7 April 2026
Reference: 2513

Planning Panels Victoria
Draft Greater Geelong Planning Scheme
Amendment C444ggee and C453ggee: Lara Residential Rezoning and Lara Business Park

Statement of Expert Evidence

Surface Water Management Evidence for
76 - 156 Canterbury Road East, 705 - 765 Princes Highway, 785 - 805 Princes Highway and 610 Rennie Street, Lara
Prepared for Lara Farms Pty Ltd

Prepared by Nina Barich

1 Witness Details

1.1 Name and Address

Nina Barich

Principal Engineer

Incitus Pty Ltd

187 Mary Street, Richmond, VIC 3121

1.2 Qualifications and Experience

Qualifications

- APESMA / LaTrobe University - Masters of Business Administration (Technology Management)
- Royal Melbourne Institute of Technology - Bachelor of Engineering (Civil) Honours 1st Class
- FIEAust CPEng NER APEC Engineer IntPE (Aus)
- Registered Professional Engineer Victoria (RPEV)

Experience

I have over 25 years' experience working in engineering related projects, focusing specifically on surface water (i.e. stormwater) quantity and quality management, including flood management and development in flood prone land. I have extensive experience in the development industry in relation to surface water management having worked for both the private and public sectors.

My related experience:

- I have over 25 years' experience in strategic planning and design of stormwater management systems for greenfield and brownfield developments, including stormwater management systems to reclaim land for development which is subject to flooding.
- I regularly undertake the preparation of stormwater strategies to determine the intent of how the development will manage the excess stormwater runoff generated from the urbanisation of the land, including development in flood prone land.
- I regularly undertake designs of stormwater assets, including waterways, constructed wetland systems, bioretention systems, retarding basins, and stormwater pipelines.
- I formerly worked as development program leader at Melbourne Water, obtaining an intimate knowledge of Melbourne Water's requirements relating to land subject to inundation.
- In 2006 I achieved Chartered Professional Engineer status with Engineers Australia recognising skills and experience with respect to stormwater management.
- I am a Registered Professional Engineer of Victoria

- I have provided input to numerous industry guidelines and standards relating to drainage, including for Melbourne Water and the Victorian Planning Authority (formerly Growth Areas Authority)
- My expert advice has been sought by the private sector and the public sector
- I have a sound understanding of the role of government agencies in stormwater planning and management, including flood management.
- I have attended and presented at various industry conferences and seminars.
- I have lectured Civil and Environmental Engineering students at Royal Melbourne Institute of Technology in the subject of Stormwater Management and did so for 12 years.
- I am a member of the Industry Advisory Committee for Environmental Engineering at the Royal Melbourne Institute of Technology

Therefore, my experience and expertise in stormwater management associated with civil engineering and development projects, including in flood prone land, qualifies me to make this report.

1.3 Declaration

I have made all the inquiries that I believe are desirable and appropriate and that no matters of significance which I regard as relevant have to my knowledge been withheld from the Panel.

2 Instructions

This statement has been prepared on the instruction of Norton Rose Fulbright on behalf of Lara Farms Pty Ltd. I was instructed to:

- Prepare an expert evidence statement that considers the appropriateness of the Amendments, having regard to relevant drainage considerations, within the limits of your expertise; and
- If required, appear before the Panel to provide independent expert evidence in the hearing.

3 Information and Documentation

In preparing this evidence, I have had regard to:

Index to Brief:

- All documents attached to my brief
- All documents included on the online share file provided by Norton Rose Fulbright

Additional Information:

