, plus they tend to attract graffiti which becomes a maintenance issue. VicTrack's preference is for a 1.8 metre open style fence between the rail reserve and the subject site.

(ii) Discussion

The noise generated from trains on the Warrnambool to Geelong Railway line has been shown to be above Rail Noise Policy threshold investigation levels, and for residential development to occur in the affected area noise mitigation will be required. This is not at issue. The question remains how should this requirement to mitigate noise be specified in the permits?

Both draft permits include conditions in relation to rail noise impacts. Council's draft permit condition details specific noise attenuation measures to be applied to the facades, windows and roofs of dwellings, unless otherwise agreed to by VicTrack and the Responsible Authority. The Proponent's draft conditions, on the other hand, require that an acoustic consultant prepare report(s) which must include any noise mitigation measures required to achieve the requirement of the Rail Noise Policy.

The Proponent's proposed condition does not specify the types of treatments to be used, which provides flexibility to achieve a specified outcome (namely the requirements of the Rail Noise Policy). The Panel prefers this approach. However the Rail Noise Policy has threshold investigation levels. It does not specify any noise design criteria to be met inside residential buildings.

AS2107:2016 provides recommended internal design sound levels for "*houses and apartments in inner city areas or entertainment districts or near major roads*", for which the criteria for a sleeping area is, for example, 35-40 dB L_{Aeq} . In the Panel's view, a criterion which uses L_{Aeq} is an appropriate metric for continuous steady sound (over a specified time period) such as for a road, whereas L_{Amax} captures intermittent noise and is more suitable for the sudden noise created such as when a train passes.

Marshall Day recommends internal design criteria in the Traffic Noise Assessment of 55 dB L_{Amax} for bedrooms and 60 dB L_{Amax} for living areas. The basis for this recommendation was a VCAT decision to grant a permit for residences adjacent to a rail line which had these design criteria as a condition of a permit (VCAT proceeding P2470/2003). The Panel considers these to be appropriate criteria for rail noise, and prefers them over the AS2017:2016 criteria.

The only interest that VicTrack is likely to have in the treatment measures would be in relation to any measures proposed on the boundary. It is not appropriate to seek its approval for treatments that do not affect the rail corridor (such as treatments used in the building construction).

(iii) Conclusions and recommendations

The Panel concludes:

- Lots abutting the Geelong to Warrnambool railway line will be impacted by train noise. Attenuation measures will be required for any residential buildings on those lots.

- The permit conditions that relate to train noise need to be amended to specify design criteria for internal noise levels, rather than specific noise attenuation measures. The criteria recommended in the Traffic Noise Assessment are appropriate.

The Panel recommends:

Amend the rail noise conditions in both permits as shown in Appendices D and E, to specify noise criteria to be met rather than specific noise attenuation measured to be incorporated into future dwellings.

5.7 Quarry and pump station noise

(i) Evidence and submissions

Boral has land to the south, south-west and west of the subject land that is used for quarrying and other purposes. Quarrying is by its very nature a source of noise and noise levels can be particularly high if blasting is required.

The proposed future of the Boral quarry is outlined in Chapter 8. In summary:

- Boral has a current Work Authority (WA63) with no expiry date that “*permits the excavation and processing of basalt, scoria and limestone for crushing and screening*” on all the Boral land except the south east parcel, which is the land adjacent to the Railway line and Baanip Boulevard.
- Boral confirmed that basalt deposits, which require blasting to extract, are located more than 500 metres from the subject land.
- Boral considers its Waurin Ponds site surplus to its requirements and has ceased mining limestone at the site. It plans to redevelop the site for urban uses, although currently no application has been made to rezone the site.

The Amendment and draft permits were referred to Barwon Water as the local sewerage authority. Barwon Water indicated that it can supply sewerage services to the subject land but a pump station will need to be installed at the low point of the Amendment site. The revised Masterplan (MP19) has the pump station just south of the Powercor substation site and abutting Ghazeepore Road with two lots abutting the pump station site to the west.

Barwon Water proposed that the site of the pump station be rezoned Public Use Zone 1. Council submitted it was preferable to rezone this area after the Amendment is approved, as it will require a separate land title and boundaries of the site which are yet to be determined.

EPA considered that the pump station could potentially generate noise impacts. Apart from an acknowledgement that the pump station is required, and it will contribute some noise, there was limited reference to the pump station in the application materials and evidence, and there was no indication of the level or type of noise that it will emit. Ms Lee suggested that noise from the pump station could be dealt with in permit conditions.

(ii) Discussion

While Boral has indicated that it has ceased quarrying the land abutting the site, it does have a current Work Authority which allows it to recommence quarrying if it chooses.

As discussed in Chapter 8, the Panel recommends that conditions be placed on both permits that require the endorsed plans to show a 250 metre extractive industry buffer, to manage air emissions from potential quarrying activity. Land within the buffer can only be subdivided or developed with the consent of the Department of Jobs, Precincts and Regions. The Panel considers that this buffer should provide adequate protection from noise as well as air emissions.

The pump station is an essential piece of infrastructure for the subdivision and its location is predetermined by existing sewerage infrastructure and the site's topography. There is very little information before the Panel in relation to the type or level of noise that the pump station may emit. The Panel therefore considers that a cautious approach is warranted, and that the revised acoustic report(s) required to assess (among other things) substation noise also assess noise that will be generated by the pump station.

(iii) Conclusions

The Panel concludes:

- The extractive industry buffer (for air emissions) should provide adequate protection from quarrying noise should quarrying recommence.
- The Panel's recommended conditions relating to a further acoustic report(s) should include an assessment of noise from the pump station.
- The pump station should be rezoned as part of a separate amendment process, once the boundaries of the pump station site are determined.

6 Flooding and drainage

6.1 Introduction

(i) Current conditions

The Surface Water Management Strategy described the existing drainage system on the subject land as at 2013. The site's drainage has changed since then, due to the construction of the Geelong Ring Road and Baanip Boulevard. Figure 6 shows the current drainage system.

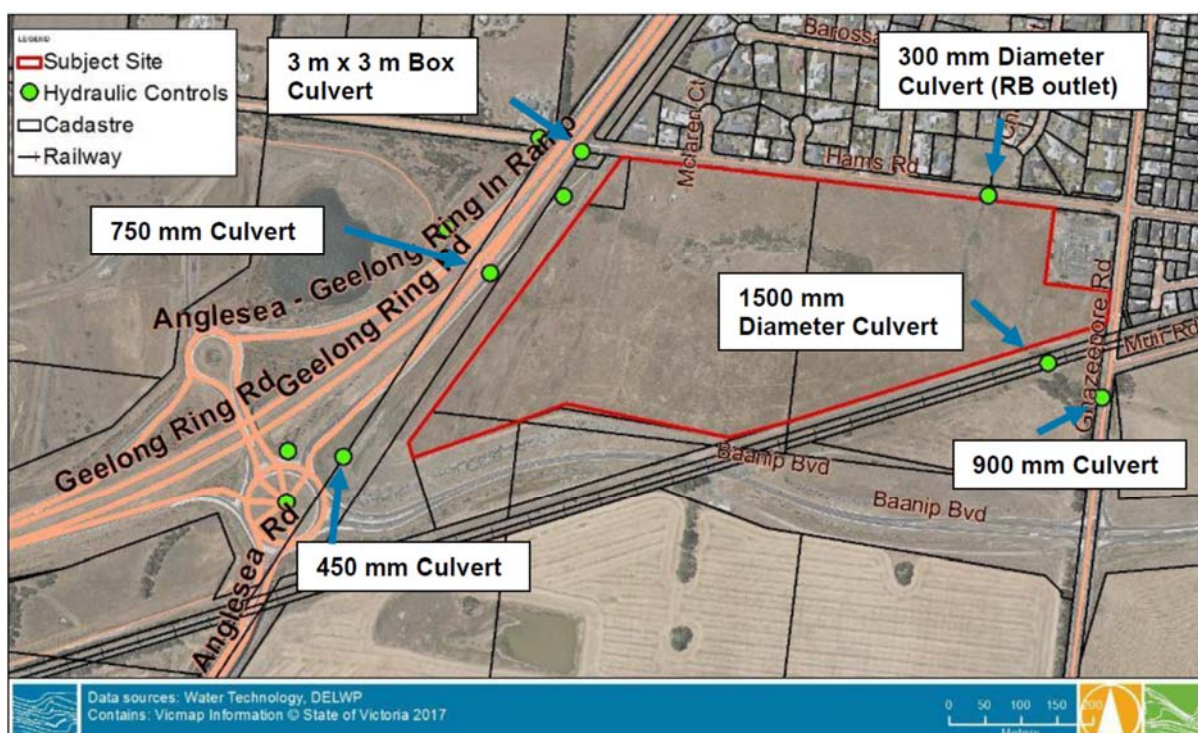


Figure 6 Current drainage system in and out of the subject land (6.4-2)

Source: Figure 2.1 from the Flood Modelling Report

Some of the key drainage features on the site and its surrounds are:

- three on-site dams, connected via inline drainage lines
- a retarding basin on the north side of Hams Road which connects to the site via a culvert under Hams Road
- the VicTrack culvert, through which water exits the site then drains through another culvert under Ghazeepore Road into the upper reaches of Armstrong Creek, to the south east of the site.

(ii) The Design and Development Overlay

The exhibited DDO45 includes the following design objective:

To reinstate the natural east-west waterway and make it a central feature of the development including opportunities for environmental restoration, open space and stormwater management.

A residential subdivision must meet the following requirements:

Stormwater Management

- Land must be set aside for drainage purposes to meet peak discharge limits and water sensitive urban design elements in accordance with performance objectives of *Urban Stormwater: Best Practice Environmental Management Guidelines* (CSIRO, 1999), *Infrastructure Design Manual*, and *CoGG Design Notes*.
- The design of retarding basins must have sufficient land area set aside for heavy vehicle access and sediment drying; as well as measures to mitigate mosquito breeding in accordance with best practice guidelines.
- A stormwater management system must be designed to ensure that:
 - peak discharge rates and pollutant loads of all stormwater leaving the site post development are regulated to integrate with downstream infrastructure, at no greater than pre-development rates.
 - no adverse impacts to any surrounding land, upstream or downstream.

(iii) Permit conditions and section 173 agreement

The exhibited permit conditions require:

- detailed drainage plans to be approved by Council before works start that include:
 - the recommendations of the Flood Modelling Report
 - the drainage system to achieve the performance standards outlined in the *Urban Stormwater – Best Practice Environmental Management Guidelines* (Victorian Stormwater Committee 1999) (*Urban Stormwater Guidelines*)
 - upgrade of the culvert under Hams Road
 - finished surface levels on all lots at least 300mm above the 1 percent AEP flood level
 - details of remediation to the waterway, the existing dams and the permanent water bodies
- external drainage works to be completed, including cleaning and upgrading the VicTrack culvert and the Ghazeepore Road culvert.

There are also a number of conditions aimed at ensuring that construction runoff does not impact on the waterway, the retarding basins or off-site land.

The section 173 agreement requires the owners of the land to be responsible for all external drainage works within the VicRoads road reserve for the Geelong Ring Road, the Ghazeepore Road culvert and the VicTrack culvert.

(iv) Technical reports

Two technical reports were exhibited with the combined Amendment and draft permits:

- a Surface Water Management Strategy prepared by Neil Craigie Pty Ltd in September 2013
- a Flood Modelling Report prepared by Water Technology dated 30 October 2018.

The Surface Water Management Strategy outlines a proposed drainage scheme for the residential development of the land, based on an earlier iteration of the proposed subdivision.

The Flood Modelling Report was undertaken in response to Council's RFI, which was informed by comments from the Corangamite Catchment Management Authority. It outlines a hydrological and hydraulic investigation for the site and catchment, and builds on the Surface Water Management Strategy.

The Proponent engaged Mr Guise of Tomkinson Group to prepare an expert witness statement reviewing the Surface Water Management Strategy and the Flood Modelling Report. Mr Guise's expert witness statement was tabled (Document 7), but he did not appear at the Hearing.

6.2 The issues

The issues are:

- the adequacy of the proposed drainage scheme and conditions related to drainage
- flooding of Hams Road and backflows into the Grange Park Estate
- potential flooding impacts on the substation
- the VicTrack and Ghazeepore Road culverts.

6.3 Relevant policies and guidance

(i) Planning Scheme

Clause 14.02-1S (Catchment planning and management) aims to assist in the protection and restoration of water bodies by retaining natural drainage corridors, requiring a minimum 30 metre buffer zone on each side of a waterway, and (among others) strategies for ensuring sediments are filtered and restricted during construction.

Clause 19.03-3S (Integrated water management) aims to sustainably manage waterways, drainage, stormwater and other water assets through an integrated management approach by ensuring that development protects and improves waterways, for example, by minimising flood risk, filtering sediment and managing stormwater.

Clause 53.18 (Stormwater Management in Urban Development) applies to the subdivision of land in a residential zone, and aims to manage stormwater to reduce its impact on the environment and property, ensure public safety and provide local habitat and amenity benefits. Of relevance:

- applications must be accompanied by details of the proposed stormwater management system including drainage works and retention, detention and discharges of the stormwater to the drainage system
- subdivisions are encouraged to maximise the retention of stormwater, and to contribute to the improvement of local habitats and amenity
- stormwater systems are required to be designed to the satisfaction of the relevant drainage and water authorities and meet the best practice performance objectives in the Urban Stormwater Guidelines
- design standards include:
 - downstream flows are restricted to pre-development levels unless otherwise approved and storm events must be contained within the drainage system (Standard W1)

- stormwater design standards are specified for building and works and site management (Standards W2 and W3)
- decision guidelines must be considered including an assessment of the effectiveness of the proposed stormwater management against the policy objectives in the Planning Scheme.

Clause 56.07-4 (Integrated Water Management) aims to minimise damage to properties and inconvenience from stormwater. It includes a standard (C25) similar to those in Clause 53.18 described above.

(ii) Urban Stormwater Guidelines

The Urban Stormwater Guidelines is a policy document to be considered where relevant in Clauses 14.02-1S, 19.03-3S, and 53.18 and 56.07. It specifies the following water quality objectives:

- 80 per cent retention of typical urban annual suspended solids load
- 45 per cent retention of typical urban annual total phosphorus load
- 45 per cent retention of typical urban annual total nitrogen load
- 70 per cent retention of the typical annual load of gross pollutants.

These requirements are reflected in the exhibited permit conditions for both permits.

(iii) Planning Practice Notes

Planning Practice Note 39: Using the integrated water management provisions of Clause 56 – Residential subdivision and Planning Practice Note 40: Using the residential subdivision provisions of Clause 56 – Residential subdivision provide guidance on implementing the provisions of Clause 56, and describe the applicable stormwater models, the best practice stormwater run-off standards to be met and Water Sensitive Urban Design aims that can be applied to subdivisions.

6.4 Adequacy of the proposed drainage scheme

(i) Evidence and submissions

Submissions, the Surface Water Management Strategy and the Flood Modelling Report identify the following issues with the site's hydrology:

- The current drainage system has poor connectivity and carries a sizable amount of sediment due to on-site erosion.
- The VicTrack culvert, which is a 1.5 metre diameter brick culvert approximately 100 years old, frequently blocks and has to be cleared of sediment. The sources of the sediment are the significant erosion on site and the road reserve north of the site.
- The Ghazeepore Road culvert is higher than the VicTrack culvert and may back up during a storm event, potentially causing localised flooding on Ghazeepore Road in the vicinity of the level crossing.
- The Grange Park Estate retarding basin on the north side of Hams Road overfills, causing flooding across Hams Road and onto the subject land, as the 300mm culvert

across Hams Roads cannot cope with flows. This causes traffic and flooding issues for the Grange Park Estate residents and others.

The proposed drainage scheme

The Surface Water Management Strategy proposed a drainage scheme for the site based on an earlier iteration of the subdivision design. It had regard to stormwater and water quality modelling, the principles of Water Sensitive Urban Design (WSUD), and achieving the performance objectives of the Urban Stormwater Guidelines. The principal feature of the scheme was a linear open waterway crossing the site from east to west, connecting with two integrated retarding basins. The waterway only partly followed the natural creek line, and the scheme did not incorporate the dams on the site.

Key recommendations of the Surface Water Management Strategy included:

- upgrade the Hams Road culvert from 300mm to 600mm
- lower and upgrade the capacity of the VicTrack culvert
- a series of waterway design recommendations and construction management conditions.

The Surface Water Management Strategy specified that geotechnical investigations will be required during detail design. The wetland base would need to be watertight in order to mitigate seepage loss, and non-dispersive topsoil should be used in the waterway to mitigate turbidity.

Based on the modelling undertaken for the Surface Water Management Strategy, the Strategy concluded at page 14 that the design *“comfortably exceeds best practice water quality treatment standards for the treatment of stormwater generated from the development, and achieves significant reduction in overall pollutant loads generated from the total catchment”*.

From the documentation there appears to have been multiple meetings between the various stakeholders, including the Corangamite Catchment Management Authority and the Wathaurung Aboriginal Corporation, to discuss the operation of the drainage scheme. These, as well changes external to the site, have led to many alterations and iterations to the Masterplan since the Surface Water Management Strategy was prepared.

The Catchment Management Authority and the Wathaurung Aboriginal Corporation were not satisfied with the 2013 waterway design and requested that the existing waterway alignment be maintained. The revised design of the drainage scheme, incorporated into the revised Masterplans (both MP17 and MP19), closely aligns with the natural course of the existing waterway, and incorporates a 30 metre buffer on either side.

Once the subdivision is completed the waterway system and its vegetation buffers will become council property.

Further flood modelling

Water Technology undertook further stormwater modelling based on the exhibited version of the Masterplan (MP17). The modelling, which is described in the Flood Modelling Report, included a 5 metre waterway, residential properties raised to 300mm above the internal roads and embankments for the two retarding basins. Based on its modelling, Water

Technology recommended a number of further refinements to the stormwater infrastructure on the site including additional piping of stormwater and a small catch drain in the western part of the site, and upgrading the Hams Road culvert.

The modelling by Water Technology found that, after development, in a 1 percent AEP rainfall event the railway embankment would not be overtopped. Peak flows through the VicTrack culvert would be reduced in storm events of various durations from 30 minutes up to six hours. However Water Technology reiterated that the VicTrack culvert will need to be upgraded and lowered, along with lowering the Ghazeepore Road culvert.

The modelling in the Surface Water Management Strategy and the Flood Modelling Report has been reviewed by Council's drainage engineers and Mr Guise, who considered that the modelling work and the predictions of water quality are accurate.

Corangamite Catchment Management Authority

The Corangamite Catchment Management Authority analysed the proposal in relation to safety and protection of environmental assets. It did not object to the Amendment as it considered that the proposal is not expected to increase peak flows above pre-development levels or impact on private properties. The Authority proposed a number of permit conditions, which are included in the exhibited and revised draft permits. These conditions specify design flood event standards and restrictions, and a requirement to obtain a 'Work on Waterways Permit' prior to any works in the waterway.

Council

Council submitted that the development will improve the condition of the currently degraded and unmanaged waterway and that the development will result in community and environmental benefits from a drainage and flooding perspective.

(ii) Discussion

Through the course of the design and master planning of the proposed development, the design of the waterway has changed from a more engineered linear approach as shown in the Surface Water Management Strategy, to the most recent less linear natural design shown in Masterplan versions MP17 and MP19. The main changes are:

- the waterway follows its natural course and meanders through the site
- the three dams or ponds on the site are retained
- there is a drainage link from Hams Road into the site, connecting the Grange Park Estate retarding basin to the site's Retarding Basin 1 via an overland flow site
- there are two drainage links from the Geelong Ring Road, one connecting directly to waterway at the site boundary and the other a constructed drainage link to the north of the creek that drains into the waterway some distance into the site
- the vegetated buffer zones are wider (30 metres on both sides).

The Panel is broadly satisfied that the revised design of the drainage scheme achieves the objective of Clause 14.02-1S (Catchment planning and development) of the Planning Scheme to protect and restore catchments and waterbodies, minimise erosion, filter sediment and protect environmental qualities. It generally meets the requirements of Clause 53.18 (Stormwater Management in Urban Development), as the stormwater impacts on the

environment and property are reduced, public safety is better protected by reducing overland flooding and flooding over Hams Road, and it provides local habitat and amenity benefits. Based on the modelling, it appears that the design maximises the retention of stormwater on-site, and is capable of achieving the water quality standards in the Urban Stormwater Guidelines. It has been extensively reviewed and approved by Council's drainage engineers, and the Corangamite Catchment Management Authority.

The Surface Water Management Strategy and the Flood Modelling Report both indicate that the stormwater drainage system requires further detailed design work. The waterway and drainage system are integral components of the development, and it is essential that the plans for the system are approved prior to works commencing. Draft permit conditions already require this.

The detailed engineering plans for the drainage works should include the necessary design for the external drainage works, including the upgrade or replacement of the VicTrack culvert, the upgrade of the Ghazeepore Road culvert and any necessary culverts in the VicRoads road reserve for the Geelong Ring Road. Currently only the Hams Road culvert upgrades are referenced. Further, other conditions require the works to be undertaken to the Ghazeepore Road culvert, the VicTrack culvert and the works within the VicRoads road reserve, but it does not mention the Hams Road culvert. This should be corrected.

Given two permits will issue, the development of the land may happen sequentially. Council (as the drainage authority) needs to be satisfied that the drainage works required under each permit are sufficient to manage drainage and stormwater discharges from that part of the land. Temporary works may be required if the entire drainage system is not constructed at the same time. The permit conditions relating to the drainage engineering plans will need to be amended to deal with this issue.

Further modelling work may be required to confirm that the detailed design (including any temporary works) can meet the requirements of the Planning Scheme and the permit conditions.

For completeness, the Panel considers that the requirements in DDO45 in relation to stormwater management are appropriate and consistent with policy requirements.

(iii) Conclusions and recommendations

The Panel concludes:

- The requirements in DDO45 in relation to stormwater management are appropriate and consistent with policy requirements.
- The revised design of the proposed drainage scheme will improve the currently degraded waterway and will closely align with the natural drainage lines of the site. Post development, the waterway will have reduced sediment loads through better erosion control, good connectivity through the site and improved water quality.
- The waterway design generally meets the planning scheme requirements.
- The further refinements to the drainage scheme recommended in the Flood Modelling Report will need to be incorporated into the detailed design, as will the recommendations of the Surface Water Management Strategy relating to

geotechnical investigations, a watertight wetland base and the use of non-dispersive topsoil.

- The drainage engineering plans should include all temporary drainage works, and all external drainage works required.
- The conditions requiring the construction of external drainage works should refer to all external drainage works.

The Panel recommends:

Amend the conditions relating to drainage engineering plans (condition 15 in both permits) as shown in Appendices D and E, to require the plans to:

- a) be prepared by a suitably qualified engineer;**
- b) incorporate the recommendations of the Surface Water Management Strategy relating to geotechnical investigations, watertight wetland bases and non-dispersive topsoil;**
- c) include all external drainage works;**
- d) include any temporary drainage works that may be required if one part of the land develops before the other;**

Amend condition 29 in Permit P662/2017 as shown in Appendix D, to:

- a) include the upgrade of the Hams Road culvert (as well as the drainage works in the VicRoads road reserve, the Ghazeepore Road culvert and the VicTrack culvert).**

6.5 Hams Road and Grange Park Estate flooding

(i) Evidence and submissions

A number of submitters raised concerns in relation to the capacity of the Grange Park Estate retarding basin on the north side of Hams Road. The retarding basin overfills, resulting in flooding on Hams Road and some nearby properties. Mr Smith said that this occurs regularly after rain, not just after a heavy storm. In response to the Panel's questions, Mr Smith said that he had not raised this issue with Council, although he believed the bus routes may have been altered to avoid Hams Road because of the flooding. Mr and Mrs Williams also raised concerns about flooding in the area, and provided the Panel with photographs demonstrating the flooding.



Figure 7 Photographs showing flooding of the Grange Park Estate retarding basin and Hams Road

Source: M and S Williams' submission (Document 27)

The modelling in both the Surface Water Management Strategy and the Flood Modelling Report identified that there is significant overland flow coming from the Grange Park Estate retarding basin. Both the Surface Water Management Strategy and the Flood Modelling Report recommended the existing culvert under Hams Road be doubled in diameter from 300mm to 600mm, and the pipe be extended so that water drains into Retarding Basin 1 on the subject land.

The Proponent submitted in closing that the Flood Modelling Report shows that flooding over Hams Road will reduce, and that the development would not cause any flooding above pre-existing conditions.

(ii) Discussion

Figures 5.1 and 5.2 in the Flood Modelling Report show existing conditions during a 1 percent AEP storm event, and Figures 5.5 and 5.6 show post-development conditions during the same event. The figures of existing conditions show significant flooding across Hams Road as well as flooding of some properties. Based on modelling during the same event post development, the water is largely confined to the drainage line and the potential flooding of private properties is significantly reduced. This is as a result of existing conditions, not the development. The Panel is satisfied on the basis of the modelling that the post-development scenario will result in significant improvements to this pre-existing problem.

(iii) Conclusions and recommendations

The Panel concludes:

- The proposed drainage scheme will significantly improve pre-existing problems with flooding associated with the Grange Park Estate retarding basin.

6.6 Potential flooding of the substation site

(i) Evidence and submissions

Figure 5.1 of the Flood Modelling Report shows that currently during a storm event, there is no flooding at the Powercor substation site. However the modelling of flooding in the post-development scenario shows flooding on the north and south sides of the substation site.

The Panel notes that the Flood Modelling Report is based on the 2018 Masterplan, but this largely reflects the exhibited Masterplan (MP17).

Neither the Surface Water Management Strategy nor the Flood Modelling Report specifically mention this impact on the substation.

In its submission to the Panel (Document 20), Spiire (acting for Powercor) noted the predicted flooding of the substation and raised concerns that the flooding could present a significant risk to the local electricity supply and the safety of Powercor workers, particularly during emergency scenarios. Powercor has requested that further work be undertaken by the Proponent to ensure suitable drainage outcomes that prevent flooding of the substation site can be achieved, and requested this be done before approval of the Amendment and the permits.

Neither the Proponent's revised draft permits (Document 18) nor Council's revised permits (Document 11) include a requirement for further assessment of drainage to ensure that there is no flooding of the substation site. The Proponent submitted orally that this work will be undertaken and that the final design will ensure there will be no flooding on the substation site. It submitted that if, based on further modelling and engineering plans, work is required on the substation site to achieve this outcome, there may be a need for this to be included in the External Drainage Works provisions of the section 173 agreement.

(ii) Discussion

Figure 5.5 of the Flood Modelling Report (which shows post-development conditions) appears to indicate that during a 1 percent AEP flood event, some water may drain along Hams Road and/or through the site and then pool on the substation site, within the northern and southern boundaries. The Panel accepts Powercor's submission that flooding on the substation site could cause significant issues, including power disruptions and safety concerns.

Permit 662/2017 should include an additional condition that requires that the final stormwater management design ensures that no water discharges to the Powercor site during a 1 percent AEP flood event. This should be confirmed by additional modelling of the final detailed design.

(iii) Conclusions and recommendations

The Panel concludes:

- The design of the drainage scheme needs to be further refined to ensure that there will be no water discharged to the substation site in a 1 percent AEP flood event. This will need to be confirmed by further modelling of the final detailed design, and additional conditions should be included on Permit 662/2017 to address this.

The Panel recommends:

Amend the conditions relating to drainage engineering plans (condition 15 in both permits) as shown in Appendices D and E, to require the plans to:

- a) ensure that no water is discharged to the Powercor utility site during a 1% AEP flood event;**

- b) provide for further modelling (if required by the Responsible Authority) to demonstrate that the drainage scheme can meet the requirements of the permit before the Responsible Authority endorses the drainage engineering plans.**

If drainage works are required on the Powercor site to achieve no water discharge to the Powercor site during a 1% AEP flood event, included them in the section 173 agreement.

6.7 The VicTrack and Ghazeepore Road culverts

(i) Evidence and submissions

The VicTrack culvert was a significant focus in submissions, particularly those from VicTrack and the Department of Transport. The current state of the VicTrack culvert, and the need for upgrades, was also highlighted in the Surface Water Management Strategy, the Flood Modelling Report and Mr Guise's expert witness statement (Document 7).

VicTrack and the Department of Transport

VicTrack's submission to Council (Submission 164) did not object to the general layout of the subdivision, but it did object to the drainage system. It stated that it required more detailed information about the design of the drainage system and the retarding basin and that it *"does not usually permit drainage from new development into the rail corridor"*. It referred to section 221Zl of the *Transport (Compliance and Miscellaneous) Act 1983* which states:

A person must not cause or permit drainage or sewage to flow or empty from any premises occupied by the person onto land or premises the property of Rail Track.

VicTrack requested conditions be placed on Permit 662/2017 preventing drainage or effluent from entering or being directed to VicTrack land without its written consent, and requiring no waste materials or soil to be deposited on its land. The Department of Transport's submission to Council (Submission 163) supported VicTrack's concerns about the drainage issues through the culvert.

VicTrack's submission to the Panel (Document 22) maintained its concern that the change from farming land to residential use will alter the level of runoff, and that the drainage scheme should not rely on discharging stormwater from the site via the VicTrack culvert. It submitted that the culvert blocks regularly, and requires regular maintenance possibly due to sediment from the erosion occurring on the subject land, or because of the levels of the VicTrack culvert and the Ghazeepore Road culvert. VicTrack submitted that it wanted not just a slower release of water through the VicTrack culvert, but also no increase in volume through the culvert.

VicTrack told the Panel that at some time in the future there may be an additional track added to the Geelong to Warrnambool rail line. The Panel asked whether this track duplication (if it were to happen) would require the culvert to be replaced. VicTrack was unclear whether a second track would be required, but confirmed orally that if it did, the culvert would likely need replacing.

The Proponent

As noted in Chapter 6.4, the modelling by Water Technology found that after development, the railway embankment is not overtopped in a 1 percent AEP event, and in storm events of various durations from 30 minutes up to six hours peak flows are reduced through the culvert.

Mr Guise agreed with the conclusions in the Surface Water Management Strategy and the Flood Modelling Report that the VicTrack culvert requires upgrading, but that the development does not appear likely to have adverse downstream impacts as post development, the flow rate downstream will be similar to or less than the current flow rates. He considered that the WSUD elements and the design of the waterway will reduce the sediment load on the waterway and the railway culvert, and that there will be no adverse impacts on the railway line or the downstream land.

Mr Guise reviewed the draft permit conditions and the draft section 173 agreement, and stated:

- The proposed Section 173 agreement contains adequate provision for works required to allow for the stormwater flows travelling through and generated from the subject site to be conveyed under the Warrnambool – Geelong Railway line and Ghazeepore Rd to Armstrong Creek West Branch through the use of the existing culvert or an alternate engineering design (such as an upgraded or new culvert).
- Based on the above, and contingent on the proposed Section 173 agreement being entered into, there is no impediment to the proposed development proceeding in the manner proposed which will have no adverse impact on the Warrnambool - Geelong railway line or downstream land.

