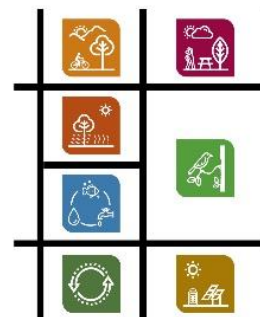


# SUSTAINABLE SUBDIVISIONS FRAMEWORK

## APPLICANT KIT

### MEDIUM (16 – 59 lots) SUBDIVISION

Version: 1. Oct 2021



The Sustainable Subdivisions Framework (SSF) is a framework designed by Victorian councils to ensure sustainability is embedded at the subdivision scale, recognising the role of sustainability in the making of new communities.

The SSF is currently being trialled by 31 councils in Victoria.

The SSF provides statutory planners with a basis for measuring and achieving stronger sustainability outcomes in residential subdivisions and provides information on how to integrate sustainability interventions into residential subdivisions.

The SSF was developed with expert advice. A detailed Background Report examined material on Environmentally Sustainable Design (ESD) in the planning system and the planning context of sustainability and subdivisions in different regions.

In this document, the *Applicant Kit for Medium Subdivisions*, you will find information about trial of the Sustainable Subdivisions Framework that is currently underway in 31 Victorian Councils. At the end of this document is a copy of the **Sustainable Subdivisions Framework (SSF) for Medium subdivisions**.

Supporting this Applicant Kit is an *SSF Subdivisions Sustainability Management Plan for Medium Subdivisions - Template* with examples of Best Practice design strategies. This template is provided for applicants to use as part of the trial of the SSF.

These two documents comprise all the information you need to participate in the SSF trial.

#### SSF TRIAL

The SSF is being trialled over an 18-month period from 1 October 2020 by 31 metropolitan, regional and rural Councils across Victoria:

Alpine Shire Council	Indigo Shire Council	Pyrenees Shire Council
Ballarat City Council	Knox City Council	Strathbogie Shire Council
Bass Coast Shire Council	Latrobe City Council	Surf Coast Shire Council
Cardinia Shire Council	Macedon Ranges Shire Council	Swan Hill Rural City Council
East Gippsland Shire Council	Melton City Council	Towong Shire Council
Golden Plains Shire Council	Mildura Rural City Council	Wangaratta Rural City Council
Greater Bendigo City Council	Mitchell Shire Council	Warrnambool City Council
Greater Geelong City Council	Moorabool Shire Council	Whittlesea City Council
Greater Shepparton City Council	Mornington Peninsula Shire Council	Wodonga City Council
Horsham Rural City Council	Murrindindi Shire Council	Yarra City Council

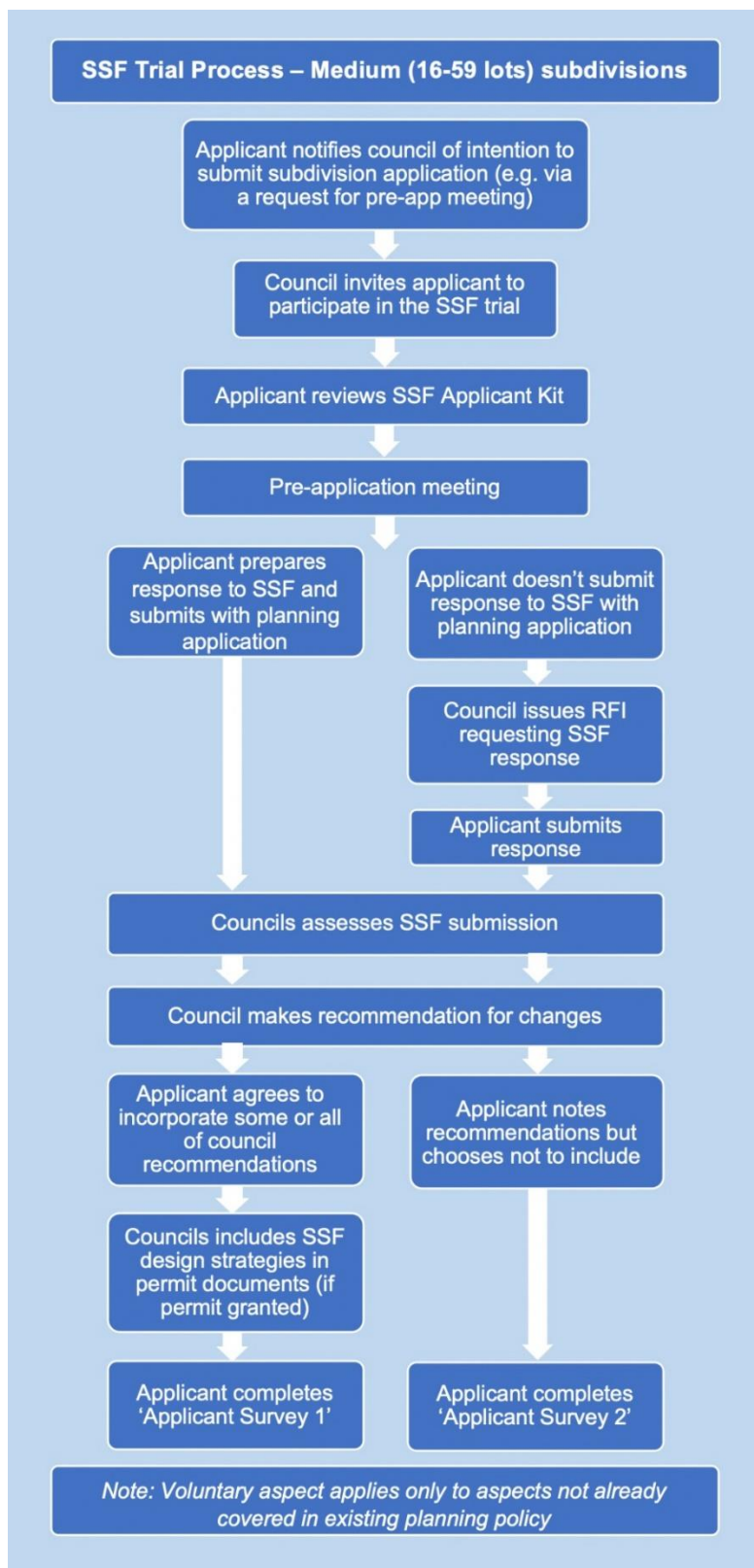
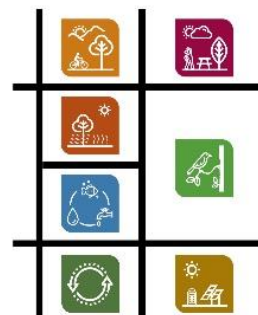
The trial aims to develop a robust, evidence-based framework that enables the effective ongoing assessment of sustainability measures in subdivisions in Victoria. It will be used by planning teams and sustainability specialists at the planning application stage. The trial will be evaluated every 6 months. The outcomes of the trial will be used to inform the future planning reform required to achieve sustainable communities.

