****

**ESD in the Planning Permit Application Process**

Sustainable design elements are most effective and have the least cost when they are considered at the earliest stages of a development. For this reason, from April 2022, The City of Maroondah’s planning application process requires developers to include Environmentally Sustainable Design (ESD) considerations within their applications in line with section 22.15 of the Maroondah Planning Scheme.

Maroondah uses the **Sustainable Design Assessment in the Planning Process** (SDAPP) program developed by the Municipal Association of Victoria (MAV); providing clear guidance on sustainability goals and consistency of process with other participating Councils across Victoria.

All applicants are requested to consider Sustainable Design within their developments. However, Council will require certain applications (based on size) to specifically address the 10 Key Sustainability Building categories and follow the process as outlined through SDAPP.

As part of the SDAPP program, all **Medium** planning permit applications with Maroondah City Council are required to include a **Sustainable Design Assessment (SDA)**. Your application is a ‘Medium’ planning application if it meets one of the following categories:

* Residential - three to nine residential dwellings
* Residential alterations and additions between 500m2 – 999m2
* Non-residential – Development of a building with a Gross Floor Area (GFA) of between 500m2 and 999m2
* Non-residential alterations and additions between 500m2 – 999m2

Please refer to the Sustainable Management Plan (SMP) information for building sizes exceeding these categories. All information on the SDAPP program can be obtained on our webpage: xxxxxxxxx

# Applicant Response Guidelines

# What is a Sustainable Design Assessment (SDA)?

A **SDA** is an assessment suitable for medium scale developments, designed to be completed during the design stage. It is used to provide details on the technological, behavioural and design components of the application implemented to achieve desirable environmental outcomes. In line with the City of Maroondah's commitment to the SDAPP program and consistent with other councils, the following sustainable design criteria are required to be specifically addressed within the SDA:

1. Indoor Environment Quality
2. Energy Efficiency
3. Water Resources
4. Stormwater Management
5. Building Materials
6. Transport
7. Waste Management
8. Urban Ecology
9. Innovation
10. Ongoing Building and Site Management

Applicants are encouraged to use free web-based tools, such as the Built Environment Sustainability Scorecard ([BESS](http://www.bess.net.au/)) to aid in the preparation of the SDA. These tools will identify key issues to consider and provide a score that can be reviewed by Design teams and the City of Maroondah.

This template is designed to provide guidance how to prepare an SDA report. The document outlines objectives, ESD issues and references for all 10 Key Sustainable Building Categories. You can either prepare your own SDA report or use this document as a guide.

# Section Guides

The following provides information on the sections and content that would be typically presented within SDA reports.

# Project Information:

Applicants should state the property address and the proposed development’s use and extent. They should describe neighbouring buildings that impact on or may be impacted by the development. Applicants should outline relevant areas, such as site permeability, water capture areas and gross floor area of different building uses. Applicants should describe the development’s sustainable design approach and summarise the project’s key ESD objectives.

# Environmental Categories:

The applicant is required to address each of the 10 Key Sustainable Building Categories and demonstrate how the design meets its objectives. Applicants are requested to review Council’s Best Practice requirements, as well as any mandatory obligations under each category. To assist Applicants, tables in the following pages indicate the type of information to address under each Key Sustainable Building Category.

# Objectives:

The intent of each Key Environmental Category is outlined through a list of main objectives. Applicants are requested to review these and ensure that their Project’s objectives are aligned.

# Design Issue:

This section should comprise a list of topics that might be relevant within the environmental category. As each application responds to different opportunities and constraints, it is not required to address all issues. The list is non-exhaustive and topics can be added to tailor to specific application needs.

# Assessment Method Description:

The Applicant needs to explain what standards have been used to assess the applicable issues.

# Benchmarks Description:

The Applicant is required to briefly explain the benchmark applied as outlined within the chosen standard. A benchmark description is required for each environmental issue that has been identified as relevant.

# How does the proposal comply with the benchmarks?

The Applicant should show how the proposed design meets the benchmarks of the chosen standard through making references to the design brief, drawings, specifications, Consultant reports or other evidence that proves compliance with the chosen benchmark.