- Planning Panels Victoria, Practice Note 1 Expert Evidence
- Norton Rose Fulbright, 30 March 2026, Greater Geelong Planning Scheme Amendments C444ggee and C453ggee, Land: 76 - 156 Canterbury Road East, 705 - 765 Princes Highway, 785 - 805 Princes Highway and 610 Rennie Street, Lara; Letter of Instruction
- Ball J, Babister M, Nathan R, Weeks W, Weinmann E, Retallick M, Testoni I, (Editors), 2019, Australian Rainfall and Runoff: A Guide to Flood Estimation, Commonwealth of Australia
- Climate Systems, National Environmental Science Program, Explainer, What are SSPs?
- CSIRO, 2006, Urban Stormwater: Best Practice Environmental Management Guidelines
- Department of Climate Change, Energy, the Environment and Water, 2025, National Adaption Plan
- Department of Climate Change, Energy, the Environment and Water, 2025, National Climate Change Scenario Guidance
- Department of Climate Change, Energy, the Environment and Water, 2024, National Climate Risk Assessment – First Pass Assessment Report
- Department of Environment Land Water and Planning, February 2019, Guidelines for Development in Flood Affected Areas
- Environmental Protection Act, 2017
- EPA Publication 1739.1
- Local Government Infrastructure Design Association, 2 December 2025, Infrastructure Design Manual, Version 5.6
- Melbourne Water, 2020, Constructed Wetlands Design Manual
- Melbourne Water, 2024, Guidelines for the Use of MUSIC
- Melbourne Water, 2017, Retarding Basin Design and Assessment Guideline
- Melbourne Water, 2005, WSUD Engineering Procedures: Stormwater
- Melbourne Water website, March 2026
- Aerial photography
- Satellite imagery

- Contour data for the land

4 The Site

Lara Farms, located at 76 - 156 Canterbury Road East, 705 - 765 Princes Highway, 785 - 805 Princes Highway and 610 Rennie Street, Lara (the “Site”) is bound by the Melbourne-Geelong railway corridor to the west, Canterbury Road East to the north, and Rennie Street and Princes Freeway to the east and southeast.

The site is approximately 113 ha is size and is proposed to be rezoned from Farming Zone (FZ) to General Residential Zone (GRZ1) and Industrial Zone (IN1Z and IN3Z).

The site is illustrated in **Figure 4.1**.

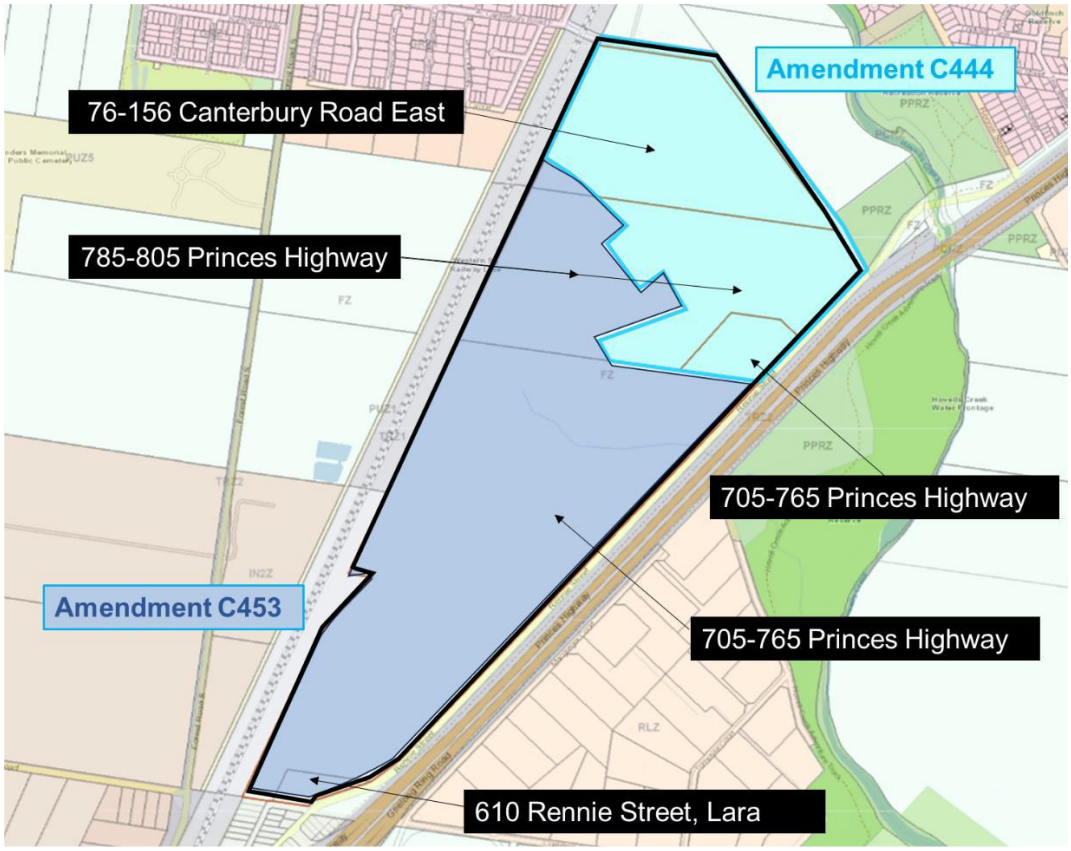

Figure 4.1 – The Site

5 Surface Water Management Requirements

Under Clause 53.18 of the Victorian Planning Provisions, the objectives for stormwater management for subdivisions are:

