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Sustainable Design Assessment (SDA)

*Template guide for submitted reports*

**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 August 2012, Stonnington Council’s planning application process has required developers to include Environmentally Sustainable Design (ESD) considerations within their applications. This approach is now required as a part of the Stonnington Planning Scheme Policy in section 22.08 - Environmentally Sustainable Development.

The City of Stonnington 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 required to consider Sustainable Design within their developments. However, Council will request 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 Stonnington 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 - two to nine residential dwellings
* Non-residential – Development of a building with a Gross Floor Area (GFA) of between 100m2 and 1000m2
* Non-residential alterations and additions between 100m2 – 1000m2

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: http://www.stonnington.vic.gov.au/residents-and-services/planning/sustainable-design/

# Applicant Response Guidelines

1. **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 Stonnington'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 Stonnington.

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.

1. **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.

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

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| --- |
| Planning Permit Applicant: |

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| --- |
| Project Description: |

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| --- |
| Property Address: |

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| --- |
| Site Area: |

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

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

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

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

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# 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 | Evidence location (I.e. Drawing No., Report etc) | Council Comments | CAR\* |
| Ventilation |  |  |  |  |
| Orientation of windows (single aspect dwellings) |  |  |  |  |
| Daylight |  |  |  |  |
| External Views |  |  |  |  |
| Hazardous Materials and VOC |  |  |  |  |
| Thermal Comfort |  |  |  |  |
| Acoustics |  |  |  |  |

**\* Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – MORE INFORMATION is required;   
3 – Design Issue is NOT APPLICABLE; 4 – Design Response is NOT SATISFACTORY

**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

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| --- | --- | --- | --- | --- |
| Issues | Design Responses | Evidence location (I.e. Drawing No., Report etc) | Council Comments | CAR\* |
| BCA Energy  Efficiency requirements  exceeded |  |  |  |  |
| NABERS rating |  |  |  |  |
| Glazing |  |  |  |  |
| Efficient Hot Water System |  |  |  |  |
| Peak Energy Demand |  |  |  |  |
| External Shading |  |  |  |  |
| Natural light to habitable rooms |  |  |  |  |
| Efficient HVAC system |  |  |  |  |
| Efficient Lighting |  |  |  |  |
| Renewable Energy Generation |  |  |  |  |
| Metering |  |  |  |  |

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1 – Design Response is SATISFACTORY; 2 – MORE INFORMATION is required;   
3 – Design Issue is NOT APPLICABLE; 4 – Design Response is NOT SATISFACTORY

**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

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| --- | --- | --- | --- | --- |
| Issues | Design Responses | Evidence location (I.e. Drawing No., Report etc) | Council Comments | CAR\* |
| Minimising Amenity Water Demand |  |  |  |  |
| Installation of rainwater tank |  |  |  |  |
| Area of roof draining to rainwater tank |  |  |  |  |
| Efficient Fixtures |  |  |  |  |
| Water Meter |  |  |  |  |
| Landscape Irrigation |  |  |  |  |
| Other |  |  |  |  |

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1 – Design Response is SATISFACTORY; 2 – MORE INFORMATION is required;   
3 – Design Issue is NOT APPLICABLE; 4 – Design Response is NOT SATISFACTORY

**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

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| --- | --- | --- | --- | --- |
| Issues | Design Responses | Evidence location (I.e. Drawing No., Report etc) | Council Comments | CAR\* |
| STORM/MUSIC rating |  |  |  |  |
| Permeability |  |  |  |  |
| Discharge to Sewer |  |  |  |  |
| Stormwater Diversion |  |  |  |  |
| Stormwater Detention |  |  |  |  |
| Stormwater Treatment |  |  |  |  |
| Other |  |  |  |  |

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1 – Design Response is SATISFACTORY; 2 – MORE INFORMATION is required;   
3 – Design Issue is NOT APPLICABLE; 4 – Design Response is NOT SATISFACTORY

**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

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| --- | --- | --- | --- | --- |
| Issues | Design Responses | Evidence location (I.e. Drawing No., Report etc) | Council Comments | CAR\* |
| Recyclability / Reusability |  |  |  |  |
| Embodied Energy of Materials |  |  |  |  |
| Toxicity |  |  |  |  |
| Transport |  |  |  |  |
| Sustainable Timber |  |  |  |  |
| Suitability |  |  |  |  |
| Maintenance / Durability |  |  |  |  |
| Other |  |  |  |  |

**\* Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – MORE INFORMATION is required;   
3 – Design Issue is NOT APPLICABLE; 4 – Design Response is NOT SATISFACTORY

**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

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| --- | --- | --- | --- | --- |
| Issues | Design Responses | Evidence location (I.e. Drawing No., Report etc) | Council Comments | CAR\* |
| Minimising the Provision of Car Parks for Conventional  Vehicles |  |  |  |  |
| Providing Bike Storage |  |  |  |  |
| Providing Access to Showers |  |  |  |  |
| Car Sharing |  |  |  |  |
| Improving Pedestrian Spaces |  |  |  |  |
| Green Travel Plan |  |  |  |  |
| Other |  |  |  |  |

**\* Council Assessment Ratings:**

1 – Design Response is SATISFACTORY; 2 – MORE INFORMATION is required;   
3 – Design Issue is NOT APPLICABLE; 4 – Design Response is NOT SATISFACTORY

**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)

Stonnington Sustainable Transport Policy http://www.stonnington.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 | Evidence location (I.e. Drawing No., Report etc) | Council Comments | CAR\* |
| Construction Waste Management Plan (WMP) |  |  |  |  |
| Operation Waste Management Plan |  |  |  |  |
| Storage Spaces (size & accessibility) for Recycling and Green Waste |  |  |  |  |
| Other |  |  |  |  |

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3 – Design Issue is NOT APPLICABLE; 4 – Design Response is NOT SATISFACTORY

**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 | Evidence location (I.e. Drawing No., Report etc) | Council Comments | CAR\* |
| On Site Topsoil Retention |  |  |  |  |
| Reuse of Already Developed Land |  |  |  |  |
| Maintaining Ecological value |  |  |  |  |
| Enhancing Ecological Value |  |  |  |  |
| Other |  |  |  |  |

**\* Council Assessment Ratings:**

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3 – Design Issue is NOT APPLICABLE; 4 – Design Response is NOT SATISFACTORY

**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 | Evidence location (I.e. Drawing No., Report etc) | Council Comments | CAR\* |
| Defining synergies between building elements and building uses |  |  |  |  |
| Exceeding best practice in one or more of the nine other key sustainable building categories |  |  |  |  |
| Significant Enhancement to building’s environmental performance |  |  |  |  |
| Responding to local climate conditions through passive means |  |  |  |  |
| New Technology |  |  |  |  |
| New Design  Approach |  |  |  |  |

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3 – Design Issue is NOT APPLICABLE; 4 – Design Response is NOT SATISFACTORY

**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 | Evidence location (I.e. Drawing No., Report etc) | Council Comments | CAR\* |
| Environmental Management Plans: Construction and Operation |  |  |  |  |
| Adopt a recycling target of at least 70% by mass for all demolition and construction waste |  |  |  |  |
| Prepare a stormwater pollution reduction strategy for the building construction works |  |  |  |  |
| Building Tuning |  |  |  |  |
| Building Users’ Guide |  |  |  |  |
| Other |  |  |  |  |

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3 – Design Issue is NOT APPLICABLE; 4 – Design Response is NOT SATISFACTORY

**References and useful information:**

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