# SUSTAINABLE SUBDIVISIONS FRAMEWORK

## APPLICANT KIT

### MEDIUM (16 – 59 lots) SUBDIVISION

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#### HOW TO PARTICIPATE IN THE SSF TRIAL

Participation in the trial by planning applicants is **voluntary** but **strongly encouraged**.

Subdivision planning applicants are asked to complete the *SSF Subdivisions Sustainability Management Plan for Medium Subdivisions - Template*.

This involves listing design strategies that could be included in your subdivision proposal that would result in more sustainable design outcomes.

The SSF template is organised into the 7 SSF themes or categories:

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

The template lists suggested design responses for each of the sustainable criteria listed for each category.

More information about the categories and the suggested appropriate design responses, can be found in the SSF Fact Sheets and Case Studies.

These are available on the CASBE website.

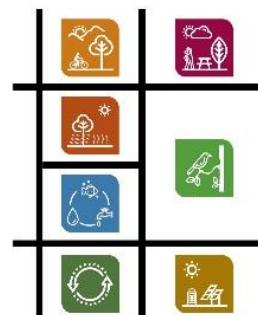
For more information about the Sustainable Subdivision Framework and Trial please contact your council planner.

# SUSTAINABLE SUBDIVISIONS FRAMEWORK

## APPLICANT KIT

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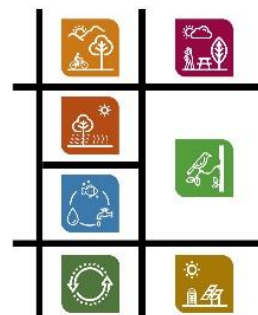
<b>CHECKLIST OF SUBMISSION REQUIREMENTS</b>	
<p><i>In addition to existing planning policy requirements (eg. Clause 56.01, Precinct Structure Plan requirements etc), applicants are asked to submit the following documents:</i></p>	
<b>DOCUMENT</b>	<b>Submitted - Y/N</b>
<p><b>SUBDIVISION SUSTAINABILITY MANAGEMENT PLAN [SSMP], for medium (16- 59 lots) subdivisions.</b></p> <p>An SSMP is a detailed sustainability assessment of a proposed design at the planning stage. An SSMP demonstrates best practice in the 7 Sustainable Subdivision Categories and:</p> <ol style="list-style-type: none"> <li>1. Provides a detailed assessment of the development. It may use relevant tools such as EnviroDevelopment or an alternative assessment approach to the satisfaction of the responsible authority</li> <li>2. Identifies achievable environmental performance outcomes having regard to the metrics presented within each criteria</li> <li>3. Demonstrates that the subdivision has the design potential to achieve the relevant environmental performance outcomes, having regard to the site's opportunities and constraints</li> <li>4. Documents the means by which the performance outcomes can be achieved</li> </ol> <p>An SSMP identifies beneficial, easy to implement, best practice initiatives.</p>	
<p><b>SUBDIVISION SITE AND CONTEXT PLAN</b></p> <p>Include all relevant ESD information, as appropriate:</p> <ul style="list-style-type: none"> <li>– Major water features and regional stormwater infrastructure</li> <li>– Key biodiversity assets in the vicinity</li> <li>– Key climatic conditions (i.e. solar orientation arc and prevailing wind arrows) to ensure walkability a priority.</li> <li>– Ecology features including all canopy vegetation, native shrubs and grasses, known habitat of threatened species (if any)</li> <li>– Existing water features in the landscape (incl local underground water infrastructure)</li> </ul>	

# SUSTAINABLE SUBDIVISIONS FRAMEWORK

## APPLICANT KIT

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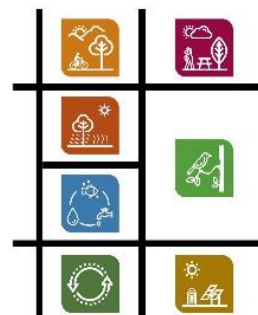
<b>CHECKLIST OF SUBMISSION REQUIREMENTS</b>	
<b>DOCUMENT</b>	<b>Submitted - Y/N</b>
<p><b>SUBDIVISION / DESIGN RESPONSE PLAN</b></p> <p>Include all relevant ESD information, as appropriate:</p> <ul style="list-style-type: none"> <li>– The location and clear space allocation for new destinations within the subdivision area (i.e. retail, community, open space)</li> <li>– Clear hierarchy of street networks (with a range of street types)</li> <li>– The location of any EV infrastructure (i.e. charge stations)</li> <li>– Lot sizes, indicative building envelopes and location of habitable areas</li> <li>– Nomination of lots which are orientated for energy efficiency</li> <li>– A bicycle and pedestrian network (delineating between sealed and unsealed surfaces, as well as recreation and commuter routes) and locations of rest nodes and landscape features (i.e. pocket parks and seating)</li> <li>– The location of WSUD assets and electricity infrastructure</li> <li>– Preferred planting locations for vegetation and medium canopy trees on private lots</li> <li>– Alignment of active transport routes, waterways and open spaces corridors</li> <li>– Location of energy storage infrastructure (or assigned space)</li> </ul>	
<p><b>SUPPORTING PLANS AND ASSESSMENTS, as appropriate:</b></p> <ul style="list-style-type: none"> <li>– Landscape Plan and schedule for the public realm (delineating retained, new, indigenous, native and exotic plants)</li> <li>– Biodiversity Management Plan (outlining protection and enhancement of biodiversity through construction and operational phases)</li> <li>– Concept plans for any in-street WSUD treatments, and any proposed alternative water supply</li> <li>– Any Design Guidelines proposed to apply to the subdivision</li> <li>– Climate risk assessment - demonstrating how the proposed subdivision responds to urban heat and other climate impacts for the region (based on the Representative Concentration Pathway (RCP) 8.5 scenario at 2070)</li> </ul>	
<p><i>All recommended documents</i></p>	