- To minimise damage to properties and inconvenience to the public from stormwater
- To ensure that the street operates adequately during major storm events and provides for public safety
- To minimise increases in stormwater and protect the environmental values and physical characteristics of receiving waters from degradation by stormwater
- To encourage stormwater management that maximises the retention and reuse of stormwater
- To encourage stormwater management that contributes to cooling, local habitat improvements and provision of attractive and enjoyable spaces

The stormwater management system should be:

- Designed and managed in accordance with the requirements and to the satisfaction of the relevant drainage authority.
- Designed and managed in accordance with the requirements and to the satisfaction of the water authority where use of stormwater is proposed.
- Designed to meet the current best practice performance objectives for stormwater quality as contained in the *Urban stormwater management guidance* (Environment Protection Authority - Publication 1739.1, 2021).
- Designed to ensure that flows downstream of the subdivision site are restricted to pre-development levels unless increased flows are approved by the relevant drainage authority and there are no detrimental downstream impacts.
- Designed to contribute to cooling, improving local habitat and providing attractive and enjoyable spaces.

The stormwater management system should be integrated with the overall development plan including the street and public open space networks and landscape design.

For all storm events up to and including the 20% Average Exceedance Probability (AEP) standard:

- Storm water flows should be contained within the drainage system to the requirements of the relevant authority.
- Ponding on roads should not occur for longer than 1 hour after the cessation of rainfall.

For storm events greater than 20% AEP and up to and including 1% AEP standard:

- Provision must be made for the safe and effective passage of stormwater flows.
- All new lots should be free from inundation or to a lesser standard of flood protection where agreed by the relevant flood plain management authority.
- Ensure that streets, footpaths and cycle paths that are subject to flooding meet the safety criteria daVave < 0.35 m^2/s (where, da = average depth in metres and Vave = average velocity in metres per second).

The design of the local drainage network should:

- Ensure stormwater is retarded to a standard required by the responsible drainage authority.
- Ensure every lot is provided with drainage to a standard acceptable to the relevant drainage authority. Wherever possible, stormwater should be directed to the front of the lot and discharged into the street drainage system or legal point of discharge.
- Ensure that inlet and outlet structures take into account the effects of obstructions and debris build up. Any surcharge drainage pit should discharge into an overland flow in a safe and predetermined manner.
- Include water sensitive urban design features to manage stormwater in streets and public open space. Where such features are provided, an application must describe maintenance responsibilities, requirements, and costs.

Any flood mitigation works must be designed and constructed in accordance with the requirements of the relevant floodplain management authority.

The development of this site must comply with these provisions for stormwater management.

It is my opinion that the stormwater management for the proposed rezoning of the site completed to date demonstrates a reasonable compliance with these stormwater management objectives, at the time the studies were completed.

It is acknowledged that the relevant guidelines have changed since the application of these guidelines in the studies completed to date with respect to climate change specifically; however, it is my opinion that the application of the current guidelines will not alter the potential development footprint of the proposal whilst complying with these stormwater management objectives.

6 Flow Management

Stormwater runoff generated from the rezoning of the land cannot exceed the existing peak flow magnitudes for all storms up to and including the 1% Annual Exceedance Probability (AEP) event.

The exhibited stormwater management strategy includes stormwater flows generated from the site, for existing conditions and with urbanisation of site post rezoning, determined using a runoff routing software program called RORB. This is an industry-wide accepted runoff routing software program, which is acceptable for use in accordance with the Australian Rainfall and Runoff (ARR) (2019).

