

21 December 2023

Malcolm Styles  
Executive Officer  
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Dear Malcolm,

**RE: INFRASTRUCTURE DESIGN MANUAL UPDATE TO VERSION 6**

The Goulburn Murray Climate Alliance (GMCA) is pleased to submit this submission on the proposed update of the Infrastructure Design Manual (IDM) Version 6.

The GMCA is a member-based alliance comprising 13 regional and rural councils spread across northern and north eastern Victoria. The GMCA membership also includes the Goulburn Broken Catchment Management Authority, North East Catchment Management Authority and DEECA (Hume). Council members are the cities and shires of Alpine, Benalla, Campaspe, Mansfield, Mitchell, Moira, Murrindindi, Shepparton, Strathbogie, Towong, Wangaratta and Wodonga. All thirteen local governments which make up the GMCA membership are participating councils in the IDM, comprising almost one third of the 44 councils listed on the LGIDA website.

The GMCA was formed in 2007 and works with its members, other Victorian Greenhouse Alliances and relevant agencies on projects relating to climate change mitigation and adaptation. Recent projects cover areas closely related to infrastructure delivery, including sustainable subdivision development, planning system reforms, public realm planting guidelines, resilient public infrastructure assets, energy efficient street light retrofits and electric vehicle infrastructure delivery.

The GMCA supports the LGIDA in its review of the IDM and provides the following background and recommendations to the Board, for consideration.

**Delivering Sustainable Subdivisions**

The GMCA and its members are highly committed to achieving greater sustainability outcomes in the delivery of residential subdivision development. Since October 2020, nine councils from the GMCA have been part of a group of 31 councils across Victoria, led by the Council Alliance for a Sustainable Built Environment (CASBE), to trial a Sustainable Subdivisions Framework (SSF). The SSF focuses on improving the long-term community benefits delivered by a subdivision through the planning approvals process. Sustainable subdivisions are carefully planned to achieve improved quality of life, protect and use resources efficiently and improve the health of the environment and people.

The GMCA acknowledges the significant amount of work which has been undertaken by CASBE in researching, developing and trialing a framework for implementing sustainable subdivisions in Victoria. In light of this, the GMCA provides its support for the CASBE submission to the LGIDA on the IDM Update to Version 6.

The SSF identifies seven categories which contribute towards the creation of environmentally sustainable subdivisions, as follows:

- Site Layout and Liveability

- Streets and Public Realm
- Energy
- Ecology
- Integrated Water Management
- Urban Heat
- Circular Economy

Across these seven categories, infrastructure design and delivery plays a crucial role in successfully achieving sustainable outcomes on the ground.

In November 2022 eight councils from the GMCA appointed a shared Environmentally Sustainable Development Advisor to work specifically on sustainable subdivisions with councils and developers in their municipalities. One of the principle takeaways from this work has been understanding the importance of council engineering approaches, knowledge and standards in achieving positive outcomes in urban development. Measures to improve sustainability outcomes through the planning assessment process will only succeed if such objectives are also supported through the engineering approvals process. We see the IDM as the single most important document affecting the ability of development engineers to achieve such sustainable outcomes with regards to subdivision development. The IDM has the potential to provide clear and consistent standards, guidance and best practice examples which facilitate the delivery of more sustainable infrastructure.

***RECOMMENDATION 1: that the IDM be updated and expanded to support contemporary best-practice sustainable infrastructure delivery, providing a much-needed resource to local governments, to de-risk the requirements for and assessment, delivery and maintenance of sustainable infrastructure assets.***

### **Need and nexus for expanding the IDM to cover sustainable infrastructure delivery**

The IDM can be considered a great success in terms of what it has achieved to date, by creating consistent and regionally appropriate minimum standards for infrastructure design. However, the growing threats to our communities posed by climate change-associated flood, drought and extreme heat, coupled with biodiversity loss and a human health crisis, are forcing local governments and the wider development industry to increasingly transition away from traditional approaches, towards a more sustainable model of urban development. Such a transition is reflected in the recent and future changes to planning policy at a state and local government level, an increasing focus on sustainability and climate related targets and initiatives within local government plans and strategies, and a trend within the development industry to meet increasing market demand for more sustainable communities. For local government development engineers and planners to keep up with such changes, it is essential that the IDM evolve with the times to provide well-considered, practical guidance on the delivery of contemporary infrastructure approaches which support sustainable developments.