# SUSTAINABLE SUBDIVISIONS FRAMEWORK

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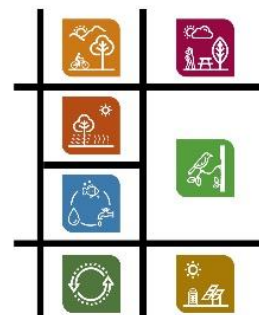
SUSTAINABLE SUBDIVISIONS FRAMEWORK	
<i>The overall goal of the SSF is to improve the quality of life, protect and use resources efficiently, and improve the health of the environment and people.</i>	
CATEGORIES	
<b>SITE LAYOUT AND LIVEABILITY</b> 	<b>STREETS &amp; PUBLIC REALM</b> 
<b>ENERGY</b> 	<b>ECOLOGY</b> 
<b>INTEGRATED WATER MANAGEMENT</b> 	<b>URBAN HEAT</b> 
<b>CIRCULAR ECONOMY (MATERIALS &amp; WASTE)</b> 	
<b>OBJECTIVES</b> Objectives in each category mirror existing state policy objectives unless a gap exists in state policy, strengthening the justification for the adoption and use of the SSF positioning it as an implementation pathway for existing policy	
<b>STANDARDS</b> Standards in each category comprise criteria and measurable metrics. Applicants are encouraged to address all standards in each category.	
<b>CRITERIA</b> Design strategies to meet the objectives of the category	<b>METRICS</b> The metrics provide measurable quantification of environmental performance, where performance can be readily quantified. They are not intended to take the place of a robust overall evaluation.
<b>INNOVATION</b> Applicants are encouraged to consider the opportunity areas that go beyond best practice sustainability within each category. Sample innovative design strategies are included in the SSF.	
<b>IMPLEMENTATION</b> Applicants are encouraged to think about how the approach to sustainability will be effectively implemented ensuring the objectives of the category are met over the long-term.	

# SUSTAINABLE SUBDIVISIONS FRAMEWORK

## APPLICANT KIT

### MEDIUM (16 – 59 lots) SUBDIVISION

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## SITE LAYOUT AND LIVEABILITY

This category includes opportunities for improved functional site layout and liveability with a key focus on *connecting residents to local amenity*.

### SITE LAYOUT AND LIVEABILITY OBJECTIVES

1. To create compact neighbourhoods that are oriented around easy walking distances to activity centres, schools and community facilities (such as ambulance stations, community centres, libraries), public open space and public transport
2. To provide for a diversity of lot sizes to support all household types
3. To consider topography in site design including lot layout, orientation and size, length of street blocks, any existing natural and man-made features, and the street network
4. To retain natural features (e.g. canopy vegetation) for incorporation into public open space and streetscapes
5. To maximise permeability of the street network and align roads to the four compass points
6. To align active transport routes, waterways and open space corridors where possible
7. To ensure that wayfinding is logical and meets the needs of all
8. To contribute to land use and transport integration, including providing for safe, efficient operation of public transport and the comfort and convenience of public transport users
9. To reduce transport related carbon emissions
10. To improve transport efficiency
11. To reduce air pollution from transport related emissions
12. To reduce car dependence
13. To provide a commuter and recreational bicycle network
14. To provide for transition to new transport modes (electric vehicles, electric scooters etc.)

### SITE LAYOUT AND LIVEABILITY STANDARDS

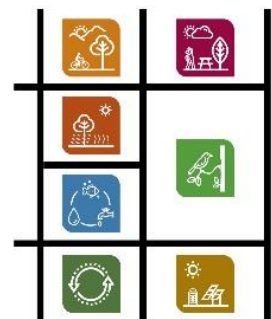
CRITERIA	RELEVANT METRIC (TARGET)
<b>LOCATION OF COMMUNITY INFRASTRUCTURE</b>	<p>Provide a brief statement demonstrating the connectivity of the site to local amenities. Where appropriate, provide:</p> <ul style="list-style-type: none"><li>_ % of lots (95%) within a maximum safe walk length (in metres and time measured along routes rather than crow flies) to key local destinations:</li><li>_ Open space (400m)</li><li>_ Closest retail including access to fresh fruit and vegetables (2km)</li><li>_ Existing or proposed bus stop (400m) and/or train stop (800m) with a regular service at least every 30 minutes on weekdays between 7am and 7pm</li><li>_ Other relevant community infrastructure</li></ul>