The exhibited stormwater management strategy was based on two RORB models created for the site, the northern catchment, and the southern catchment. My review of the RORB models provided agrees that these are in accordance with the ARR for the time when they were created. (Venant Solutions, 8 March 2024, Lara Farms – Preliminary Retarding Basin Requirements Memorandum)

In August 2024, the ARR was updated to include climate change, requiring the application of climate change for current and near term (e.g. the year 2030), and consideration of climate change in the long term, at the year 2100.

6.1 Climate Change

The Australian Government's National Adaption Plan (DCCEEW, 2025) (referred to herein as the "National Adaption Plan") notes that the current global temperature increases are 1.2°C above 1900, with Australia experiencing a 1.5°C since 1910 (page 5). The National Adaption Plan states that "it is prudent to plan for global warming levels of 2°C to 3°C by the end of this century" (DCCEEW, 2025, page 5). These temperature increases are lower than the median temperature increase applied in the climate change scenarios SSP3-7.0 and SSP5-8.5.

Furthermore, the National Adaption Plan recommends the application of a risk assessment. The risk assessment indicates that a minor potential for loss of life or significant property damage would be considered a low risk scenario. (DCCEEW, 2025, page 8, Figure 2.4)

The Australian Government's National Climate Scenario Guidance (DCCEEW, 2025) states that "the plausible range of future emission pathways is between the recommended low emissions (SSP1-2.6) and recommended high emissions (SSP3-7.0) pathways." (page 21) Furthermore, it states "SSP2-4.25 (recommended medium emissions pathway) is aligned with the current global policy pledges." (page 21)

To limit the risk to development and minimise infrastructure costs; it is my opinion that the drainage infrastructure should be designed for the current climate scenario, with a risk assessment undertaken for a medium and high risk scenarios at the year 2100 to ensure flows do not result in any detrimental impacts to the community.

It is my opinion that designing infrastructure for potential climate impacts at the year 2100 that are not likely to occur results in the oversizing of drainage infrastructure.

6.2 Minor Drainage

In accordance with the current engineering requirements, the minor drainage system will consist of a subsurface pipe network designed to capture and convey all stormwater runoff generated from the catchment for rainfall events up to and including the 20% AEP design storm for residential catchments, and the 10% AEP design storm for industrial catchments.

In accordance with the current engineering requirements, the subsurface drainage network will be provided to the boundary of all lots in the subdivision in accordance with the requirements and to the satisfaction of the Greater Geelong City Council. Also, in accordance with the current engineering requirements, where possible, the allotments will be graded to the front with the legal point of discharge in the street drainage. The drainage system will be designed to ensure that the inlet structures account for the effects of obstructions and build-up of debris.

It is my opinion that the minor drainage standards for development of the site can be achieved with development layouts and demonstrated through future planning permit applications.

6.3 Major Drainage

The primary objective of the major drainage system within the rezoned land is to provide flood protection for the allotments based on the 1% AEP storm event and to ensure the overland flow can be safely conveyed through the development. This will be via overland flow paths contained within road reserves prior to discharging into the drainage reserves. It is important to note that the overland flows are the estimated peak 1% AEP design flow less the capacity of the minor drainage network.

The site does not have any flows contributing from external catchments and therefore is only required to ensure that the post urbanised flows from the rezoned land need to comply with this criteria.

The urbanisation of the rezoned land must also ensure that it mitigates the estimated peak development design flows to predevelopment flow magnitudes for events up to and including the 1% AEP storm event.

Any future development will need to be designed to demonstrate compliance with the safety requirements for overland flow, which can be readily addressed through the functional design of the future development of the site.

It is my opinion that development of this site can be designed to comply with the requirements of flood protection for future allotments and safe conveyance of overland flow.

6.4 Retardation

Development of the site is required to ensure that urbanised design flows discharging from the site do not exceed the existing flow magnitudes.

The exhibited stormwater management strategy includes three retarding basins within the site. A northern retarding basin that is proposed to be generally located at the north-eastern corner of the site, a central retarding basin located immediately north of the existing APA high pressure gas main (to be referred to as the "gas main" herein), and a southern retarding basin located south of the gas main and adjacent to Rennie Street.

The northern basin will discharge mitigated flows in a north-easterly direction to Hovells Creek.

It is believed that the central retarding basin will offer a smaller crossing of the gas main but needs to cross the gas main to obtain an outfall to the southern retarding basin.