Options for the upgrade or replacement of the VicTrack culvert

VicTrack summarised the outcome of a meeting with Council, the Proponent's representatives, Mr Guise, V/Line, the Department of Transport, Boral and the Catchment Management Authority that took place before the Hearing (on 7 August 2019). Mr Guise presented three options for the culvert at that meeting:

- Use the existing culvert but clean it out, rehabilitate and stabilise it, formalise and increase the size of the outlet channel and upgrade the Ghazeepore Road culvert.
- Install a new culvert under the rail line and reconstruct the outlet and Ghazeepore Road culvert.
- Install a new culvert as well as clean up and stabilise the existing drainage system, and install a new outlet pipe from Retarding Basin to the creek adjacent to Ghazeepore Road.

According to VicTrack, V/Line was of the opinion that the existing culvert could not be upgraded and has to be replaced with a concrete pipe that meets current standards. VicTrack submitted that this should be reflected in the section 173 agreement, along with:

- a requirement for detailed engineering drawings to be approved by VicTrack
- a requirement that all necessary agreements with VicTrack be in place before the works on the culvert commence, including a VicTrack approved Demolition and Construction Management Plan to ensure no disruption to rail services.

VicTrack also submitted that the developer must enter into a licence with VicTrack in relation to the ongoing cleaning and maintenance of the replaced culvert.

VicTrack proposed changes to the section 173 agreement (outlined in Document 22) to include a specific requirement that the owner undertake erosion reduction works and formalise flow paths from the VicRoads culvert outlet into the proposed development, and waterway upgrades that reduce sediment that currently blocks the VicTrack culvert.

Proponent and Council responses

In reply (Document 30), the Proponent submitted that it generally accepts the conditions sought by VicTrack, subject to some refinements as it wants to maintain flexibility about whether the culvert should be upgraded or replaced. Council's response to questions from the Panel (Document 32) recognised the need for the section 173 agreement to require the culvert to be upgraded or replaced, but considered that this could be determined at a later date.

Further information from the Department of Transport

The Panel requested the Department of Transport to provide clarification of a number of matters raised at the Hearing, including the potential implications for the VicTrack culvert of the Waurin Ponds Station upgrades, the Waurin Ponds stabling yard project and the possible track duplication on the Geelong to Warrnambool line.

The Department of Transport provided a response on 4 September 2019 (Document 38). The response clarified that:

- It is yet to be confirmed whether the Waurin Ponds Station upgrades, which will include providing a second platform, will duplicate tracks over the culvert. If duplication does not extend over the culvert, no works would be required to the culvert. Even if duplication does extend over the culvert, the culvert will be extended to the south rather than upgraded or replaced. As a result, the existing ponding in the area would remain unchanged.
- The Waurin Ponds stabling yard will be located 5km west of the culvert, and would have no impact on the subject site.
- The South Geelong to Waurin Ponds duplication has no impact on the subject site.

The response did not address possible duplication of the Geelong to Warrnambool line, and did not explain whether the stabling yard would result in an increase in train traffic over the culvert. The Panel presumes that it will, as the stabling yard is to be located to the west of the subject land. Trains going from Waurin Ponds Station (which is to the east of the subject land) to the stabling yard will necessarily have to travel past the site and over the culvert to get to the stabling yards.

The Department of Transport also highlighted the following points in Document 38:

- It reiterated its concerns that notwithstanding that the Flood Modelling Report indicates that peak flow rates under the rail line will decrease, the overall volume of water passing under the rail corridor would be expected to increase.
- VicTrack seeks to ensure its drainage infrastructure remains separate, where possible, from other drainage infrastructure.

- Given there are no future works requiring the upgrade or replacement of the existing culvert, the Department of Transport would expect that the existing culvert will be replaced at no cost to VicTrack, V/Line or the Department, and to the satisfaction of VicTrack.
- Due to the height of the Ghazeepore Road culvert potentially impacting the drainage of the VicTrack culvert, the Department would expect the drainage authority, in conjunction with the Proponent, to *“work out an appropriate solution so as not to have unnecessary ponding near the downstream portion of the railway culvert”*.

(ii) Discussion

The Panel accepts that whether the VicTrack culvert will be replaced or upgraded is a matter that VicTrack and the Proponent will need to resolve. However, the Panel notes that the culvert is around 100 years old, constructed of brick, and does not meet current standards. It seems probable that the culvert is close to its use by date, and will need replacing in the near future whether or not the development goes ahead. V/Line’s *Railway Structure Design Requirements*, which were attached to VicTrack’s submission to the Panel (Document 22), specify that culverts, albeit concrete culverts *“shall be designed for a 100 year life under reasonably projected traffic duty”*. This is somewhat at odds with the Department of Transport’s advice in Document 38 that if the rail line is not duplicated past the site then the culvert will not need upgrading or replacing.

Whether the culvert is upgraded or replaced, it can be anticipated that VicTrack will have reduced maintenance costs and will have an asset with improved functionality and a longer life. The Panel therefore considers that VicTrack has some obligation to contribute to the upgrade or replacement of the culvert, and it is unreasonable to expect the Proponent to bear the full responsibility and cost of the upgrade or replacement. This is particularly so given it seems that other transport projects – whether it is the upgrade to Waurin Ponds Station, the Waurin Ponds stabling yards or the possible future duplication of the Geelong to Warrnambool rail line – are likely to necessitate the upgrade or replacement of the culvert.

The Panel also notes that while the overall volume of water through the culvert may increase as a result of the development, the evidence presented to the Panel consistently demonstrated that flow rates and sediment loads will be reduced in the post-development scenario. This is likely to result in a better outcome for the culvert when compared to current conditions.

While the Panel acknowledges that the Proponent accepts VicTrack’s proposed changes to the Section 173 Agreement, the Panel does not support these changes. The changes proposed by VicTrack relate to on-site drainage works, whereas the section 173 agreement is related to external drainage works. The permit conditions contain detailed requirements in relation to on-site drainage works, including reduction in erosion and specific requirements relating to sediment loads. It is not necessary or appropriate to repeat similar (but more general) requirements in the section 173 agreement. That said, the Panel considers that Clause 6.2 of the exhibited section 173 agreement should be amended to:

- include a reference to ‘upgrading or replacing’ the VicTrack culvert

- require the works to be to the satisfaction of VicTrack as well as the Responsible Authority.

There was limited discussion at the Hearing of the upgrades required to the Ghazeepore Road culvert. The Panel notes that there was general agreement that the culvert would need lowering, as it currently sits higher than the VicTrack culvert and the drainage line through the Boral land that connects the two culverts. The Panel is satisfied that the draft permit conditions and section 173 agreement deal with this appropriately. No further changes are required.

(iii) Conclusions and recommendations

The Panel concludes:

- The issue regarding the upgrade or replacement of the VicTrack culvert needs to be resolved through further negotiations between the Proponent and other stakeholders.
- The Panel makes the observation, however, that whether the culvert is upgraded or replaced, VicTrack will have reduced maintenance costs and will have an asset with improved functionality and a longer life. Further, it seems possible (if not likely) that one or more of the proposed rail projects mentioned by VicTrack will require the culvert to be upgraded or replaced in the near future.
- In these circumstances, the Panel considers it is unreasonable to expect the Proponent to bear the full responsibility and cost of the upgrade or replacement.
- The wording of the exhibited section 173 agreement is appropriate and does not require the additional wording proposed by VicTrack, save that the agreement should refer to upgrading or replacing the VicTrack culvert, to the satisfaction of the Responsible Authority and VicTrack.
- The Ghazeepore Road culvert should be lowered to improve drainage and water flows.

The Panel recommends:

Amend condition 29 in Permit 662/2017 as shown in Appendix D, to:

- a) refer to 'cleaning, upgrading or replacing, where necessary' the VicTrack culvert, to the satisfaction of the Responsible Authority and VicTrack.

Amend clause 6.2 of the exhibited draft section 173 agreement by:

- a) inserting the words 'cleaning, upgrading or replacing, where necessary, the' before the words 'Geelong-Warrnambool railway culvert'
- b) inserting the words 'and VicTrack' after the words 'to the satisfaction of the Responsible Authority'.

7 Ecological issues

7.1 Introduction

(i) Design and Development Overlay

The exhibited DDO45 includes the following design objective:

To reinstate the natural east-west waterway and make it a central feature of the development including opportunities for environmental restoration, open space and stormwater management.

DDO45 includes the following requirement:

- A creek reserve of approximately 30 metres either side of the reinstated east-west waterway.

(ii) Permit conditions

The exhibited draft permits include conditions requiring:

- the Construction Management Plan to address the protection of all existing vegetation and waterways
- a Landscape Master Plan and detailed Landscape Plans that (among other things) require a survey of vegetation to be retained, details of tree protection zones and details of proposed species that will be planted
- conditions requiring the completion and maintenance of landscaping works.

Council's revised permits attached to its Part B submission include several additional conditions aimed at protecting flora and fauna:

- a condition prohibiting the removal of native vegetation other than that marked on the endorsed plans
- detailed vegetation protection provisions for native vegetation to be retained
- a Vegetation Management Plan that must be approved prior to any works that might affect the Creekline Grassy Woodland and Sedge Wetland present on the site
- a Weed Management Plan
- conditions requiring offsets for native vegetation to be removed
- a Fauna Management Plan, which must include details for protecting the habitat and water quality for the frog population within the wetland and ponds to be retained
- fauna habitat protection conditions
- a detailed Construction Environment Management Plan that (among other things) includes measures to prevent polluted runoff entering the creek or wetlands on the site
- a Waterway Rehabilitation Plan requiring (among other things) details of works within the creek corridor, revegetation of the creek corridor and habitat improvements.

(iii) Technical reports

Practical Ecology prepared the following reports on the site's flora and fauna, both in connection with the combined Amendment and permit applications, and the previous amendment (Amendment C276 that was abandoned by Council in 2015):

- *Due Diligence Flora and Fauna Survey at 35 Hams Road and 151-229 Anglesea Road, Waurin Ponds, 2012*
- *Flora and Fauna Assessment and No Net Loss Analysis Recommendations, 35 Hams Road and 151-229 Anglesea Road Waurin Ponds, April 2014 (the 2014 report)*
- *Growling Grass Frog, Natural Spring, and Bird Habitat Surveys for 35 Hams Road, Waurin Ponds (draft), February 2015 (the 2015 report)*
- *Updated Addendum to Flora and Fauna Assessment and Native Vegetation Impact Analysis, 35 and 69-93 Hams Road, Waurin Ponds, October 2018 (the 2018 report).*

Council requested the 2015 report in response to community concerns relating to the impacts of Amendment C276. The 2018 report was prepared in response to Council's RFI in connection with the combined Amendment and permit applications, and because of recent changes to Clause 52.17 (Native vegetation) of the Planning Scheme. The 2018 report included an assessment of the previously unassessed native vegetation on the south side of the Hams Road reserve.

Practical Ecology stated in both the 2014 and the 2018 reports that there were limitations to its inspections. As they were undertaken in summer and over a short survey period, not all species present on the site may have been identified, particularly herbaceous species.

The Proponent tabled an expert witness statement prepared by Practical Ecology's Ms Kelsall and Mr Kern (Document 5). The expert witness statement essentially provided an update of Practical Ecology's previous work, based on the revised Masterplan (MP19 dated 24 July 2019), the Surface Water Management Strategy prepared by Neil Craigie Pty Ltd in September 2013 and Water Technology's Flood Modelling Report prepared in October 2018.

7.2 The issues

The issues are:

- the loss of native vegetation both within the subject land and the Hams Road reserve
- impacts on fauna.

7.3 Relevant policies and legislation

(i) Planning Scheme

Clause 12.01-15 (Protection of biodiversity) aims to assist in the protection of Victoria's biodiversity and requires that fragmentation of habitat and weeds and pests are considered in planning decision making.

Clause 12.01-25 (Native vegetation management) aims to ensure there is no net loss of biodiversity due the removal of native vegetation including habitat for rare or threatened species and requires that removal is avoided where possible. If native vegetation is to be

removed the *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP, 2017) apply, and offsets are provided to compensate for the loss.

Clause 12.03-1S (River corridors, waterways, lakes and wetlands) aims to protect waterways. It requires development to respond to and protect water bodies and wetlands, and that development is sensitively designed and sited and does not compromise bank stability, increase erosion or impact the waterway's ability to manage flood flow.

Clause 52.17 (Native Vegetation) has a similar purpose as Clause 12.01-1S. It specifies application requirements, decision guidelines and the requirement for offsets when a permit is required to remove native vegetation.

Clause 65.02 (Approval of an application to subdivide land) requires that the responsible authority, before approving a subdivision application, must consider whether native vegetation can be protected.

(ii) Legislation

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) lists species that are of national importance and categorises them as extinct, critically endangered, endangered, and vulnerable or conservation dependent. Where a species on the list is found on a site proposed for development, the proponent is required to make a referral to the Commonwealth Environment Minister who then decides if the development can proceed, and what mitigation measures are required.

The *Flora and Fauna Guarantee Act 1988* (FFG Act) lists threatened species of flora and fauna. Permits are required to impact on listed flora and fauna.

The *Catchment and Land Protection Act 1994* lists declared noxious weeds, and places requirements on landowners control them.

7.4 Native vegetation impacts

(i) Evidence and submissions

Native vegetation surveys and assessments

Practical Ecology's 2014 survey identified the following vegetation on the site:

- 11 indigenous species
- 34 introduced species
- two Ecological Vegetation Classes (EVCs) – Grassy Woodland (EVC 175) and Creekline Grassy Woodland (EVC 68).

The 2018 survey identified:

- 14 indigenous species
- 34 introduced species
- widespread weeds
- three EVCs – Grassy Woodland (EVC 175), Creekline Grassy Woodland (EVC 68) and Sedge Wetland (EVC 136).

Grassy Woodland and Creekline Grassy Woodland are classified as endangered and Sedge Wetland is classified as vulnerable.

The overall assessment in the 2014 report concludes that the site contained patches of low quality native vegetation. The drainage line contains the most environmentally sensitive areas within the site and the 2014 report stated that this area needs careful consideration during the design stage to avoid adverse impacts. Practical Ecology recommended that the drainage line not be planted with classifiable vegetation. The 2014 report commented that the change in land use may be beneficial to any retained areas of vegetation due to the elimination of cattle grazing.

The 2018 survey (which also assessed the vegetation in the Hams Road reserve) found multiple patches of the three EVCs across the site, along with indigenous species and weeds. It also found one patch of Grassy Woodland in the Hams Road reserve, which included Drooping Sheoak and Hedge Wattle, Nodding Saltbush, Slender Wallaby-grass, and Spear Grasses. It had weed cover of approximately 60 percent. Again, the quality of vegetation was not considered to be high.

Since the 2014 and 2018 reports, the Masterplan has been revised. The expert witness statement of Ms Kelsall and Mr Kern (Document 5) updated the native vegetation impact assessments, and assessed that 6.289 hectares of the site's 6.77 ha of native vegetation will be removed or impacted by the development. Patches of Creekline Grassy Woodland and the Sedge Wetland that occur along the creek are planned to be retained. The habitat intended to be retained is:

- the balance of the Creek Reserve
- in the 'Overland Flow' site
- in the dams and ponds (except where Council has requested perimeter fencing or bollards be applied for safety)
- the pocket of unlabelled Creek Reserve.

Elsewhere, the native vegetation will be lost. Practical Ecology considered that this would be unavoidable, but did not describe whether (or how) the subdivision had been designed to attempt to avoid or minimise the loss of native vegetation outside the creek reserve.

The expert witness statement calculated the total offsets required based on the revised Masterplan (MP19). The experts had regard to the Surface Water Management Strategy in calculating the offsets, and estimated that an area 10 metres either side of the waterway will be impacted by the construction of the waterway. On that basis, they calculated that a total of 6.279 ha will need to be offset. This could include offsets purchased through a third party broker, or offsets incorporated into the revegetated and rehabilitated creek corridor.

The expert witness statement supported the landscape aspects of the Masterplan and recommended that a waterway and wetland rehabilitation plan be required. The experts recommended no-go zones be established during construction in important areas along the waterway and wetlands, and that the Construction Management Plan include a requirement that the impact on native vegetation and natural features be minimised. Other recommendations included:

- Try to incorporate existing patches of vegetation in the open space areas.
- Avoid excessive earth works within and adjacent to the water way.

- Undertake ecological enhancement work along the drainage line.

Council's revised permits include a range of additional conditions that are consistent with these recommendations.

Practical Ecology did not consider that the requirements of the FFG Act apply.

Submitters

A number of submitters identified the Grassy Woodland along Hams Road as the only remnant native vegetation and want it retained. Dr Jones submitted this patch contains Drooping Sheoak, Hedge Wattle, Nodding Saltbush, Wallaby grass and Spear grasses.

Council

Both Council's Part A and Part B submissions recognised that the site contains patches of remnant native vegetation as well as the off-site patch of Grassy Woodland on Hams Road. Council submitted that the waterway and wetlands are the most environmentally sensitive areas within the site, and require careful consideration.

Council submitted that it had previously requested a detailed 'avoid and minimise' statement under Clause 52.17, as the material provided by Practical Ecology failed to describe how native vegetation had been avoided or minimised in the design of the subdivision. Council submitted that native vegetation *"has not been truly considered in the design of the subdivision, something that Practical Ecology state in section 5.2 of their statement"*. Council noted that the vegetation removal figures in the 2018 report do not match those in Ms Kelshall and Mr Kern's expert witness statement and that this would need to be resolved.

Council submitted that flora will need to be further considered in relation to any drainage or culvert works near the railway line and Ghazeepore Road. In closing, Council submitted that it is assuming that the Hams Road vegetation will not be able to be retained and that its loss should be included in the required offsets.

(ii) Discussion

The Panel considers that the conditions in the exhibited permits were not sufficiently comprehensive to provide for adequate protection of native vegetation on the subject land. However Council's revised permit conditions set out a comprehensive regime for the identification and (where possible) protection and retention of native vegetation on the site, as well as offsets for the vegetation to be lost. Conditions require the substantial rehabilitation and upgrading of the creek corridor, including revegetation with native species. Weeds will need to be effectively controlled. The Proponent largely accepted these conditions, subject to some minor increases in the offset amounts required.

On balance, the Panel is satisfied that the revised permit conditions suitably address the impacts on native vegetation, subject to some minor adjustments to address the matters discussed below.

It is not clear to the Panel based on the material presented to it how (or whether) the subdivision has been designed to avoid the removal of native vegetation, other than in the creek corridor. That said, the existing native vegetation on the site is low quality. The site is

currently in a degraded state, and the Panel considers that the revised permit conditions, particularly those relating to the rehabilitation of the waterway and weed control, will result in a superior biodiversity outcome on the site. The conditions will ensure that the relatively poor quality native vegetation that will be lost will be offset and replaced with suitable species. In this regard, the Panel supports the proposition in the 2014 Report and the expert witness statement that, where possible, offsets for native vegetation loss should be taken up on site rather than being purchased through a broker.

Practical Ecology reported that the site is part of the Bioregion of the Otway Plains. Practical Ecology identified patches of Grassy Woodland (EVC 175), Creekline Grassy Woodland (EVC 68) and Sedge Wetland (EVC 136) on the site and in the Hams Road reserve. The Panel has cross checked the Practical Ecology survey results against DELWP's list of species likely to be present in the identified EVCs and in the Otway Plains Bioregion (available on the DELWP website).

The species identified by Practical Ecology through its surveys don't align with the DELWP species list for the three relevant EVCs. This may not be altogether surprising given the degraded nature of the site and that the surveys were not conducted in the optimal time of year. Nevertheless, the EVCs on the site should be confirmed when the various landscape and vegetation protection plans required under the permit are prepared.

According to the information published by DELWP, Sedge Wetland (EVC 136) is not listed as likely to be present in the Otway Plains Bioregion. It is possible that the Sedge Wetland on the site may be the very similar Plains Sedgy Wetland (EVC 647). This should be checked as part of the preparation of the various landscape and vegetation protection plans required under the permit.

The native vegetation offset provisions in Council's revised permits refer to an offset of 6.194 ha. This varies slightly from the amount referred to in Ms Kelshall and Mr Kern's expert witness statement. This amount appears to relate to the whole of the subject land, and it is not clear whether it includes the native vegetation in Hams Road that (according to Council) is likely to be lost. The detailed design of the subdivision and road upgrade works is yet to be finalised, and there may be further changes in the amount of native vegetation removed and retained on the site and on the south side of Hams Road. These matters are likely to affect the final estimate of offsets needed, and the permit conditions should require a revised determination of the amount of offset by a suitably qualified consultant for each site.

(iii) Conclusions and recommendations

The Panel concludes:

- The DDO45 and the revised draft permits contain the necessary safeguards to protect the native vegetation to be retained, offset or replace the vegetation to be lost, and weeds to be removed.
- The revised permit conditions are generally suitable to manage impacts on native vegetation, subject to some minor adjustments to address the following matters:
 - The EVCs present on the site need to be confirmed when the various landscape and vegetation protection plans required under the permit are prepared.

- The precise amounts of the offsets required for each site should be determined by a suitably qualified professional once the final design of the subdivision and the Hams Road upgrades have been resolved.
- Offsets should be provided onsite where possible.

The Panel recommends:

Amend the native vegetation conditions in both permits as shown in Appendices D and E, to require:

- a) the draft Ecological Vegetation Classes present on the site to be confirmed;**
- b) the final offset to be provided for each site to be determined by a suitably qualified professional once the design of the subdivision and the Hams Road upgrades are finalised;**
- c) offsets to be provided onsite where possible.**

7.5 Impacts on fauna

(i) Evidence and submissions

Fauna surveys and assessments

Frogs

Practical Ecology's 2014 report considered that the Growling Grass Frog, while not observed, may be present at different times of the year due to seasonal movement. However it noted that the habitat present on the site was degraded. The Growling Grass Frog is a listed species that is protected under the EPBC Act and the FFG Act.

The 2014 report made several recommendations for the protection of frog species on the site:

- frogs be salvaged and translocated, overseen by a qualified zoologist
- the waterbodies have a buffer zone of more than 20 metres
- the waterbodies be constructed and revegetated with indigenous plants, logs and rocks to improve potential habitat for the Growling Grass Frog (and other frogs) and to control sediment
- the waterbodies be fenced to limit disturbance and access by people and domestic animals.

At the request of Council in 2014, a zoologist from Practical Ecology undertook a follow up survey for the Growling Grass Frog (as well as suitable habitat for the Swift parrot and Wedge Tailed Eagles and natural springs). The results are set out in Practical Ecology's 2015 report. Surveys were conducted on foot over two nights in January 2014. The waterbodies were relatively full at the time, and while no Growling Grass Frog were heard, three other species were detected – the Common Froglet (*Crinia signifera*), Banjo Frog (*Limnodynastes dumerilii*), and Spotted Marsh Frog (*Limnodynastes tasmaniensis*). The surveys also detected some tadpoles and frog metamorphs and one eel species, none of which are on the EPBC Act or FFG Act lists. The 2015 report noted that based on the frogs heard, the frog population in waterbody 2 was considered large.

The 2015 report assessed the waterbodies as not being ideal habitat for the Growling Grass Frog due to poor connectivity between the water bodies. However it noted that the waterbodies had changed dramatically since the previous site assessments in 2012 and 2014 and that, as a precaution, preclearance checks should be undertaken prior to any works. The report also noted that the survey was not undertaken at an optimal breeding and calling season for the Growling Grass Frog, and that the site could be enhanced to provide habitat for the Growling Grass Frog.

The 2018 report (which was based on the October 2018 version of the Masterplan) identified that while some natural frog habitat will be retained including some of the creek reserve, the dams and ponds and the overland flow site, there will be a loss of native habitat along the Creek and drainage reserves, the two retarding basins and through the construction of roads, crossing and pathways.

Ms Kelshall and Mr Kern's expert witness statement recommends that the water bodies be revegetated with indigenous plants, logs and rocks to improve potential habitat for the Growling Grass Frog and control sediment, that there be a preclearance site surveys for Growling Grass Frog and that frogs be salvaged from the waterways and translocated prior to works commencing.

Birds and other species

Practical Ecology's 2014 report stated that no listed birds were observed on the site during surveys, although its review of local records indicated that the Baillon's Crake, which is on the FFG list of threatened species, could use the site for foraging. The report concluded that the presence of Baillon's Crake on the site is likely to be low to moderate, as the quality of the habitat is degraded. The report also concluded that the Barking Owl may frequent the site. Many other species of birds, including those mentioned by submitters (refer below), were also observed. The 2014 report also considered that there was a low to moderate possibility that critically endangered Golden Sun Moth may be on the site.

The 2015 report stated that the site, with its lack of perch trees and the lack of recorded sightings, was considered unlikely to have significance for the Wedge Tailed Eagle or the Swift Parrot.

Submitters

A number of submitters expressed concern about the potential loss of habitat that supports wildlife. Primary concerns related to frogs and birds.

Ms Guy, Mr McKeegan, Ms Mountjoy and Ms Viner raised concerns about the impact of the proposed subdivision on the frogs that live in in the waterbodies on the site. At the Hearing Mr and Mrs Williams said they were saddened about the potential loss of frogs which they hear when they are out walking. They also questioned whether salvaging frogs will be successful.

Ms Paton submitted that the native vegetation along Hams Road is a roosting site for Superb Fairy Wrens, New Holland Honeyeaters, European Golden Finches, European Greenfinches and other species. She keeps a bird diary and had also seen Wedge tail eagles on and around the subject land on multiple occasions including a juvenile. She had also observed the Straw Necked Ibis, the Grebe, Swallows, Peregrine Falcons, Yellow tailed Black Cockatoos

and Double Barred Finches. Several other submitters, including Mr Morton, Mr McKeegan, Dr Jones and Mr Hayward, mentioned birds sighted in the Hams Road Grassy Woodland patch including Wedge Tail Eagles, blue wrens, parrots, finches and hedge wattle birds. Dr Jones submitted that the birds seek refuge from cats and dogs in this patch of vegetation.

Mr McKeegan submitted that the striped legless lizard (which is protected under both the EPBC Act and the FFG Act) had been observed in the Grange Park Estate, and was concerned that there had been no assessment of the striped legless lizard in the Practical Ecology reports.

Council

Council submitted that the proposed open space along the creek corridor *“is an excellent outcome and when fully established would add to the environmental values of the area”*, connecting it to the creek in the Armstrong Creek Growth Area. Council supported the recommendations in Ms Kelshall and Mr Kern’s expert witness statement (Document 5). As noted above, Council’s revised draft permits included new conditions addressing impacts on fauna, including:

- a Fauna Management Plan
- a condition requiring trees to be examined by a qualified zoologist prior to their removal, and the salvage and relocation of any native fauna found
- a condition requiring dams and waterbodies to be drained prior to works commencing, to enable the relocation of fauna.

Council submitted that the Waterway Rehabilitation Plan and Construction Environment Management Plan conditions will also assist in protecting and improving habitat.

(ii) Discussion

Practical Ecology’s 2015 report recommended that an additional survey for the Growling Grass Frog be undertaken at its optimal breeding season and prior to site clearance. The Panel supports this recommendation, and considers that a permit condition should be added to both permits. If by chance Growling Grass Frog is found, then the necessary referrals will be required under the EPBC Act.

Any Growling Grass Frog (or any other frog species) found on the site should be relocated or translocated prior to works commencing, under the supervision of a qualified zoologist. Subject to minor modifications, revised conditions 42 to 44 in Permit 662/2017 (36 to 38 in 663/2017) will address this issue.

Practical Ecology’s 2014 report mentioned that the Baillon’s Crake may use the site. However there was no follow up on this listed species in later reports. Similarly the 2014 report said there was a possibility that the critically endangered Golden Sun Moth may use the site but no further survey work was undertaken to check for the presence of this species. As part of the preclearance survey work the zoologist should also check for the Golden Sun Moth, Baillon’s Crake and Barking Owl.

While the Panel acknowledges the concerns of the submitters in relation to the various birds species that may be impacted, none of the species sighted by submitters are listed under the FFG Act or the EPBC Act. The site is currently in a degraded condition with low quality

habitat, and the Panel does not consider that any impacts on these species are likely to be significant.

The Panel agrees with Council that the developed site, with the connected waterway and wetlands together with other enhancements such as improved water quality, the revegetation of the creek corridor with suitable native species, the 30 metre buffer zone either side of the waterway and other habitat improvements will result in a better biodiversity outcome than currently exists on the site. In time many more native species may be attracted to the site than currently inhabit it.

(iii) Conclusions and recommendations

The Panel concludes:

- The DDO45 and the revised permit conditions are generally suitable to manage impacts on native fauna, subject to some minor adjustments to address the following matters:
 - there should be specific reference to habitat for native species in the DDO45 design objective
 - a pre-clearance survey should be undertaken to assess the presence of Growling Grass Frog, Golden Sun Moth, Ballion's Crake and Barking Owl
 - the survey should be undertaken during the optimal breeding season for the Growling Grass Frog
 - any frogs found should be translocated under the supervision of a qualified zoologist prior to works commencing.

The Panel recommends:

Amend the second design objective in the Design and Development Overlay Schedule 45 to read:

To reinstate the natural east-west waterway and make it a central feature of the development including opportunities for environmental restoration, suitable habitat for native fauna, open space and stormwater management.

Amend the fauna conditions in both permits as shown in Appendices D and E, to require:

- a) a pre-clearance survey to assess the presence of Growling Grass Frog, Golden Sun Moth, Ballion's Crake and Barking Owl – the survey must be undertaken during the optimal breeding season for the Growling Grass Frog;
- b) the salvage and relocation of any frog species under the supervision of a qualified zoologist prior to works commencing.

8 The quarry

(i) The Design and Development Overlay

- Appropriate buffer treatments, interfaces, setbacks and acoustic treatments (where required) must be provided to: the Powercor electrical substation utility; Princes Freeway and Baanip Boulevard; Geelong-Warrnambool Railway Line and the land south of the railway line which may be subject to future extractive industry.

(ii) Boral's current and intended activities

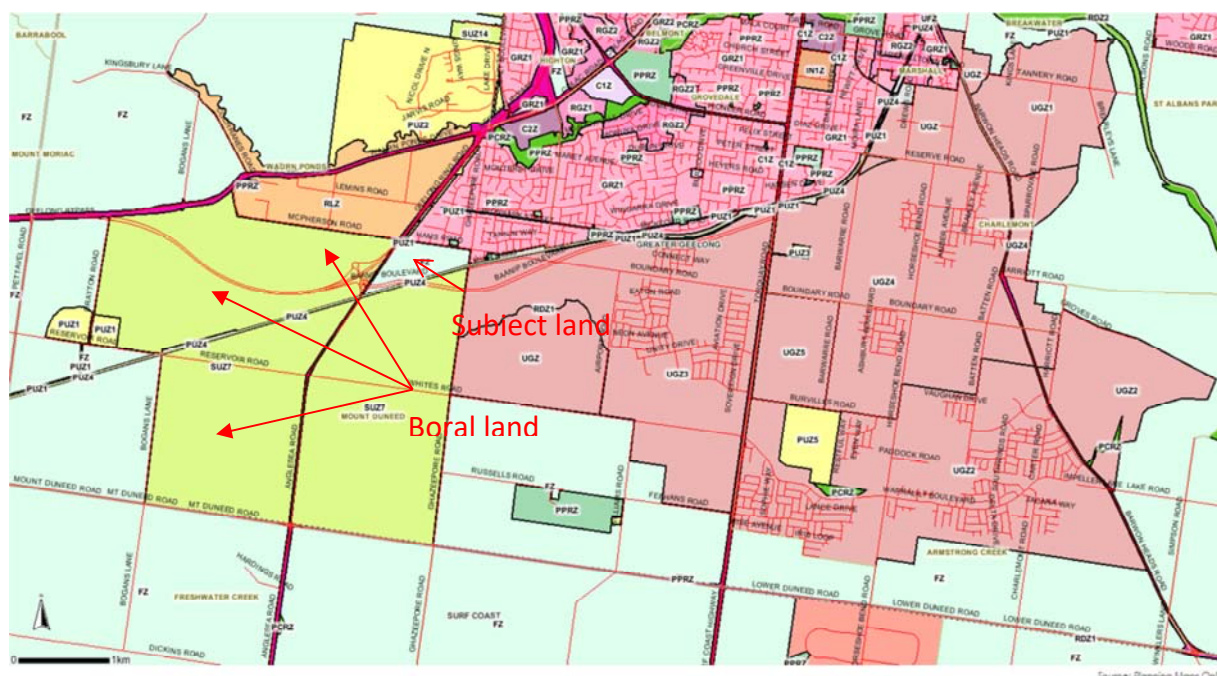


Figure 8 **Boral Waurn Ponds site**

Boral did not make a submission to the Amendment, or appear at the Hearing, but it provided some information to the Panel having heard other submissions (Document 34).