# ESD Matters on Architectural Drawings:

Architectural drawings should reflect all relevant ESD matters where feasible. As an example, window attributes, sun shading and materials should be noted on elevations and finishes schedules, water tanks and renewable energy devices should be shown on plans. The site’s permeability should be clearly noted, and relevant calculations included. It is also recommended to indicate water catchment areas on roof- or site plans to confirm water re-use calculations.

# Appendices:

Please ensure you have appended all relevant reports and modelling data such as print-outs of the BESS report, STORM tool and energy modelling software results (FirstRate5 results and NatHERS certificates)

SDA Report Example Development X

**Table of Contents:**

[Project Information 5](#_Toc284247123)

[1. Indoor Environment Quality (IEQ) 6](#_Toc284247124)

[2. Energy Efficiency 7](#_Toc284247125)

[3. Water Resources 8](#_Toc284247126)

[4. Stormwater Management 9](#_Toc284247127)

[5. Building Materials 10](#_Toc284247128)

[6. Transport 11](#_Toc284247129)

[7. Waste Management 12](#_Toc284247130)

[8. Urban Ecology 13](#_Toc284247131)

[9. Innovation 14](#_Toc284247132)

[10. Ongoing Building and Site Management 15](#_Toc284247133)

# Project Information

|  |
| --- |
| Planning Permit Applicant: |

.

|  |
| --- |
| Project Description:  |

.

|  |
| --- |
| Property Address:  |

.

|  |
| --- |
| Site Area: |

.

|  |
| --- |
| Site Coverage (building and hard landscaping areas): |

.

|  |
| --- |
| Proposed Building Areas (GFA m2):  |

|  |
| --- |
| **Proposed Site Permeability:**  |

|  |
| --- |
| The sustainable design approach of your building project and its key ESD objectives: |

.

# 1. Indoor Environment Quality (IEQ)

**Objectives:**

* to achieve a healthy indoor environment quality for the wellbeing of building occupants.
* to provide a naturally comfortable indoor environment will lower the need for building services, such as artificial lighting, mechanical ventilation and cooling and heating devices.

|  |  |
| --- | --- |
| Issues | Design Responses |
| Daylight | *Describe how habitable rooms receive enough daylight throughout the day. Show glazing colour on elevation drawings.* |
| Ventilation | *Describe how rooms can be sufficiently ventilated (preferably naturally but where this is impractical, mechanically) and provide occupants with quality fresh air. Show window openings on elevation drawings.* |
| Thermal Comfort | *Describe how habitable rooms sufficiently insulated, shaded and conditioned to ensure comfortable temperatures throughout the year.*  |
| Product Choice | *Describe commitment to choose building materials and finishes with low levels of Volatile Organic Compounds (VOC) and other hazardous components.* |
| Others |  |

**More information can be found in the** [**Indoor Environment Quality fact sheet**](http://www.yarracity.vic.gov.au/DownloadDocument.ashx?DocumentID=6247) **(insert link)**

**References and useful information:**

Good Environmental Choice Australia Standards [www.geca.org.au](http://www.geca.org.au)

Australian Green Procurement [www.greenprocurement.org](http://www.greenprocurement.org)

Residential Flat Design www.planning.nsw.gov.au

Your Home [www.yourhome.gov.au](http://www.yourhome.gov.au)

# 2. Energy Efficiency

**Objectives:**

* to ensure the efficient use of energy
* to reduce total operating greenhouse emissions
* to reduce energy peak demand
* to minimize associated energy costs.

|  |  |
| --- | --- |
| Issues | Design Responses |
| BCA EnergyEfficiency requirementsexceeded  | *Provide preliminary energy ratings NatHERS for residential (inlcuding Firstrate, Accurate and BERS Pro) and for non-residential NABERS Energy, or provide information on how energy efficiency requirements will be achieved. Enclose preliminary energy rating.* |
| Hot Water System | *Describe hot water system type (eg gas instantaneous) and efficiency rating.* *Indicate plant location and size on plans.* |
| Efficient Shading  | *Provide description and show shading elements on plans, finishes schedule and elevations.* |
| Efficient heating and cooling system  | *Describe commitment to choose heating and cooling options with high efficiency ratings. Indicate plant location and size on plans.* |
| Efficient Lighting | *Provide description and list the main habitable areas considering fluorescent, compact fluorescent, or LED lighting indicating how min. standards are being exceeded (eg residential living areas 5w/m2)* |
| Electricity Generation | *Describe on-site electricity generation including size (eg solar PV) Indicate plant location and size on plans.* |
| Others |  |