Positioning the IDM to support the implementation of sustainable developments will assist the LGIDA in achieving the stated vision for the IDM, which is 'effective, affordable and sustainable infrastructure'.

It is further noted that the 'Clause 1.4 – Objectives' of the IDM states that *the primary objectives of the Manual are:*

- *To clearly document Council's requirements for the design and development of Infrastructure that is or will become Council's Infrastructure.*
- *To standardise development criteria as much as possible and thus expedite Council's engineering reviews.*

- *To ensure that minimum design criteria are met about the design and construction of Infrastructure within the municipalities regardless of whether it is constructed by Council or a Developer.*
- *To recognise and deal with the various issues currently impacting on the land development industry, in particular sustainability, integrated water cycle management, timeliness, and affordability.*

Given the growing trend within regional and rural councils to require, assess and maintain sustainable infrastructure assets, there is a clear need and nexus between the IDM's stated vision and objectives, and the expansion of the IDM to provide guidance and standards on sustainable infrastructure.

### **Sustainable Infrastructure Guidelines**

The LGIDA is to be congratulated for its leadership and involvement in the preparation of the Sustainable Infrastructure Guidelines (SIGs). We acknowledge the substantial amount of work which went into the development of the SIGs, but also acknowledge the low levels of uptake with regards to the number of councils who have formally adopted these standards. Notwithstanding this, a number of GMCA councils have recently been giving strong consideration to adopting the SIGs, with other councils indicating an interest in raising the level of sustainability of infrastructure delivery, but acknowledging a lack of understanding regarding the contents and application of the SIGs. Several GMCA councils have indicated a desire to implement the clauses contained within the SIGs, but would only do so if these were incorporated within the IDM, as they wish to provide one consistent set of design standards to developers. In many cases, prior to conversations instigated by the GMCA ESD Advisor, council staff (including engineers, planners and sustainability officers and managers) were not even aware of the existence of the SIGs.

The SIGs are organised under six clauses, which cover separate aspects of sustainable infrastructure delivery, as follows:

- Transport
- Integrated Water Management
- Material Recycling and Reuse
- Public Lighting
- Landscaping and Open Space
- Materials

It is our assessment that many of the engineering and infrastructure aspects of sustainable subdivision delivery discussed above, are covered within these six clauses of the SIGs. For many of these, there is currently a lack of awareness of guidance and standards for local government and the development industry. The GMCA and its members therefore regards the SIGs as a valuable and underutilised resource to support the growing need for councils to deliver sustainable subdivision development.

A common concern raised by local government engineers, landscape architects, parks and recreation and maintenance teams is a lack of experience, guidance and standards with regards to contemporary approaches to sustainable infrastructure. Of particular concern to many local governments is the delivery and maintenance of water sensitive urban design (WSUD) assets, permeable paving and recycled materials. The IDM has an important and much needed role to play in support councils by providing such guidance and standards.

It is noted that Clause 1.7 of the IDM states that *“Councils may give consideration to adopting and approving innovative solutions and using new technologies where it can be demonstrated to the*

*satisfaction of the Council that the objectives of the relevant clauses of the IDM have been satisfied even though the specific technical provisions have not been met".* Whilst this provides the opportunity for applicants to submit contemporary infrastructure proposals under the current IDM, the key issue is providing rural and regional councils, which often have limited resources and experience with non-standard approaches, with the confidence that what is being proposed is well-considered and does not expose them to unnecessary risks. As such, there is a strong need for viable sustainable infrastructure solutions to be covered by the IDM, thus providing a level of understanding and confidence to local government departments.