The southern retarding basin will divert flows of up to 0.2 m^3/s north to the Hovells Creek outfall as protection of the Limeburners Bay Ramsar Wetland, with all other mitigated flows discharging at Rennie Street to continue east across the Princes Freeway using existing culverts.

The RORB models supplied have not separated the central and southern retarding basins, however the drainage reserve areas indicated have sufficient storage capacity of the volume required if a singular basin.

The RORB models supplied have not included any climate change modelling. I have undertaken an assessment of the current and near term climate change and determined that the proposed retarding basins have sufficient footprint to mitigate post developed runoff to existing flow magnitudes for all events up to and including the 1% AEP storm with climate change for the current and near term.

I have also undertaken an assessment of the proposed retarding basins with the application of the climate change scenario SSP3-7.0 at 2100 and determined that the proposed footprints are sufficient to mitigate post developed runoff to existing flow magnitudes for all events up to and including the 1% AEP storm at 2100.

It is my opinion that development of this site can mitigate the runoff discharging from the site to existing flow magnitudes, even with the consideration of climate change for both current and future conditions.

7 Stormwater Quality Management

The State Environment Protection Policy (Waters of Victoria) defines the required water quality conditions for urban waterways. The aim of stormwater quality treatment is to reduce typical pollutant loads from urban areas to Best Management Practices as defined in the following targets:

Table 7.1 Best Practice Pollutant Reduction Targets

Pollutant	Performance Objective
Total Suspended Solids (TSS)	80% reduction from typical urban load
Total Phosphorous (TP)	45% reduction from typical urban load
Total Nitrogen (TN)	45% reduction from typical urban load
Gross Pollutants (GP)	70% reduction from typical urban load

Source: Urban Stormwater: Best Practice Environmental Management Guidelines – Victorian Stormwater Committee, 1999.

This is reiterated in the Victorian Planning Provisions (VPP), Clause 53.18, Stormwater Management in Urban Development, and in the EPA Publication 1739.1 (June 2021), Urban Stormwater Management Guidelines.

Any development of the site must comply with the current best practice pollutant reduction targets for urban stormwater runoff.

The exhibited stormwater management strategy has proposed three constructed wetland systems with pre-treatment in the proposed drainage reserves that accommodate the retarding basins, noting that the proposed wetland systems will form the base of these retarding basins.

The treatment performance of an urban development / catchment is typically assessed using an industry supported software package, MUSIC (Model for Urban Stormwater Improvement Conceptualisation).

I have been provided the MUSIC model of the proposed treatment system as outlined in the exhibited stormwater management strategy. My review of the provided model is that it is generally in accordance with the current modelling guidelines, however there is the ability to provide further refinements through the planning permit application process.

The model supplied does not include the mandated rainwater tanks as illustrated in Figure 12 of the exhibited stormwater management strategy (page 24) and has modelled the macrophyte area of the constructed wetland systems with a shallower average depth than what is required to comply with current guidelines. The modelling provided is conservative and achieves the current best practice pollutant reduction targets.

It is my opinion that any development of this site can meet the stormwater quality targets required with the incorporation of a constructed wetland system in the drainage reserve as proposed in the stormwater management strategy.

8 General Environmental Duty with Respect to Stormwater

The Environmental Protection Act (2017) requires that every development provides a General Environmental Duty (GED). The EPA Publication 1739.1 (June 2021) covers the requirements of GED for the site, including the requirements to achieve performance objectives for pollutant reductions from urban stormwater runoff as per the current best practice pollutant reduction targets, and quantitative performance objectives relating to the mean annual runoff of stormwater from the urban areas.

The quantitative performance objective relating to stormwater management exists in the GED. This requires a harvesting and / or evapotranspiration of 32% of the mean annual runoff from impervious surfaces, and an infiltration and / or filter of 2% of the mean annual runoff from impervious surfaces for this region.

Whilst the quantitative requirement of mean annual runoff is not explicitly stated in the relevant Victorian Planning Provisions (VPP), it is a stormwater management requirement and the VPP's allude to the quantitative requirement for mean annual runoff in the reference to the promotion of harvesting and / or infiltration of stormwater runoff and the contribution to urban cooling.

Modelling of the proposed treatment systems for the site has indicated that the majority of the mean annual runoff from impervious surfaces will be infiltrated and / or filtered from the any future development of the site.