Currently, quarrying can occur on the land, as well as a cement manufacturing plant and clinker grinding facility in the south western part of the land (some distance from the subject land). According to the documentation provide by Boral, Boral has started construction a new \$100 million plus clinker grinding and distribution facility at Lascelles Wharf in the Port of Geelong. Boral stated in its submission to Amendment C395ggee (part of Document 34):

As a consequence of the Port project, the land will become surplus to Boral's operational requirements. This will result in staged decommissioning of the existing cement works on the land, and significant rehabilitation and site remediation works for the cement plant site and quarry.

(iii) The GHD Buffer Study

The combined Amendment and permit applications were accompanied by a Buffer Study dated March 2018 prepared by GHD. The purpose of the Buffer Study was to assess any potential buffer constraints to the site from existing industry (principally the Boral quarry and associated operations). The key findings of the Study were:

- The default 250 metre quarrying buffer from the Work Authority boundary extends approximately 120 metres onto the subject site. However, Boral (via Taylors) have indicated that there is no current or future extraction planned to the east of Anglesea road and *"this constraint may not be applicable to the site"*.
- Default buffer distances for cement manufacture (1,000 metres), clinker grinding (500 metres) and blasting from the basalt resource (500 metres) do not constrain the subject site when plotted from their respective activity boundaries.
- The EPA guidelines outline a number of factors where default buffers may be reduced, including *"transitioning of the industry"*.
- Boral have indicated to Taylors that the eastern portion of their site (east of Anglesea Road) is *"no longer used for quarrying purposes"*. Consequently, GHD considers it reasonable that this portion of the Work Authority boundary be considered as a transitioning industry.
- The default 250 metre quarrying buffer, excluding the land east of Anglesea Road, extends approximately 70 metres onto the subject land.
- GHD developed a directional buffer for the 250 metre quarrying buffer and 500 metre quarrying buffer (including blasting) which *"shows a large reduction of the default buffer distance towards the northeast"*, reducing the area affected by the default buffer by up to 70 percent. If the land east of Anglesea Road is excluded, the buffers do not constrain the subject land.
- The elevated embankment and strip of vegetation at Baanip Boulevard will lead to some reduction of transmitted dust from any quarry operations to the subject land as well as reducing any visual and noise impacts.

(iv) Referral to the Department of Jobs, Precincts and Regions

Council referred the combined Amendment and permit applications to the Earth Resources Regulation Branch of the Department of Jobs, Precincts and Regions (ERR) for comment. ERR recommended the following condition be included in the draft permits:

Department of Jobs, Precincts and Regions – Earth Resources Regulation Branch

All Lots contained within stages 6,7,8 & 9 (whether wholly or partially) affected by the 250m extractive industry buffer as shown on the endorsed plan shall not be developed without the further written agreement of the Department of Jobs, Precincts and Regions.

Note: any variation or alteration to the stages referred to above must be submitted to the Earth Resources Regulation Branch within the Department of Jobs, Precincts and Regions.

This condition was included in the exhibited draft permits.

8.2 The issue

The issue is whether the impacts of the Boral quarry have been addressed appropriately.

8.3 Relevant policies and guidance

(i) Planning scheme requirements

Clause 13.06-1S (Air quality management) aims to protect and improve air quality. It includes a strategy that where possible, there is suitable separation between land uses that reduce air amenity and sensitive land uses. It requires EPA's *Recommended Buffer Distances for Industrial Residual Air Emissions* (1990) to be considered.

Clause 14.03-1S (Resource exploration and extraction) requires that buffers be maintained around quarry and mining activities and that these buffers be appropriate to the extractive uses.

The purposes of Clause 52.09 (Stone extraction and extractive industry interest areas) are:

To ensure that use and development of land for stone extraction does not adversely affect the environment or amenity of the area during or after extraction.

To ensure that excavated areas can be appropriately rehabilitated.

To ensure that sand and stone resources, which may be required by the community for future use, are protected from inappropriate development.

Clause 52.09-8 requires notice to be given to the Secretary to the Department administering *Mineral Resources (Sustainable Development) Act 1990* (MRSD Act) of an application to use or subdivide land or construct a building for Accommodation, Child care centre, Education centre or Hospital on land which is within 500 metres of land on which a work authority has been applied for or granted under the MRSD Act.

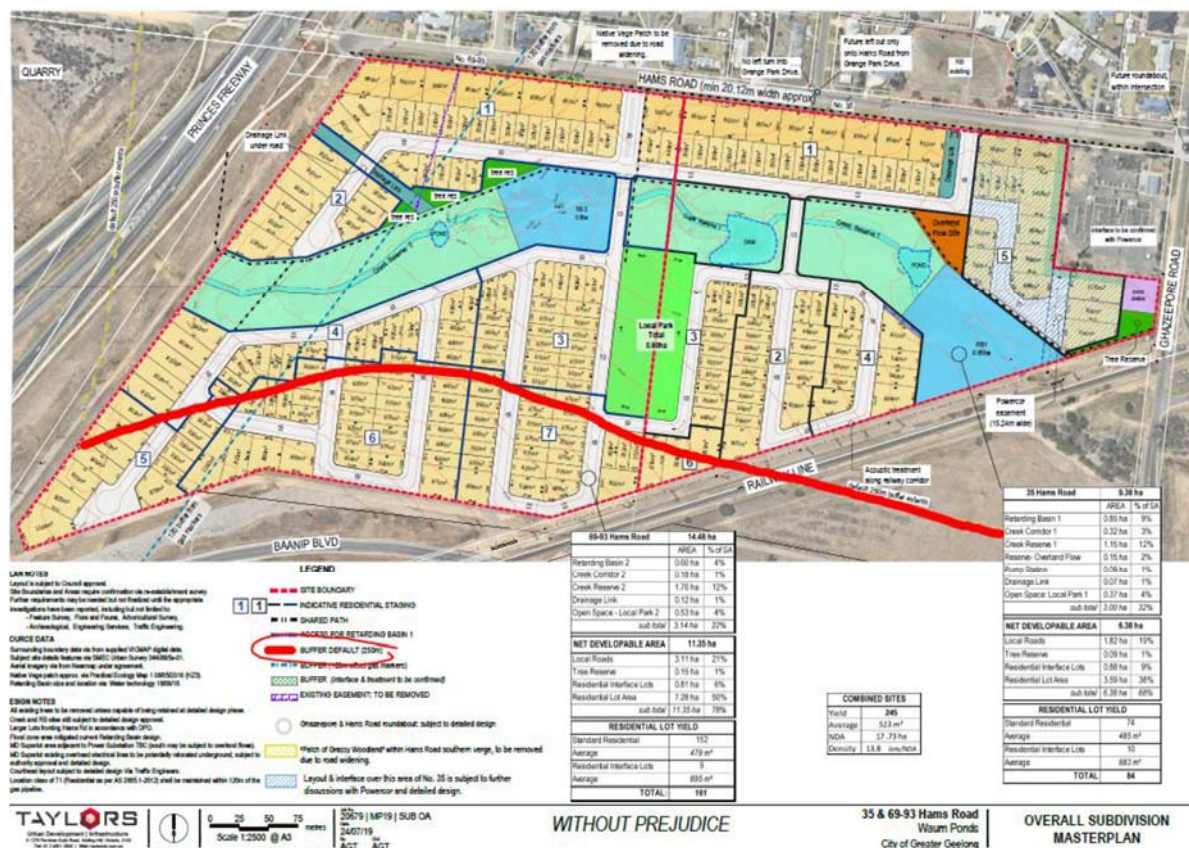
(ii) EPA guidance

EPA's *Recommended Buffer Distances for Industrial Residual Air Emissions* (1990) recommends the following separation distances between a quarry and sensitive uses:

- 250 metres without blasting
- 500 metres with blasting.

This publication was updated in 2013, but the recommended buffer distances relating to quarrying (with and without blasting) have not changed.

Figure 9 below shows the extent of the 250 metre buffer from the edge of the Work Authority.



screening" on all the SUZ7 land except the south east parcel, which is the land adjacent to the Railway line/Baanip Boulevard.

- Boral confirmed to Council in 2013 that the basalt deposits, which requires blasting to extract, are more than 500 metres from the subject land.
- Boral's 2017 submission to Amendment C395ggee (part of Document 34) foreshadows Boral's intention to decommission the cement works and redevelop the Boral land for residential development. In that submission Boral indicated that it planned to develop the site in the next 3-5 years.
- In a 19 July 2019 letter to Council about Amendment C395 Boral's National Land Development Manager Ms J McKittrick wrote that the Waurin Ponds site is now surplus to requirements it *"may be redeveloped for urban purposes comprising a range of industrial uses, dependent persons units, outdoor recreation and several other urban uses and that Boral proposes its land be zoned Urban Growth Zone"*.
- Boral has ceased mining limestone at the site.

As part of Document 34, Boral provided a link to a YouTube video titled *Boral Waurin Ponds – Quarry & Cement Works – The Next Logical Use* (2019) that shows graphically its intention for its land.

Council generally supported the condition proposed by ERR requiring ERR's consent for development within the 250 metre extractive industry buffer, but submitted that it also apply to subdivision of the land (not just the development of lots). The Proponent also accepted the condition, but proposed that it was unnecessary to specify the stages.

8.5 Discussion

Quarrying, particularly with blasting, can have off-site impacts in terms of dust emissions, noise emissions, vibration and fly rock, that could potentially constrain development on the subject land.

Boral did not make a submission to the Amendment and it was only through the efforts of Council and reference to Boral's submissions to Amendment C395ggee that it became apparent that Boral has an intention to redevelop all its Waurin Ponds land at some future date. However Boral has not as yet applied for the necessary rezoning of the land to enable it to go ahead with the redevelopment. Further, it still has a current Work Authority which enables it to undertake further quarrying should it so desire.

The MRSD Act provides that a Work Authority remains in force *"for the period for which carrying out of an extractive industry is permitted on the land under the planning scheme or a planning permit"*, or until the owner's consent is revoked, or the Work Authority is cancelled. The Panel understands that the Work Authority does not have an expiry date.

The Panel has not been provided with a copy of Boral's Work Authority, so it has not been able to verify the extent of the Work Authority boundary, or whether (and in what areas) the Work Authority allows blasting. Ultimately the Panel has had to rely on Boral's advice to Council that the Work Authority extends to all the SUZ7 land, and that the basalt deposits (for which blasting is required) are located more than 500 metres from the subject land. This would appear consistent with the permit condition recommended by ERR that refers to a 250 metre buffer (the EPA's recommended separation distance for quarrying without

blasting), rather than a 500 metre buffer (the EPA's recommended separation distance where blasting is involved).

The 250 metre buffer as shown in Figure 9 affects both the 34 Hams Road and the 69-93 Hams Road sites, and until Boral relinquishes its Work Authority, or until the Boral land is rezoned to a zoning that does not allow for extractive industry, that land should not be subdivided or developed without the consent of ERR. The Panel agrees with Council that subdivision should be subject to ERR's consent as well as development. There is little point in subdividing the land if it can't be developed, and the condition would be difficult to administer if the land were subdivided into multiple titles.

The Panel does not support the GHD directional buffer. This type of buffer is not supported by EPA and has previously been rejected at VCAT and Panels except in circumstances where the topography of a site warrants it. This not the case here. The Panel supports the inclusion of the 250 metre buffer on the endorsed plans under the permit, and supports the permit condition recommended by ERR, with some modification. It agrees with the Proponent that given the subject land may be subject to further master planning, the currently proposed development stages may change, and that the permit condition should therefore refer to the 250 metre buffer rather than stages of the subdivision. The ERR proposed note is consequently redundant.

While the DDO45 includes a requirement for appropriate buffer treatments to the quarry, given the uncertainty relating to the quarry, the Panel considers that the design objectives should refer to the quarry buffer which elevates the need to consider appropriate treatments for any future development, particularly if the permits are not acted on and fresh permits are sought. The Panel has included a suitable objective in its preferred version of the DDO45 in Appendix C.

The Panel also became aware through its own investigations that land to the north west of the subject site is affected by a Design and Development Overlay Schedule 6 – Waurin Ponds Quarry Environs (DDO6), shown in Figure 10. Design objectives of the DDO6 include maintaining an appropriate buffer between new dwellings and the working face of the quarry, and ensuring that residential development does not create unreasonable constraints on effective extractive operations. DDO6 includes a requirement that dwellings should not be constructed within 500 metres of any working face of the limestone quarry, and decision guidelines requiring the responsible authority to consider the following where a dwelling is proposed to be constructed within 500 metres of the working face of the quarry:

- the impact of the dwelling on the ongoing operation of the quarry
- the impact on the future amenity of the proposed residence.

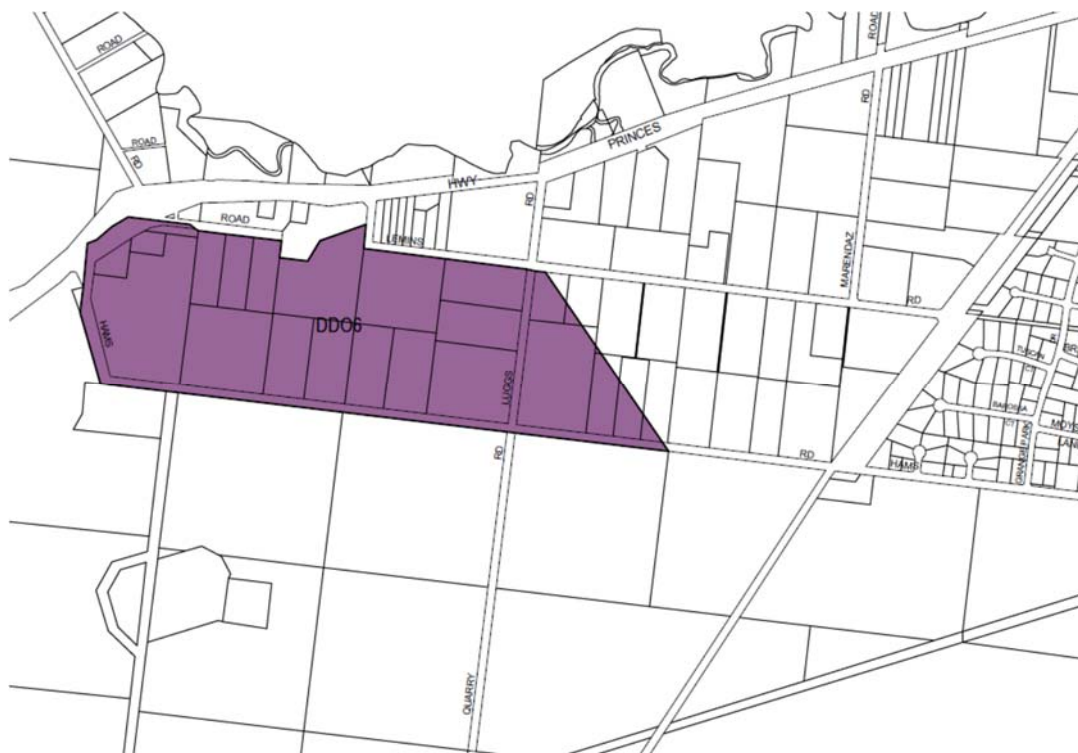


Figure 10 Design and Development Overlay – Waurin Ponds Quarry Environs

Source: Greater Geelong Planning Scheme

The reference to a 500 metre buffer in DDO6 is somewhat at odds with the 250 metre buffer recommended by the EPA and proposed by ERR. That said, it is not clear whether the DDO6 applies to land within 500 metres of the basalt or limestone deposits on the Boral land that may require blasting. On the basis of the submissions and evidence before the Panel, it does not appear that blasting activity takes place within 500 metres of the subject land, and the Panel has no basis for recommending a 500 metre buffer from the edge of the Boral land.

8.6 Conclusions and recommendations

The Panel concludes:

- Given the current Work Authority allowing stone extraction up to the edge of the Boral land, it is appropriate to apply a 250 metre extractive industry buffer to both permits. There is no basis on the material before the Panel to recommend a 500 metre buffer.
- A design objective should be added to the DDO45 referring to the extractive industry buffer.
- The permits should include conditions that:
 - require the endorsed plans to show the 250 metre extractive industry buffer
 - prohibit subdivision or development within the 250 metre extractive industry buffer without the consent of ERR.

The Panel recommends:

Amend the Design and Development Overlay Schedule 45 as shown in Appendix C, to include the following additional design objective:

To maintain an appropriate buffer between development and the quarry and extractive industries located to the south, where required.

Include the following sub-conditions in condition 1 of each permit, in relation to changes to the Overall Subdivision Masterplan, as shown in Appendices D and E:

- (#) show an extractive industry buffer extending 250 metres from the boundary of the land zoned Special Use Zone 7 to the south of the railway line;**

Include the following conditions on both permits, as shown in Appendices D and E:

Department of Jobs, Precincts and Regions – Earth Resources Regulation Branch

Land affected by the 250 metre extractive industry buffer as shown on the endorsed plan must not be subdivided or developed without the further written agreement of the Department of Jobs, Precincts and Regions.

9 Other issues

9.1 Contamination

(i) Introduction

Tonkin and Taylor prepared a Preliminary Site Investigation of the subject land dated January 2018, which was exhibited with the Amendment and draft permits. A series of aerial photos from 1947 to 2017 and land ownership records over more than 100 years found the site had been predominantly used for farming. In 1965, the State Electricity Commission created an easement and through subdivision, and became the owner of the north eastern section of the land on which it established what is now the Powercor substation.

Tonkin and Taylor inspected the site and surrounding land uses in January 2018. It did not find any on site evidence of staining or odours that would suggest the presence of contamination on the land. Tonkin and Taylor noted that electrical substations could contaminate the land through the use of oils which could contain polychlorinated biphenyls (PCBs) however its overall conclusion was that it considered the potential for land contamination to be low.

The revised draft permits attached to Council's Part B submission (Document 11) include conditions (condition 46 of Permit 662/2017 and condition 40 of Permit 663/2017) requiring an Environmental Assessment detailing the level and location of any contamination on the site. The assessment must be peer reviewed. Both the assessment and the peer review are to be undertaken by suitably qualified environmental professionals. If significant levels of contamination are found, either a Statement or a Certificate of Environmental Audit under Part IXD of the *Environment Protection Act 1970* is required before works can commence.

(ii) The issue

The issue is whether the potential for contamination of the subject land has been addressed appropriately.

(iii) Relevant policies and guidance

Clause 13.04-1S (Contaminated and potentially contaminated land) requires that land is suitable for its intended use. It requires consideration of Ministerial Direction No.1 – Potentially Contaminated Land.

Clause 4 of the Direction sets out the following requirement:

In preparing an amendment which would have the effect of allowing (whether or not subject to the grant of a permit) potentially contaminated land to be used for a sensitive use, agriculture or public open space, a planning authority must satisfy itself that the environmental conditions of that land are or will be suitable for that use.
(Panel emphasis)

'Sensitive use' is defined in the Direction as "*a residential use, a child care centre, a pre-school centre or a primary school.*"

Clause 5 of the Direction advises how the planning authority must satisfy itself that the environmental conditions of the land are or will be suitable for sensitive uses. Two options are offered:

In satisfying itself in relation to an amendment allowing a sensitive use, a planning authority must comply with either sub-clause (1) or (2):

- (1) Before it gives a copy or notice of the amendment under Section 17, 18 or 19 of the Act, a planning authority must ensure that:
 - a) A certificate of environmental audit has been issued for the land in accordance with Part IXD of the Environment Protection Act 1970, or
 - b) If the amendment allows a sensitive use only in accordance with plans included or referred to in the amendment an environmental auditor appointed under the Environment Protection Act 1970 has made a statement in accordance with Part IXD of that Act that the environmental conditions are suitable for the sensitive use in accordance with those plans.
- (2) A planning authority must include in the amendment a requirement to the effect that before a sensitive use commences or before the construction or carrying out of buildings or works in association with a sensitive use commences:
 - a) A certificate of environmental audit must be issued for the land in accordance with Part IXD of the Environment Protection Act 1970, or
 - b) An environmental auditor appointed under the Environment Protection Act 1970 must make a statement in accordance with Part IXD of that Act that the environmental conditions of that land are suitable for the sensitive use.

(iv) Evidence and submissions

Mr McVey, a nearby resident, submitted that there was a significant prospect that the land is contaminated, given its history of farming use (including the possible use of agricultural chemicals), and the adjacent substation and railway line. He provided photos of grass staining near the substation and around a cattle or sheep pen and ramp near the substation on the subject land (see Figure 11 below), and suggested that landfilling may have occurred on the site in the 1980s. He also suggested that the three sheds located on the site are likely to contain asbestos. He submitted that in light of the history of uses on and adjacent to the subject land, the Preliminary Site Investigation was insufficiently thorough and that soil sampling for contaminants is warranted.



Figure 11 Photographs of grass staining on the site

Source: Mr McVey's presentation (Document 26)

In answer to questions from the Panel, VicTrack indicated at the Hearing that there is historic use of arsenic by the railways, and that arsenic could possibly be present on the land adjacent to the track.

Council submitted that it had considered Ministerial Direction 1 together with the Preliminary Site Investigation, and while the site does not strictly meet the definition of potentially contaminated land in the Direction, the historic farming use and possible livestock dip or spray race, plus the proximity to the substation, led Council to consider that further investigation of potential contamination is warranted. Hence it included conditions in the draft permits requiring a peer reviewed Environmental Assessment.

Council provided the Amendment and draft permits to the EPA for comment prior to exhibiting the Amendment. The EPA's response (part of Document 14), which was consistent with its subsequent submission to Council (Submission 29), advised Council to ensure the land is suitable for its intended use and suggested that if Council was unsure, it could request a peer review of the Preliminary Site Investigation by another consultant.

The EPA's referral authority response included permit conditions addressed at ensuring that any fill material brought onto the site meets the specifications contained in *EPA publication IWRG621 Soil Hazard Categorisation and Management 2009* and is suitable to be used on land intended for residential use. The conditions were included in the exhibited draft permits.

(v) Discussion

The Preliminary Site Investigation indicates that the potential for the land to be contaminated is low. However there are indications that there may be pockets that could be contaminated through past practices, for example the three sheds which could contain asbestos and the areas around the substation, the railway line and the sheep or cattle ramp.

Council's revised draft permits included conditions requiring further assessment of contamination to be undertaken and peer reviewed, both by suitably qualified environmental professionals. If Council is satisfied that significant levels of contamination have been found, a Certificate or Statement of Environmental Audit must be provided in accordance with Part IXD of the *Environment Protection Act 1970*. The Proponent accepted these conditions in its revised permit conditions (Document 18).

The Panel is broadly satisfied that these conditions adequately address the risk that the land may be contaminated, and that the fill conditions recommended by the EPA will further ensure that no contaminated material is brought onto the site and that any contaminated material to be removed offsite is appropriately disposed of.

(vi) Conclusions and recommendations

The Panel concludes:

- The conditions in Council's revised draft permits (Document 11) requiring further assessment of the site for contamination and the movement of any fill are supported.

9.2 Cultural heritage

Large parts of the subject land fall within an Area of Aboriginal Cultural Sensitivity due to the Armstrong Creek corridor (a named waterway) traversing the site. High impact activity (which includes residential subdivision) can trigger a requirement for a Cultural Heritage Management Plan, which must be approved before any permits are issued.

The combined Amendment and draft permits were exhibited with an approved Cultural Heritage Management Plan prepared by Benchmark Heritage Management dated 31 October 2018 (the CHMP). The CHMP provides mitigation, protection and contingency procedures for the management of cultural heritage values before, during and after the subdivision of the land. The CHMP was approved by the Wathaurung Aboriginal Corporation (the relevant Registered Aboriginal Party) on 29 November 2019.

(i) The issue

The issue is potential impacts on cultural heritage values.

(ii) Relevant policies and strategies

Clause 15.03-2S (Aboriginal cultural heritage) has the following objective:

To ensure the protection and conservation of places of Aboriginal cultural heritage significance.

Strategies are:

- Identify, assess and document places of Aboriginal cultural heritage significance, in consultation with relevant Registered Aboriginal Parties, as a basis for their inclusion in the planning scheme.
- Provide for the protection and conservation of pre-contact and post-contact Aboriginal cultural heritage places.

- Ensure that permit approvals align with the recommendations of any relevant Cultural Heritage Management Plan approved under the *Aboriginal Heritage Act 2006*.

(iii) Evidence and submissions

According to the approved CHMP, the subject land is located within the Wada wurrung language group, who occupied the area of South Central Victoria between Beaufort and Port Phillip Bay. The site is in a region that may have been frequented by two distinct Wada wurrung clans, the Bengalat balug and Wada wurrung balug. There are no registered Aboriginal Cultural Heritage Places located on the subject land, but there are six places registered on the Victorian Aboriginal Heritage Register within 200 metres of the subject land, and 23 within the region. Stone artefact scatters are likely to be located on the site, although other types of Aboriginal Cultural Heritage Places, such as middens, are unlikely to be present.

The CHMP states that the subject land is likely to have been subject to some ground disturbance as a result of its use as a school (the north-west corner only), clearance of native vegetation and pastoral and possible agricultural activity, although the extent of disturbance is difficult to estimate. It sets out an extensive range of management measures, including Cultural Heritage induction, allowing access to Wadawurrung representatives to the site during and after construction, and a series of detailed construction techniques designed to minimise harm to Aboriginal Cultural Heritage Places. It states:

Wadawurrung have agreed to allow works on Armstrong Creek on the condition that the alignment of the creek is such that it is consistent with the existing hydrology model shown in Figure 2.

Dr Jones' submission goes into some detail in relation to a 'cultural heritage report', although it is unclear whether he is referring to the approved CHMP or the desktop assessment previously prepared by Benchmark Heritage Management. He submitted that the report "*fails to understand the post-contact heritage of this subject site*". He submitted that it fails to explain that the former school in the north-west corner of the site was set aside as the first National School in the Geelong district in 23 April 1860, which provided education for both European children and Wadawurrung and Aboriginal children. He submitted that the entire Dooliebeal/Armstrong Creek corridor is of cultural significance, and that:

... a large swath of this creek corridor is now conserved and managed by the Council within the Warralilly-Armstrong Creek suburbs because of the cultural sensitivity of this corridor and the high propensity of excavating artefacts and burial sites. The upper tributary is the watercourse that west-east flows across the subject land. Given recent experience at Warralilly and at the Drysdale Bypass, we would venture that the Council needs to be mindful that the prevalence of Wadawurrung artefacts may occur with any excavations and landscape modifications to the subject site.

He went on to submit that the absence of both pieces of significant information, and in particular the National School land, "*is a major error in cultural heritage evidence and documentation*".

Council's response to the Strategic Assessment Guidelines states:

An assessment of the site's ecological and Aboriginal cultural heritage identified minimal areas of significance. High levels of land modification have occurred through the construction of the basins on site, likely destroying any Aboriginal archaeological deposits which may have been present.

(iv) Discussion

According to the CHMP, while there are no registered Aboriginal cultural heritage places on the subject land, a number of registered places are located within close proximity to the site, including the nearby Duneed Aboriginal Reserve. It appears that there is some likelihood that stone artefacts may be located on the site. The Panel was also advised that there is an informal meeting place for Aboriginal people located on the Barwon Water land to the south of the railway line.

The CHMP acknowledges that it is not possible to avoid harm to cultural heritage values on the site, but outlines an extensive set of management measures to identify and minimise the harm to cultural heritage values. These measures have been approved by the Wathaurung Aboriginal Corporation. Provided these measures are properly implemented, this will ensure that any artefacts that may be present on the site will be identified and suitably managed to preserve their cultural significance. While the Panel notes Dr Jones' submission, the CHMP has been through an assessment and approval process by the Wathaurung Aboriginal Corporation, and the Panel is not in a position to recommend any further or different measures to protect cultural heritage other than those outlined in the CHMP and approved by the Wathaurung Aboriginal Corporation.

To ensure that cultural heritage values are better protected, the Panel considers that a condition should be included requiring the Construction Management Plan to implement the measures and recommendations of the CHMP.

(v) Conclusions and recommendation

The Panel concludes:

- There is no basis on which the Panel considers it appropriate to go behind the recommendations of the CHMP that has been assessed and approved by the Wathaurung Aboriginal Corporation.
- There is no cultural heritage basis on which the Panel considers it appropriate to not support the Amendment and permits.
- A condition should be included to ensure that the measures and recommendations of the CHMP are implemented.

The Panel recommends:

Include a condition on both permits requiring the Construction Management Plan to reflect the recommendations of the Cultural Heritage Management Plan, as shown in Appendices D and E.

9.3 Open space

The exhibited DDO45 includes the following design objective:

To reinstate the natural east-west waterway and make it a central feature of the development including opportunities for environmental restoration, open space and stormwater management.

It also includes the following requirements:

- Subdivision design must incorporate the reinstatement of the creek system as a key drainage, environmental and open space feature.
- Open space and drainage reserves should be interfaced by roads on at least three sides.
- A creek reserve of approximately 30 metres either side of the reinstated east-west waterway.
- One centrally located local park of approximately one hectare, of regular shape and in close proximity to the creek reserve.
- An open space contribution (in cash or land or a combination of both) to a minimum of 10% of the developable residential land not including encumbered land such as buffer treatments, drainage reserves and land within the creek reserve.

The original Masterplan lodged with the 2017 application proposed a linear open space reserve that only partly followed the creek alignment. This was revised in response to concerns about flooding and drainage, ecological impacts and cultural heritage impacts, and the reserve now follows the natural course of the creek (refer to the exhibited Masterplan in Figure 1). The exhibited Masterplan also included:

- a centrally located 0.9 ha rectangular local park
- a small triangular tree reserve to the south of the central park, adjacent to the railway line
- a tree reserve to the south of the pump station, in the south-east corner of the site.