# More information can be found in the [Energy Efficiency fact sheet](http://www.yarracity.vic.gov.au/DownloadDocument.ashx?DocumentID=6244) (insert link)

**References and useful information:**

House Energy Rating [www.makeyourhomegreen.vic.gov.au](http://www.makeyourhomegreen.vic.gov.au)

First Rate [www.sustainability.vic.gov.au](http://www.sustainability.vic.gov.au)

Building Code Australia www.abcb.gov.au

Window Efficiency Rating Scheme (WERS) www.wers.net

Minimum Energy Performance Standards (MEPS) [www.energyrating.gov.au](http://www.energyrating.gov.au)

Energy Efficiency [www.resourcesmart.vic.gov.au](http://www.resourcesmart.vic.gov.au)

# 3. Water Efficiency

**Objectives:**

* to ensure the efficient use of water
* to reduce total operating potable water use
* to encourage the collection and reuse of rainwater and stormwater
* to encourage the appropriate use of alternative water sources (e.g. grey water)
* to minimise associated water costs.

|  |  |
| --- | --- |
| Issues | Design Responses |
| Minimising Amenity Water Demand  | *Provide efficiency of water appliances including shower heads, taps and toilet cisterns.* |
| Water for Toilet Flushing | *Describe water source for toilet flushing. Indicate rain water tank’s location and size on plans if applicable.* |
| Water Meter | *Provide information on how any multiple unit developments will be metered.* |
| Landscape Irrigation | *Provide description and water source for landscape irrigation. Show irrigation source on relevant floor/roof/site plan drawing or landscape plan if submitted* |
| Other |  |

# More information can be found in the [Water Efficiency fact sheet](http://www.yarracity.vic.gov.au/DownloadDocument.ashx?DocumentID=6246) (insert link)

**References and useful information:**

Water Efficient Labelling Scheme (WELS) www.waterrating.gov.au

Water Services Association of Australia [www.wsaa.asn.au](http://www.wsaa.asn.au)

Water Tank Requirement www.makeyourhomegreen.vic.gov.au

Melbourne Water STORM calculator www.storm.melbournewater.com.au

Sustainable Landscaping www.ourwater.vic.gov.au

# 4. Stormwater Management

**Objectives:**

* to reduce the impact of stormwater runoff
* to improve the water quality of stormwater runoff
* to achieve best practice stormwater quality outcomes
* to incorporate Water Sensitive Urban Design principles.

|  |  |
| --- | --- |
| Issues | Design Responses |
| Site permeability | *Provide details of permeable and impermeable surfaces within the site area.* |
| Rainwater tanks | *Provide details of any water tanks including area of roof run-off, size of tank and proposed water uses (eg. toilet flushing, garden).* *Indicate rain water tank’s location and size on plans (if applicable).* |
| Porous paving | *Provide details of any porous paving including land area and type. Indicate details on plans (if applicable).* |
| Rain gardens or swales | *Provide details of any rain gardens or swales including size of feature and area of run-off. Indicate rain garden or swale location and size on plans (if applicable).* |
| Other |  |

# More information can be found in the [Stormwater Management fact sheet](http://www.yarracity.vic.gov.au/DownloadDocument.ashx?DocumentID=6245)(insert link)

**References and useful information:**

Melbourne Water STORM calculator www.storm.melbournewater.com.au

Water Sensitive Urban Design Principles www.melbournewater.com.au

Environmental Protection Authority Victoria [www.epa.vic.gov.au](http://www.epa.vic.gov.au)