Modelling completed for the Lara Farms Development Limeburners Bay Ramsar Wetland Impact Assessment (Venant Solutions, 19 February 2024) has indicated that the proposed residential land within the site can achieve a 31% reduction in the mean annual runoff, however the industrial land within the site can only achieve a 9% reduction in the mean annual runoff.

These reductions do not meet the target of a 32% reduction in mean annual runoff, however, the proposal for stormwater management within the site has adopted measures in the assessment that can be implemented.

The assessment has also demonstrated that, whilst development of this site will increase the volume of stormwater runoff, it is unlikely to result in any significant environmental harm to the Limeburners Bay Ramsar Wetland.

Throughout the planning permit application process, development proposals may elect to adopt additional reuse of stormwater, which will contribute to the reduction in the mean annual runoff from the site.

It is my opinion that any development of the site can meet the general environmental duty for stormwater management as reasonably practicable.

9 Drainage Reserve Sizes and Locations

The exhibited stormwater management strategy has proposed three major drainage reserves within the site. These include the northern drainage reserve located at the north-west corner of the site, the central drainage reserve located immediately north of the gas main, and a southern retarding basin located south of the gas main and adjacent to Rennie Road.

The northern drainage reserve is located in the low point for the northern catchment within the site and is therefore in the appropriate location to control stormwater runoff prior to discharging from the site.

The northern drainage reserve is nominated to be 1.5 ha in size and contain a 0.38 ha constructed wetland system with 3,150 m^3 of storage to mitigate the 1% AEP flows for current and near term with climate change.

It is my assumption that the central drainage reserve is located immediately north of the gas main easement to manage the stormwater crossing required of that gas main, noting the stringent requirements for clearance and service crossings.

The central drainage reserve is to be 2.1 ha in size and contain a 0.555 ha constructed wetland system. The storage requirement for this catchment has been included in the southern basin for modelling purposes only.

The southern drainage reserve is located at the existing low point at the boundary of Rennie Road where the catchment will outfall and is therefore in the appropriate location to control stormwater runoff prior to discharging from the site.

The southern drainage reserve is nominated to be 3.5 ha in size and contain a 1.20 ha constructed wetland system with 54,700 m^3 of storage (including the central catchment storage) to mitigate the 1% AEP flows for current and near term with climate change.

It is my opinion that the major drainage reserves are appropriately located for stormwater management within the site.

It is my opinion that the proposed major drainage reserve sizes may be optimised, i.e., reduced, during the functional design phase of the assets and / or at the planning permit application stage.

10 Limeburners Bay Ramsar Wetland Impact Review

The site discharges into Hovells Creek, which outfalls to Limeburners Bay, which contains a Ramsar wetland, which is protected for its national environmental significance by the Environment Protection Biodiversity Conservation Act (1999).

Due to the protection of the ultimate receiving waters, the site is required to demonstrate that development of this land will not result in any significant environmental harm. With respect to stormwater, which includes consideration of the volume of runoff and potential alterations to the existing hydrology of the wetland.

The site accounts for approximately 0.5% of the overall Hovells Creek catchment. Therefore, whilst development will result in an increase to stormwater runoff volumes discharging from the site, it will only contribute a very small increase to the overall Hovells Creek catchment runoff. This has been demonstrated in the Lara Farms Development Limeburners Bay Ramsar Wetland Impact Assessment (Venant Solutions, 19 February 2024) report.

The report also notes that any flow changes from development of this site is within the natural variability to be expected of the Hovells Creek catchment.

The report has demonstrated that development of this site is not likely to have any significant impacts or effects on the Hovells Creek ecosystem, on the floodplain wetland hydrology or on Limeburners Bay.

It is my opinion that the site has demonstrated that it is not likely to result in any significant environmental harm to the Limeburners Bay Ramsar Wetland with respect to stormwater.

11 Schedules to the Amendments

11.1 Schedule 48 to Clause 43.04 Development Plan Overlay

The requirements for development plan include the provision of an Integrated Water Management Plan. Within this subset, the plan requires reference to WSUD Engineering Procedures : Stormwater CSIRO Publishing 2005 as well as Clause 56.07 of the Greater Geelong Planning Scheme.