The revised Masterplan (Figure 2) is largely the same as the exhibited version, save that it:

- deletes the small triangular tree reserve to the south of the central park
- provides two additional small triangular tree reserves adjacent to the linear open space in the north-western part of the site.

The draft section 173 agreement exhibited with the Amendment and draft permits requires a 10 percent open space contribution, and a range of public open space improvements, including landscaping, fencing, seating, signage, playground and the shared path along the length of the linear reserve.

(i) The issue

The issue is whether the proposed open space is appropriate.

(ii) Relevant policies and strategies

Clause 19.02-6S (Open space) has the following objective:

To establish, manage and improve a diverse and integrated network of public open space that meets the needs of the community.

Strategies include:

Plan for regional and local open space networks for both recreation and conservation of natural and cultural environments”

Ensure that open space networks:

- Are linked, including through the provision of walking and cycling trails.
- Are integrated with open space from abutting subdivisions.
- Incorporate, where possible, links between major parks and activity areas, along waterways and natural drainage corridors, connecting places of natural and cultural interest.

(iii) Evidence and submissions

Several submitters opposed the subdivision of the land as it would result in a loss of what some described as a “fresh green open space” that residents of the surrounding areas use to walk around. For example, Dr Jones submitted that the whole of the land should be a mixed passive and active open space reserve:

... that celebrated the natural wildlife and water qualities of the subject [sic], especially in its role in providing a biodiversity and recreational linear park/link from the Armstrong Creek corridor to the Waurin Ponds landscape. This is an important recommendation because there is major lack of recreational venues in this sector of the Waurin Ponds suburb, and especially within a normal 10 minutes walking distance. The nearest passive and or active parks to this locality is in fact along the Waurin Ponds Creek corridor to the north and along the new Armstrong Creek streamline corridor across Baanip Boulevard, both in excess of 1km away.

Mr Crowe submitted that the 0.9 ha park would not make up for the lack of open space in Waurin Ponds, and submitted that the two medium density superlots included on the exhibited Masterplan should be converted to open space. He noted that in Armstrong Creek, all lots must be located within 400 metres of open space. The Williams similarly submitted that the medium density superlots should be converted to open space. Spiire submitted on behalf of Powercor that there should be a large recreation area or open space buffer between the substation and any residential development.

Other submitters raised concerns that the open space is located too far from the surrounding areas, and that no parking is proposed beside the parks that would allow residents in the surrounding areas to use the parks.

Council submitted that the proposed linear open space will connect to the railway station and future open space in the Armstrong Creek Growth Area, which Council submitted was *“an excellent outcome and add to the net community benefit of the proposal”*. Council submitted that the linear open space, the 0.9ha park and new pathways *“will help address the lack of open space reserves in Waurin Ponds and add to the recreation options for existing and future residents of the area”*.

(iv) Discussion

The Panel agrees with Council that the proposed subdivision represents a good outcome in terms of open space. The amount of open space proposed is far greater than that provided in neighbouring areas (including the Grange Park Estate), and the open space is well designed and functional. It provides connections to surrounding areas, and will be enhanced

by the shared path proposed through the linear open space that will provide connections to the Waurn Ponds Station and to the continuation of the Armstrong Creek corridor in the Armstrong Creek Growth Area. It will benefit not only the future residents of the development, but also those in the surrounding area. The open space provides an opportunity for the revegetation of the creek, an enhanced habitat corridor through the site, and better protection of cultural heritage values on the site. The Panel was not persuaded that the site should be converted to open space, and notes in any event that that is not the proposal before the Panel.

(v) Conclusion

The Panel concludes:

- The proposed open space provisions in the DDO45, and reflected in the Proponent's revised Masterplan, are appropriate.

9.4 Bushfire risk

The subject land is within a designated Bushfire Prone Area. No Bushfire Management Overlay applies.

(i) The issues

The issues are:

- whether the bushfire risk within the proposed development is acceptable
- whether the development creates an unacceptable bushfire risk in the surrounding area.

(ii) Relevant policies and strategies

Clause 13.02-1S (Bushfire planning) applies to all planning and decision making for land within a designated Bushfire Prone Area. Its objective is:

To strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life.

Clause 13.02-1S requires bushfire risk to be considered when assessing planning applications for subdivisions of more than 10 lots. The Clause requires the protection of human life to be prioritised over all other policy considerations (which is reinforced in Clause 71.02-3), and for development to be directed to low bushfire risk areas. Strategies include:

Identify bushfire hazard and undertake appropriate risk assessment by:

- Applying the best available science to identify vegetation, topographic and climatic conditions that create a bushfire hazard.
- Considering and assessing the bushfire hazard on the basis of:
 - Landscape conditions - meaning conditions in the landscape within 20 kilometres (and potentially up to 75 kilometres) of a site;
 - Local conditions - meaning conditions in the area within approximately 1 kilometre of a site;
 - Neighbourhood conditions - meaning conditions in the area within 400 metres of a site; and
 - The site for the development.

- Consulting with emergency management agencies and the relevant fire authority early in the process to receive their recommendations and implement appropriate bushfire protection measures.
- Ensuring that ... planning scheme amendments [and] planning permit applications ... properly assess bushfire risk and include appropriate bushfire protection measures.
- Not approving development where a landowner or proponent has not satisfactorily demonstrated that the relevant policies have been addressed, performance measures satisfied or bushfire protection measures can be adequately implemented.

(iii) Evidence and submissions

Mr Bourke of BAL Assessments provided written evidence for the Proponent in relation to bushfire risk. His evidence was that there was no reason on bushfire grounds to not support the proposed development. He assessed the bushfire risk as low, and believed that the land can be developed in a way that successfully meets the policies in Clause 13.02.

Mr Bourke explained that proposals at the 'settlement' scale (subdivisions of 10 or more lots) must achieve a defendable space for a Bushfire Attack Level (BAL) of 12.5. He assessed the BAL rating for the properties based on vegetation and topography of the land and surrounding area, assigned a required defendable space around the proposed dwellings, and concluded that a BAL 12.5 could be achieved. His evidence was:

The larger grassed pocket in the very south-west corner of the site; this is the most hazardous area of the site from a fire perspective yet I could not call it a bushfire threat. This pocket is in a small, relatively well defined area with the flat ground of less than 1ha, not counting the steep embankment where the grass is naturally short. This pocket is an area where the grass has the potential to become long.

He considered that the railway line provides a sufficient fuel break from the grassland beyond the railway line, but noted that if grass on the north side of the railway line becomes long *"it will be extremely susceptible to embers from a fire in the grassland to the south"*. He considered that the steep upslope of the Ring Road verge will remain in a relatively low threat condition, although a build up of long grass should be avoided both here and along the shallower verge further north.

Mr Bourke noted that the proposed permits contain standard CFA conditions that comply with fire fighting water supply and access requirements for new subdivisions in accordance with the *CFA Requirements for Water Supplies and Access for Subdivisions in Residential Zones*, which he considered were acceptable.

Mr Bourke recommended:

However to be conservative and as an additional layer of redundancy I recommend a 1.8m (minimum) high Colorbond fence be build hard against the ground ie no treated pine plinth or unnecessary gap, along all of the south and west boundaries.

Council submitted that bushfire and grassfire risk is expected to be minimal for this development given the existing urbanisation of the area and physical infrastructure such as road and rail network. It noted that the CFA was consulted and has no objection to the rezoning of the land for residential use. The CFA provided conditions that are included on the exhibited permits. Council submitted that as a result, the Amendment and draft permits are considered to adequately address Bushfire risk as required by Clause 13.02.

Council generally supported Mr Bourke's evidence, and noted that his assessment covers a gap in that new State policy has come into effect after the application for the combined Amendment and permits were lodged which requires more comprehensive assessments of bushfire risk. Council had some reservations about Mr Bourke's recommendation for a 1.8 metre colourbond fence along all south and west boundaries of the subject land. It submitted that this may be appropriate where private lots adjoin the boundaries but where a street adjoins the boundary, visual impacts and ongoing maintenance responsibilities would need to be considered. Council said the issue of the fence could be resolved later in the detailed design stage. The Panel agrees.

(iv) Discussion

The Panel is satisfied that Mr Bourke's assessment was conducted in accordance with the requirements of Clause 13.02-1S, and the requirements of Australian Standard 3959. The assessment is thorough and comprehensive, and the Panel is satisfied on the basis of Mr Bourke's assessment that the bushfire risk is low, and can be appropriately managed.

Issues relating to access for emergency vehicles via the road network are discussed in Chapter 3.9.

(v) Conclusion

The Panel concludes:

- The bushfire risk is low, and can be appropriately managed.

9.5 Social impacts

(i) The issues

The issues are:

- increased crime rates and social problems
- overcrowding associated with rental and student accommodation and registered and unregistered rooming houses.

(ii) Evidence and submissions

Some submitters were concerned that the proposed density of the development will create socio-economic problems, describing the development as a future 'ghetto' or 'slum' where crime and safety issues would potentially arise. They were concerned that the smaller blocks would be significantly more affordable than those in the Grange Park Estate, creating a risk of 'lower socio-economic housing'. Submitters were also concerned about potential social issues, traffic and parking problems that they perceived would arise if the area became popular for student accommodation.

Council responded that it does not agree with these submissions, or the proposition that smaller lot sizes or medium density housing will necessarily result in increased social issues, crime or creation of ghettos. It submitted:

There are many areas across Geelong and cities such as Melbourne with thriving communities living in mixes of townhouses, apartments and conventional dwellings on small and medium sized lots.

In relation to the potential for student housing in the development, Council submitted:

Students are entitled to buy or rent out houses built in the proposed subdivision and the planning system does not discriminate against this. It would only be if the houses contained excessive numbers of rooms or were turned into boarding houses that there may be a need for further approval. Car parking and traffic issues that may arise would be managed by Council as with any other residential area.

(iii) Discussion

There is no recognised connection between increased densities and increased crime, particularly the relatively modest density increases being contemplated by the Amendment and the revised Masterplan (which has removed the medium density superlots). No evidence was provided in support of these claims, and the Panel is not aware of any research or studies that establish any such connection in a context similar to that of the subject land.

(iv) Conclusion

The Panel concludes:

- There is no basis for concluding that the Amendment will result in crime, social problems, 'ghettoes' or 'slums'.

9.6 The consultation process

(i) The issue

The issue is whether the consultation process was appropriate.

(ii) Evidence and submissions

Some submitters (including those who provided a pro forma submission) submitted that there had been a lack of timely and proactive consultation, which they found 'extremely disappointing'. They asserted that the process favoured the developer, and notification in December, only one week before the Council meeting at which Council resolved to prepare and exhibit the combined Amendment and permits, was unreasonable. For example, the Maiolos' submitted:

In December last year, residents had less than a week to consider and respond to the proposed resolution to exhibit a development that will significantly impact our local neighbourhood. Neither was the community given the opportunity to input into the developers plans. Following the resolution to exhibit the planning scheme amendment and planning permits, the developer has conducted one community consultation activity as an 'open house' for a two hour period on a Monday night. Additionally, there are no signs on the proposed site to notify the wider community that a planning permit process is underway.

Submitters were not happy with the public 'drop in' session conducted by the Proponent, stating that the Proponent's representatives did not listen to the community's views at this session, and brought along consultants who 'did not even know the area'. Others submitted that the proposal had been 'rushed through' without proper consultation with the community. The pro forma submission stated:

The community and residents must be given the opportunity to input into the developers plans, be part of a consultative community engagement program and allow

the council/mayor/councillors time to actually visit the site and understand the issues. It is unfair and unreasonable in such circumstances for councillors/independent panel to make an informed decision on proceeding with this application given that no consultation has occurred, and baseline data is fundamentally flawed.

Council's response was that the combined Amendment and permit applications were subject to the usual public exhibition required by the Act. It pointed out that any consultation conducted by the Proponent was completely separate to the formal Council run process, and that submitters had a further opportunity to engage in the planning process by appearing at the Panel hearing.

(iii) Discussion

The Panel is satisfied that the consultation was adequate. Council met its statutory requirements under the Act in relation to public notification and exhibition of the combined Amendment and permits. The large number of submissions indicates that those potentially affected by the proposal were aware of it, and had the opportunity to participate in the planning process.

While the Panel was not privy to all of the details about the consultation process run by the Proponent, it notes that the Proponent made some relatively significant concessions following the exhibition process to try and address community concerns. It has committed to a voluntary \$500,000 contribution to fund traffic improvement works in Ghazeepore Road, even though this is largely to address pre-existing issues and was not called for by Council. It does not oppose the requirement to construct the roundabout at the Hams Road intersection, even though neither of its traffic experts considered that the roundabout is required as a result of the development. It has agreed to reduce the number of lots, increase lot sizes and remove the medium density superlots, even though Council officers supported the exhibited version of the Masterplan and considered that it was consistent with policy objectives of locating increased densities near public transport and services, and providing housing diversity and choice. The Panel process included an extensive inspection of the site and surrounding areas, and allowed the issues to be explored and ventilated in an independent setting.

The Panel does not see the need for any further formal community engagement program to allow further community input into the Proponent's plans. If the Panel's recommendations are adopted by Council, permits will issue and there will be a high degree of certainty in relation to the form of development on the subject land. No further high level planning will be required. It is, of course, open to the Proponent to continue to engage with the community about its construction schedule, but this is not a matter that the Panel considers should be regulated by permit conditions.

(iv) Conclusions and recommendations

The Panel concludes:

- The consultation process for the combined Amendment and permits was adequate.
- Given the high level of certainty associated with the form of future development on the land, there is no justification for permit conditions requiring further formal

community engagement. It is however open to the Proponent to continue engaging with the community informally about construction activities.

9.7 Electricity easement

An electricity easement runs from the south west corner of the substation site to the southern border of the subject land, and then continues along the southern border adjacent to the railway line.

Powercor's submission objected to what it understood to be the removal of the easement, which contains a 22 kilovolt feeder line that currently supplies approximately 4,000 customers in and around Lorne, Anglesea, Aireys Inlet and Fairhaven. At the Hearing, Spiire (who appeared for Powercor) indicated that it thought the Masterplan showed parts of retarding basin 1, lots and roads on the southern border of the subject land extending into the easement.

The Proponent clarified in its closing submissions that it is not seeking a permit to remove the easement, or intrude into the easement. Although the Masterplan does not clearly indicate where the boundaries of the easement are located, the Proponent provided a survey plan with its closing submissions (Document 30) that demonstrates that the edge of the subdivision does not intrude into the easement.

9.8 High pressure gas transmission pipeline

(i) Discussion

SP Ausnet owns a 250mm diameter licensed gas transmission pipeline (Pipeline Licence No. 99) that runs along the eastern side of the Geelong Ring Road, within the road reserve of the Ring Road. Downer maintains SP Ausnet's facilities.

Council referred the permit applications to Downer. Downer provided a response to Council dated 14 September 2017 which indicated no objection to the grant of a permit, subject to conditions that:

- the outcomes of the Safety Management Study exhibited with the Amendment and draft permit are implemented prior to any new development within the vicinity of the pipeline
- no construction activity within 3 metres of the pipeline without SP Ausnet's consent
- no construction or development that would allow high density or sensitive uses as per Australian Standard AS2885.1-2012 (including homes) within 170 metres of the pipeline
- development and construction activity in the vicinity of the pipeline must adhere to Ausnet's Conditions of Works TS 2607.2 and AS2885.3.

These conditions would only be relevant to Permit 663/2017 which is for the land at 69-93 Hams Road (which abuts the Ring Road reservation). The conditions are not included in either the exhibited Permit 663/2017 or Council's revised Permit 663/2017 attached to Council's Part B submission.

Under Clause 66.01, the relevant gas supply authority is a determining referral authority for a subdivision application. It is not clear from Downer's response whether it was purporting

to offer comments and conditions as the relevant gas supply authority (in which case it is a determining referral authority), or as the manager of SP Ausnet's high pressure gas pipeline (in which case it is not a referral authority, determining or otherwise).

Council should seek clarification from Downer as to what capacity it recommended the relevant conditions be included. If the recommendations were made in its capacity as (or on behalf of) the relevant gas supply authority (and therefore a determining referral authority), the conditions will need to be included in Permit 663/2017, unless Downer agrees to vary the conditions.

The Panel makes the following observations in that regard:

- It appears from the plan attached to the Safety Management Study that the pipeline is located well within the VicRoads road reserve, more than 3 metres from the boundary of the subject land. The Panel therefore queries the need for the condition prohibiting construction activity within 3 metres of the pipeline without SP Ausnet's consent, other than perhaps the drainage works that may be required in the road reserve.
- It is not clear what impact the condition prohibiting construction or development of dwellings within 170 metres of the pipeline would have on the subject land, but the Panel suspects it could be substantial. The Panel notes that there are existing dwellings within the Grange Park Estate that are within 170 metres of the pipeline, and it queries whether this restriction is justified.

(ii) Recommendation

The Panel recommends:

Seek clarification from Downer as to what capacity it recommended the conditions contained in its letter dated 14 September 2017. If the conditions were recommended in its capacity as a determining referral authority, include them in Permit 663/2017 unless Downer agrees otherwise.

10 The planning permits

10.1 Relevant considerations

Clause 15.01-3S of the Planning Scheme has the following objective:

To ensure the design of subdivisions achieves attractive, safe, accessible, diverse and sustainable neighbourhoods.

Strategies include (as relevant):

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.
- Providing a range of lot sizes to suit a variety of dwelling and household types to meet the needs and aspirations of different groups of people.
- 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.
- 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.

Clause 65 states:

Because a permit can be granted does not imply that a permit should or will be granted. The Responsible Authority must decide whether the proposal will produce acceptable outcomes in terms of the decision guidelines of this clause.

Clause 65.01 requires the Responsible Authority to consider, as appropriate and relevant:

- the Planning Policy Framework
- the purpose of the zone, overlay or other provision (or in this case, the proposed zone and overlay)
- the orderly planning of the area
- the effect on the amenity of the area
- factors likely to cause or contribute to a reduction in water quality
- the extent and character of native vegetation, the likelihood of its destruction, and whether it can be protected, planted or allowed to regenerate.

Other matters to be taken into account include:

- objections
- comments and decisions of referral authorities
- other matters a Responsible Authority must and may take into account under section 60 of the Act, including the Victorian planning objectives and the economic, social and environmental impacts of the proposed use and development

- adopted government policy.

Clause 71.02-3 of the Planning Scheme requires a responsible authority considering a permit application to take an integrated approach, and to balance competing objectives in favour of net community benefit and sustainable development.

10.2 Referral authority responses

In response to the Panel's directions, Council provided copies of responses from authorities and agencies to whom the Amendment and permit applications were referred (Document 14). Council clarified the status of each of the referral authorities in its Part A submission. Responses are summarised in the following table. The EPA and the CCMA are not statutory referral authorities, but Council sought their advice to assist Council's decision making.

Table 7 Referral authority responses

Authority	Status	Response and notes
Barwon Water	Determining (66.01)	- Barwon Water conditions included in Council's revised permits attached to its Part B submissions
Downer Utilities for SP Ausnet	Determining (66.01)	- No objection to the permits being granted, subject to conditions - Conditions were not included in the exhibited permits, or Council's revised draft permits - See Chapter 9.8 for further discussion
Powercor	Determining (66.01)	- Powercor provided two responses, one from CitiPower/Powercor dated 25 May 2018, one from Powercor only that is undated - The response dated 25 May 2018 appears to have been provided in Powercor's capacity as the relevant electricity supply or distribution authority. The response provided no objection to the permits being granted, subject to conditions. The conditions are included in the exhibited draft permits - The undated response is a submission in Powercor's capacity as the owner of the adjoining substation. It is not a referral authority in this capacity. Its submissions as the owner of an adjacent asset are dealt with in Chapters Error! Reference source not found. and 6.6
TfV	Determining (66.02-11)	- No objection to the permits being granted, subject to conditions - Condition requiring the Hams Road intersection to be capable of accommodating ultra low floor buses – see Chapter 3.55 for further discussion - Conditions requiring a shared path along the south side of Hams Road - see Chapter 0 for further discussion - Condition relating to the shared path along the creek reserve - see Chapter 3.8 for further discussion

Authority	Status	Response and notes
		- Condition requiring proposed acoustic fence along the railway corridor – see Chapter 5 for further discussion
CFA	Determining (66.01, 56.09-3)	- CFA conditions included in the permits
DELWP	Recommending (66.02-2)	- Vegetation (including native vegetation) conditions included in Council's revised permits attached to its Part B submission
EPA	Not a referral authority	- Provided advice regarding contamination, the quarry interface and noise (refer to the relevant issue chapters) - Conditions are included in both permits requiring further assessment of contamination, and measures to manage fill
Corangamite Catchment Management Authority	Not a referral authority	- Requested further information in relation to the Surface Water Management Strategy, and recommended a Flood Impact Assessment and Stormwater Management Plan - Response informed Council's RFI - Flood Modelling Report provided in response to RFI - Conditions recommended by the Authority are included in Council's revised permits attached to its Part B submission – see Chapter 6.4 for further discussion

10.3 Evidence and submissions

Both Council and the Proponent made general submissions to the effect that the grant of the permits (and the approval of the Amendment) would generate net community benefit. Council's Part B submission concluded as follows:

In conclusion we submit the amendment and subdivision permits will have an overall net community benefit by rezoning an underutilised piece of rural land for sustainable residential development. It is a strategically located site in proximity to a range of existing services, transport options and employment opportunities and future planned facilities in the Armstrong Creek growth area. We have demonstrated that the impacts on adjoining residents and road networks can be appropriately managed by planning permit conditions, the Design and Development Overlay and the Section 173 Agreement. On this basis we respectfully seek the Panel's support for the proposal.

The Proponent submitted:

A key element in this case is whether the alleged negative impacts of the proposal are of such an extent or gravity that they outweigh the significant economic and social benefits of rezoning a large area of land for residential subdivision within urban Geelong proximate to public transport and services.

It is submitted that the rezoning of the land for a residential subdivision directly responds to policies associated with housing intensification and urban consolidation. The alleged negative impacts are, in relative terms, acceptable and well within the bounds of what is to be regarded as reasonable town planning consequences of such a rezoning.

10.4 Overall assessment of the permit applications

In determining whether the permits should be granted, the Panel must consider whether the permits will result in net community benefit, and whether they will produce acceptable outcomes in terms of the decision guidelines in Clause 65. That requires consideration of the policy framework, orderly planning, amenity impacts, water quality and impacts on native vegetation (among other things).

In Chapter 2, the Panel explains its reasons for concluding that the policy framework supports the rezoning of the land for residential development. The land is no longer suitable for agricultural use, and is underutilised and in a degraded condition. In Chapters 3 to 9, the Panel has concluded that the development will have a series of impacts. Some of the impacts (in particular traffic impacts) will be negative, while others will be positive (such as the better biodiversity outcomes that the Panel considers will be delivered through the development). The Panel has concluded that the impacts can generally be managed through appropriate permit conditions.

On balance, and subject to the implementation of the Panel's specific findings and recommendations, the Panel considers that the development will produce an acceptable outcome that will deliver an overall net community benefit and sustainable development. The permits should be granted, subject to the conditions contained in Appendix D (Permit 662/2017) and Appendix E (Permit 663/2017).

The Panel has used Council's revised permits attached to its Part B submission as the basis for its recommended conditions in Appendices D and E. The revised permits made a number of changes to the exhibited permits, including correcting errors in the description of what each permit allows, and including additional conditions to better manage the impacts of the development on the environment and on the surrounding community. The Panel supports those changes.

The Panel's recommended changes have been explained in notes in Appendices D and E, which provide cross references to the relevant issue chapter, or a brief explanation of the change if it is not specifically dealt with in an issue chapter. The Panel has also made some minor drafting improvements, which should be self-explanatory.

10.5 Conclusion and recommendations

The Panel concludes:

- Permits 662/2017 and 663/2017 should issue, subject to the conditions contained in Appendices D and E.

The Panel recommends:

Issue Planning Permit 662/2017 for the multi-lot staged subdivision and removal of native vegetation on land at 35 Hams Road, Waurin Ponds, subject to the permit conditions contained in Appendix D.

Issue Planning Permit 663/2017 for the multi-lot staged subdivision, removal of native vegetation and removal of an easement (gas) on land at 69-93 Hams Road, Waurin Ponds, subject to the permit conditions contained in Appendix E.

Appendix A Submitters to the Amendment

No.	Submitter
1	Donald Aitken
2	Michael Allden
3	Joanne Allen
4	Leonie Barnett
5	Barwon Water
6	Kym Bentley
7	Rod Bentley
8	Prue Biscan
9	Robert Biscan
10	Sonia and Vince Bive
11	Associated Cold Tread Tyres
12	Susan Bowles
13	Ross Carlson
14	Lionel & Maureen Chamberlain
15	Mark Cooper
16	Martine Cooper
17	Martin Coote
18	Fiona Cranny
19	Jason Cranny
20	Andrew Cromwell
21	Justin & Cath Crooks
22	Jarred Crowe
23	Josephine Curran
24	Thomas Curran
25	Diane Dowdy
26	Kim Dugan
27	Echin Pty Ltd
28	Bradley and Marlene Eggleton
29	EPA Victoria
30	Jason Farrow
31	Callum Finley

32	Shannon Finley
33	Heather Fortune
34	Darren Gebing
35	Kathryn Giddings
36	Robert Giddings
37	May Gladki
38	Rhonda Gladki
39	Brent Grimmer
40	Kim Grimmer
41	Noah Grimmer
42	Raelee Guy
43	Janine Haigh
44	Jim Haigh
45	Mark Haines
46	Sonya Haines
47	David Hartley
48	Ross Hayward
49	Kaye & Graeme Hemley
50	Mark Heyne
51	Sandra Hey ne
52	Mark Hooper
53	Mohammad Anwar Hosen
54	Matthew and Jessica Hudson
55	Melanie Hudson
56	Allison Humphrey
57	Anita Iacovella
58	Nusrat Jahan
59	Helen Janner
60	Zhimin Jia
61	David Jones
62	Mitchell Jones
63	Ambrose Kelly
64	Andrea Kelly
65	Lachlan Kelly

66	Colin and Robyn Kelson
67	Steve Keown
68	Andrew Kiss
69	Tina Kiss
70	Birte Knaus
71	Leanne Loth
72	Richard Loth
73	Peter & Wendy Mahony
74	Nick Maikantis
75	Leah & Sam Maiolo
76	Janita Maloney
77	Nicole Manley
78	Pasquale Marmora
79	Joshua McCann
80	Narelle McCarthy
81	Kevin Bruce McDonald
82	Cain McFarlane
83	Hayley McFarlane
84	Brett McGinnes
85	Jacinta McGinnes
86	Michael McGuire
87	Paul McKeegan
88	Lukas McVey
89	Ronald Milton
90	Dominic Monea
91	Frances Monea
92	Gregory Monea
93	Maria Rosa Monea
94	John Morton
95	Juanita Mountjoy
96	Barry Mulholland
97	Jan & Barry Mulholland
98	Shane Munro
99	Bernice Murrells

100	E John Murrells
101	Fiona Neivandt
102	Lloyd Nott
103	Barry & Carole Parker
104	Isobel Paton
105	Helen and Graeme Pearce
106	Bev Pelrard
107	Helen Perry
108	Celia Petrie
109	Nigel Petrie
110	Leesa & Mark Pink
111	Brad Potter
112	Nerida Potter
113	Powercor
114	Jo-Ann Raeburn
115	Anjelo Ratnachandra
116	Ian Redpath
117	Jason Richards
118	Richard Rothengaller
119	Debra & Peter Schulz
120	Tania Sewell
121	Robert Simpson
122	John & Pam Smigowski
123	Dean Smith
124	Emma Smith
125	Helen Smith
126	Marcus Smith
127	Michelle and Matthew Smith
128	Susan Smith
129	Wayne Smith
130	Kylie Smith-Near
131	Mark Spronken
132	Terri Spronken
133	Ken Stanesby

134	Kelsey Strickland
135	M & J Strickland
136	Taylen Strickland
137	Cheryl Strom
138	Honor Strom
139	John Strom
140	James Sullivan
141	William Taft
142	Ronald Thomas
143	Alwyn & Janice Trigg
144	Barry Tsitas
145	Brett & Rachel Turley
146	Debra Verras
147	VicRoads
148	Bob Viner
149	Jane Viner
150	Anthony Walker
151	Jennifer Waters
152	Waurm Ponds Unit Trust
153	Peter Wilkin
154	Julie Williams
155	Paul Williams
156	Sylvia & Michael Williams
157	David Wilson
158	Art Wood
159	David & Lois Wood
160	Julia Wood
161	Nazareth Primary School
162	Stephen Wrigley
163	Department of Transport
164	VicTrack

Appendix B Document List

No.	Date	Description	Presented by
1	15/08/2019	City of Greater Geelong, Part A submission	City of Greater Geelong
2	15/08/2019	Mr J Black, Insight Planning, Expert Witness Statement	Proponent
3	15/08/2019	Mr J Walsh, Traffix Group, Expert Witness Statement	Proponent
4	15/08/2019	Mr T De Young, GTA Consultants, Expert Witness Statement	Proponent
5	15/08/2019	Ms Y Kelsall & Mr L Kern, Practical Ecology, Expert Witness Statement	Proponent
5A	26/08/2019	Missing attachment to Document 5	Proponent
6	15/08/2019	Ms G Lee, Marshall Day, Expert Witness Statement	Proponent
7	15/08/2019	Mr J Guise, Tomkinson, Expert Witness Statement	Proponent
8	15/08/2019	Mr Bourke, BAL Assessments, Expert Witness Statement	Proponent
9	15/08/2019	Dr Jones, Expert Witness Statement (accepted as a further submission)	Mr Dean Smith, Submitter
9A	20/08/2019	Letter to Panel objecting to Dr Jones and Mr Mulholland being called as independent expert witnesses	Proponent
9B	20/08/2019	Panel email to all parties regarding Document 9A	Planning Panels Victoria
10	22/08/19	Revised Master Plan, MP19 dated 24/07/19	Mr Peter Smith, City of Greater Geelong
11	22/08/19	City of Greater Geelong, Part B Submission	Mr Peter Smith, Council
12	22/08/19	Boral submission to Amendment C395ggee (Geelong Settlement Strategy)	Mr P Smith
13	22/08/19	VPA Submission to Amendment C395ggee	Mr P Smith
14	23/08/19	Referral authority responses to the permit applications	Mr P Smith
15	23/08/19	Corrections to traffic growth rates in the Traffic Noise Assessment	Ms Lee, Marshall Day

No.	Date	Description	Presented by
16	23/08/19	Outline of Submissions and Appendices: 1. List of supporting documents 2. Amended DDO45, Permits and s173 agreement 3. Extract from Armstrong Creek West PSP	Proponent
17	26/08/2019	Email from Downer Group re: removal of gas easement	Proponent
18	26/08/2019	Revised draft DDO45, Permits and s173 agreement	Proponent
19	21/08/2019	Email dated 21/8/2019 objecting to Proponent's evidence	Mr McVey
20	26/08/2019	Submission: Noise Impacts from Powercor Waurin Ponds Zone Substation	Mr Dawson, Spiire
21	26/08/2019	Memo: Spiire to Panel, 26/8/2019	Mr Dawson
22	26/08/2019	Submission, VicTrack (incl attachment)	Ms Kraft, VicTrack
23	26/08/2019	Brochure, Waurin Ponds Station Upgrade, Regional Rail Revival	Proponent
24	26/08/2019	Letter from Department of Transport to Panel dated 26/8/2019 in support of VicTrack submission	Ms Kraft
25	26/08/2019	Submission, Terri Spronken	Ms Spronken
26	26/08/2019	Emails attaching photos showing substation, grass staining and disused drums	Mr McVey
27	27/08/2019	Submission, M and S Williams with attachments	Mr and Ms Williams
28	27/08/2019	Photos and traffic counts on the surrounding road network	Mr Carlson
29	27/08/2019	Submission, R Hayward	Mr Hayward
30	27/08/2019	Submissions in Reply (including Plan of Survey)	Proponent
31	27/08/2019	<i>Native Vegetation: Sustaining a Living Landscape</i> (version 1.3, 2004) Department of Sustainability and Environment	Proponent
32	27/08/2019	Council response to Panel questions	Mr P Smith
33	27/08/2019	Closing Comments	Mr P Smith
34	27/08/2019	Email from Boral with attachments	Mr Hafer, Boral
35	28/08/2019	Submission (emailed copy of presentation)	Mr D Smith
36	28/08/2019	Submission (emailed copy of presentation)	Mr Strickland

No.	Date	Description	Presented by
37	04/09/2019	Further information requested from the Proponent by the Panel	Proponent
38	04/09/2019	Further information requested from the Department of Transport/VicTrack by the Panel	Mr Collins, Department of Transport
39	04/09/2019	Written submission of Ross Carlson*	Mr Carlson

* The Panel accepted Mr Carlson's written submission to the extent that the content aligns with his oral submissions presented at the Hearing.