Water Services Association of Australia www.wsaa.asn.au

Sustainable Landscaping www.ourwater.vic.gov.au

# 5. Building Materials

**Objectives:**

* to minimise the environmental impact of materials used by encouraging the use of materials with a favourable lifecycle assessment.

|  |  |
| --- | --- |
| Issues | Design Responses |
| Retention of existing structure and materials | *Provide a description of the intended re-use of existing structures and /or materials within the proposed design. Show on relevant floor/site/demolition plans and elevations/sections.* |
| Reusability and recyclability of materials | *Provide a description of intended materials to be used that have already been recycled and/or their potential to be recycled and or disassembled once they have finished their purpose for this design. Show on relevant floor/site/demolition plans and elevations/sections.* |
| Embodied Energy  | *Provide a description of intended materials to be used that have sustainable production processes (including low embodied energy etc)* |
| Sustainable Timber | *Provide a description of intended sustainable timber use and list their independent sources of verification (eg. forest stewardship council accredited).* |
| Other |  |

# More information can be found in the [Building Materials fact sheet](http://www.yarracity.vic.gov.au/DownloadDocument.ashx?DocumentID=6242) (insert link)

**References and useful information:**

Building Materials, Technical Manuals [www.yourhome](http://www.yourhome).gov.au

Embodied Energy Technical Manual [www.yourhome](http://www.yourhome).gov.au

Good Environmental Choice Australia Standards [www.geca.org.au](http://www.geca.org.au)

Forest Stewardship Council Certification Scheme [www.fsc](http://www.fsc).org

Australian Green Procurement [www.greenprocurement.org](http://www.greenprocurement.org)

# 6. Transport

**Objectives:**

* to minimise car dependency
* to ensure that the built environment is designed to promote the use of public transport, walking and cycling.

|  |  |
| --- | --- |
| Issues | Design Responses |
| Minimising the Provision of Car Parks for ConventionalVehicles | *Provide a description of any parking dispensation being sought and provide details for consideration.* |
| Providing Bike Storage | *Provide the total number of bike storage facilities and ratio to the total number of building users and guests. Show on relevant floor/site plans* |
| End of trip facilities  | *Provide a description of how the design provides end of trip change facilities for bike users and ratio to the total number of on-site bicycle storage spaces* |
| Car Sharing | *Provide a description of any on or off site car share service and show on relevant site plans* |
| Other |  |

**More information can be found in the** [**Transport fact sheet**](http://www.yarracity.vic.gov.au/DownloadDocument.ashx?DocumentID=6248) **(insert link)**

**References and useful information:**

Off-setting Car Emissions Options [www.greenfleet.com.au](http://www.greenfleet.com.au)

Sustainable Transport [www.transport.vic.gov.au/doi/internet/icy.nsf](http://www.transport.vic.gov.au/doi/internet/icy.nsf)

Maroondah Sustainable Transport Policy http://www.Maroondah.vic.gov.au/residents-and-services/parking-and-transport/sustainable-transport-policy/

Bicycle Victoria www.bv.com.au

# 7. Waste Management

**Objectives:**

* to ensure waste avoidance, reuse and recycling during the design, construction and operation stages of development
* to ensure long term reusability of building materials.
* to meet Councils’ requirement that all multi-unit developments must provide a Waste Management Plan in accordance with the *Guide to Best Practice for Waste Management in Multi-unit Developments 2010*, published by Sustainability Victoria.

|  |  |
| --- | --- |
| Issues | Design Responses |
| Storage Spaces for Recycling and Green Waste | *Provide details of separation of waste streams including recycling, green waste and food waste. Indicate space allocation for waste streams on plans.* |
| Construction Waste Management Plan (WMP) | *Provide description of how construction waste will be managed through the construction process including material sorting, disposal and targeted recycling rates* |
| Operation Waste Management Plan | *Provide description of how operational waste will be managed through the occupied life of the building* |
| Others |  |

# More information can be found in the [Waste Management fact sheet](http://www.yarracity.vic.gov.au/DownloadDocument.ashx?DocumentID=6249) (insert link)