In light of the above, it is our view that there would be great benefit in the SIGs being incorporated into the body of the IDM, rather than it sitting alongside the IDM as an ancillary document requiring a separate formal adoption. It is considered that writing some or all of the SIG clauses into the main IDM document would dramatically increase their visibility and broaden their uptake. It is acknowledged that some provisions covered by the SIGs are now considered common practice and should be included within the IDM as standard requirements, whilst others may be considered 'best practice' and could be included within the IDM but remain as an 'alternative acceptable standard'. It is recommended that a review of the SIGs be undertaken to ascertain what standards need to be reviewed and which should be included as standard requirements versus alternative design solutions.

If there are any aspects of the SIGs which are seen as contentious and therefore an impediment to the wholesale adoption of the SIGs, it is suggested that these be omitted for the time being, with the remaining content to be incorporated into Version 6 of the IDM. Should this be the case, it is recommended that these additional items remain as an opt-in aspect of the IDM, and be considered by the LGIDA Board for potential inclusion at each review.

Irrespective of how the SIG clauses are incorporated into the IDM, it is apparent that there is an important role for the LGIDA in advocating for and educating on the content of the SIGs and sustainable infrastructure more broadly.

***RECOMMENDATION 2: that the SIGs be reviewed and incorporated into the IDM as either standard requirements or alternative design solutions.***

***RECOMMENDATION 3: that a review of the SIGs be undertaken to ascertain what standards need to be reviewed and which should be included as standard requirements versus alternative design solutions.***

***RECOMMENDATION 4: that the LGIDA undertake education and advocacy with regards to sustainable infrastructure approaches, to increase awareness of the current (and/or reviewed) SIG standards and encourage their adoption.***

## **Proposed revisions to the IDM**

As previously stated, the GMCA recommends the IDM be expanded to include the relevant provisions currently contained within the SIGs. Further to this, the following specific revisions are recommended to the current IDM content. Recommendations are organised below under the relevant IDM clause.

### Clause 12 Design of Roads

Recommended revisions to Clause 12 Design of Roads:

- In general, a greater emphasis needs to be placed on the provision of green infrastructure such as canopy street trees and landscaping and WSUD assets such as swales and rain gardens, in addition to the existing focus on hard infrastructure.
- Additional objective(s) to be included, addressing the provision of street trees and WSUD infrastructure within the road reserve.

- Ensure that cross sections are designed to facilitate the delivery of large canopy trees within the road reserve and ensure adequate information is submitted by developers to provide certainty that trees can be accommodated in addition to all other hard and soft infrastructure. Experience has shown that standard cross sections within the IDM oftentimes do not provide for the provision of large canopy street trees.
- Greater emphasis on the requirement for, and guidance on, ensuring street trees of an appropriate size and frequency are actually delivered. It is noted that street trees can be removed from plans at the detailed design stage to accommodate hard infrastructure such as utilities, crossovers and footpaths. Additional detail on plans and cross sections, such as vehicle crossover locations and utility alignments are recommended at an early stage in the assessment process.
- Standard drawings, cross sections and urban and rural road characteristics (Table 2 and 6) to be revised to provide greater flexibility, allowing for non-standard cross sections where these can be shown to facilitate the delivery of large canopy street trees and/or WSUD infrastructure or separate bike lanes, in addition to the required hard infrastructure.
- Consider provision of a footpath on one side of the street for Rural Roads (Table 6) where residential lots serviced by the road are within the following distances of existing or proposed community infrastructure:
  - 400m of a public open space
  - 400m of a bus route
  - 400m of a regional active transport route (such as a Rail Trail)
  - 800m of a school (public or private) or childcare facility
  - 800m or a sporting facility (ovals, gymnasium, swimming pool, etc)
  - 800m of a tram route or train station
  - 800m of retail or grocery store
  - Other relevant proximity to community infrastructure
- Include guidance on ‘pairing’ crossings for lots narrower than 11 metres wide, to facilitate adequate space for the provision of street trees and support on-street parking.