Appendix C Panel recommended version of DDO45

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SCHEDULE 45 TO CLAUSE 43.02 DESIGN AND DEVELOPMENT OVERLAY

Shown on the planning scheme map as **DDO45**

HAMS ROAD, WAURN PONDS RESIDENTIAL SUBDIVISION

1.0 Design objectives

--/--

To ensure an appropriate transition [of housing density](#) and interface between the subject land and the residential area to the north of Hams Road.

To reinstate the natural east-west waterway and make it a central feature of the development including opportunities for environmental restoration, [suitable habitat for native fauna](#), open space and stormwater management.

To provide a safe and interconnected transport network that includes opportunities for walking and cycling, minimises impacts on adjoining streets and directs car traffic to an upgraded Hams Road / Ghazeeopore Road intersection.

[To maintain an appropriate buffer between development and the quarry and extractive industries located to the south, where required.](#)

Commented [A1]: Council proposed change, Panel supports

Commented [A2]: Refer to Recommendation 8

Commented [A3]: Refer to Recommendation 9

2.0 Buildings and works

--/--

A permit is not required to construct a building or a fence or to construct or carry out works not associated with the subdivision of the land.

3.0 Subdivision

--/--

A permit to subdivide land must meet the following requirements:

Urban Design

- Subdivision design should provide a range of lot sizes and densities to encourage a variety of housing types [including larger lots of a minimum 700 square metres around the perimeter of the site and conventional lots of a minimum 300 square metres towards the core of the site.](#)
- Residential lots fronting Hams Road must have a minimum lot size of 800 square metres and a minimum frontage to Hams Road of 25 metres.
- ~~All residential lots fronting Hams Road must include a restriction on title preventing them from containing more than one dwelling and being further subdivided.~~
- Subdivision design must incorporate the reinstatement of the creek system as a key drainage, environmental and open space feature.
- Open space and drainage reserves should be interfaced by roads on at least three sides.
- Appropriate buffer treatments, interfaces, setbacks and acoustic treatments (where required) must be provided to: the Powercor electrical substation utility; Princes Freeway and Baanip Boulevard; Geelong-Warrnambool Railway Line and the land south of the railway line which may be subject to future extractive industry.
- [An acoustic report prepared by a suitably qualified acoustic consultant must be provided that:](#)
 - [reassesses predicted noise levels from the Geelong Ring Road and from Baanip Boulevard at future dwellings on the subject land in accordance with the noise criteria in AS2017:2016 and the VicRoads Traffic Noise Reduction Policy. The assessment must include dwellings along the Geelong Ring Road, dwellings along Baanip Boulevard and dwellings along Hams Road with a line of sight to the Geelong Ring Road](#)

Commented [A4]: Council proposed change, Panel supports

Commented [A5]: Refer to Recommendation 5

Commented [A6]: Based on Council's proposed wording, with Panel's modifications. Refer to Recommendations 6 and 7

- [recommends appropriate noise attenuation measures to ensure that predicted noise emissions from the Geelong Ring Road and from Baanip Boulevard comply with the noise criteria in AS2017:2016 and the noise objectives in the VicRoads Traffic Noise Reduction Policy](#)
- [recommends appropriate noise attenuation measures to ensure that noise emissions from the Powercor substation:](#)
 - [comply with the recommended maximum noise levels in EPA Publication 1411, Noise from Industry in Regional Victoria \(NIRV\) at all dwellings and other noise sensitive uses proposed on the land at 35 Hams Road](#)
 - [are not increased at any existing dwellings located to the north and east of the Powercor substation](#)
- [demonstrates to the satisfaction of the Responsible Authority and Powercor that the above requirements can be met.](#)

Stormwater Management

- Land must be set aside for drainage purposes to meet peak discharge limits and water sensitive urban design elements in accordance with performance objectives of Urban Stormwater: Best Practice Environmental Management Guidelines (CSIRO,1999), Infrastructure Design Manual, and CoGG Design Notes.
- The design of retarding basins must have sufficient land area set aside for heavy vehicle access and sediment drying; as well as measures to mitigate mosquito breeding in accordance with best practice guidelines.
- A stormwater management system must be designed to ensure that:
 - peak discharge rates and pollutant loads of all stormwater leaving the site post development are regulated to integrate with downstream infrastructure, at no greater than pre-development rates.
 - no adverse impacts to any surrounding land, upstream or downstream.

Traffic and Pedestrian Movements

- An integrated and continuous network of safe and convenient footpaths and shared paths including a shared pathway along ~~Hams Road~~ and the full length of the creek reserve with connections to Hams Rd, Ghazeepore Road and the Princes Freeway path.
- Vehicle access to the site to be from Hams Road only with no direct access to Ghazeepore Road.
- Upgrading of the intersection at Hams Road and Ghazeepore Road including a safe pedestrian and cycle crossing of Ghazeepore Road.
- Upgrading and widening of Hams Road between the Hams Road court bowl and the intersection at Ghazeepore Road.
- ~~A contribution towards Upgrading and widening of Ghazeepore Road between the Hams Road and Ghazeepore Road intersection and Burgundy Drive the Geelong-Warrnambool Railway Reserve.~~
- Local area traffic management treatments to discourage and minimise vehicle movements from the development into Grange Park Drive.

Commented [A7]: Refer to Recommendation 4

Commented [A8]: Refer to the discussion and conclusions in Chapter 3.4

Public Open Space

- A creek reserve of approximately 30 metres either side of the reinstated east-west waterway.
- One centrally located local park of approximately one hectare, of regular shape and in close proximity to the creek reserve.
- An open space contribution (in cash or land or a combination of both) to a minimum of 10% of the developable residential land not including encumbered land such as buffer treatments, drainage reserves and land within the creek reserve.

An application to subdivide land is exempt from the notice requirements of section 52(1)(a), (b) and (d), the decision requirements of section 64(1), (2) and (3) and the review rights of section 82(1) of the Act.

4.0 Signs

--/-- None specified

5.0 Application requirements

--/-- None specified

6.0 Decision guidelines

--/-- The following decision guidelines apply to an application for a permit under Clause 43.02, in addition to those specified in Clause 43.02 and elsewhere in the scheme which must be considered, as appropriate, by the responsible authority:

- The need to ensure the coordination, sequencing and efficient delivery of service infrastructure, road connections and open space across the properties subject to this overlay.

Appendix D Panel recommended version of Permit 662/2017

Tracked against the revised Permit 662/2017 attached to Council's Part B submission

**PLANNING
PERMIT
GRANTED UNDER SECTION 96I OF
THE PLANNING AND ENVIRONMENT
ACT 1987**

Permit No.: 662/2017

Planning scheme: Greater Geelong

Responsible authority: City of Greater Geelong

ADDRESS OF THE LAND: 35 Hams Road, WAURN PONDS

THE PERMIT ALLOWS: Multi Lot Subdivision, and Removal of Native Vegetation

THE FOLLOWING CONDITIONS APPLY TO THIS PERMIT:

NOTE: renumber conditions (and check cross references) prior to permit issuing

Amended Plans

1. Prior to the commencement of the development, three (3) copies of amended plans to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the plans will be endorsed and will then form part of the permit. The plans must be drawn to scale with dimensions and must be generally in accordance with the ~~following plan~~ Overall Subdivision Masterplan (dated 24 July 2019 (MP19)) but modified ~~to show~~ as follows:

- a) The staging plan must be amended to include construction of Retarding Basin 1 in stage 1 of development.
- b) An extractive industry buffer extending 250 metres from the boundary of the land zoned Special Use Zone 7 to the south of the railway line
- c) All corner lots at intersections must have a minimum width of 14.0 m. ~~All corner lots of the medium density lots must have a minimum width of 9.0 m.~~
- d) Road reserve boundaries and splays which are sufficient to accommodate a roundabout at the internal four-legged intersection (within Stage 2)
- e) The active pedestrian path through the creek reserve to be a minimum of 3.5 metres wide and connected to the existing shared path that runs alongside the Geelong Ring Road
- f) A Functional Layout Plan must be provided to show the retention of the private school bus parking location in Hams Rd (outside of the western boundary of the substation) and all associated car parking provision
- g) A Functional Layout Plan of the proposed roundabout at the Ghazeepore Road/Hams Road/Sugargum Drive intersection must be provided, including swept path diagrams prepared by a suitably qualified Traffic Engineering consultant using recognised software to show all movements for a 12 m long ultra-low floor bus (primary design vehicle) and a semi-trailer (secondary design vehicle).
- h) remove references to turn bans at the Grange Park Drive/Hams Road intersection
- i) remove the shared path on the south side of Hams Road OR a minimum 3 metre wide shared user path (off road), on the southern side of Hams Road from the Geelong Ring Road underpass, along the length of Hams Road, across Ghazeepore Road connecting to Sugargum Drive
- j) ~~roundabout at the Ghazeepore Road/Hams Road/Sugargum Drive intersection must be constructed as part of the Stage 1 roadworks for Hams Road.~~

Commented [A9]: Refer to Recommendation 10

Commented [A10]: TfV condition required as TfV is a determining referral authority. Refer to discussion in Chapter 3.7, and Recommendation 10

Commented [A11]: Should this be northern?

Commented [A12]: TfV condition required as TfV is a determining referral authority. Refer to discussion in Chapter 3.4, and Recommendation 11

Commented [A13]: Include the first condition (before the 'OR') if TfV agrees to remove the requirement for a shared path on the south side of Hams Road (which is not supported by the Panel). If TfV does not agree, include the second condition (after the 'OR'). Refer to Chapter 3.6 and Recommendation 13

Commented [A14]: Relocated to condition 20A, as it relates to the construction of the works, not plans

Endorsed Plans

2. The layout and site dimensions of the subdivision as shown on the endorsed plan(s) must not be altered or modified without the written consent of the Responsible Authority. There are no requirements to alter or modify the endorsed plan if a plan is certified under the provisions of the Subdivision Act 1988 that is generally in accordance with the endorsed plan(s).
3. The staging of the subdivision must be generally in accordance with the staging plan endorsed as part of this planning permit except with the prior written consent of the Responsible Authority.

Prior to Certification

4. ~~The Any~~ Plan of Subdivision submitted for certification must include all easements deemed necessary to protect existing or future drainage lines within the subject site, and any easements required between the subject site and the nominated legal point of discharge must be created to the satisfaction of the Responsible Authority.
5. Prior to certification of ~~the any~~ plan of subdivision, engineering plans for the construction of new council infrastructure must be submitted to the satisfaction of the Responsible Authority for approval.

Commented [A15]: This and other conditions should refer to any plan rather than the plan, as plans may be submitted in stages

Noise

- 5A. Prior to certification of any plan of subdivision, a revised acoustic report(s) prepared by a suitably qualified acoustic consultant must be submitted to the satisfaction of the Responsible Authority for approval. Once approved, the revised acoustic report(s) will be endorsed and will form part of the permit.

Commented [A16]: As per Recommendations 15 and 16.

The revised acoustic report(s) must:

- a) reassess predicted noise levels from Baanip Boulevard at future dwellings on the subject land in accordance with the VicRoads Traffic Noise Reduction Policy
 - b) include recommendations for any noise mitigation measures required to:
 - o achieve the requirements of Australian Standard AS2107:2016 and the VicRoads Traffic Noise Reduction Policy in relation to traffic from Baanip Boulevard
 - o ensure that noise emissions from the Powercor utility:
 - comply with the recommended maximum noise levels in EPA publication Noise from Industry in Rural Victoria (NIRV) at all future dwellings on the land
 - are not increased at any existing dwellings located to the north and east of the Powercor utility
 - o manage noise emissions from the pump station
 - c) demonstrate, including through modelling, that the requirements of condition 5A(a) can be met, to the satisfaction of the Responsible Authority (and, in the case of emissions from the Powercor utility, Powercor).
6. Prior to the certification of any plan of subdivision (or any relevant stage of a subdivision), any restrictions on the plan of subdivision including relevant "Design Guidelines", "Restrictions" and/or "Memorandum of Common Provisions" must be submitted to the Responsible Authority for approval and applied to affected lots to the satisfaction of the Responsible Authority. Once approved, the restrictions and associated documentation will be endorsed and form part of the permit.

The Restrictions / Design Guidelines / Memorandum of Common Provisions must include:

- a) A restriction applying to any lot directly opposite the Warrnambool Railway Line / Baanip Boulevard (as shown on the ~~Hams Road Development Plan~~ Overall Subdivision Masterplan MP19), that does not allow the construction of any dwelling on the burdened lot unless it ~~incorporates, complies with the following~~ noise attenuation treatments to ensure the following noise criteria are met, to the satisfaction of (or otherwise agreed to by VicTrack and the Responsible Authority):
 - o for rail noise, internal noise limits of:
 - 55 dB LAmax for bedrooms
 - 60 dB LAmax for living areas
 - o for traffic noise from Baanip Boulevard:
 - the requirements of Australian Standard AS2107:2016 and the VicRoads Traffic Noise Reduction Policy.
- ~~b) A restriction applying to any lot directly opposite the Geelong Ring Road (as shown on the Hams Road Development Plan), that does not allow the construction of any dwelling on the burdened lot unless it complies with the following noise attenuation treatments (or otherwise agreed to by VicRoads and the Responsible Authority):~~
 - ~~o Wall/face treatments to achieve the requirements of AS2107 for sleeping and living areas.~~
- c) Unless otherwise agreed to by Powercor and the Responsible Authority, a restriction applying to ~~any all lots~~ within No. 35 Hams Road ~~close proximity to the Powercor WPZS~~ that does not allow construction of a dwelling on the burdened lot unless it complies with any relevant recommendations contained in the acoustic report(s) referred to in condition 5A(b) relating to noise mitigation measures on dwellings required to manage noise emissions from the Powercor utility.

~~details of suitable noise attenuate treatments to protect dwellings from noise associated from the operations of the Powercor utility in accordance with the NIRV must be provided to the satisfaction of Powercor and the Responsible Authority. Any such additional requirement should refer to EPANIRV and associated recommended maximum noise levels applicable to the site.~~

- 6A. Any recommendations of the revised acoustic report(s) referred to in condition 5A that are not implemented through the Restrictions / Design Guidelines / Memorandum of Common Provisions required under condition 6 must be implemented to the satisfaction of the Responsible Authority and (in the case of report(s) relating to emissions from the Powercor utility, Powercor).

7. ~~Prior to the certification of the Plan of Subdivision, amended plans to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the plans will be endorsed and will then form part of the permit. The plans must be drawn to scale with dimensions and three copies must be provided. The plans must be generally in accordance with the Overall Subdivision Masterplan (dated 24 July 2019 MP19) but modified to show:~~
 - ~~a) All corner lots at intersections must have a minimum width of 14.0 m~~
 - ~~b) Road reserve boundaries and splays are sufficient to accommodate a roundabout at the internal four legged intersection (within Stage 3)~~
 - ~~c) Provision of an 8.0 m wide lane for the rear loaded medium density housing products~~

Commented [A17]: Only required for Permit 663/2017

Commented [A18]: Reworded for clarity

Commented [A19]: Repeats condition 1

Garden Area Requirement

8. Unless otherwise approved in writing by the Responsible Authority, prior to the issue of the Statement of Compliance, the owner must enter into an agreement under Section 173 of the Planning and Environment Act 1987 with the Responsible Authority. The agreement must be in a form to the satisfaction of the Responsible Authority, and the owner must be responsible for the expense of the preparation and registration of the agreement, including the Responsible Authority's reasonable costs and expense (including legal expenses) incidental to the preparation, registration and enforcement of the agreement. The agreement must contain covenants to be registered on the Title of the property so as to run with the land, and must provide for the following:
- any future development of a lot of less than 400 square metres in area for a dwelling or residential building must include a 'garden area' at ground level as set out at Clause 32.08-3 of the Greater Geelong Planning Scheme. 'Garden area' is defined at Clause 73.01 of the Greater Geelong Planning Scheme.

The agreement will be registered on Title in accordance with Section 181 of the Planning and Environment Act 1987.

Easements – Drainage

- 8 Prior to certification of the Plan of Subdivision for each stage, easements for the purpose of 'Drainage' must be set aside in favour of the City of Greater Geelong, to the satisfaction of the Responsible Authority.

Fill

9. Excavated material shall not be carted off the site except with the written approval of the Responsible Authority.
11. No material shall be brought onto the site for use as filling within the subject area under this Permit, unless with the written approval of the Responsible Authority. Prior to any approval being issued by the Responsible Authority for imported filling to be used on the site, the applicant must submit for approval to the Responsible Authority, samples of proposed filling, details of the source of the filling, details of proposed traffic routes to be traversed, soil testing results and reports in regard to the presence of contaminants in the filling, and the suitability of filling to be placed on site.
12. All areas to be filled shall be stripped of vegetation and any top soil shall be removed and stockpiled for reuse over the filled areas. Only approved filling material shall be placed on the site. The filling shall be placed in maximum 150 mm layers, or as approved otherwise by the Responsible Authority, and compacted to the applicable level for filling on allotments and within future roadways in accordance with AS3798, to the satisfaction of the Responsible Authority.
13. At the completion of the bulk earthworks, and at completion of the works for each stage, all disturbed areas shall be hydro mulched with an approved seed and fertilizer mixture to the satisfaction of the Responsible Authority to suppress dust, and minimise erosion, unless approved otherwise by the Responsible Authority.
14. All works must be undertaken in accordance with the recommendations of any geotechnical reports.

Commented [A20]: The Panel considers that this condition unnecessarily repeats requirements that already apply under Clause 32.08 of the Planning Scheme, and should be deleted.

Engineering Plans - drainage

14. Prior to the commencement of site works for any stage of the subdivision, the developer is required to submit detailed ~~road and~~ drainage construction plans prepared by a suitably qualified engineer to the Responsible Authority for approval. The plans shall include details of pits and pipes sizes, finished and existing surface levels, creation of appropriate easements, detention basin(s) including any required drainage reserves, water quality treatment and connection to the legal point of discharge.

Commented [A21]: Permit conditions refer to 'applicant', 'developer' and 'subdivider'. They should be consistent

Commented [A22]: Amended to require plans to be prepared by a suitably qualified engineer, as per Recommendation 19(a)

The ~~Consulting Engineer~~ plans must show that the design for the drainage system achieves the following, to the satisfaction of the Responsible Authority:

- o includes recommendations of the report titled 35 & 69-93 Hams Road PSA Flood Modelling dated 30 October 2018 (Water Technology)
- o includes recommendations of the report titled 35 Hams Road and 151-229 Anglesea Road, Waurn Ponds Surface Water Management Strategy (Version 3) dated 19 September 2013 (Neil M Craigie) relating to geotechnical investigations to confirm requirements for the wetland and the use of non-dispersive topsoil
- o ~~and~~ complies with the requirements of the Infrastructure Design Manual and any other relevant standards
- o ~~limits~~ Site run-off ~~shall be limited~~ to equivalent pre-developed levels for rainfall events up to and including the critical 1% AEP event, ~~to the satisfaction of the Responsible Authority~~
- o ensure that no water will discharge to the Powercor utility site during a 1% AEP event.

Commented [A23]: Amended to include relevant recommendations of the Surface Water Management Strategy, as per Recommendation 19(b)

Commented [A24]: Refer to Recommendation 19(e)

The plans must include, but not limited to, the following to the satisfaction of the Responsible Authority:

- a) The stormwater drainage system on the site must be designed such that stormwater run-off exiting the land meets the current best practice performance objectives for stormwater quality as follows:
 - i. 80% retention of the typical annual load of suspended solids;
 - ii. 45% retention of the typical annual load of total phosphorous;
 - iii. 45% retention of the typical annual load of total nitrogen; and
 - iv. 70% retention of the typical annual load of gross pollutants.
- b) Upgrade of the existing outlet and culvert from the retarding basin on the north side of Hams Rd;
- c) Upgrade of the existing Ghazeepore Road culvert;
- d) Upgrade or replacement of the existing culvert beneath the Geelong Warmambool railway corridor;
- e) All external drainage works within the VicRoads reserve (Geelong Ring Road Section 4B) to connect and channel the existing drainage network extending from the Ring Road/shared path, to the open waterway reserve in the land;
- f) Any temporary drainage works that may be required to ensure that the conditions of this permit are met if the land in PP-663-2017 develops before the land in this permit, or the land in this permit develops before the land in PP-663-2017;
- g) Minimum finished surface levels on all lots must be 300mm above the relevant 1% AEP flood level.
- h) Details of waterway remediation.
- i) Details of remediation to existing dams / permanent water bodies. A risk assessment must be provided in accordance with Royal Lifesaving Society guidelines.

Commented [A25]: Amended to include all external drainage works, as per Recommendation 19(c)

Commented [A26]: Amended to include temporary works, as per Recommendation 19(d)

The Responsible Authority may require further modelling to demonstrate that the drainage system can achieve the requirements of this permit, to the Responsible Authority's satisfaction, before it endorses the drainage engineering plans.

Commented [A27]: As per recommendation 19(f)

Note: Detailed Road and Drainage Design Plans for any stage that result in flood levels on existing properties being adversely affected by the proposed works will not be approved for construction.

Engineering Plans – roads

16. Prior to the commencement of works for each stage of the subdivision, construction plans must be submitted to and approved by the ~~R~~esponsible ~~A~~uthority for the full construction of roads including road reserves, design of all intersection treatments, traffic management devices, linemarking, signage, kerb and channel, vehicle crossing laybacks, road pavement and sealing and footpaths.

~~17.~~ The plans must include the following, to the satisfaction of the Responsible Authority:

- a) Construction of abutting roads including concrete kerb and channel, footpath and sealed road pavement;
- b) Footpaths on both sides of roads unless otherwise approved;
- c) All footpath treatments showing DDA compliance at all designated crossing points;
- d) Suitable road reserve cross sections to convey major drainage flows;
- e) Turning areas suitable for the safe and efficient turning of service and emergency vehicles.

Construction Management Plan

18. A Construction Management Plan shall be submitted to and approved by the Responsible Authority and shall address items including (but not be limited to) the following:

- a) The protection of all existing vegetation to be retained and waterways;
- b) Show access locations for construction vehicles;
- c) All appropriate control of site emissions during construction and the defects liability period;
- d) A staging plan for all construction phases including indicative dates for commencement and completion;
- ~~e) Intended access for construction vehicles;~~
- f) ~~Engineering assessment of assets that will be impacted on by construction and recommended techniques to minimise any adverse impact;~~
- g) Details of actions to be implemented ~~to~~ in the event of damage to abutting assets;
- h) Details of where construction personnel will park;
- i) ~~Hours/days of construction, including deliveries. (Note: These hours must be consistent with the Environment Protection Authority (EPA) legislation/guidelines);~~
- j) ~~Phone numbers of on-site personnel or other supervisory staff to be contactable in the event of issues arising on site;~~
- k) Details of site cleanliness and clean up regimes;
- l) ~~Location of material storage;~~
- m) Dust suppression management;
- n) Details of measures to be maintained during the housing construction phase of development to prevent sediment entering downstream drainage infrastructure;
- o) Measures to implement the recommendations of the Cultural Heritage Management Plan prepared by Benchmark Heritage Management dated 31 October 2018 and approved by the Wathaurung Aboriginal Corporation on 29 November 2019;
- p) Any other measures that are consistent with the following Environmental Protection Authority publications:
 - ‘Environmental Management Guidelines for Major Construction Sites’;
 - ‘Construction Techniques for Sediment and Pollution Control’
 - ~~and~~ ‘Doing it Right on Subdivisions’.

Commented [A28]: Repeats condition 18(b)

Commented [A29]: Refer to Recommendation 24

Local Area Traffic Management and Road Name Plan

19. Unless otherwise approved in writing by the Responsible Authority, prior to the lodgement of the Stage 1 Functional Layout Plans, ~~at~~

~~A~~ Local Area Traffic Management (LATM) Plan for PP-662-2017 and PP-663-2017 must be developed with Council's Traffic Development Engineer, and submitted to and approved by the Responsible Authority.

The LATM treatments may include, but not limited to:

- a) traffic management devices internal and external to the site
- b) ~~modified~~ intersection priorities
- c) ~~indented~~ car parking
- d) signage
- e) linemarking ~~and~~
- f) vehicle crossing locations.

All treatments shown on the LATM Plan on subsequent construction plans for each stage must be consistent with the approved LATM Plan, to the satisfaction of the Responsible Authority.

The LATM Plan must be implemented to the satisfaction of the Responsible Authority.

- 19A. When the LATM plan has been finalised, a Road Naming Plan must be developed with Council's Traffic Development Engineer, and submitted to and approved by the Responsible Authority. The Road Naming Plan must respect the LATM plan and the Naming Rules For Places in Victoria document. Pre-approved road names and descriptors shall be applied to a color-coded length of road on the Road Naming Plan. All road naming on subsequent plans of subdivision for each stage must be consistent with the approved Road Naming Plan.

~~all to the satisfaction of the Responsible Authority.~~

Road Names and Signs

20. Prior to the development of the Road Naming Plan and lodgement of the Functional Layout Plan for Stage 1, the subdivider must provide a list of all proposed road names within the subdivision for approval by Council's Properties and Valuations unit. The subdivider must provide and place all relevant street signs, ~~and are~~ consistent with the road names shown on all approved plans, to the satisfaction of the Responsible Authority.

Construction of Roadworks/ Drainage

- 20A. The roundabout at the Ghazeepore Road/Hams Road/Sugargum Drive intersection must be constructed as part of the Stage 1 roadworks for Hams Road.

Commented [A30]: Relocated from condition 1. Staging unchanged

- 20B. Unless otherwise agreed to in writing with the Head, Transport for Victoria, prior to the issue of a Statement of Compliance for any subdivision stages that contain or abut Hams Road, the shared user path (off road) on the south side of Hams Road must be constructed to the satisfaction of and at no cost to the Head, Transport for Victoria.

Commented [A31]: Only include this condition if TfV do not agree to remove the requirement for a shared path on the south side of Hams Road (which is not supported by the Panel). Refer to Chapter 3.6 and Recommendation 13(b)

21. Prior to the issuing of a Statement of Compliance for any stage of the subdivision, all road and drainage works, including basin(s), required for that stage of the subdivision must be constructed in accordance with the approved plans and specifications to the satisfaction of the Responsible Authority.

22. All development and works must be carried out in accordance with the Construction Management Plan endorsed under this permit, all to the satisfaction of the Responsible Authority.
23. The design and construction of civil infrastructure to become council assets must be approved and supervised by council. A fee of 3.25% of the cost of the works is to be paid to council for the checking and supervision of these works.
24. A maintenance bond of 5% of the cost of the works is to be paid to council and will be returned after successful completion of a 12 month maintenance period for civil works.
25. Following Practical Completion, wetlands shall be maintained by the developer for a period of 24 months, to the satisfaction of the Responsible Authority.
26. Prior to the issue of a Statement of Compliance for the relevant stage of subdivision, relevant street sign/s must be erected to the satisfaction of the Responsible Authority.
27. Prior to the issue of a Statement of Compliance for the relevant stage of subdivision, street lighting must be provided within the site and along external frontages in accordance with the relevant Australian Standard(s), unless otherwise agreed in writing by the Responsible Authority and unless it can be demonstrated that existing street lighting is sufficient for public safety to the satisfaction of the Responsible Authority.
28. During the construction phase of the development, the following conditions must be met:
 - a) only clean rainwater shall be discharged to the stormwater drainage system;
 - b) stormwater drainage system protection measures shall be installed as required to ensure that no solid waste, sediment, sand, soil, clay or stones from the premises enters the stormwater drainage system;
 - c) vehicle borne material from the premises shall not accumulate on the roads abutting the site;
 - d) all machinery and equipment must be cleaned (if required) on site and not on adjacent footpaths or roads;
 - e) fencing is to be fitted and installed so as to ensure safe access for pedestrians; and
 - f) all litter must be contained on site;

All to the satisfaction of the Responsible Authority.

29. The developer is responsible for all external drainage works, including but not limited to:
 - a) drainage works within the VicRoads reserve (Geelong Ring Road Section 4B) to connect and channel the existing drainage network extending from the Ring Road/shared path, to the open waterway reserve in the land
 - b) upgrading the Hams Road culvert, ~~The external drainage works include but are not limited~~
 - c) ~~to~~ cleaning and upgrading, where necessary, ~~to~~ the Ghazeepore Road culvert
 - d) cleaning, upgrading or replacing, where necessary, the and Geelong Warrnambool railway culvert.

Works are This is to be undertaken to the satisfaction of the Responsible Authority and VicRoads and (in the case of the Geelong Warrnambool railway culvert) VicTrack.

- ~~30. Prior to the commencement of improvement works within at the Hams Road a scaled functional layout plan for the works must be prepared to the satisfaction of the Responsible Authority.~~

Commented [A32]: Refer to Recommendation 20(a)

Commented [A33]: Refer to Recommendation 20(b)

Commented [A34]: This condition doubled up on, and was inconsistent with, condition 32.

31. ~~Unless otherwise approved in writing prior to Statement of Compliance of Stage 2 of the subdivision hereby approved the intersection works at the Hams Road and Ghazeepore Road junction must be completed in accordance with the endorsed plans to the satisfaction of the Responsible Authority.~~

Commented [A35]: This condition doubled up on, and was inconsistent with, condition 20A.

32. Prior to the commencement of upgrade works to Hams Road a scaled functional layout plan for the works must be prepared to the satisfaction of the Responsible Authority. The plan must include but not be limited to:

- a) Asphaltting
- b) Line marking
- c) Kerb and channel
- d) Connection to the [Ghazeepore Road/Hams Road/Sugargum Drive roundabout intersection to the intersection at Ghazeepore Road](#)
- e) Drainage works
- f) Footpaths
- g) Pedestrian crossings
- h) Signage.