# SUSTAINABLE SUBDIVISIONS FRAMEWORK

## APPLICANT KIT

### MEDIUM (16 – 59 lots) SUBDIVISION

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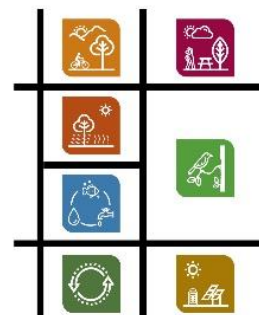
<b>LOT DIVERSITY</b>	<p>Where appropriate, provide:</p> <ul style="list-style-type: none"> <li>– Provision of a lot size table</li> <li>– % of area (superlots) set aside for medium density housing</li> </ul>
<b>CONNECTIVITY OF STREET NETWORK</b>	<ul style="list-style-type: none"> <li>– Number of cul-de-sacs (target=0)</li> </ul>
<b>INTEGRATION WITH NATURAL FEATURES</b>	<ul style="list-style-type: none"> <li>– Qualitative assessment against objectives 3 and 4 (including minimisation of cut and fill - i.e. building techniques that respond to the topography)</li> </ul>
<b>ACTIVE TRANSPORT</b>	<p>Provide a brief statement demonstrating the connectivity of the site to activity transport opportunities. Where appropriate, quantify by addressing the following metrics:</p> <ul style="list-style-type: none"> <li>– Km of on-road (delineated/ separated) and recreational safe and convenient bike paths</li> <li>– Unbroken connection to regional active transport links (including outside subdivision if required)</li> <li>– % of dwellings (95%) within 1km of linear parks and trails along waterways, vegetation corridors</li> <li>– Bike parking and end of trip facilities at key destinations</li> <li>– Clear pedestrian priority on priority pedestrian routes</li> </ul>
<b>WAYFINDING</b>	<p>Where appropriate, provide:</p> <ul style="list-style-type: none"> <li>– Qualitative assessment against objectives 7 (referencing Way found: Wayfinding Signage Standards for Victoria) in Landscape Plan.</li> </ul>
<b>INNOVATION</b>	<p>Areas of innovation include, but are not limited to:</p> <ul style="list-style-type: none"> <li>– Flexibility for increased density to be accommodated over time</li> <li>– Flexibility of space allocated for car parking so it can transition to new uses over time (e.g. co-located car parking for smaller lot developments, multi-function driveway space in design guidelines etc.)</li> <li>– Smaller footprint housing (e.g. two storey and increased garden and food production areas as a proportion of lot)</li> <li>– A participatory design and engagement process which aligns to IAP2 (e.g. through the Engagement Credit in Green Star Communities)</li> <li>– Demonstrated planning for electric and autonomous vehicles and electric personal transportation devices (scooters, skateboards etc.)</li> <li>– Early delivery of community infrastructure (e.g. developer sponsored public transport)</li> </ul>
<b>IMPLEMENTATION</b>	<p>Implementation pathway includes:</p> <ul style="list-style-type: none"> <li>– Use of IDM (and SIGs) as point of reference for detailed engineering design</li> <li>– Site Environment Management Plan (noise, air quality and chemical management)</li> <li>– Confirmed maintenance plans for active transport infrastructure</li> <li>– Design Guidelines to control on lot sustainability outcomes such as smaller footprint housing</li> <li>– Innovative planning tools or other mechanisms to retain flexibility for increased density over time</li> </ul>

# SUSTAINABLE SUBDIVISIONS FRAMEWORK

## APPLICANT KIT

### MEDIUM (16 – 59 lots) SUBDIVISION

Version: 1. Oct 2021



## STREETS AND PUBLIC REALM

This category responds to the variety of sustainability outcomes dependent on a people focused local street network and public realm.

### STREETS AND PUBLIC REALM OBJECTIVES

1. To design and construct footpaths, shared path and cycle path networks that are safe, comfortable, well-constructed and accessible for people with disabilities
2. To ensure that streetscape liveability is prioritised by underground service design
3. To reduce transport related carbon emissions
4. To encourage walking to local destinations
5. To create pockets of nature with seats for resting and shade from trees to improve the streetscape, comfort, amenity and increase biodiversity
6. To provide green infrastructure for a range of ecosystem services (including CO2 reduction and habitat for biodiversity), to reduce the heat island effect, and to provide shade for active transport pathways
7. To encourage the integration of cultural heritage in public realm design to contribute to a unique and valued sense of place
8. To ensure the delivery of the public realm is high amenity, diverse and visually interesting

### STREETS AND PUBLIC REALM STANDARDS

CRITERIA	RELEVANT METRIC (TARGET)
<b>STREET DIVERSITY</b>	<i>Encourage alternate treatments for local streets. Where possible, identify;</i> <ul style="list-style-type: none"><li>– % of local streets (including connector streets) within a subdivision applying an alternative treatment (i.e. varied street tree placement; varied footpath or carriageway placement; elements to achieve boulevard effect) (30%)</li></ul>
<b>ACCESSIBLE AND CONTINUOUS CYCLING AND PEDESTRIAN NETWORK</b>	<i>Encourage pedestrian and cyclist amenity to promote active transport. Where possible, identify;</i> <ul style="list-style-type: none"><li>– Number of drinking stations (including water bottle refill) per network km</li><li>– The extent to which pedestrian / cycling crossings conform with state government urban design guidelines (<a href="http://www.urban-design-guidelines.planning.vic.gov.au">www.urban-design-guidelines.planning.vic.gov.au</a> - objectives 2.1 - 2.4)</li></ul>
<b>MAXIMUM STREET BLOCK LENGTH</b>	<i>Encourage walkable neighbourhoods. Where possible, identify;</i> <ul style="list-style-type: none"><li>– Maximum street block length for a priority pedestrian priority street (200m)</li></ul>
<b>DENSITY OF STREET TREES AND VEGETATION</b>	<i>Encourage pedestrian and cyclist amenity through tree lined streets. Where possible, identify;</i> <ul style="list-style-type: none"><li>– Average street trees per 100 lineal metres on pedestrian priority streets</li><li>– Average street trees per 100 lineal metres on other streets</li></ul>