The Victorian Planning Provisions (VPP) Clause 56.07 and Clause 53.18 now reference the EPA Publication 1739.1 for stormwater quality requirements.

It is my opinion that the reference to WSUD Engineering Procedures : Stormwater CSIRO Publishing 2005 should be removed from this schedule as the relevant requirements are captured in the reference to EPA Publication 1739.1.

The Integrated Water Management Plan needs to include a drainage strategy that, amongst other things, addresses the potential impacts of the overall volume of stormwater on downstream land.

There are no requirements for flow volume management in any of the Victorian Planning Provisions. Flow volume is only a quantitative performance objective relating to stormwater management as a General Environmental Duty (GED).

The EPA Publication 1739.1 (June 2021) includes the requirements of the GED, including the requirements to achieve performance objectives for pollutant reductions from urban stormwater runoff as per the current best practice pollutant reduction targets, and quantitative performance objectives relating to the mean annual runoff of stormwater from the urban areas.

It is understood that the downstream receiving waters, i.e., Limeburners Bay Ramsar Wetland, are sensitive to changes, however the Lara Farms Development Limeburners Bay Ramsar Wetland Impact Assessment (Venant Solutions, 19 February 2024) report has demonstrated that development of this land will not result in any significant harm to the receiving waters.

The Lara Farms Development Limeburners Bay Ramsar Wetland Impact Assessment (Venant Solutions, 19 February 2024) report is attached as an appendix to the Stormwater Management Strategy (Loetis, 11 November 2024), which any Integrated Water Management Plan must have regard to.

It is my opinion that sufficient documentation has been provided regarding the impacts of the overall volume of stormwater on downstream land that is to be addressed in the Integrated Water Management Plan and this requirement should be removed from Schedule 48 to Clause 43.04 Development Plan Overlay (DPO48).

The Schedule also requires that the Integrated Water Management Strategy includes a Stormwater Management System that:

- *Ensures peak discharge rates and pollutant loads of all stormwater leaving the site post development are no greater than pre-developed*
- *Ensures no adverse impacts to any surrounding area, upstream or downstream, including the saline dependent floodplain values of Hovells Creek and the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site.*

The requirement to mitigate peak flows to existing flow magnitudes is included in the Victorian Planning Provisions (VPP).

There is no, and has never been, a requirement to meet predevelopment pollutant loadings. The requirement is a reduction of the urban pollutant loads generated.

As previously stated, The Lara Farms Development Limeburners Bay Ramsar Wetland Impact Assessment (Venant Solutions, 19 February 2024) report is attached as an appendix to the Stormwater Management Strategy (Loetis, 11 November 2024), which any Integrated Water Management Plan must have regard to, demonstrates that development of this land will not result in any significant harm to the receiving waters.

The site is not subject to any overlays as a result of flooding, and therefore, if flows are mitigated to existing magnitudes in accordance with the requirements of the VPPs, development of the site will not result in any adverse impacts from flooding to upstream or downstream surrounding areas.

It is my opinion that the requirements relating to Stormwater Management Systems should be removed from the Schedule 48 to Clause 43.04 Development Plan Overlay as they are inappropriate, are covered by the VPPs, or are captured elsewhere in the schedule.

11.2 Schedule 55 to Clause 43.02 Design and Development Overlay

Section 3 of Schedule 55 to Clause 43.02 Design and Development Overlay (DDO55) includes a requirement for Stormwater Management. As per Schedule 48 to Clause 43.04, this also makes reference to WSUD Engineering Procedures : Stormwater CSIRO Publishing 2005.

It is my opinion that the reference to WSUD Engineering Procedures : Stormwater CSIRO Publishing 2005 should be removed from this schedule as the relevant requirements are captured in the reference to EPA Publication 1739.1.

As per Schedule 48 to Clause 43.04, Schedule 55 to Clause 43.02 includes:

A Stormwater Management System should have regard to the Loetis Stormwater Management Strategy, Lara Farms – Rennie St Lara Rev06, November 2024 and be designed having regard to EPA Publication 1739.1, Urban Stormwater Management Guidelines, to ensure that:

- *Peak discharge rates of all stormwater leaving the site post development are no greater than pre-development rates and the overall volume of outfall stormwater is reduced to the extent reasonably practicable.*
- *No unreasonable adverse impacts to any surrounding and downstream land, including the saline dependant floodplains of Hovells Creek, and the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site.*

The requirement to mitigate peak flows to existing flow magnitudes is included in the Victorian Planning Provisions (VPP) and therefore is not required in a separate point.