33. Unless otherwise approved in writing prior to Statement of Compliance of Stage 2 of the subdivision hereby approved the upgrade to Hams Road must be completed along the length of the subdivision boundary in accordance with the endorsed plans to the satisfaction of the Responsible Authority.

34. Prior to the commencement of upgrade works to Ghazeepore Road a scaled functional layout plan for the works must be prepared to the satisfaction of the Responsible Authority. The plan must include but not be limited to:

- a) Asphaltting
- b) Line marking
- c) Kerb and channel
- d) Connection to the [Ghazeepore Road/Hams Road/Sugargum Drive roundabout intersection to the intersection at Hams Road](#)
- e) Drainage works
- f) Footpaths
- g) Pedestrian crossings
- h) Signage.

35. Unless otherwise approved in writing prior to Statement of Compliance of Stage 2 of the subdivision hereby approved the upgrade to Ghazeepore must be completed along the length of the subdivision boundary in accordance with the endorsed plans to the satisfaction of the Responsible Authority.

No Removal of Native Vegetation

36. No native vegetation shall be removed other than that marked on the ~~endorsed~~ plan [endorsed under condition 37](#), to the satisfaction of the Responsible Authority.

Vegetation Protection

37. Before works commence, a plan to the satisfaction of the Responsible Authority identifying:
[a\) the Ecological Vegetation Classes present on the land](#)
[b\) all native vegetation to be removed and retained and](#)
[c\) describing the measures to be used to protect the identified vegetation to be retained](#) during construction,

Commented [A36]: refer to Recommendation 21(a)

must be prepared and submitted to and approved by the Responsible Authority. When approved, the plan will be endorsed and will form part of this permit. All works constructed or carried out must be in accordance with the endorsed plan.

37A. The following requirements must be met:

- a) Removal, including pruning, of native vegetation must be undertaken using a suitably qualified arborist and be carried out in accordance with AS4373 – 2007; ‘Pruning of Amenity Trees to the satisfaction of the Responsible Authority’. The use of an excavator, backhoe, bulldozer blade or loader to trim branches of trees is not permitted.
- b) Prior to any vegetation removal, vegetation to be removed must be clearly marked on site and accord with the endorsed plan. An inspection is required to be undertaken by the City’s Environment Unit.
- c) Prior to any native vegetation removal, all patches of native vegetation of native to be retained on site shall be protected by Native Vegetation Protection Fencing in accordance with AS4970-2009 *Protection of Trees on Development Sites*. An inspection is required to be undertaken by the Responsible Authority.
- d) No grazing must occur on native vegetation (including the wetlands and ponds) to be protected (unless permitted by a Management Plan approved by the Responsible Authority) to the satisfaction of the Responsible Authority.
- e) Water run-off must be designed to ensure that native vegetation to be protected is not compromised, to the satisfaction of the Responsible Authority.
- f) The Native Vegetation Protection Fencing must have signs attached around the fencing which clearly states - VEGETATION PROTECTION ZONE - No Access Permitted. An inspection is required once the Tree Protection Fencing has been erected. Please contact the City’s Environment Unit to arrange an inspection.
- g) Except with the written consent of the Responsible Authority, none of the following are permitted to occur within the Tree Protection Zone:
 - 1. vehicular or public pedestrian access.
 - 2. trenching or soil excavation.
 - 3. storage or dumping of tools, equipment, soil, stone or waste is to occur.
 - 4. construction of entry and exit pits for underground services.
 - 5. temporary or permanent installation of signs and utilities.

Vegetation Management Plan

38. Prior to the commencement of any works for any relevant stage of the subdivision that may impact the Creekline Grassy Woodland and Sedge Wetland vegetation, a Vegetation Management Plan must be submitted to and approved by the Responsible Authority. When approved this Vegetation Management Plan will form part of this permit. The plan must include:
- a) Measures to protect and enhance the existing vegetation to be retained and water quality within the existing wetlands and ponds that are being retained, that are consistent with the requirements in condition 37A.

~~b) Details about the proposed weed removal program for the areas of vegetation to be retained.~~

Commented [A37]: This doubles up with condition 39.

The approved vegetation management plan must be implemented to the satisfaction of the Responsible Authority.

Weed Management Plan

39. Prior to the commencement of works, a Weed Management Plan must be submitted to and approved by the Responsible Authority. When approved this Weed Management Plan will form part of this permit. The plan must detail:

- Species and extent of weed infestation.
- Current and/or proposed treatment methods.
- Timeframes.
- any other relevant information

The approved weed management plan must be fully implemented prior to the commencement of any on-ground earthworks to the satisfaction of the Council's Environment Unit.

Native Vegetation Offsets

40. In order to offset the removal of 6.194### hectares of native vegetation as part of this permit, the applicant must provide a native vegetation offset that meets the following requirements, and is in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2017)

The general offset must:

- contribute gain of 0.876### general biodiversity equivalence units
- be located onsite where possible, or within the Corangamite Catchment Management Authority boundary or City of Greater Geelong municipal district
- have a strategic biodiversity score of at least 0.336###.

41. Before any native vegetation is removed, where offsets are to be provided off-site, evidence that an offset has been secured must be provided to the satisfaction of the Responsible Authority. This offset must meet the offset requirements set out in this permit. The offset evidence can be either:

- a security agreement, to the required standard, for the offset site or sites, including a 10 year offset management plan.
- a credit register extract from the Native Vegetation Credit Register.

Any credit register extract from the Native Vegetation Credit Register must be submitted to the Environment Unit as a formal record of the offset evidence.

At the conclusion of the subdivisional construction works, the overall native vegetation offset requirements must be reconciled with agreement by the Responsible Authority and DELWP and either credits are made available or further offsets are to be purchased.

Fauna Management Plan

42. Prior to the commencement of any works, a Fauna Management Plan must be submitted to and approved by the Responsible Authority. The plan must include:

- A pre-clearance survey to assess the presence of Growling Grass Frog, Ballion's Crake and Barking Owl (the survey must be undertaken during the optimal breeding season for the Growling Grass Frog)
- Procedures for the salvage and relocation of any frog species present on the land under the supervision of a qualified zoologist prior to the commencement of works
- Details outlining the measures to protect the habitat and water quality for the frog population present within the wetland and ponds to be retained.

The approved Fauna Management Plan must be implemented to the satisfaction of the Responsible Authority.

Commented [A38]: This amount must be recalculated in accordance with Recommendation 21(b)

Commented [A39]: This amount must be recalculated in accordance with Recommendation 21(b)

Commented [A40]: Refer to Recommendation 21(c)

Commented [A41]: This amount must be recalculated in accordance with Recommendation 21(b)

Commented [A42]: Refer to Recommendation 21(c)

Commented [A43]: Refer to Recommendation 22(a)

Commented [A44]: Refer to Recommendation 22(b)

Fauna Protection

43. Prior to the removal or lopping of any tree, the tree must be examined by a suitably qualified zoologist with relevant permits. If native fauna species are located, they must be salvaged and relocated to the closest suitable vegetation.
44. Any dams or water bodies filled as part of the approved development must be drained at least 48 hours prior to works commencing to enable the relocation or translocation of fauna.

Construction Environmental Management Plan

45. Prior to works commencing a Construction Environmental Management Plan (CEMP) must be submitted to and approved by the Responsible Authority. When approved this ~~Construction Environmental Management Plan~~ CEMP will form part of this permit. This plan must incorporate, but is not limited to, the following information:
 - a) The ~~plan~~ CEMP must address control of site emissions during construction and the defects liability period to the satisfaction of the Responsible Authority.
 - b) The ~~plans~~ CEMP must include measures to be taken to ensure that no polluted water and/or sediment laden runoff is to be discharged directly or indirectly into stormwater drains, the existing watercourse through the site and/or existing wetlands and ponds to be retained, during the construction period.
 - c) The CEMP must be prepared in accordance with the following EPA publications:
 - Guideline for Environmental Management, Doing it Right on Subdivisions, Publication 960, September 2004 ~~and~~
 - CCF Environmental Guidelines for Civil Construction, 2010.

Commented [A45]: Suggest relocating to (and consolidating with) the Construction Management Plan conditions

All development and works must be carried out in accordance with the ~~Construction Management Plan~~ CEMP, to the satisfaction of the Responsible Authority.

46. Prior to the commencement of any works (excluding works associated with removal of potentially contaminated material, such as fuel tanks and fill, which may be undertaken prior to or concurrent with the assessment) ~~in areas identified~~, an Environmental Assessment must be submitted which must include an assessment of the land by a suitably qualified environmental professional detailing the level and location of any contamination. This assessment is to be peer reviewed by a suitably qualified environmental professional approved by ~~the Responsible Authority~~ Council. If the ~~R~~esponsible ~~A~~uthority is satisfied that significant levels of contamination have been found the following must be provided to the Responsible Authority, either:
 - a) A Certificate of Environmental Audit must be issued for the land in accordance with Part 1XD of the Environment Protection Act 1970, or
 - b) A Statement of Environmental Audit must be issued in accordance with Part 1XD of the Environment Protection Act 1970 stating that the environmental condition of the land ~~are is~~ suitable for the sensitive use (with or without conditions on the use of the site).

Waterway Rehabilitation Plan

47. Prior to the commencement of works, a Waterway Rehabilitation Plan for the entire creek corridor must be submitted to and approved by the Responsible Authority. The Plan must detail the specific rehabilitation and revegetation of the creek corridor to an average width of 30 metres either side of the centreline of the creek. When approved the plan will be endorsed and then form part of this permit.

The Plan must include:

- a) Details regarding the proposed works within the creek and its embankments. An extensive vegetated riparian corridor is to be established as part of the design. Cross-sections outlining the proposed treatment must be provided.
 - b) Details regarding the protection and enhancement of the Creekline Grassy Woodland and Sedge Wetland to be retained must be provided.
 - c) Details of all revegetation works including the use of plants listed within the City's Indigenous plants of the Geelong Region Zone 7 and ~~those native species~~ found as part of the flora survey, including densities and any specific treatments.
 - d) The provision of habitat improvements (ie rocks, logs etc) for frogs and other fauna.
 - e) The location of any stabilisation works (if required) such as rockwork and/or jute matting.
 - f) The use of non-dispersive topsoil.
 - g) Details of all weed control works.
 - h) Details of the proposed maintenance program for a minimum of two years after Practical Completion is awarded by the Responsible Authority.
48. Prior to the transfer to Council of the creek corridor, all works identified within the approved Waterway Rehabilitation Plan must be fully completed by the developer and maintained for a period of two years after Practical Completion, unless otherwise agreed in writing by the Responsible Authority. A detailed inspection shall be undertaken by the Responsible Authority of all the required on-ground works before any transfer is undertaken.
49. If the creek rehabilitation works are undertaken in two stages and 35 Hams Road is completed first a separate agreement will need to be prepared between the developer and the Responsible Authority in respect to specifying a formal handover process of the partially completed asset.

Commented [A46]: The flora survey also found invasive species and weeds

Commented [A47]: Consistent with Recommendation 19(b) and condition 15

Landscape Master Plan

50. Unless otherwise approved in writing by the Responsible Authority, prior to issue of Statement of Compliance for the first stage of the subdivision, a landscape master plan (incorporating a street tree master plan) for the permit area must be developed and submitted to the Responsible Authority for approval. When approved, the plan will be endorsed and form part of the permit. It must be drawn to scale with dimensions and submitted electronically.

The landscape master plan must show and include, but not be limited to:

- a) The location, size and title designation of all land to be developed as reserves, including Public Open Space Reserves, Conservation Reserves, ~~;~~ Road Reserves and Drainage Reserves;
- ~~b) A survey (including the location, size and botanical name) of all existing vegetation proposed to be retained on the land; and show details of tree protection zones. This survey must also show what vegetation is approved for retention, removal and/or lopping in accordance with the Native Vegetation Precinct Plan, highlighting any changes between the two.~~
- c) The ultimate 1% and 10% Annual Exceedance Probability storm event extents;
- d) A general indication of what recreation infrastructure is proposed and its location, including but not limited to: playgrounds, furniture, and exercise equipment, kick about areas, paths, shelters, vehicle exclusion barriers and maintenance access points;
- e) The style and location of permeable fencing for all lots abutting reserves (excluding road reserves);

Commented [A48]: Doubles up on conditions 36, 37 and 37A

- f) The proposed species to be used for and general layout of street tree planting in various stages of the subdivision including the proposed planting theme for all secondary frontages of corner allotments. Tree placement on secondary lot frontages must use no more than two trees that grow to an estimated size of no greater than 5 x 4 metres at maturity;
- g) All proposed street tree planting using semi-advanced trees with a minimum container size of 45 litres, in compliance with AS2303-2015 Tree Stock for Landscape Use;
- h) The principles and graphical concepts of Public Art which complies with the requirements of Council's Art and Culture Department;
- i) The location and size of any water sensitive urban design assets.
- j) The species list must not include species listed in *Environmental Weeds City of Greater Geelong*, September 2008.
- k) The species list must include species listed in Indigenous Plants of the Geelong Region - Zone (7) Grovedale and Waurin Ponds Limestone Plains and Hills.

Notes:

- 1. ***Consultation with Council's Recreation and Open Space Unit during early concept design is encouraged to help facilitate efficient approval processes.***
- 2. ***Any pathway within the open space reserves should be located having regard to the protection of existing vegetation worthy of retention.***

Detailed Landscape Plans

51. Unless otherwise agreed in writing by the Responsible Authority, prior to the Statement of Compliance being issued for each applicable stage of the subdivision, a detailed landscape plan for the stage must be prepared and submitted to the Responsible Authority for approval. When approved, the plan will be endorsed and form part of the permit. The landscape plan must be drawn to scale with dimensions and submitted electronically.

The plan must address and be consistent with the endorsed landscape master plan applying to the site and show, but not be limited to:

- a) The ultimate 1% and 10% Annual Exceedance Probability storm event extents;
- b) Vegetation that is approved to be retained, removed and/or lopped in accordance with the ~~Native~~ Vegetation Protection ~~Precinct~~ Plan (~~NVPP~~), as well as any other practical retention tree(s) within a reserve (excluding conservation reserves) for any stage of the development. The tree(s) ~~not included in the NVPP~~ must be assessed by a suitably qualified arborist to determine suitability for retention and ongoing management recommendations. The detailed landscape plan for the area in which the tree(s) are located must be informed by this arboriculture assessment and show details of tree protection zones. This assessment must be submitted to council as part of the approval process;
- c) A detailed planting schedule and proposed planting layout of all areas of and adjoining open space, including proposed trees, shrubs, groundcovers and aquatic planting (if applicable, with zonation detail), and showing botanical names, common names, pot sizes, sizes at maturity, quantities and densities of each plant;
- d) The proposed layout, materials and finish of all finished surfaces, structures, fences abutting council reserves, maintenance vehicle access crossovers, maintenance access gates, play equipment, furniture and bike parking;
- e) Detailed planting and construction drawings including site contours and any proposed changes to existing levels including any structural elements such as retaining walls;

- f) Detailed planting and construction drawings of any drainage and WSUD infrastructure within public reserves;
- g) Permeable fence design details for lots abutting open space reserves and Council reserves (except road reserves). Fencing detail must be to Council specifications;
- h) Additional supporting information, such as certified structural designs or building forms;
- i) The removal of existing disused structures, foundations, pipelines, farm dams or stockpiles and the eradication of weeds;
- j) The proposed landscaping treatment of any road reserve abutting public open space;
- k) A detailed schedule of quantities showing accurate cost estimates of each item included in the plan.

Notes:

- 1. ***Hard copy/copies of the landscape plan must be provided at the reasonable request of the responsible authority.***
- 2. ***Consultation with Council's Recreation and Open Space Unit during early concept design is encouraged to help facilitate efficient approval processes.***

No Utility Services on Public Open Space

52. Utility service substations, kiosk sites and the like must not be located on any land identified as unencumbered open space unless otherwise agreed in writing by the responsible authority. Any existing or future easements affecting all land which is to be vested in council must be clearly identified on the detailed landscape plans as per the condition above.

Council Reserves — Vehicle Access Barriers

53. Unless otherwise approved in writing by the Responsible Authority, prior to the issuing of a Statement of Compliance for any relevant stage of the subdivision which includes a Council reserve, suitable vehicle access barriers must be provided across the entrance of the Council Reserve, one of these shall be de-mountable to allow access to Council maintenance vehicles to the satisfaction of the Responsible Authority. The location of these barriers shall be determined by the Responsible Authority.

Fencing of Council Reserves

54. Unless otherwise approved in writing by the Responsible Authority, prior to the issuing of a Statement of Compliance for any relevant stage of the subdivision which includes a Council reserve, the subdivider must erect an appropriate fence on the boundaries of the Council Reserve to the satisfaction of the Responsible Authority and at no cost to Council.

Completion of Landscape Works

55. Unless otherwise approved in writing by the Responsible Authority, the landscaping works shown on the approved landscape plan for a particular stage must be completed to the satisfaction of the Responsible Authority, prior to the issue of a Statement of Compliance for that stage.
56. If the Responsible Authority agrees to issue Statement of Compliance prior to the landscaping works being completed, the entire landscaping works must be bonded to the satisfaction of the Responsible Authority. The landscape works bond or bank guarantee must be 125 per cent of the estimated cost of entire landscape works as shown in the approved schedule of quantities submitted as part of the landscape plans. Unless otherwise agreed in

writing by the Responsible Authority the bonded works must be completed within one year of the date of the lodgement of the bond.

57. A practical completion inspection is required and must be arranged by the permit holder with two weeks' notice provided for the responsible authority. The practical delivery of the endorsed plans must be at a standard to the satisfaction of the responsible authority to pass this inspection. If applicable, the landscape works bond will be returned on award of practical completion.
58. Unless otherwise approved in writing by the Responsible Authority, prior to the issue of practical completion of landscaping works, or any other time as agreed by the Responsible Authority, the following must be provided to the Responsible Authority:
- a) The vesting of the reserve to Council, at no cost to Council;
 - b) Building permits and structural engineering compliance, as-built construction plans, and materials detail where necessary;
 - c) Landscaping maintenance plan
 - d) Schedule of Quantities showing the financial value of all hard assets
 - e) As-built landscaping plans in PDF and GIS-ready AutoCAD (DXF) format.
 - f) An independent playground auditors report with evidence of rectification of any identified defects. The report must relate to all playground equipment, fitness equipment, natural play area, soft fall areas and edging to ensure that all aspects of playground construction meet Playground Standards AS/NZ4422 1996 and AS4685 parts 1-6 2004 and is in good working order and safe for use.
59. Unless otherwise agreed in writing by the Responsible Authority, a maintenance bond must be submitted to the Responsible Authority on application for practical completion of landscaping works. The maintenance bond or bank guarantee must be 125 per cent of the estimated cost of maintenance of landscape works for a two (2) year period.

Maintenance of Landscaping

60. The landscaping shown on any endorsed landscape plan for a particular stage must be maintained to the satisfaction of the Responsible Authority for a period of no less than two (2) years from the date of practical completion of the landscaping unless otherwise agreed in writing by the Responsible Authority. During this period, any dead, diseased or damaged plants are to be replaced and any landscaped area and hard assets are to be repaired as required to ensure the landscaping is maintained to the same standard as when practical completion was awarded.
61. Should the permit holder default on landscape maintenance requirements which leads to a partial or full replanting, the responsible authority will consider the extension of the maintenance period as necessary to provide for establishment of replacements.
62. A handover inspection is required and must be arranged by the permit holder with two weeks' notice provided for the responsible authority. The maintenance of the completed works must be at a standard to the satisfaction of the responsible authority to pass this inspection. The maintenance bond will be returned on award of Handover.
63. The developer and contractors who will construct and maintain the subject reserves and associated landscaping must obtain and maintain appropriate public liability insurance (with the responsible authority's interest noted on the certificate of insurance) over the entire reserve area for the duration of the maintenance period.

Notes:

1. *The responsible authority will not be responsible for the reserve and its assets or public liability until a handover inspection has taken place and written acceptance of handover has been issued.*
2. *At the conclusion of the maintenance period all maintenance responsibilities will be transferred to the responsible authority.*
3. *No handovers will be accepted during the summer months from 01 December to 28 February inclusive.*

Public Open Space Contributions

64. The owner of the subject land must provide Public Open Space in part by land and the balance by cash-in-lieu equivalent to ten (10) per cent of the site value of all developable land in the subdivision pursuant to Section 18 of the Subdivision Act 1988. The contribution will be payable prior to the issue of a Statement of Compliance for each stage.

Street Tree Master Plan

65. For any multi staged development a street tree master plan must be submitted to and approved by the Responsible Authority.
66. The master plan must be developed to include the following:
- a) All proposed street tree planting using semi-advanced trees with a minimum container size of 45 litres that comply with AS2303 Tree Stock for Landscape Use
 - b) Tree placement on secondary lot frontages using no more than two (2) trees that grow to an estimated size at maturity of no greater than 5 x 4m

Notes:

- ~~1. The master plan must be developed in accordance with the principles of the PSP where one applies.~~
2. *Street tree species selection within the master plan is subject to approval by Powercor in accordance with the requirements of the Distribution Construction Standard, Underground Trenching. Tree location and species type shall be determined, in consultation with CitiPower/Powercor, based on the specific site and the ability of the tree to both enhance the local amenity and co-exist with utility services infrastructure – with all trees to be identified on a ‘master services plan’ provided by the party planting the trees.*
3. *The applicant must obtain and provide evidence to the Responsible Authority that Powercor has been consulted and has agreed with the proposed street tree species palette.*

Commented [A49]: No PSP applies

Streetscape Works, Detailed Plans

67. Prior to the Statement of Compliance being issued for each relevant stage of the subdivision, a detailed streetscape plan, prepared by a person suitably qualified in landscape design, must be submitted to and approved by the Responsible Authority.
68. When approved, the plan will be endorsed and will then form part of the permit. The streetscape plan must be drawn to scale with dimensions and three hard copies provided.

69. Where applicable, the plan must be generally in accordance to the street tree master plan and show:
- The name and stage of the estate and the Planning Permit Number
 - The layout of proposed new planting in all road reserves and traffic management devices (e.g. medians, islands, and roundabouts)
 - Details of all other infrastructure within the road reserve (e.g. underground services, street lights, stormwater pits, fire plugs etc)
 - A detailed planting schedule of all proposed trees and plants including botanical names, common names, pot sizes, sizes at maturity and quantities for each species
 - All proposed groundcover & shrub planting with a minimum container size of 150mm
 - The maintenance schedule for all proposed planting
 - Plan view indicating mature tree sizes, shown to scale to illustrate the extent of canopy coverage
 - All road cross sections applicable to the site
 - TPZ on all plans (where applicable)

Notes:

- Proposed entry signage must not be located on public land.***
- Landscape treatments within traffic control devices such as medians and roundabouts are subject to specific control measures.***
- Where applicable in multi-staged developments the Street Tree Master Plan may form part of the Landscape Master Plan***

Completion of Streetscape Works

70. Unless otherwise approved in writing by the Responsible Authority, prior to the issue of Statement of Compliance for a particular stage of development all streetscape works shown on the endorsed streetscape plans for that stage must be completed to the satisfaction of the Responsible Authority.
71. Where streetscape works forming part of the endorsed plans are not completed to the satisfaction of the Responsible Authority prior to the applicant seeking a Statement of Compliance for all, or a particular stage of a subdivision, the developer may request the approved Streetscape Plan to be appropriately bonded or covered by a bank guarantee. Estimates must be professionally costed and submitted to the Responsible Authority for approval, once approved the bonds or bank guarantees must be submitted to the Responsible Authority separately prior to Statement of Compliance being awarded.
- The incomplete streetscape works bond or bank guarantee must be 125 per cent of the estimated cost of incomplete streetscape works.
 - The maintenance bond or bank guarantee must be 125% of the estimated cost of maintenance activities for a two (2) year period.

Notes

- A certificate of practical completion is required to satisfy this condition and must be organised by the permit holder with two weeks' notice given for onsite inspections. The incomplete works bond will be returned once practical completion has been awarded.***

2. *Works bonded as outstanding must be enacted within one (1) year of statement of compliance being awarded.*

Maintenance of Streetscape Works

72. All works must be maintained to the satisfaction of the Responsible Authority for a period of two (2) years from the date of practical completion. During this period, any dead, diseased or damaged plants are to be repaired or replaced as required.
73. Where the landscape works are bonded, the maintenance period will commence from the date that the works are awarded Practical Completion by the Responsible Authority.
74. A maintenance bond to the value of 125% of the cost of works must be submitted to the responsible authority on application for practical completion of landscaping works to be retained until such time that the works have been accepted by Council for handover.
75. Works that have achieved practical completion will be randomly inspected throughout the maintenance period. Works deemed by the Responsible Authority as being inappropriately maintained or established will not be accepted and will remain on maintenance until such time that the Responsible Authority deems it acceptable.

Notes

1. ***A handover inspection is required to satisfy this condition and must be organised by the permit holder with two weeks' notice given for onsite inspections. The maintenance bond will be returned on acceptance of handover.***
2. ***No handovers will be accepted during the summer period, between 30 November and 1 March.***

Section 173 Agreements

76. Development Contributions, Infrastructure Items, public open space contributions and any other relevant requirement of the section 173 Agreement applying to the land must be satisfied in accordance with the Agreement to the satisfaction of the Responsible Authority. Detail, to the satisfaction of the Responsible Authority, must be provided detailing the method of calculation of the contribution or requirement to be satisfied.

Barwon Water Conditions

General

77. The owner shall create easements for Pipelines or Ancillary Purposes and or reserves in favour of Barwon Region Water Corporation on the plan of subdivision in accordance with Barwon Water's Land Development Manual, without cost to Barwon Water, over existing and proposed water and sewerage infrastructure within the land. If further easements or reserves are required following design of water and sewerage infrastructure these must be added to the plan of subdivision prior to seeking Barwon Water's consent to the issue of a statement of compliance for the subdivision.
78. The plan of subdivision must be referred to Barwon Water in accordance with the Subdivision Act 1988 and any subsequent amendments to the plan provided to Barwon Water.

79. Barwon Water has two strategic mains surrounding the above mentioned sites, being the 1000mm Grovedale Feeder Main to the south and the 1400mm Pettavel-Montpellier Transfer Main to the West. Both mains are critical to the region and they are to be protected to the satisfaction of Barwon Water.

Water

80. The provision and installation of individual water services to all lots in the subdivision. Note, that tappings and services are not to be located under existing or proposed driveways.
81. The payment of New Customer Contributions for water for each additional connection which includes any new lot on a plan of subdivision and/ or any apartment, unit, or premises within the development that is or can be separately metered for water supply.
82. Reticulated water mains or a water main extension are/ is required to service the proposed development. This work must be designed by a Barwon Water accredited Consulting Engineer and constructed by a Barwon Water accredited Contractor following the "Developer Works" process.

Sewer

83. The provision of sewerage services to all lots in the subdivision. Individual allotment house connection drains are to be provided for and extend into each allotment.
84. The payment of New Customer Contributions for sewer for each additional connection which includes any new lot on a plan of subdivision and/ or any apartment, unit, or premises within the development that is or can be separately metered (for water supply).
85. Reticulated sewer mains or a sewer main extension are/ is required to service the proposed development. This work must be designed by a Barwon Water accredited Consulting Engineer and constructed by a Barwon Water accredited Contractor following the "Developer Works" process.
86. Additional sewerage assets are required to service this development. The creation of assets is additional to the internal works required for which the developer will be responsible to provide. The assets required are a Sewerage Pump Station (SPS) and Rising Main (RM).

Note: The developer is to apply to Barwon Water for details relating to costs and conditions required for the provision of water supply and sewerage services to the subdivision. It would be appreciated if all communication between the developer/agent and Barwon Water quote Barwon Water Land Development reference number **L014521**.

Powercor Conditions

87. The plan of subdivision submitted for certification under the Subdivision Act 1988 shall be referred to Powercor Australia Ltd in accordance with Section 8 of that Act.
88. The applicant shall provide an electricity supply to all lots in the subdivision in accordance with Powercor's requirements and standards, including the extension, augmentation or re-arrangement of any existing electricity supply system, as required by Powercor (A Payment to cover the cost of such work will be required). In the event that a supply is not provided the applicant shall provide a written undertaking to Powercor Australia Ltd that prospective purchasers will be so informed.

89. ~~The applicant shall.~~ Where buildings or other installations exist on the land to be subdivided and are connected to the electricity supply, they shall be brought into compliance with the Service and Installation Rules issued by the Victorian Electricity Supply Industry. ~~You~~ The applicant shall arrange compliance through a Registered Electrical Contractor.
90. Any buildings must comply with the clearances required by the Electricity Safety (Installations) Regulations.
91. The applicant shall set aside on the plan of subdivision for the use of Powercor Australia Ltd reserves and/or easements satisfactory to Powercor Australia Ltd where any electric substation (other than a pole mounted type) is required to service the subdivision. Alternatively, at the discretion of Powercor Australia Ltd a lease(s) of the site(s) and for easements for associated powerlines, cables and access ways shall be provided. Such a lease shall be for a period of 30 years at a nominal rental with a right to extend the lease for a further 30 years. Powercor Australia Ltd will register such leases on the title by way of a caveat prior to the registration of the plan of subdivision.
92. The applicant shall provide easements satisfactory to Powercor Australia Ltd, where easements have not been otherwise provided, for all existing Powercor Australia Ltd electric lines on the land and for any new powerlines required to service the lots and adjoining land, save for lines located, or to be located, on public roads set out on the plan. These easements shall show on the plan an easement(s) in favour of Powercor Australia Ltd for 'Powerline Purposes' pursuant to Section 88 of the Electricity Industry Act 2000.
93. The applicant shall obtain for the use of Powercor Australia Ltd any other easement external to the subdivision required to service the lots.
94. The applicant shall adjust the position of any existing easement(s) for powerlines to accord with the position of the line(s) as determined by survey.
95. The applicant shall obtain Powercor Australia Ltd's approval for a lot boundaries within any area affected by an easement for a powerline and for the construction of any works in such an area.
96. The applicant shall provide to Powercor Australia Ltd, a copy of the version of the plan of subdivision submitted for certification, which shows any amendments which have been required.

CFA Conditions

Hydrants

97. Prior to the issue of a Statement of Compliance under the Subdivision Act 1988 the following requirements must be met to the satisfaction of the CFA:
- ~~a)98.~~ Above or below ground operable hydrants must be provided. The maximum distance between these hydrants must be no more than 120 metres apart.
- ~~b)99.~~ The hydrants must be identified with marker posts and road reflectors as applicable to the satisfaction of the Country Fire Authority.

Note – CFA's requirements for identification of hydrants are specified in 'Identification of Street Hydrants for Firefighting Purposes' available under publications on the CFA web site (www.cfa.vic.gov.au)

Roads

100. Roads must be constructed to a standard so that they are accessible in all weather conditions and capable of accommodating a vehicle of 15 tonnes for the trafficable road width.
101. The average grade must be no more than 1 in 7 (14.4%) (8.1 degrees) with a maximum of no more than 1 in 5 (20%) (11.3 degrees) for no more than 50 meters. Dips must have no more than a 1 in 8 (12%) (7.1 degree) entry and exit angle.
102. Curves must have a minimum inner radius of 10 metres.
103. Roads must have a minimum trafficable width of 3.5 metres and be clear of encroachments for at least 4 metres above the access way.
104. Roads more than 60m in length from the nearest intersection must have a turning circle with a minimum radius of 8m (including roll-over kerbs if they are provided) T or Y heads of dimensions specified by the CFA may be used as alternatives.