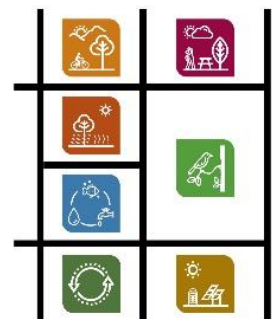


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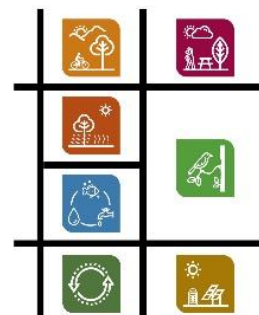
<b>DENSITY OF REST NODES AND LANDSCAPE FEATURES</b>	<p><i>Encourage pedestrian and cyclist amenity and comfort to promote active transport. Where possible, identify;</i></p> <ul style="list-style-type: none"> <li>– <i>Density of rest nodes or visible features in the landscape (number per hectare)</i></li> </ul>
<b>SAFETY</b>	<p><i>Encourage design for safe neighbourhoods. Where possible, identify;</i></p> <ul style="list-style-type: none"> <li>– <i>Street and public realm design accords with the Street Design section of the Safer Design Guidelines for Victoria which incorporate crime prevention through environmental design (CPTED)</i></li> </ul>
<b>SERVICE DELIVERY</b>	<ul style="list-style-type: none"> <li>– <i>Encourage subdivision design which provides appropriate space allocation to accommodate garbage storage and collection. Where appropriate, in consultation with regional resource recovery group, determine and set aside space allocation for neighbourhood container deposit scheme.</i></li> </ul>
<b>INNOVATION</b>	<p><i>Areas of innovation include, but are not limited to:</i></p> <ul style="list-style-type: none"> <li>– <i>Street sections and plans agreed with all stakeholders at planning stage</i></li> <li>– <i>Stormwater management is used to passively irrigate vegetation</i></li> <li>– <i>Street trees &gt; 1 per 10 lineal metres</i></li> <li>– <i>Major or several minor public art contributions</i></li> <li>– <i>Street design optimisation for electric personal transportation devices (scooters, skateboards etc.)</i></li> </ul>
<b>IMPLEMENTATION</b>	<p><i>Implementation pathway includes:</i></p> <ul style="list-style-type: none"> <li>– <i>Multi-stakeholder collaboration (including coordinated process for internal referrals)</i></li> <li>– <i>Use of IDM (and SIGs) as point of reference for detailed engineering design</i></li> <li>– <i>Landscape plan agreed as part of planning permit</i></li> <li>– <i>Confirmed maintenance plans for blue-green infrastructure</i></li> </ul>

# SUSTAINABLE SUBDIVISIONS FRAMEWORK

## APPLICANT KIT

### MEDIUM (16 – 59 lots) SUBDIVISION

Version: 1. Oct 2021



## ENERGY

This category includes opportunities for *improved energy efficiency and increased renewable sources of energy supply.*

### ENERGY OBJECTIVES

1. To provide lots with areas and dimensions that enable the appropriate siting and construction of a dwelling for solar access
2. To reduce stationary energy related emissions
3. To provide lot orientation which encourages roof lines capable of supporting solar PV
4. To avoid the extension of new gas networks
5. To support electric only suburbs
6. To maximise the provision of renewable energy to the subdivision
7. To promote adoption of battery storage at the subdivision or lot scale
8. To ensure streetlights and other public infrastructure requiring energy supply (pumps etc.) are of the highest efficiency standard available and integrate smart technology where appropriate

### ENERGY STANDARDS

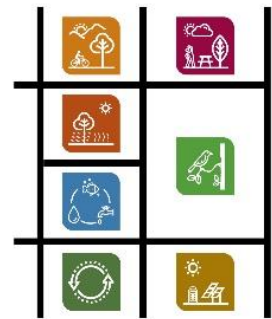
CRITERIA	RELEVANT METRIC (TARGET)
<b>ENERGY EFFICIENCY</b>	– Identify the % of lots with rear of the property facing west, north or east (75%) maintaining compliance with Standard C9 of Clause 56. If known, detail the energy efficiency of street lighting.
<b>RENEWABLE ENERGY</b>	– Consider design guidelines that specify renewable energy provision onsite (at whole of subdivision and/or lot level).
<b>ENERGY STORAGE</b>	– Consider design guidelines that specify battery storage onsite (at whole of subdivision and/or lot level).
<b>INNOVATION</b>	<p>Areas of innovation include, but are not limited to:</p> <ul style="list-style-type: none"> <li>– Zero net energy (or zero carbon for stationary energy) target set for the development</li> <li>– Solar / battery combinations as standard inclusion in Design Guidelines</li> <li>– Energy-focused behaviour change programs for new residents</li> <li>– Provision for sharing of electricity within subdivision (e.g. Microgrid / Embedded Network)</li> <li>– Sensor triggered street lighting</li> <li>– All powered landscape elements such as external lighting are powered by renewable energy</li> </ul>

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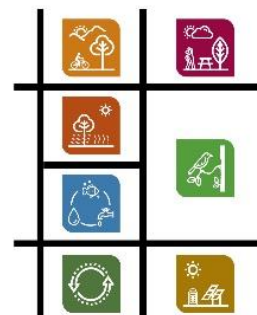
<b>IMPLEMENTATION</b>	<p><i>Implementation pathway includes:</i></p> <ul style="list-style-type: none"><li>– <i>Multi-stakeholder collaboration on electricity infrastructure (Council, Developer and Distribution Network Service Provider (DNSP))</i></li><li>– <i>Use of IDM (and SIGs) as point of reference for detailed engineering design</i></li><li>– <i>Design guidelines setting high standards for energy efficiency (including passive solar design), and on lot renewables and storage provision</i></li></ul>
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# SUSTAINABLE SUBDIVISIONS FRAMEWORK

## APPLICANT KIT

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Version: 1. Oct 2021



## ECOLOGY

This category includes opportunities for *retained and enhanced ecology* within the development plan or subdivision area.