#### Clause 15 Earthworks and Lot filling

Recommended revisions to Clause 15 Earthworks and Lot filling:

- Additional objective(s) to be included, reflecting the desire for development to:
  - Respond to the natural topography of the site and avoid or minimise cut and fill that alters the natural ‘pre-development’ contours, where possible.
  - Avoid earthworks which result in the removal of high-value existing vegetation, where possible.
- Include relevant standards and guidance to support the above objectives, including guidance on designing roads, utilities, and on-lot retaining to respond to natural contours, as well as maximum fill to be accepted where existing trees are to be retained.

#### Clause 20 Stormwater Treatment

Recommended revisions to Clause 20 Stormwater Treatment:

- Clause 20.1 includes the objective *'To ensure that all designs incorporate consistent best practice WSUD measures and principles'*, however limited guidance is provided on 'best practice WSUD measures and principles'.
- Clause 20.1 includes the objective *'To integrate stormwater treatment into the landscape, while maximizing the visual and recreational amenity of Developments'*, however limited guidance is provided on where and how this should be achieved.
- Expand on the current guidance to include minimum standards and best practice guidance to support the design, assessment, delivery and maintenance of water sensitive urban design (WSUD) infrastructure, including but not limited to: bioretention swales, vegetated swales, rain gardens, bioretention basins and man-made wetlands.
- The IDM states that *'The Developer is responsible for the maintenance of all completed water sensitive urban design (WSUD) works for a period of two (2) years unless otherwise agreed in writing or specified in the planning permit.'* Additional minimum requirements and guidance on developer obligations regarding the 'scrape and cleaning' or replacement of aggregates just prior to the end of this two year period. Such guidance would be beneficial in removing a common issue with inherited WSUD assets, which can often become clogged with fine sediment during the subdivision construction stage, requiring maintenance shortly after council takes ownership of these assets.
- Specific guidance on the preferred location of WSUD assets would be useful (such as swales and rain gardens located within central medians rather than verges).

#### Clause 24 Landscaping and Public Open Space

Recommended revisions to Clause 24 Landscaping and Public Open Space:

- Acknowledge the role of canopy cover in reducing urban heat island effect, both through tangible reductions in ambient temperature which affect household temperatures, as well as the provision of shade and cool routes for pedestrians and cyclists.
- Provide guidance on passive irrigation of vegetation within road reserves. IDM to include minimum requirements, guidelines and standard drawings.

#### Other

- It is highly recommended that the table of contents be reinstated to assist in navigating the document.

**RECOMMENDATION 5: that the LGIDA consider revisions to the current IDM clauses as outlined above.**

#### **Summary**

In summary, the GMCA recommends that the IDM be updated and expanded to include provision for the design, delivery and maintenance of sustainable infrastructure assets. Recommended revisions include, but are not limited to, the inclusion of the SIGs within the IDM. The GMCA believes that the

incorporation of well-considered standards and design guidance on sustainable infrastructure will further achieve the LGIDA's vision of 'effective, affordable and sustainable infrastructure' and will greatly assist councils with their growing need to deliver sustainable subdivisions.

We thank you for taking the time to consider this submission and would be happy to discuss any of the content further. The GMCA would be happy to assist in undertaking a review of the sustainable infrastructure guidelines and other sustainable infrastructure standards addressed above, through consultation with our members, to provide a greater level of detail on the current and future viability of such standards. We would welcome any ongoing collaboration with the LGIDA with regards to this and other aspects of the IDM review and would be happy to provide personnel to contribute to the IDM working group.

Kind regards

A handwritten signature in black ink, appearing to be "CH", written in a cursive style.

**Carole Hammond | Executive Officer**  
**GOULBURN MURRAY CLIMATE ALLIANCE**

*This letter has been approved through the Goulburn Murray Climate Alliances governance structure but may not have been formally considered by all individual members. The submission does not necessarily represent the views of all members.*