CCMA Conditions

105. There is to be no loss of floodplain storage as a result of the development.
- ~~106. The final stormwater management design ensures that flows discharging from the subdivision site are restricted to, or below, pre-development levels for all events up to and including the 1% AEP flood event.~~
- ~~107. The stormwater drainage system must ensure a design philosophy of 'zero adverse impacts' to surrounding areas for up to and including the 1% AEP flood event.~~
108. All streets, footpaths and cycle paths that are subject to flooding must meet the applicable flood hazard safety criteria.
109. All lots within the development shall be free from inundation from 1% AEP flood events.
110. A Works on Waterways Permit is required from the Corangamite Catchment Management Authority prior to any works on or within the bed and banks of the waterway.

VicTrack Conditions

- ~~111. Except with the written consent of VicTrack, no drainage or effluent must enter or be directed to VicTrack land and must be connected to the legal point of discharge.~~
112. No waste, soil or other materials from the works are to be stored or deposited on VicTrack land.
113. All works including hoardings must be undertaken within the subject land and must not encroach onto VicTrack land.
114. No entry onto railway land is permitted without the written consent of the rail operator.
115. No permanent or temporary ground anchors are permitted within VicTrack land.

Commented [A50]: This doubles up on condition 15

Commented [A51]: It is not reasonable to require the developer to eliminate pre-existing flooding conditions that are not cause or exacerbated by the development

Commented [A52]: This is not consistent with the drainage scheme, or the conditions requiring upgrade or replacement of the VicTrack culvert.

Telecommunication Conditions

116. The owner of the land must enter into agreements with:
- a telecommunications network or service provider for the provision of telecommunication services to each lot shown on the endorsed plan in accordance with the provider's requirements and relevant legislation at the time; and
 - a suitably qualified person for the provision of fibre ready telecommunication facilities to each lot shown on the endorsed plan in accordance with any industry specifications or any standards set by the Australian Communications and Media Authority, unless the applicant can demonstrate that the land is in an area where the National Broadband Network (NBN) will not be provided by optical fibre.
117. Before the issue of a Statement of Compliance for any stage of the subdivision under the Subdivision Act 1988, the owner of the land must provide written confirmation from:
- a telecommunications network or service provider that all lots are connected to or are ready for connection to telecommunications services in accordance with the provider's requirements and relevant legislation at the time; and
 - a suitably qualified person that fibre ready telecommunications facilities have been provided in accordance with any industry specifications or any standards set by the Australian Communications and Media Authority, unless the applicant can demonstrate that the land is in an area where the National Broadband Network will not be provided by optical fibre.

Department of Jobs, Precincts and Regions – Earth Resources Regulation Branch

118. Land affected by the 250 metre extractive industry buffer as shown on the endorsed plan must not be subdivided or developed without the further written agreement of the Department of Jobs, Precincts and Regions. ~~All Lots contained within stages 6,7,8 & 9 (whether wholly or partially) affected by the 250m extractive industry buffer as shown on the endorsed plan shall not be developed without the further written agreement of the Department of Jobs, Precincts and Regions.~~

Commented [A53]: Refer to Recommendation 23

~~Note: any variation or alteration to the stages referred to above must be submitted to the Earth Resources Regulation Branch within the Department of Jobs, Precincts and Regions.~~

Expiry

119. This permit will expire if one of the following circumstances applies:
- The first stage of the plan of subdivision has not been certified within two years of the date of this permit.
 - All stages of the plan of subdivision have not been certified within five years of the date of this permit.
 - A statement of compliance is not issued within five years of the date of certification of a particular stage of subdivision.

The Responsible Authority may extend the certification period referred to if a request is made in writing before the permit expires or within six (6) months afterwards.

[If the permit has been amended, include the following table indicating the date and nature of amendments included in the amended permit, and the name of the responsible authority that approved the amendment —]

Date of amendment	Brief description of amendment	Name of responsible authority
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that approved the amendment

IMPORTANT INFORMATION ABOUT THIS PERMIT

WHAT HAS BEEN DECIDED?

The Responsible Authority has issued a permit. The permit was granted by the Minister under section 96I of the **Planning and Environment Act 1987** on approval of Amendment No. [insert amendment number] to the [insert name of planning scheme].

WHEN DOES THE PERMIT BEGIN?

The permit operates from a day specified in the permit being a day on or after the day on which the amendment to which the permit applies comes into operation.

WHEN DOES A PERMIT EXPIRE?

1. A permit for the development of land expires if—
 - the development or any stage of it does not start within the time specified in the permit; or
 - the development requires the certification of a plan of subdivision or consolidation under the **Subdivision Act 1988** and the plan is not certified within two years of the issue of a permit, unless the permit contains a different provision; or
 - the development or any stage is not completed within the time specified in the permit, or, if no time is specified, within two years after the issue of the permit or in the case of a subdivision or consolidation within 5 years of the certification of the plan of subdivision or consolidation under the **Subdivision Act 1988**.
2. A permit for the use of land expires if—
 - the use does not start within the time specified in the permit, or if no time is specified, within two years after the issue of the permit; or
 - the use is discontinued for a period of two years.
3. A permit for the development and use of land expires if—
 - the development or any stage of it does not start within the time specified in the permit; or
 - the development or any stage of it is not completed within the time specified in the permit, or, if no time is specified, within two years after the issue of the permit; or
 - the use does not start within the time specified in the permit, or, if no time is specified, within two years after the completion of the development; or
 - the use is discontinued for a period of two years.
4. If a permit for the use of land or the development and use of land or relating to any of the circumstances mentioned in section 6A(2) of the **Planning and Environment Act 1987**, or to any combination of use, development or any of those circumstances requires the certification of a plan under the **Subdivision Act 1988**, unless the permit contains a different provision—
 - the use or development of any stage is to be taken to have started when the plan is certified; and
 - the permit expires if the plan is not certified within two years of the issue of the permit.
5. The expiry of a permit does not affect the validity of anything done under that permit before the expiry.

WHAT ABOUT REVIEWS?

In accordance with section 96M of the **Planning and Environment Act 1987**, the applicant may not apply to the Victorian Civil and Administrative Tribunal for a review of any condition in this permit

Appendix E Panel recommended version of Permit 663/2017

Tracked against the revised Permit 663/2017 attached to Council's Part B submission

**PLANNING
PERMIT
GRANTED UNDER SECTION 96I OF
THE PLANNING AND ENVIRONMENT
ACT 1987**

Permit No.: 663/2017

Planning scheme: Greater Geelong

Responsible authority: City of Greater Geelong

ADDRESS OF THE LAND: 69-93 HAMS ROAD, WAURN PONDS

THE PERMIT ALLOWS: Variation of Covenant (Gas Easement), Removal of Vegetation and Multi Lot Subdivision

THE FOLLOWING CONDITIONS APPLY TO THIS PERMIT:

NOTE: renumber conditions and check cross references prior to issuing permit

Amended Plans

1. Prior to the commencement of the development, three (3) copies of amended plans to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the plans will be endorsed and will then form part of the permit. The plans must be drawn to scale with dimensions and must be generally in accordance with the ~~following plan~~ Overall Subdivision Masterplan (dated 24 July 2019 (MP19)) but modified ~~as follows: to show:~~
 - a) The staging plan must be amended to include construction of Retarding Basin 2 in stage 1 of development.
 - b) An extractive industry buffer extending 250 metres from the boundary of the land zoned Special Use Zone 7 to the south of the railway line
 - c) All corner lots at intersections must have a minimum width of 14.0 m.
 - d) Road reserve boundaries and splays are sufficient to accommodate a roundabout at the internal four-legged intersection contained in Stage 1.
 - e) Provision of a court bowl at the dead end roads contained in Stage 2 and Stage 5 respectively with provision of a 21.0 m diameter between Face of Kerbs
 - f) The active pedestrian path through the creek reserve to be a minimum of 3.5 metres wide and connected to the existing shared path that runs alongside the Geelong Ring Road
 - g) remove references to turn bans at the Grange Park Drive/Hams Road intersection
 - h) remove the shared path on the south side of Hams Road OR a minimum 3 metre wide shared user path (off road), on the southern side of Hams Road from the Geelong Ring Road underpass, along the length of Hams Road, across Ghazeepore Road connecting to Sugargum Drive.

Commented [A54]: Refer to Recommendation 9

Commented [A55]: Tfv condition required as Tfv is a determining referral authority. Refer to discussion in Chapter 3.7, and Recommendation 10

Commented [A56]: Include the first condition (before the 'OR') if Tfv agrees to remove the requirement for a shared path on the south side of Hams Road (which is not supported by the Panel). If Tfv does not agree, include the second condition (after the 'OR'). Refer to Chapter 3.6 and Recommendation 13

Endorsed Plans

2. The layout and site dimensions of the subdivision as shown on the endorsed plan(s) must not be altered or modified without the written consent of the Responsible Authority. There are no requirements to alter or modify the endorsed plan if a plan is certified under the provisions of the Subdivision Act 1988 that is generally in accordance with the endorsed plan(s).
3. The staging of the subdivision must be generally in accordance with the staging plan endorsed as part of this planning permit except with the prior written consent of the Responsible Authority.

Prior to Certification

4. ~~Any~~ The Plan of Subdivision submitted for certification must include all easements deemed necessary to protect existing or future drainage lines within the subject site, and any easements required between the subject site and the nominated legal point of discharge must be created, and any easement no longer required or approved to be removed as part of this permit must not be shown on the plan to the satisfaction of the Responsible Authority.
5. Prior to certification of ~~the any~~ plan of subdivision, engineering plans for the construction of new council infrastructure must be submitted to the satisfaction of the Responsible Authority for approval.

Noise

- 5A. Prior to certification of any plan of subdivision, a revised acoustic report(s) prepared by a suitably qualified acoustic consultant must be submitted to the satisfaction of the Responsible Authority for approval. Once approved, the revised acoustic report(s) will be endorsed and will form part of the permit.

Commented [A57]: As per Recommendations 15 and 16.

The revised acoustic report(s) must:

- a) reassess predicted noise levels from the Geelong Ring Road and from Baanip Boulevard at future dwellings on the subject land in accordance with the VicRoads Traffic Noise Reduction Policy. The assessment must include dwellings along the Geelong Ring Road, dwellings along Baanip Boulevard and dwellings along Hams Road with a line of sight to the Geelong Ring Road
 - b) include recommendations for any noise mitigation measures required to achieve the requirements of Australian Standard AS2107:2016 and the VicRoads Traffic Noise Reduction Policy, in relation to traffic from the Geelong Ring Road and Baanip Boulevard
 - c) demonstrate, including through modelling, that the requirements of condition 5A(a) can be met, to the satisfaction of the Responsible Authority.
6. Prior to the certification of any plan of subdivision (or any relevant stage of a subdivision), any restrictions on the plan of subdivision including relevant "Design Guidelines", "Restrictions" and/or "Memorandum of Common Provisions" must be submitted to the Responsible Authority for approval and applied to affected lots to the satisfaction of the Responsible Authority. Once approved, the restrictions and associated documentation will be endorsed and form part of the permit.

The Restrictions / Design Guidelines / Memorandum of Common Provisions must include:

- a) A restriction applying to any lot directly opposite the Warrnambool Railway Line ~~/ Baanip Boulevard~~ (as shown on the ~~Hams Road Development Plan~~ Overall Subdivision Masterplan MP19), that does not allow the construction of any dwelling on the burdened lot unless it ~~complies with the following~~ incorporates noise attenuation treatments to ensure the following internal noise criteria are met, to the satisfaction of ~~(or otherwise agreed to by VicTrack and~~ the Responsible Authority):
 - 55 dB LAmax for bedrooms
 - 60 dB LAmax for living areas.
 - ~~Facades/a wall directly opposite the railway: 110 mm brick, 90 mm timber stud with insulation, 1 x 10 mm standard plasterboard;~~
 - ~~Glazing to habitable rooms with line of sight to the railway: 6/12/10.76 mm laminated glass;~~

~~Roof: metal deck with insulation and ceiling comprised of 2 x 10 mm standard plasterboard.~~

- b) A restriction applying to any lot directly opposite the Geelong Ring Road or Baanip Boulevard (as shown on the ~~Hams Road Development Plan~~ Overall Subdivision Masterplan MP19), that does not allow the construction of any dwelling on the burdened lot unless it ~~complies with the following~~ incorporates noise attenuation treatments to ensure the requirements of Australian Standard AS2107:2016 and the VicRoads Traffic Noise Reduction Policy are met, to the satisfaction of the Responsible Authority.
- ~~b) (or otherwise agreed to by VicRoads and the Responsible Authority):~~
- ~~Wall/facade treatments to achieve the requirements of AS2107 for sleeping and living areas.~~

6A. Any recommendations of the revised acoustic report(s) referred to in condition 5A that are not implemented through the Restrictions / Design Guidelines / Memorandum of Common Provisions required under condition 6 must be implemented to the satisfaction of the Responsible Authority.

~~7. Prior to the certification of the Plan of Subdivision, amended plans to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the plans will be endorsed and will then form part of the permit. The plans must be drawn to scale with dimensions and three copies must be provided. The plans must be generally in accordance with the Overall Subdivision Masterplan (dated 24 July 2019 MP19), but modified to show:~~

- ~~a) All corner lots at intersections must have a minimum width of 14.0 m~~
- ~~b) Road reserve boundaries and splays are sufficient to accommodate a roundabout at the internal four legged intersection (within Stage 3)~~
- ~~c) Provision of an 8.0 m wide lane for the rear loaded medium density housing products~~

Garden Area Requirement

8. Unless otherwise approved in writing by the Responsible Authority, prior to the issue of the Statement of Compliance, the owner must enter into an agreement under Section 173 of the Planning and Environment Act 1987 with the Responsible Authority. The agreement must be in a form to the satisfaction of the Responsible Authority, and the owner must be responsible for the expense of the preparation and registration of the agreement, including the Responsible Authority's reasonable costs and expense (including legal expenses) incidental to the preparation, registration and enforcement of the agreement. The agreement must contain covenants to be registered on the Title of the property so as to run with the land, and must provide for the following:

- a) any future development of a lot of less than 400 square metres in area for a dwelling or residential building must include a 'garden area' at ground level as set out at Clause 32.08-3 of the Greater Geelong Planning Scheme. 'Garden area' is defined at Clause 73.01 of the Greater Geelong Planning Scheme.

The agreement will be registered on Title in accordance with Section 181 of the Planning and Environment Act 1987.

Prior to commencement of works

9. Unless otherwise approved in writing Works for stage 1 of the development ~~may not~~ commence unless the works to upgrade Hams Road required under both this permit and Permit stage 1 of PP-662-2017 are completed, ~~or the works are completed concurrently~~, to the satisfaction of the Responsible Authority.

Commented [A58]: Repeats condition 1

Commented [A59]: The Panel considers that this condition unnecessarily repeats requirements that already apply under Clause 32.08 of the Planning Scheme, and should be deleted

Commented [A60]: If the intent is that the Hams Road upgrades on the western end of Hams Road are to be undertaken as part of this permit, suitable conditions (based on condition 32 and 33 of Permit 662) will need to be included

Easements – Drainage

- 9A. Prior to certification of the Plan of Subdivision for each stage, easements for the purpose of 'Drainage' must be set aside in favour of the City of Greater Geelong, to the satisfaction of the Responsible Authority.

Fill

10. Excavated material shall not be carted off the site except with the written approval of the Responsible Authority.
11. No material shall be brought onto the site for use as filling within the subject area under this Permit, unless with the written approval of the Responsible Authority. Prior to any approval being issued by the Responsible Authority for imported filling to be used on the site, the applicant must submit for approval to the Responsible Authority, samples of proposed filling, details of the source of the filling, details of proposed traffic routes to be traversed, soil testing results and reports in regard to the presence of contaminants in the filling, and the suitability of filling to be placed on site.
12. All areas to be filled shall be stripped of vegetation and any top soil shall be removed and stockpiled for reuse over the filled areas. Only approved filling material shall be placed on the site. The filling shall be placed in maximum 150 mm layers, or as approved otherwise by the Responsible Authority, and compacted to the applicable level for filling on allotments and within future roadways in accordance with AS3798, to the satisfaction of the Responsible Authority.
13. At the completion of the bulk earthworks, and at completion of the works for each stage, all disturbed areas shall be hydro mulched with an approved seed and fertilizer mixture to the satisfaction of the Responsible Authority to suppress dust, and minimise erosion, unless approved otherwise by the Responsible Authority.
14. All works must be undertaken in accordance with the recommendations of any geotechnical reports.

Engineering Plans - drainage

15. Prior to the commencement of site works for any stage of the subdivision, the developer is required to submit detailed ~~road and~~ drainage construction plans prepared by a suitably qualified engineer to the Responsible Authority for approval. The plans shall include details of pits and pipes sizes, finished and existing surface levels, creation of appropriate easements, detention basin(s) including any required drainage reserves, water quality treatment and connection to the legal point of discharge.

The ~~Consulting Engineer plans~~ must show that the design for the drainage system achieves the following, to the satisfaction of the Responsible Authority:

- includes recommendations of the report titled 35 & 69-93 Hams Road PSA Flood Modelling dated 30 October 2018 (Water Technology)
- includes recommendations of the report titled 35 Hams Road and 151-229 Anglesea Road, Waurin Ponds Surface Water Management Strategy (Version 3) dated 19 September 2013 (Neil M Craigie) relating to geotechnical investigations to confirm requirements for the wetland and the use of non-dispersive topsoil

Commented [A61]: Permit conditions refer to 'applicant', 'developer' and 'subdivider'. They should be consistent

Commented [A62]: Amended to require plans to be prepared by a suitably qualified engineer, as per Recommendation 19(a)

Commented [A63]: Amended to include relevant recommendations of the Surface Water Management Strategy, as per Recommendation 19(b)

- ~~and~~ complies with the requirements of the Infrastructure Design Manual and any other relevant standards
- ~~limits s-~~ Site run-off ~~shall be limited to~~ equivalent pre-developed levels for rainfall events up to and including the critical 1% AEP event, ~~to the satisfaction of the Responsible Authority.~~

The plans must include, but not limited to, the following to the satisfaction of the Responsible Authority:

- The stormwater drainage system on the site must be designed such that stormwater run-off exiting the land meets the current best practice performance objectives for stormwater quality as follows:
 - 80% retention of the typical annual load of suspended solids;
 - 45% retention of the typical annual load of total phosphorous;
 - 45% retention of the typical annual load of total nitrogen; and
 - 70% retention of the typical annual load of gross pollutants.
- Upgrade of the existing outlet and culvert from the retarding basin on the north side of Hams Rd;
- Upgrade of the existing Ghazeepore Road culvert;
- Upgrade or replacement of the existing culvert beneath the Geelong Warrnambool railway corridor;
- All external drainage works within the VicRoads reserve (Geelong Ring Road Section 4B) to connect and channel the existing drainage network extending from the Ring Road/shared path, to the open waterway reserve in the land;
- Any temporary drainage works that may be required to ensure that the conditions of this permit are met if the land in PP-662-2017 develops before the land in this permit, or the land in this permit develops before the land in PP-662-2017;
- Minimum finished surface levels on all lots must be 300mm above the relevant 1% AEP flood level.
- Details of waterway remediation.
- Details of remediation to existing dams / permanent water bodies. A risk assessment must be provided in accordance with Royal Lifesaving Society guidelines.

The Responsible Authority may require further modelling to demonstrate that the drainage system can achieve the requirements of this permit, to the Responsible Authority's satisfaction, before it endorses the drainage engineering plans.

Note: Detailed Road and Drainage Design Plans for any stage that result in flood levels on existing properties being adversely affected by the proposed works will not be approved for construction.

Engineering Plans – roads

- Prior to the commencement of works for each stage of the subdivision, construction plans must be submitted to and approved by the ~~R~~esponsible ~~A~~uthority for the full construction of roads including road reserves, design of all intersection treatments, traffic management devices, linemarking, signage, kerb and channel, vehicle crossing laybacks, road pavement and sealing and footpaths.
- The plans must include the following. ~~To~~ the satisfaction of the Responsible Authority:
 - Construction of abutting roads including concrete kerb and channel, footpath and sealed road pavement;
 - Footpaths on both sides of roads unless otherwise approved;
 - All footpath treatments showing DDA compliance at all designated crossing points
 - Suitable road reserve cross sections to convey major drainage flows

Commented [A64]: Amended to include all external drainage works, as per Recommendation 19(c)

Commented [A65]: Amended to include temporary works, as per Recommendation 19(d)

Commented [A66]: As per recommendation 19(f)

- e) Turning areas suitable for the safe and efficient turning of service and emergency vehicles.

Construction Management Plan

18. A Construction Management Plan shall be submitted [to](#) and approved by the Responsible Authority and shall address items including (but not be limited to) the following:
- a) The protection of all existing vegetation [to be retained](#) and waterways;
 - b) Show access locations for construction vehicles;
 - c) All appropriate control of site emissions during construction and the defects liability period;
 - d) A staging plan for all construction phases including indicative dates for commencement and completion;
 - ~~e) Intended access for construction vehicles;~~
 - f) Engineering assessment of assets that will be impacted on by construction and recommended techniques to minimise any adverse impact;
 - g) Details of actions to be implemented in the event of damage to abutting assets;
 - h) Details of where construction personnel will park;
 - i) Hours/days of construction, including deliveries. (Note: These hours must be consistent with the Environment Protection Authority (EPA) legislation/guidelines);
 - j) Phone numbers of on-site personnel or other supervisory staff to be contactable in the event of issues arising on site;
 - k) Details of site cleanliness and clean up regimes;
 - l) Location of material storage;
 - m) Dust suppression management;
 - n) Details of measures to be maintained during the housing construction phase of development to prevent sediment entering downstream drainage infrastructure;
 - o) [Measures to implement the recommendations of the Cultural Heritage Management Plan prepared by Benchmark Heritage Management dated 31 October 2018 and approved by the Wathaurung Aboriginal Corporation on 29 November 2019;](#)
 - p) Any other measures that are consistent with the following Environmental Protection Authority publications: 'Environmental Management Guidelines for Major Construction Sites', 'Construction Techniques for Sediment and Pollution Control' and 'Doing it Right on Subdivisions'

Commented [A67]: Repeats condition 18(b)

Commented [A68]: Refer to Recommendation 24

Local Area Traffic Management and Road Name Plan

19. Unless otherwise approved in writing by the Responsible Authority, prior to the lodgement of the Stage 1 Functional Layout Plans [a](#):

★ Local Area Traffic Management (LATM) Plan for PP-662-2017 and PP-663-2017 must be developed with Council's Traffic Development Engineer, and submitted to and approved by the Responsible Authority.

The LATM treatments may include, but not limited to:

- a) traffic management devices internal and external to the site,
- b) modified intersection priorities,
- c) indented car parking,
- d) signage,
- e) linemarking, and
- f) vehicle crossing locations.

All treatments shown on the LATM Plan on subsequent construction plans for each stage must be consistent with the approved LATM Plan, [all to the satisfaction of the Responsible Authority](#).

The LATM Plan must be implemented to the satisfaction of the Responsible Authority

- 19A. When the LATM plan has been finalised, a Road Naming Plan must be developed with Council's Traffic Development Engineer, and submitted to and approved by the Responsible Authority. The Road Naming Plan must respect the LATM plan and the *Naming Rules For Places in Victoria* document. Pre-approved road names and descriptors shall be applied to a color-coded length of road on the Road Naming Plan. All road naming on subsequent plans of subdivision for each stage must be consistent with the approved Road Naming Plan.

Road Names and Signs

20. Prior to the development of the Road Naming Plan and lodgement of the Functional Layout Plan for Stage 1, the subdivider must provide a list of all proposed road names within the subdivision for approval by Council's Properties and Valuations unit. The subdivider must provide and place all relevant street signs, and are consistent with the road names shown on all approved plans, to the satisfaction of the Responsible Authority.

Construction of Roadworks/ Drainage

20A. Unless otherwise agreed to in writing with the Head, Transport for Victoria, prior to the issue of a Statement of Compliance for any subdivision stages that contain or abut Hams Road, the shared user path (off road) on the south side of Hams Road must be constructed to the satisfaction of and at no cost to the Head, Transport for Victoria.

Commented [A69]: Only include this condition if TfV do not agree to remove the requirement for a shared path on the south side of Hams Road (which is not supported by the Panel). Refer to Chapter 3.6 and Recommendation 13(b)

21. Prior to the issuing of a Statement of Compliance for any stage of the subdivision, all road and drainage works, including basin(s), required for that stage of the subdivision must be constructed in accordance with the approved plans and specifications to the satisfaction of the Responsible Authority. The Hams Road upgrades must be completed as part of Stage 1.
22. All development and works must be carried out in accordance with the Construction Management Plan endorsed under this permit, all to the satisfaction of the Responsible Authority.
23. The design and construction of civil infrastructure to become council assets must be approved and supervised by council. A fee of 3.25% of the cost of the works is to be paid to council for the checking and supervision of these works.
24. A maintenance bond of 5% of the cost of the works is to be paid to council and will be returned after successful completion of a 12 month maintenance period for civil works.
25. Following Practical Completion, wetlands shall be maintained by the developer for a period of 24 months, to the satisfaction of the Responsible Authority.
26. Prior to the issue of a Statement of Compliance for the relevant stage of subdivision, relevant street sign/s must be erected to the satisfaction of the Responsible Authority.
27. Prior to the issue of a Statement of Compliance for the relevant stage of subdivision, street lighting must be provided within the site and along external frontages in accordance with the relevant Australian Standard(s), unless otherwise agreed in writing by the Responsible Authority and unless it can be demonstrated that existing street lighting is sufficient for public safety to the satisfaction of the Responsible Authority.
29. During the construction phase of the development, the following conditions must be met:

- a) only clean rainwater shall be discharged to the stormwater drainage system;
- b) stormwater drainage system protection measures shall be installed as required to ensure that no solid waste, sediment, sand, soil, clay or stones from the premises enters the stormwater drainage system;
- c) vehicle borne material from the premises shall not accumulate on the roads abutting the site;
- d) all machinery and equipment must be cleaned (if required) on site and not on adjacent footpaths or roads;
- e) fencing is to be fitted and installed so as to ensure safe access for pedestrians; and
- f) all litter must be contained on site;

All to the satisfaction of the Responsible Authority.

No Removal of Native Vegetation

- 30 No native vegetation shall be removed other than that marked on ~~the endorsed~~ plan endorsed under condition 31, to the satisfaction of the Responsible Authority.

Vegetation Protection

31. Before works commence, a plan to the satisfaction of the Responsible Authority identifying:
- a) the Ecological Vegetation Classes present on the land
 - b) all native vegetation to be removed and retained and
 - c) describing the measures to be used to protect the identified vegetation to be retained during construction,
- must be prepared and submitted to and approved by the Responsible Authority. When approved, the plan will be endorsed and will form part of this permit. All works constructed or carried out must be in accordance with the endorsed plan.

Commented [A70]: refer to Recommendation 21(a)

31A. The following requirements must be met:

- a) Removal, including pruning, of native vegetation must be undertaken using a suitably qualified arborist and be carried out in accordance with AS4373 – 2007; ‘Pruning of Amenity Trees to the satisfaction of the Responsible Authority’. The use of an excavator, backhoe, bulldozer blade or loader to trim branches of trees is not permitted.
- b) Prior to any vegetation removal, vegetation to be removed must be clearly marked on site and accord with the endorsed plan. An inspection is required to be undertaken by the City’s Environment Unit.
- c) Prior to any native vegetation removal, all patches of native vegetation of native to be retained on site shall be protected by Native Vegetation Protection Fencing in accordance with AS4970-2009 *Protection of Trees on Development Sites*. An inspection is required to be undertaken by the Responsible Authority.
- d) No grazing must occur on native vegetation (including the wetlands and ponds) to be protected (unless permitted by a Management Plan approved by the Responsible Authority) to the satisfaction of the Responsible Authority.
- e) Water run-off must be designed to ensure that native vegetation to be protected is not compromised, to the satisfaction of the Responsible Authority.
- f) The Native Vegetation Protection Fencing must have signs attached around the fencing which clearly states - VEGETATION PROTECTION ZONE - No Access Permitted. An inspection is required once the Tree Protection Fencing has been erected. Please contact the City’s Environment Unit to arrange an inspection.
- g) Except with the written consent of the Responsible Authority, none of the following are permitted to occur within the Tree Protection Zone:

1. vehicular or public pedestrian access.
2. trenching or soil excavation.
3. storage or dumping of tools, equipment, soil, stone or waste is to occur.
4. construction of entry and exit pits for underground services.
5. temporary or permanent installation of signs and utilities.

Vegetation Management Plan

32. Prior to the commencement of any works for any relevant stage of the subdivision that may impact the Creekline Grassy Woodland and Sedge Wetland vegetation, a Vegetation Management Plan must be submitted to and approved by the Responsible Authority. When approved this Vegetation Management Plan will form part of this permit. The plan must include:
- a) Measures to protect and enhance the existing vegetation to be retained and water quality within the existing wetlands and ponds that are being retained, that are consistent with the requirements of condition 31A.
 - ~~b) Details about the proposed weed removal program for the areas of vegetation to be retained.~~

The approved vegetation management plan must be implemented to the satisfaction of the Responsible Authority.

Weed Management Plan

33. Prior to the commencement of works, a Weed Management Plan must be submitted to and approved by the Responsible Authority. When approved this Weed Management Plan will form part of this permit. The plan must detail:
- a) Species and extent of weed infestation.
 - b) Current and/or proposed treatment methods.
 - c) Timeframes.
 - d) any other relevant information

The approved weed management plan must be fully implemented prior to the commencement of any on-ground earthworks to the satisfaction of the Council's Environment Unit.

Native Vegetation Offsets

34. In order to offset the removal of ~~### 6.194~~ hectares of native vegetation as part of this permit, the applicant must provide a native vegetation offset that meets the following requirements, and is in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2017)

The general offset must:

- a) contribute gain of ~~### 0.876~~ general biodiversity equivalence units
- b) be located onsite where possible, or within the Corangamite Catchment Management Authority boundary or City of Greater Geelong municipal district
- c) have a strategic biodiversity score of at least ~~### 0.336~~.

35. Before any native vegetation is removed, where offsets are to be provided off-site, evidence that an offset has been secured must be provided to the satisfaction of the Responsible Authority. This offset must meet the offset requirements set out in this permit. The offset evidence can be either:

Commented [A71]: This amount must be recalculated in accordance with Recommendation 21(b)

Commented [A72]: This amount must be recalculated in accordance with Recommendation 21(b)

Commented [A73]: Refer to Recommendation 21(c)

Commented [A74]: This amount must be recalculated in accordance with Recommendation 21(b)

Commented [A75]: Refer to Recommendation 21(c)

- a) a security agreement, to the required standard, for the offset site or sites, including a 10 year offset management plan.
- b) a credit register extract from the Native Vegetation Credit Register.