### ECOLOGY OBJECTIVES

1. To site and design subdivisions to minimise the impact on the natural environment
2. To provide lots with areas and dimensions that enable the retention and establishment of trees
3. To provide space that enable food production within the private and/ or public realm
4. To protect, retain and enhance native vegetation and habitat over the long term
5. To avoid the planting and spread of environmental weeds
6. To promote the creation of habitat corridors and movement of flora and fauna
7. To ensure consistency with any native vegetation precinct plan
8. To promote early delivery of medium and large trees
9. To promote a best practice and risk management approach to the management of biodiversity assets which aims to avoid or minimise environmental degradation and hazards
10. To promote the delivery of any vegetation offsets locally to the subdivision

### ECOLOGY STANDARDS

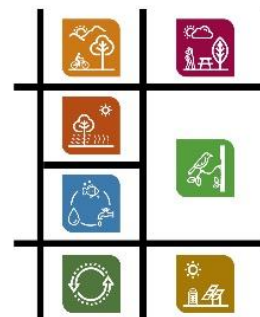
CRITERIA	RELEVANT METRIC (TARGET)
<b>CANOPY COVER</b>	<ul style="list-style-type: none"> <li>– Projected canopy cover at 15 years - public realm (25%)</li> <li>– Where applicable, % of car parking areas to be landscaped (15%) with % canopy cover (25%)</li> </ul>
<b>BIODIVERSITY CONSERVATION</b>	<ul style="list-style-type: none"> <li>– Consider native vegetation retention even when exempt by 52.17 &amp; include in biodiversity sensitive urban design (BSUD), liveability and placemaking.</li> <li>– Where applicable,</li> <li>– No net loss of biodiversity within the bounds or in the immediate proximity of the subdivision</li> <li>– Data required to meet the requirements of the Biodiversity Conservation Strategy for Growth Areas (Growth Area Councils only)</li> <li>– % retention of existing, mature indigenous and native trees and vegetation</li> <li>– % of native and indigenous plants or approved climate resilient species as a proportion of plants (80%)</li> <li>– Waterway conservation areas protected with at least a 30m buffer on either side (to development)</li> <li>– The provision of a satisfactory Flora and Fauna Assessment and Native Vegetation Removal Report (where native vegetation is to be removed as part of a subdivision)</li> </ul> <p><i>*BSUD definition: Biodiversity-sensitive urban design (BSUD) is an approach for achieving on-site net gains in urban environments. It aims to integrate nature into the urban fabric by utilising existing habitats and supporting the creation of new habitats which support native plants and animals in the urban environment.</i></p>

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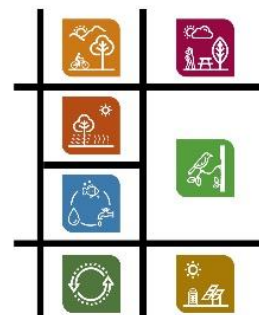
<p><b>ENHANCE BIODIVERSITY VALUE</b></p>	<ul style="list-style-type: none"> <li>– <i>Sqm of indigenous / native / climate resilient ground cover or shrubs per hectare of developable area</i></li> <li>– <i>Sqm of indigenous / native / climate resilient tree canopy per hectare of developable area</i></li> <li>– <i>Qualitative assessment against Objective 5, including the extent to which the subdivision mitigates impacts on habitat fragmentation within and outside the area of subdivision</i></li> </ul>
<p><b>INNOVATION</b></p>	<p><i>Areas of innovation include, but are not limited to:</i></p> <ul style="list-style-type: none"> <li>– <i>Programs to increase resident involvement in maintenance of blue-green infrastructure or other biodiversity assets</i></li> <li>– <i>Communal food production areas either within streets or within other open spaces</i></li> <li>– <i>Design guidelines requiring specific vegetation outcomes on private land</i></li> <li>– <i>Novel habitat creation – particularly for local threatened species, i.e. hollow creation birds and mammals, or ponds for frogs, etc.</i></li> <li>– <i>Accelerated (early) design and planting of medium and large trees in parks and other reserves</i></li> </ul>
<p><b>IMPLEMENTATION</b></p>	<p><i>Implementation pathway includes:</i></p> <ul style="list-style-type: none"> <li>– <i>Landscape plan agreed as part of planning permit</i></li> <li>– <i>Confirmed maintenance plans for blue-green infrastructure</i></li> <li>– <i>Resolution of vegetation (especially street tree) issues not able to be addressed at functional layout</i></li> <li>– <i>Biodiversity management plan (if required)</i></li> <li>– <i>Adequate tree protection zones (through full construction phase) for retained vegetation (Australian Standard AS 4970 – 2009 Protection of trees on development sites)</i></li> </ul>

# SUSTAINABLE SUBDIVISIONS FRAMEWORK

## APPLICANT KIT

### MEDIUM (16 – 59 lots) SUBDIVISION

Version: 1. Oct 2021



## INTEGRATED WATER MANAGEMENT

Integrated water management includes the best practice *management of all aspects of the water cycle*.

### INTEGRATED WATER MANAGEMENT OBJECTIVES

1. To reduce water consumption through environmentally sustainable subdivision and building design
2. To provide lots with areas and dimensions that enable the appropriate siting and construction of a dwelling that can be serviced with water, wastewater and other essential services
3. To maximise use of alternative water sources for public and private use (through strategies such as public and private rainwater tanks, stormwater reuse and localised recycled water systems)
4. To incorporate water sensitive urban design techniques into development including enhancing riparian vegetation (waterway health), drainage reserves adjacent to wetlands and protection of biodiversity and landscape features for improved amenity
5. To provide a waste water system that is adequate for the maintenance of public health and the management of effluent in an environmentally friendly manner
6. To ensure the location and scale of open space responds to existing drainage channels
7. To meet the Best Practice Environmental Management Guidelines for Urban Stormwater
8. To control localised flooding and plan for increasingly intense rainfall events, as projected by climate change models
9. To use water as a tool for reducing urban heat
10. To support regional integrated water management solutions such as identified through the IWM forums