The volume requirements are captured in the EPA Publication 1739.1 (June 2021), which is stated and therefore is not required in a separate dot point.

The Lara Farms Development Limeburners Bay Ramsar Wetland Impact Assessment (Venant Solutions, 19 February 2024) report is attached as an appendix to the Stormwater Management Strategy (Loetis, 11 November 2024), which any Integrated Water

Management Plan must have regard to, demonstrates that development of this land will not result in any significant harm to the receiving waters.

The site is not subject to any overlays as a result of flooding, and therefore, if flows are mitigated to existing magnitudes in accordance with the requirements of the VPPs, development of the site will not result in any adverse impacts from flooding to upstream or downstream surrounding areas.

Therefore, the second point under the Stormwater Management Systems is also not required.

It is my opinion that the sub points under the Section 3, Stormwater Management, Stormwater Management Systems, are not required and should be removed.

It is also noted in the Council Amendment C453ggee Delegate Authority Report – Table 2 Consideration of Submissions, that Council recommend an amendment to DDO55 to require preparation of a stormwater volume management strategy.

There are no requirements for flow volume management in any of the Victorian Planning Provisions. Flow volume is only a quantitative performance objective relating to stormwater management as a General Environmental Duty (GED).

The Lara Farms Development Limeburners Bay Ramsar Wetland Impact Assessment (Venant Solutions, 19 February 2024) report has demonstrated that development of this land will not result in any significant harm to the receiving waters.

It is my opinion that no additional requirement relating to a stormwater volume management strategy is required in Schedule 55 of Clause 43.02 Design and Development Overlay.

12 Summary

The site is proposed to be rezoned to facilitate future subdivision and development of the land for residential purposes and industrial purposes.

Development of the site can suitably address the stormwater quantity management requirements for urban development, including the mitigation of stormwater runoff to predevelopment flow magnitudes.

Development of this site must comply with the current guidelines regarding safe overland flow conveyance, and this can be suitably demonstrated at a later point throughout the planning process.

The development proposal has demonstrated that the site will achieve the current stormwater quality pollutant reduction targets and can achieve a reasonably practical general environmental duty for stormwater.

Development of the site has demonstrated that it will not adversely affect the flow regime or stormwater runoff volumes expected for the Limeburners Bay Ramsar wetland.

Whilst it is acknowledged that the current stormwater management strategy for the site has not considered current climate change or climate change at 2100, development can demonstrate stormwater management compliance with climate change through a future planning process, noting that my modelling for climate change can meet the flow mitigation requirements within the nominated drainage reserves.

The following is the summary of my points of opinion:

- The exhibited stormwater management strategy for development of the site completed to date demonstrates a reasonable compliance with the stormwater management objectives, at the time the studies were completed;
- Development of the site can comply with the minor drainage standards for development of the site;
- Development of this site can comply with the requirements of flood protection for future allotments and safe conveyance of overland flow;
- Development of this site can meet the flow mitigation targets required;
- Development of the site can meet the stormwater quality targets required with the incorporation of a constructed wetland system in the drainage reserves as proposed in the exhibited stormwater management strategy;
- Development of the site can meet the general environmental duty for stormwater management as reasonably practicable;
- Development of this site will not have any adverse impacts to the downstream receiving waterway (Hovells Creek) or the floodplain or Limeburners Bay Ramsar wetland;
- Remove reference to WSUD Engineering Procedures : Stormwater CSIRO Publishing 2005 from DPO48 and DDO55
- Remove any reference to volume management from DPO48 and DDO55
- Remove reference to upstream and downstream adverse impacts from DPO48 and DDO55
- Remove reference to achieving pre-development pollutant loads

- Sufficient information has been provided in the exhibited documents to date to demonstrate that the site can be developed and meet the stormwater management requirements;

Incitus Pty Ltd
ABN 55 285 448 851
PO Box 7142
Richmond VIC 3121

T 0414 404 730
E nina.barich@incitus.com.au
Wwww.incitus.com.au