Any credit register extract from the Native Vegetation Credit Register must be submitted to the Environment Unit as a formal record of the offset evidence.

At the conclusion of the subdivisional construction works, the overall native vegetation offset requirements must be reconciled with agreement by the Responsible Authority and DELWP and either credits are made available or further offsets are to be purchased.

Fauna Management Plan

36. Prior to the commencement of any works, a Fauna Management Plan must be submitted to and approved by the Responsible Authority. The plan must include:

- a) A pre-clearance survey to assess the presence of Growling Grass Frog, Ballion's Crake and Barking Owl (the survey must be undertaken during the optimal breeding season for the Growling Grass Frog)
- b) Procedures for the salvage and relocation of any frog species present on the land under the supervision of a qualified zoologist prior to the commencement of works

Details outlining the measures to protect the habitat and water quality for the frog population present within the wetland and ponds to be retained.

The approved Fauna Management Plan must be implemented to the satisfaction of the Responsible Authority.

Fauna Protection

- 37. Prior to the removal or lopping of any tree, the tree must be examined by a suitably qualified zoologist with relevant permits. If native fauna species are located, they must be salvaged and relocated to the closest suitable vegetation.
- 38. Any dams or water bodies filled as part of the approved development must be drained at least 48 hours prior to works commencing to enable the relocation or translocation of fauna.

Construction Environmental Management Plan

39. Prior to works commencing a Construction Environmental Management Plan (CEMP) must be submitted to and approved by the Responsible Authority. When approved this ~~Construction Environmental Management Plan~~ CEMP will form part of this permit. This plan must incorporate, but is not limited to, the following information:

- a) The ~~CEMP plan~~ must address control of site emissions during construction and the defects liability period to the satisfaction of the Responsible Authority.
- b) The ~~CEMP plans~~ must include measures to be taken to ensure that no polluted water and/or sediment laden runoff is to be discharged directly or indirectly into stormwater drains, the existing watercourse through the site and/or existing wetlands and ponds to be retained, during the construction period.
- c) The CEMP must be prepared in accordance with the following EPA publications:
 - ~~Guideline for Environmental Management, Doing it Right on Subdivisions~~, Publication 960, September 2004 and
 - CCF Environmental Guidelines for Civil Construction, 2010.

All development and works must be carried out in accordance with the ~~Construction Management Plan~~ CEMP, to the satisfaction of the Responsible Authority.

40. Prior to the commencement of any works (excluding works associated with removal of potentially contaminated material, such as fuel tanks and fill, which may be undertaken prior to or concurrent with the assessment) ~~in areas identified~~, an Environmental Assessment must be

Commented [A76]: Refer to Recommendation 22(a)

Commented [A77]: Refer to Recommendation 22(b)

Commented [A78]: Suggest relocating to (and consolidating with) the Construction Management Plan conditions

submitted which must include an assessment of the land by a suitably qualified environmental professional detailing the level and location of any contamination. This assessment is to be peer reviewed by a suitably qualified environmental professional approved by ~~Council~~the Responsible Authority. If the ~~R~~esponsible ~~A~~uthority is satisfied that significant levels of contamination have been found the following must be provided to the Responsible Authority, either:

- a) A Certificate of Environmental Audit must be issued for the land in accordance with Part 1XD of the Environment Protection Act 1970, or
- b) A Statement of Environmental Audit must be issued in accordance with Part 1XD of the Environment Protection Act 1970 stating that the environmental condition of the land ~~are~~ is suitable for the sensitive use (with or without conditions on the use of the site).

Waterway Rehabilitation Plan

41. Prior to the commencement of works, a Waterway Rehabilitation Plan for the entire creek corridor must be submitted to and approved by the Responsible Authority. The Plan must detail the specific rehabilitation and revegetation of the creek corridor to an average width of 30 metres either side of the centreline of the creek. When approved the plan will be endorsed and then form part of this permit. The Plan must include:
 - a) Details regarding the proposed works within the creek and its embankments. An extensive vegetated riparian corridor is to be established as part of the design. Cross-sections outlining the proposed treatment must be provided.
 - b) Details regarding the protection and enhancement of the Creekline Grassy Woodland and Sedge Wetland to be retained must be provided.
 - c) Details of all revegetation works including the use of plants listed within the City's Indigenous plants of the Geelong Region Zone 7 and native species ~~those~~ found as part of the flora survey, including densities and any specific treatments.
 - d) The provision of habitat improvements (ie rocks, logs etc) for frogs and other fauna.
 - e) The location of any stabilisation works (if required) such as rockwork and/or jute matting.
 - f) The use of non-dispersive topsoil.
 - g) Details of all weed control works.
 - h) Details of the proposed maintenance program for a minimum of two years after Practical Completion is awarded by the Responsible Authority.
42. Prior to the transfer to Council of the creek corridor, all works identified within the approved Waterway Rehabilitation Plan must be fully completed by the developer and maintained for a period of two years after Practical Completion, unless otherwise agreed in writing by the Responsible Authority. A detailed inspection shall be undertaken by the Responsible Authority of all the required on-ground works before any transfer is undertaken.
43. If the creek rehabilitation works are undertaken in two stages and 35 Hams Road is completed first a separate agreement will need to be prepared between the developer and the Responsible Authority in respect to specifying a formal handover process of the partially completed asset.

Commented [A79]: The flora survey also found invasive species and weeds

Commented [A80]: Consistent with Recommendation 19(b) and condition 15

Landscape Master Plan

44. Unless otherwise approved in writing by the Responsible Authority, prior to issue of Statement of Compliance for the first stage of the subdivision, a landscape master plan (incorporating a street tree master plan) for the permit area must be developed and submitted to the Responsible Authority for approval. When approved, the plan will be endorsed and form part of the permit. It must be drawn to scale with dimensions and submitted electronically. The landscape master plan must show and include, but not be limited to:

- a) The location, size and title designation of all land to be developed as reserves, including Public Open Space Reserves, Conservation Reserves, Greenways, Road Reserves and Drainage Reserves;
- ~~b) A survey (including the location, size and botanical name) of all existing vegetation proposed to be retained on the land; and show details of tree protection zones. This survey must also show what vegetation is approved for retention, removal and/or lopping in accordance with the Native Vegetation Precinct Plan, highlighting any changes between the two.~~
- c) The ultimate 1% and 10% Annual Exceedance Probability storm event extents;
- d) A general indication of what recreation infrastructure is proposed and its location, including but not limited to: playgrounds, furniture, and exercise equipment, kick about areas, paths, shelters, vehicle exclusion barriers and maintenance access points;
- e) The style and location of permeable fencing for all lots abutting reserves (excluding road reserves);
- f) The proposed species to be used for and general layout of street tree planting in various stages of the subdivision including the proposed planting theme for all secondary frontages of corner allotments. Tree placement on secondary lot frontages must use no more than two trees that grow to an estimated size of no greater than 5 x 4 metres at maturity;
- g) All proposed street tree planting using semi-advanced trees with a minimum container size of 45 litres, in compliance with AS2303-2015 *Tree Stock for Landscape Use*;
- h) The principles and graphical concepts of Public Art which complies with the requirements of Council's Art and Culture Department;
- i) The location and size of any water sensitive urban design assets.

Notes:

- 1. Consultation with Council's Recreation and Open Space Unit during early concept design is encouraged to help facilitate efficient approval processes.
- 2. Any pathway within the open space reserves should be located having regard to the protection of existing vegetation worthy of retention.

Detailed Landscape Plans

45. Unless otherwise agreed in writing by the Responsible Authority, prior to the Statement of Compliance being issued for each applicable stage of the subdivision, a detailed landscape plan for the stage must be prepared and submitted to the Responsible Authority for approval. When approved, the plan will be endorsed and form part of the permit. The landscape plan must be drawn to scale with dimensions and submitted electronically. The plan must address and be consistent with the endorsed landscape master plan applying to the site and show, but not be limited to:

- a) The ultimate 1% and 10% Annual Exceedance Probability storm event extents;
- b) Vegetation that is approved to be retained, removed and/or lopped in accordance with the ~~Native Vegetation~~ Protection Precinct Plan (NVPP), as well as any other practical retention tree(s) within a reserve (excluding conservation reserves) for any stage of the development. The tree(s) ~~not included in the NVPP~~ must be assessed by a suitably qualified arborist to determine suitability for retention and ongoing management recommendations. The detailed landscape plan for the area in which the tree(s) are located must be informed by this arboriculture assessment and show details of tree protection zones. This assessment must be submitted to council as part of the approval process;

Commented [A81]: Repeats other conditions

- c) A detailed planting schedule and proposed planting layout of all areas of and adjoining open space, including proposed trees, shrubs, groundcovers and aquatic planting (if applicable, with zonation detail), and showing botanical names, common names, pot sizes, sizes at maturity, quantities and densities of each plant;
- d) The proposed layout, materials and finish of all finished surfaces, structures, fences abutting council reserves, maintenance vehicle access crossovers, maintenance access gates, play equipment, furniture and bike parking;
- e) Detailed planting and construction drawings including site contours and any proposed changes to existing levels including any structural elements such as retaining walls;
- f) Detailed planting and construction drawings of any drainage and WSUD infrastructure within public reserves;
- g) Permeable fence design details for lots abutting open space reserves and Council reserves (except road reserves). Fencing detail must be to Council specifications;
- h) Additional supporting information, such as certified structural designs or building forms;
- i) The removal of existing disused structures, foundations, pipelines, farm dams or stockpiles and the eradication of weeds;
- j) The proposed landscaping treatment of any road reserve abutting public open space;
- k) A detailed schedule of quantities showing accurate cost estimates of each item included in the plan.

Notes:

- 1. Hard copy/copies of the landscape plan must be provided at the reasonable request of the responsible authority.
- 2. Consultation with Council's Recreation and Open Space Unit during early concept design is encouraged to help facilitate efficient approval processes.

No Utility Services on Public Open Space

- 46. Utility service substations, kiosk sites and the like must not be located on any land identified as unencumbered open space unless otherwise agreed in writing by the responsible authority. Any existing or future easements affecting all land which is to be vested in council must be clearly identified on the detailed landscape plans as per the condition above.

Council Reserves — Vehicle Access Barriers

- 47. Unless otherwise approved in writing by the Responsible Authority, prior to the issuing of a Statement of Compliance for any relevant stage of the subdivision which includes a Council reserve, suitable vehicle access barriers must be provided across the entrance of the Council Reserve, one of these shall be de-mountable to allow access to Council maintenance vehicles to the satisfaction of the Responsible Authority. The location of these barriers shall be determined by the Responsible Authority.

Fencing of Council Reserves

- 48. Unless otherwise approved in writing by the Responsible Authority, prior to the issuing of a Statement of Compliance for any relevant stage of the subdivision which includes a Council reserve, the subdivider must erect an appropriate fence on the boundaries of the Council Reserve to the satisfaction of the Responsible Authority and at no cost to Council.

Completion of Landscape Works

- 49. Unless otherwise approved in writing by the Responsible Authority, the landscaping works shown on the approved landscape plan for a particular stage must be completed to the

satisfaction of the Responsible Authority, prior to the issue of a Statement of Compliance for that stage.

50. If the Responsible Authority agrees to issue Statement of Compliance prior to the landscaping works being completed, the entire landscaping works must be bonded to the satisfaction of the Responsible Authority. The landscape works bond or bank guarantee must be 125 per cent of the estimated cost of entire landscape works as shown in the approved schedule of quantities submitted as part of the landscape plans. Unless otherwise agreed in writing by the Responsible Authority the bonded works must be completed within one year of the date of the lodgement of the bond.
51. A practical completion inspection is required and must be arranged by the permit holder with two weeks' notice provided for the responsible authority. The practical delivery of the endorsed plans must be at a standard to the satisfaction of the responsible authority to pass this inspection. If applicable, the landscape works bond will be returned on award of practical completion.
52. Unless otherwise approved in writing by the Responsible Authority, prior to the issue of practical completion of landscaping works, or any other time as agreed by the Responsible Authority, the following must be provided to the Responsible Authority:
 - a) The vesting of the reserve to Council, at no cost to Council;
 - b) Building permits and structural engineering compliance, as-built construction plans, and materials detail where necessary;
 - c) Landscaping maintenance plan
 - d) Schedule of Quantities showing the financial value of all hard assets
 - e) As-built landscaping plans in PDF and GIS-ready AutoCAD (DXF) format.
 - f) An independent playground auditors report with evidence of rectification of any identified defects. The report must relate to all playground equipment, fitness equipment, natural play area, soft fall areas and edging to ensure that all aspects of playground construction meet Playground Standards AS/NZ4422 1996 and AS4685 parts 1-6 2004 and is in good working order and safe for use.
53. Unless otherwise agreed in writing by the Responsible Authority, a maintenance bond must be submitted to the Responsible Authority on application for practical completion of landscaping works. The maintenance bond or bank guarantee must be 125 per cent of the estimated cost of maintenance of landscape works for a two (2) year period.

Maintenance of Landscaping

54. The landscaping shown on any endorsed landscape plan for a particular stage must be maintained to the satisfaction of the Responsible Authority for a period of no less than two (2) years from the date of practical completion of the landscaping unless otherwise agreed in writing by the Responsible Authority. During this period, any dead, diseased or damaged plants are to be replaced and any landscaped area and hard assets are to be repaired as required to ensure the landscaping is maintained to the same standard as when practical completion was awarded.
55. Should the permit holder default on landscape maintenance requirements which leads to a partial or full replanting, the responsible authority will consider the extension of the maintenance period as necessary to provide for establishment of replacements.
56. A handover inspection is required and must be arranged by the permit holder with two weeks' notice provided for the responsible authority. The maintenance of the completed works must be

at a standard to the satisfaction of the responsible authority to pass this inspection. The maintenance bond will be returned on award of Handover.

57. The developer and contractors who will construct and maintain the subject reserves and associated landscaping must obtain and maintain appropriate public liability insurance (with the responsible authority's interest noted on the certificate of insurance) over the entire reserve area for the duration of the maintenance period.

Notes:

1. The responsible authority will not be responsible for the reserve and its assets or public liability until a handover inspection has taken place and written acceptance of handover has been issued.
2. At the conclusion of the maintenance period all maintenance responsibilities will be transferred to the responsible authority.
3. No handovers will be accepted during the summer months from 01 December to 28 February inclusive.

Public Open Space Contributions

58. The owner of the subject land must provide Public Open Space in part by land and the balance by cash-in-lieu equivalent to ten (10) per cent of the site value of all developable land in the subdivision pursuant to Section 18 of the Subdivision Act 1988. The contribution will be payable prior to the issue of a Statement of Compliance.

Street Tree Master Plan

59. For any multi staged development a street tree master plan must be submitted to and approved by the Responsible Authority.
60. The master plan must be developed to include the following:
- a) All proposed street tree planting using semi-advanced trees with a minimum container size of 45 litres that comply with AS2303 *Tree Stock for Landscape Use*
 - b) Tree placement on secondary lot frontages using no more than two (2) trees that grow to an estimated size at maturity of no greater than 5 x 4m

Notes:

~~1. The master plan must be developed in accordance with the principles of the PSP where one applies.~~

1. *Street tree species selection within the master plan is subject to approval by Powercor in accordance with the requirements of the Distribution Construction Standard, Underground Trenching. Tree location and species type shall be determined, in consultation with CitiPower/Powercor, based on the specific site and the ability of the tree to both enhance the local amenity and co-exist with utility services infrastructure – with all trees to be identified on a 'master services plan' provided by the party planting the trees.*
2. *The applicant must obtain and provide evidence to the Responsible Authority that Powercor has been consulted and has agreed with the proposed street tree species palette.*

Streetscape Works, Detailed Plans

61. Prior to the Statement of Compliance being issued for each relevant stage of the subdivision, a detailed streetscape plan, prepared by a person suitably qualified in landscape design, must be submitted to and approved by the Responsible Authority.
62. When approved, the plan will be endorsed and will then form part of the permit. The streetscape plan must be drawn to scale with dimensions and three hard copies provided.
63. Where applicable, the plan must be generally in accordance to the street tree master plan and show:
 - a) The name and stage of the estate and the Planning Permit Number
 - b) The layout of proposed new planting in all road reserves and traffic management devices (e.g. medians, islands, and roundabouts)
 - c) Details of all other infrastructure within the road reserve (e.g. underground services, street lights, stormwater pits, fire plugs etc)
 - d) A detailed planting schedule of all proposed trees and plants including botanical names, common names, pot sizes, sizes at maturity and quantities for each species
 - e) All proposed groundcover & shrub planting with a minimum container size of 150mm
 - f) The maintenance schedule for all proposed planting
 - g) Plan view indicating mature tree sizes, shown to scale to illustrate the extent of canopy coverage
 - h) All road cross sections applicable to the site
 - i) TPZ on all plans (where applicable).

Notes:

1. ***Proposed entry signage must not be located on public land.***
2. ***Landscape treatments within traffic control devices such as medians and roundabouts are subject to specific control measures.***
3. ***Where applicable in multi-staged developments the Street Tree Master Plan may form part of the Landscape Master Plan.***

Completion of Streetscape Works

64. Unless otherwise approved in writing by the Responsible Authority, prior to the issue of Statement of Compliance for a particular stage of development all streetscape works shown on the endorsed streetscape plans for that stage must be completed to the satisfaction of the responsible authority.
65. Where streetscape works forming part of the endorsed plans are not completed to the satisfaction of the Responsible Authority prior to the applicant seeking a Statement of Compliance for all, or a particular stage of a subdivision, the developer may request the approved Streetscape Plan to be appropriately bonded or covered by a bank guarantee. Estimates must be professionally costed and submitted to the Responsible Authority for approval, once approved the bonds or bank guarantees must be submitted to the Responsible Authority separately prior to Statement of Compliance being awarded.
 - a) The incomplete streetscape works bond or bank guarantee must be 125 per cent of the estimated cost of incomplete streetscape works.
 - b) The maintenance bond or bank guarantee must be 125% of the estimated cost of maintenance activities for a two (2) year period.

Notes

1. A certificate of practical completion is required to satisfy this condition and must be organised by the permit holder with two weeks' notice given for onsite inspections. ~~The incomplete works bond will be returned once practical completion has been awarded.~~
2. Works bonded as outstanding must be enacted within one (1) year of statement of compliance being awarded.

Maintenance of Streetscape Works

70. All works must be maintained to the satisfaction of the Responsible Authority for a period of two (2) years from the date of practical completion. During this period, any dead, diseased or damaged plants are to be repaired or replaced as required.
71. Where the landscape works are bonded, the maintenance period will commence from the date that the works are awarded Practical Completion by the Responsible Authority.
72. A maintenance bond to the value of 125% of the cost of works must be submitted to the responsible authority on application for practical completion of landscaping works to be retained until such time that the works have been accepted by Council for handover.
73. Works that have achieved practical completion will be randomly inspected throughout the maintenance period. Works deemed by the Responsible Authority as being inappropriately maintained or established will not be accepted and will remain on maintenance until such time that the Responsible Authority deems it acceptable.

Notes

1. A handover inspection is required to satisfy this condition and must be organised by the permit holder with two weeks' notice given for onsite inspections. The maintenance bond will be returned on acceptance of handover.
2. No handovers will be accepted during the summer period, between 30 November and 1 March.

Barwon Water Conditions

General

74. The owner shall create easements for Pipelines or Ancillary Purposes and or reserves in favour of Barwon Region Water Corporation on the plan of subdivision in accordance with Barwon Water's Land Development Manual, without cost to Barwon Water, over existing and proposed water and sewerage infrastructure within the land. If further easements or reserves are required following design of water and sewerage infrastructure these must be added to the plan of subdivision prior to seeking Barwon Water's consent to the issue of a statement of compliance for the subdivision.
75. The plan of subdivision must be referred to Barwon Water in accordance with the Subdivision Act 1988 and any subsequent amendments to the plan provided to Barwon Water.
76. Barwon Water has two strategic mains surrounding the above mentioned sites, being the 1000mm Grovedale Feeder Main to the south and the 1400mm Pettavel-Montpellier Transfer Main to the West. Both mains are critical to the region and they are to be protected to the satisfaction of Barwon Water.

Water

77. The provision and installation of individual water services to all lots in the subdivision. Note, that tappings and services are not to be located under existing or proposed driveways.
78. The payment of New Customer Contributions for water for each additional connection which includes any new lot on a plan of subdivision and/ or any apartment, unit, or premises within the development that is or can be separately metered for water supply.
79. Reticulated water mains or a water main extension are/ is required to service the proposed development. This work must be designed by a Barwon Water accredited Consulting Engineer and constructed by a Barwon Water accredited Contractor following the "Developer Works" process.

Sewer

80. The provision of sewerage services to all lots in the subdivision. Individual allotment house connection drains are to be provided for and extend into each allotment.
81. The payment of New Customer Contributions for sewer for each additional connection which includes any new lot on a plan of subdivision and/ or any apartment, unit, or premises within the development that is or can be separately metered (for water supply).
82. Reticulated sewer mains or a sewer main extension are/ is required to service the proposed development. This work must be designed by a Barwon Water accredited Consulting Engineer and constructed by a Barwon Water accredited Contractor following the "Developer Works" process.
83. Additional sewerage assets are required to service this development. The creation of assets is additional to the internal works required for which the developer will be responsible to provide. The assets required are a Sewerage Pump Station (SPS) and Rising Main (RM).

Note: The developer is to apply to Barwon Water for details relating to costs and conditions required for the provision of water supply and sewerage services to the subdivision. It would be appreciated if all communication between the developer/agent and Barwon Water quote Barwon Water Land Development reference number **L014521**.

Powercor

84. The plan of subdivision submitted for certification under the Subdivision Act 1988 shall be referred to Powercor Australia Ltd in accordance with Section 8 of that Act.
85. The applicant shall provide an electricity supply to all lots in the subdivision in accordance with Powercor's requirements and standards, including the extension, augmentation or re-arrangement of any existing electricity supply system, as required by Powercor (A Payment to cover the cost of such work will be required). In the event that a supply is not provided the applicant shall provide a written undertaking to Powercor Australia Ltd that prospective purchasers will be so informed.
86. ~~The applicant shall,~~ Where buildings or other installations exist on the land to be subdivided and are connected to the electricity supply, they shall be brought into compliance with the Service and Installation Rules issued by the Victorian Electricity Supply Industry. The applicant ~~You~~ shall arrange compliance through a Registered Electrical Contractor.

87. Any buildings must comply with the clearances required by the Electricity Safety (Installations) Regulations.
88. The applicant shall set aside on the plan of subdivision for the use of Powercor Australia Ltd reserves and/or easements satisfactory to Powercor Australia Ltd where any electric substation (other than a pole mounted type) is required to service the subdivision. Alternatively, at the discretion of Powercor Australia Ltd a lease(s) of the site(s) and for easements for associated powerlines, cables and access ways shall be provided. Such a lease shall be for a period of 30 years at a nominal rental with a right to extend the lease for a further 30 years. Powercor Australia Ltd will register such leases on the title by way of a caveat prior to the registration of the plan of subdivision.
89. The applicant shall provide easements satisfactory to Powercor Australia Ltd, where easements have not been otherwise provided, for all existing Powercor Australia Ltd electric lines on the land and for any new powerlines required to service the lots and adjoining land, save for lines located, or to be located, on public roads set out on the plan. These easements shall show on the plan an easement(s) in favour of Powercor Australia Ltd for 'Powerline Purposes' pursuant to Section 88 of the Electricity Industry Act 2000.
90. The applicant shall obtain for the use of Powercor Australia Ltd any other easement external to the subdivision required to service the lots.
91. The applicant shall adjust the position of any existing easement(s) for powerlines to accord with the position of the line(s) as determined by survey.
92. The applicant shall obtain Powercor Australia Ltd's approval for a lot boundaries within any area affected by an easement for a powerline and for the construction of any works in such an area.
93. The applicant shall provide to Powercor Australia Ltd, a copy of the version of the plan of subdivision submitted for certification, which shows any amendments which have been required.

CFA Conditions

Hydrants

94. Prior to the issue of a Statement of Compliance under the Subdivision Act 1988 the following requirements must be met to the satisfaction of the CFA:

~~a)95.~~ Above or below ground operable hydrants must be provided. The maximum distance between these hydrants must be no more than 120 metres apart.

~~b)96.~~ The hydrants must be identified with marker posts and road reflectors as applicable to the satisfaction of the Country Fire Authority.

Note – CFA's requirements for identification of hydrants are specified in 'Identification of Street Hydrants for Firefighting Purposes' available under publications on the CFA web site (www.cfa.vic.gov.au)

Roads

97. Roads must be constructed to a standard so that they are accessible in all weather conditions and capable of accommodating a vehicle of 15 tonnes for the trafficable road width.

98. The average grade must be no more than 1 in 7 (14.4%) (8.1 degrees) with a maximum of no more than 1 in 5 (20%) (11.3 degrees) for no more than 50 meters. Dips must have no more than a 1 in 8 (12%) (7.1 degree) entry and exit angle.
99. Curves must have a minimum inner radius of 10 metres.
100. ~~Roads must have~~ Roads must have a minimum trafficable width of 3.5 metres and be clear of encroachments for at least 4 metres above the access way.
101. Roads more than 60m in length from the nearest intersection must have a turning circle with a minimum radius of 8m (including roll-over kerbs if they are provided) T or Y heads of dimensions specified by the CFA may be used as alternatives.

CCMA Conditions

102. There is to be no loss of floodplain storage as a result of the development.
- ~~103. The final stormwater management design ensures that flows discharging from the subdivision site are restricted to, or below, pre-development levels for all events up to and including the 1% AEP flood event.~~
- ~~104. The stormwater drainage system must ensure a design philosophy of 'zero adverse impacts' to surrounding areas for up to and including the 1% AEP flood event.~~
105. All streets, footpaths and cycle paths that are subject to flooding must meet the applicable flood hazard safety criteria.
106. All lots within the development shall be free from inundation from 1% AEP flood events.
107. A Works on Waterways Permit is required from the Corangamite Catchment Management Authority prior to any works on or within the bed and banks of the waterway.

VicTrack Conditions

- ~~108. Except with the written consent of VicTrack, no drainage or effluent must enter or be directed to VicTrack land and must be connected to the legal point of discharge.~~
109. No waste, soil or other materials from the works are to be stored or deposited on VicTrack land.
110. All works including hoardings must be undertaken within the subject land and must not encroach onto VicTrack land.
111. No entry onto railway land is permitted without the written consent of the rail operator.
112. No permanent or temporary ground anchors are permitted within VicTrack land.

Telecommunication Conditions

113. The owner of the land must enter into agreements with:
- a) a telecommunications network or service provider for the provision of telecommunication services to each lot shown on the endorsed plan in accordance with the provider's requirements and relevant legislation at the time; and

Commented [A82]: This doubles up on condition 15

Commented [A83]: It is not reasonable to require the developer to eliminate pre-existing flooding conditions that are not cause or exacerbated by the development

Commented [A84]: This is not consistent with the drainage scheme, or the conditions requiring upgrade or replacement of the VicTrack culvert

- b) a suitably qualified person for the provision of fibre ready telecommunication facilities to each lot shown on the endorsed plan in accordance with any industry specifications or any standards set by the Australian Communications and Media Authority, unless the applicant can demonstrate that the land is in an area where the National Broadband Network (NBN) will not be provided by optical fibre.
114. Before the issue of a Statement of Compliance for any stage of the subdivision under the Subdivision Act 1988, the owner of the land must provide written confirmation from:
- a) a telecommunications network or service provider that all lots are connected to or are ready for connection to telecommunications services in accordance with the provider's requirements and relevant legislation at the item; and
- b) a suitably qualified person that fibre ready telecommunications facilities have been provided in accordance with any industry specifications or any standards set by the Australian Communications and Media Authority, unless the applicant can demonstrate that the land is in an area where the National Broadband Network will not be provided by optical fibre.

Department of Jobs, Precincts and Regions – Earth Resources Regulation Branch

118. Land affected by the 250 metre extractive industry buffer as shown on the endorsed plan must not be subdivided or developed without the further written agreement of the Department of Jobs, Precincts and Regions.

~~115. All Lots contained within stages 6,7,8 & 9 (whether wholly or partially) affected by the 250m extractive industry buffer as shown on the endorsed plan shall not be developed without the further written agreement of the Department of Jobs, Precincts and Regions.
Note: any variation or alteration to the stages referred to above must be submitted to the Earth Resources Regulation Branch within the Department of Jobs, Precincts and Regions~~

Commented [A85]: Refer to Recommendation 23

Expiry

116. This permit will expire if one of the following circumstances applies:
- a) The first stage of the plan of subdivision has not been certified within two years of the date of this permit.
- b) All stages of the plan of subdivision have not been certified within five years of the date of this permit.
- c) A statement of compliance is not issued within five years of the date of certification of a particular stage of subdivision.
- The Responsible Authority may extend the certification period referred to if a request is made in writing before the permit expires or within six (6) months afterwards.

<i>Date of amendment</i>	<i>Brief description of amendment</i>	<i>Name of responsible authority that approved the amendment</i>
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IMPORTANT INFORMATION ABOUT THIS PERMIT

WHAT HAS BEEN DECIDED?

The Responsible Authority has issued a permit. The permit was granted by the Minister under section 96I of the **Planning and Environment Act 1987** on approval of Amendment No. *[insert amendment number]* to the *[insert name of planning scheme]*.

WHEN DOES THE PERMIT BEGIN?

The permit operates from a day specified in the permit being a day on or after the day on which the amendment to which the permit applies comes into operation.

WHEN DOES A PERMIT EXPIRE?

1. A permit for the development of land expires if—
 - the development or any stage of it does not start within the time specified in the permit; or
 - the development requires the certification of a plan of subdivision or consolidation under the **Subdivision Act 1988** and the plan is not certified within two years of the issue of a permit, unless the permit contains a different provision; or
 - the development or any stage is not completed within the time specified in the permit, or, if no time is specified, within two years after the issue of the permit or in the case of a subdivision or consolidation within 5 years of the certification of the plan of subdivision or consolidation under the **Subdivision Act 1988**.
 2. A permit for the use of land expires if—
 - the use does not start within the time specified in the permit, or if no time is specified, within two years after the issue of the permit; or
 - the use is discontinued for a period of two years.
 3. A permit for the development and use of land expires if—
 - the development or any stage of it does not start within the time specified in the permit; or
 - the development or any stage of it is not completed within the time specified in the permit, or, if no time is specified, within two years after the issue of the permit; or
 - the use does not start within the time specified in the permit, or, if no time is specified, within two years after the completion of the development; or
 - the use is discontinued for a period of two years.
 4. If a permit for the use of land or the development and use of land or relating to any of the circumstances mentioned in section 6A(2) of the **Planning and Environment Act 1987**, or to any combination of use, development or any of those circumstances requires the certification of a plan under the **Subdivision Act 1988**, unless the permit contains a different provision—
 - the use or development of any stage is to be taken to have started when the plan is certified; and
 - the permit expires if the plan is not certified within two years of the issue of the permit.
 5. The expiry of a permit does not affect the validity of anything done under that permit before the expiry.
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WHAT ABOUT REVIEWS?

- In accordance with section 96M of the **Planning and Environment Act 1987**, the applicant may not apply to the Victorian Civil and Administrative Tribunal for a review of any condition in this permit.