### INTEGRATED WATER MANAGEMENT STANDARDS

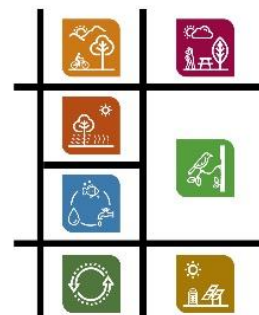
CRITERIA	RELEVANT METRIC (TARGET)
<b>ON LOT STORMWATER HARVESTING AND REUSE</b>	<i>Where possible, maximise use of alternative water sources.</i> – <i>Consider design guidelines at lot level that specify onsite stormwater reuse.</i>
<b>WATER SUPPLY</b>	<i>Where available, provide water supply from recycled or reused sources. Where possible, quantify;</i> – <i>% of potable water substituted with a non mains source (e.g. third pipe, stormwater harvesting)</i>

# SUSTAINABLE SUBDIVISIONS FRAMEWORK

## APPLICANT KIT

### MEDIUM (16 – 59 lots) SUBDIVISION

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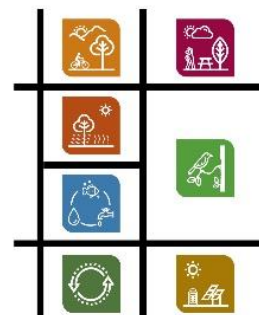
<b>WATER EFFICIENCY</b>	<ul style="list-style-type: none"> <li>– Consider design guidelines at lot level that specify WELS rated fixtures within 1 star of best available.</li> </ul>
<b>STORMWATER TREATMENT</b>	<ul style="list-style-type: none"> <li>– Stormwater quality outcomes (suspended solids, total phosphorus, total nitrogen, litter) using MUSIC or similar (meeting Best Practice Environmental Management Guidelines (BPEMG) or as amended)</li> <li>– Meet Standard C25 of Clause 56</li> <li>– Demonstrated use of on-site and natural features to protect water quality</li> </ul>
<b>FLOOD MANAGEMENT</b>	<ul style="list-style-type: none"> <li>– Meet Standard C25 of Clause 56</li> </ul>
<b>WATER SENSITIVE URBAN DESIGN (WSUD)</b>	<p>Identify WSUD initiatives. Where possible, quantify;</p> <ul style="list-style-type: none"> <li>– Proportion of stormwater treatment achieved within the streetscape or otherwise providing passive irrigation to trees or shrubs</li> </ul>
<b>SITE PERMEABILITY</b>	<ul style="list-style-type: none"> <li>– % permeability of the public realm and any permeability target specified in Design Guidelines or similar</li> </ul>
<b>INNOVATION</b>	<p>Areas of innovation include, but are not limited to:</p> <ul style="list-style-type: none"> <li>– Celebration of water in the landscape with the vast majority of stormwater visible (in preference to 'grey' infrastructure)</li> <li>– Third pipe connection to precinct</li> <li>– Integrated flood management strategy which includes 'smart' infrastructure (e.g. Aquarevo)</li> <li>– Demonstrated alignment with 'sponge city' principles</li> <li>– Use of IWM to support ecology outcomes (such as passively irrigating revegetation areas or creating off line frog habitat)</li> </ul>
<b>IMPLEMENTATION</b>	<p>Implementation pathway includes:</p> <ul style="list-style-type: none"> <li>– Site Environment Management Plan (sediment runoff and water quality) - the focus should be on detailed measures for protection of stormwater quality and erosion during construction</li> <li>– Use of IDM (and SIGs) as point of reference for detailed engineering design</li> <li>– Confirmed responsibilities for IWM maintenance and ownership of IWM assets</li> <li>– Mechanism for maintenance learnings to be shared internally and between Councils</li> <li>– Multi agency collaboration on monitoring and evaluation of IWM initiatives</li> </ul>

# SUSTAINABLE SUBDIVISIONS FRAMEWORK

## APPLICANT KIT

### MEDIUM (16 – 59 lots) SUBDIVISION

Version: 1. Oct 2021



## URBAN HEAT

This category includes opportunities for *urban heat reduction* within the subdivision area.

### URBAN HEAT OBJECTIVES

1. To mitigate the urban heat island effect
2. To provide shelter for pedestrian and cyclist movement
3. To provide places with cooler microclimates which provide relief from hot conditions
4. To provide shading of roads and carparks to reduce urban heat
5. To irrigate streets and open space to cool the landscape
6. To maintain human health and wellbeing through periods of extreme heat

### URBAN HEAT STANDARDS

CRITERIA	RELEVANT METRIC (TARGET)
<b>ACCESS TO SHELTER</b>	<ul style="list-style-type: none"> <li>– How many streets are classified as cool routes? i.e. 2 streets approximately 500m and connect to parks, public transport and other cool routes outside of the development site.</li> <li>– How many bus stops are provided and how many bus shelters are provided?</li> </ul> <p>*Cool route definition: Active transport routes between destinations that provide protection from direct heat (e.g. through physical shade structure or relatively uninterrupted canopy cover).</p>
<b>URBAN HEAT REDUCTION</b>	<ul style="list-style-type: none"> <li>– Calculate % of hard surfaces and estimate SRI based on materials.</li> <li>– Does the tree canopy coverage at 15 years reduce the SRI of hard stand footpaths and asphalt by partially covering the hard stand areas during hot summer months?</li> </ul> <p>*An indicative SRI is provided for the following common materials.</p> <ul style="list-style-type: none"> <li>• Grey concrete: 35</li> <li>• White concrete: 86</li> <li>• Standard white paint: 100</li> <li>• Standard black paint: 5</li> <li>• New asphalt: 0</li> </ul>
<b>INNOVATION</b>	<p>Areas of innovation include, but are not limited to:</p> <ul style="list-style-type: none"> <li>– Precinct Urban Heat Mitigation Plan</li> <li>– Vegetation requirements for front yards</li> <li>– Surface materials with a high SRI</li> <li>– Development of microclimates for mitigating urban heat</li> </ul>
<b>IMPLEMENTATION</b>	<p>Implementation pathway includes:</p> <ul style="list-style-type: none"> <li>– Use of IDM (and SIGs) as point of reference for detailed engineering design</li> <li>– Design Guidelines which require low solar absorptance on private lots (e.g. no black roofs) or include landscaping provisions</li> <li>– *Also note Streets and Public Realm category for maintenance of green infrastructure</li> </ul>