**References and useful information:**

Construction and Waste Management www.sustainability.vic.gov.au

Preparing a WMP [www.epa.vic.gov.au](http://www.epa.vic.gov.au)

Waste and Recycling [www.resourcesmart.vic.gov.au](http://www.resourcesmart.vic.gov.au)

Better Practice Guide for Waste Management in Multi-Unit Dwellings (2002) www.environment.nsw.gov.au

Waste reduction in office buildings (2002) www.environment.nsw.gov.au

# 8. Urban Ecology

**Objectives:**

* to protect and enhance biodiversity
* to provide sustainable landscaping
* to protect and manage all remnant indigenous plant communities
* to encourage the planting of indigenous vegetation.

|  |  |
| --- | --- |
| Issues | Design Responses |
| Landscaped areas to be designated | *Provide a description of all new, existing retained and existing demolished landscaped areas and indicate how the design has enhanced the sites biodiversity. Show on relevant site/floor/landscape plans.* |
| Native vegetation  | *Provide a description of how the design has retained native vegetation and allowed for drought tolerant native vegetation. Show on relevant site/floor/landscape plans.* |
| Season heat control | *Provide a description of how the design has used vegetation to control seasonal heat gain or glare and ventilation. Show on relevant site/floor/landscape plans.* |
| Others |  |

**More information can be found in the** [**Urban Ecology fact sheet**](http://www.yarracity.vic.gov.au/DownloadDocument.ashx?DocumentID=6252) **(insert link)**

**References and useful information:**

Department of Sustainability and Environment www.dse.vic.gov.au

Australian Research Centre for Urban Ecology [www.arcue.botany.unimelb.edu.au](http://www.arcue.botany.unimelb.edu.au)

Greening Australia [www.greeningaustralia.org.au](http://www.greeningaustralia.org.au)

Green Roof Technical Manual www.yourhome.gov.au

# 9. Innovation

**Objective:**

* to encourage innovative technology, design and processes in all development, which positively influence the sustainability of buildings.

|  |  |
| --- | --- |
| Issues | Design Responses |
| Significant Enhancement to the Environmental Performance | *Provide a description of how design exceeds best practice standards in one or more of the other 9 categories* |
| Innovative Social Improvements | *Provide a description of how the design has helped implement innovative social improvements (eg. shared composting and communal garden areas)* |
| New Technology  | *Provide a description of how the design implements unique/new methods and strategies to enhance design outcomes.* |
| New DesignApproach | *Provide a description of how the design implements an innovative new design approach.* |
| Others |  |

**More information can be found in the** [**Innovation fact sheet**](http://www.yarracity.vic.gov.au/DownloadDocument.ashx?DocumentID=6251) **(insert link)**

**References and useful information:**

Green Building Council Australia www.gbca.org.au

Victorian Eco Innovation lab [www.ecoinnovationlab.com](http://www.ecoinnovationlab.com)

Business Victoria [www.business.vic.gov.au](http://www.business.vic.gov.au)

Environment Design Guide www.environmentdesignguide.com.au

# 10. Construction and Building Management

**Objective:**

* to encourage a holistic and integrated design and construction process and ongoing high performance

|  |  |
| --- | --- |
| Issues | Design Responses |
| Building Tuning  | *Provide a description of how the designs building systems are managed to ensure optimal efficiency (where fitted)* |
| Building Users’ Guide  | *Provide a description of intent to provide building occupants with a user’s guide that explains the ESD principles of the building*  |
| Environmental credentials of project team | *Provide a description of any environmental credentials that the project team may have (ie Contractor has valied ISO14001 environmental management accreditation, Green Star Accredited Professional, Certified Green Plumber etc.* |
| Environmental Management Plan; Construction and Operation | *Provide a description of any Environmental Management Plans that intend to be implemented during operation phase* |

**More information can be found in the** [**Construction and Building Management fact sheet**](http://www.yarracity.vic.gov.au/DownloadDocument.ashx?DocumentID=6250) **(insert link)**

**References and useful information:**

* ASHRAE and CIBSE Commissioning handbooks
* International Organization for standardization – ISO14001 – Environmental Management Systems