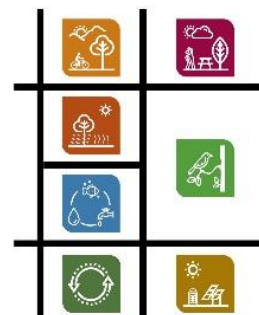


# SUSTAINABLE SUBDIVISIONS FRAMEWORK

## APPLICANT KIT

### MEDIUM (16 – 59 lots) SUBDIVISION

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## CIRCULAR ECONOMY (MATERIALS AND WASTE)

This category includes opportunities for *reduced resource use* and an improved retention of value through the *materials life cycle*.

### CIRCULAR ECONOMY (MATERIALS AND WASTE) OBJECTIVES

1. To ensure the street network is capable of supporting organics and recycling collection
2. To provide for community infrastructure to support sustainable resource recovery
3. To encourage the re-use of on-site buildings and materials from the site in the construction of subdivisions
4. To use products with high recycled content and end of life recyclability in the construction of subdivisions
5. To encourage the selection of materials with low embodied carbon in the construction of subdivisions
6. To minimise future maintenance and upgrade requirements through durable and easily recycled materials choices
7. To ensure materials and products are certified through strong third-party verification
8. To support the local economy by buying local materials

### CIRCULAR ECONOMY (MATERIALS AND WASTE) STANDARDS

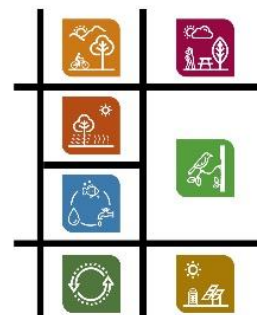
CRITERIA	RELEVANT METRIC (TARGET)
<b>LOW EMBODIED CARBON</b>	– <i>Do the materials you using have low embodied energy? Are you proposing to use low embodied carbon bitumen, cement or pipes? If Yes, please provide more detail.</i>
<b>RECYCLED CONTENT</b>	– <i>Consider which providers in your area supply recycled materials and; provide details on which recycled products you propose to use. If known, provide the % of recycled content.</i>
<b>LOCAL SOURCING</b>	– <i>Will materials be locally sourced (within 50km)?</i> – <i>Are recycled materials locally available?</i> – <i>Are recycled materials price competitive with virgin materials in your local area?</i>
<b>FUTURE RECYCLABILITY</b>	– <i>What % of construction materials by volume are able to be recycled / reused during construction (Target of 90% recommended) and at end of life?</i> – <i>Is infrastructure designed for easy deconstruction and can products be upcycled for repurposing?</i>
<b>DURABLE MATERIALS</b>	– <i>The replacement / upgrade lifetime of key materials and infrastructure</i>

# SUSTAINABLE SUBDIVISIONS FRAMEWORK

## APPLICANT KIT

### MEDIUM (16 – 59 lots) SUBDIVISION

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<b>CERTIFICATION</b>	<ul style="list-style-type: none"> <li>– Where applicable, is there third-party certification of materials? (eg. Certification of timber through Forest Stewardship Council (FSC) or low volatile organic compound (VOC) certified materials?)</li> </ul>
<b>WASTE MINIMISATION AND ORGANICS COLLECTION AND PROCESSING</b>	<ul style="list-style-type: none"> <li>– Does the subdivision design respond to the waste and recycling collection model of the relevant municipality?</li> <li>– Are you supplying appropriate space for the separation of excess construction materials for recycling?</li> </ul>
<b>INNOVATION</b>	<p>Areas of innovation include, but are not limited to:</p> <ul style="list-style-type: none"> <li>– Total materials and construction related emissions and offset strategy (demonstrated through Climate Active)</li> <li>– Communal collection points for organic waste (where FOGO collection do not yet exist)</li> <li>– % reduction in embodied carbon in bitumen compared to the reference case - Australian Standard (60%)</li> <li>– % reduction in embodied carbon in cement compared to the reference case - Australian Standard (40%)</li> <li>– % reduction in embodied carbon in pipes compared to the reference case - Australian Standard (100%)</li> <li>– % reduction in embodied carbon in aggregates compared to the reference case - Australian Standard (20%)</li> <li>– Innovative recycled content demonstrated that is currently not in the SIG</li> <li>– Demonstrated lifespan that exceeds the service life for the relevant infrastructure standard in Australia and demonstrated circular economy principles through 100% reuse / repurpose / recyclable at end of life</li> <li>– Provision of innovative operational waste infrastructure (e.g. shared recycling / general waste, anaerobic digestion, underground collection systems)</li> <li>– Circular Economy Management Plan targeting zero net waste (consistent with a rating system such as Living Community Challenge)</li> </ul>
<b>IMPLEMENTATION</b>	<p>Implementation pathway includes:</p> <ul style="list-style-type: none"> <li>– Site Environment Management Plan (waste) - this would include provisions for managing waste issues (such as dumping and wind-blown rubbish) through the construction process</li> <li>– Use of IDM (and SIGs) as point of reference for detailed engineering design</li> <li>– Confirmed responsibilities for road and asset maintenance</li> <li>– Operational Waste Management Plan confirming that Kerbside collection of organics and recycling achievable (*note that this must not be at the expense of other streetscape objectives)</li> </ul>