ESD Implementation Report Template

# For use to demonstrate how ESD has been integrated into the built outcome

Fill in this template to confirm how each of the ESD items in the approved Sustainable Design Assessment/ Sustainability Management Plan have been implemented. This document can be submitted in response to the ESD Implementation Report condition on your planning permit.

## Development Details

|  |  |
| --- | --- |
| Site Address: |  |
| Planning Permit #: |  |
| Development Description: |  |
| Endorsed Plans (drawing nos. & endorsed date): |  |
| Endorsed Sustainable Design Assessment – SDA (document title, author & endorsed date) orEndorsed Sustainability Management Plan - SMP (document title, author & endorsed date): |  |

## ESD Implementation

The following sections list the key sustainable building categories that were assessed through the planning process.

For each category, list your development’s ESD items that were committed to in the endorsed Sustainable Design Assessment (SDA)/ Sustainability Management Plan (SMP).

Example items are already listed in the table for your use. The table is based on credits in the BESS tool to assist continuity of assessment for BESS users. However, if your endorsed SDA/ SMP was not based on the BESS tool, you can still use this template. Simply delete items in the table that are BESS credits and add the ESD items that your project committed to in the SDA/ SMP. The table also includes other typical best practice ESD items that aren’t part of the BESS tool.

* Delete any items that were not committed to in your endorsed SDA/ SMP and add any other commitments from your endorsed SDA/ SMP to the list.
* Then confirm how each item has been implemented into the build. There are prompts in the commentary box in the table, such as asking for a description of what was implemented.
* Evidence of each item must be provided. The table includes prompts for the type of evidence required, such as photos, product receipts etc.
* A Checklist for Photographic Evidence can be found on page 25.
* Any example documentation, such as operational environmental management plans, building users’ guides etc, should be attached to this document as an appendix.
* Finally, an as built version of the BESS report must be produced and annexed to the compliance report.

Management

#### Objective:

Best practice for building management means that sustainability is integrated from concept design through the construction process. Good decisions made early will always deliver the maximum benefit for the lowest cost. Best practice building management also means giving future occupants the information they need to be able to run their buildings in the most efficient way.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Category** | | **Design commitment** | | | | **Supporting Evidence** |
| **Management 1.1 Pre-Application Meeting** | | | | | | |
| Has an ESD professional been engaged to provide sustainability advice **from schematic design to construction**? AND Has the ESD professional been involved in a pre-application meeting with Council? | | Yes | | No | | Demonstrate that ESD consultant has been engaged throughout the process.  Copy of the building contract agreement including SMP as a contractual document.  Copy of the ESD consultant terms of agreement. |
| **Management 2.1 Thermal Performance Modelling – Single Dwelling** | | | | | | |
| Has a preliminary NatHERS rating been undertaken? | Yes | | No | | Does the final NatHERS rating meet or exceed the preliminary ratings that were done at the planning stage?  Provide copy of the NatHERS Certificate. | |
| **Management 2.2 Thermal performance Modelling – Multi dwelling - Residential** | | | | | | |
| Have preliminary NatHERS ratings been undertaken for all thermally unique dwellings? | | Yes | | No | | Does the final NatHERS rating meet or exceed the preliminary ratings that were done at the planning stage?  Provide copies of NatHERS certificates for all units and a copy of the specifications for all fabrics related elements. |
| **Management 2.3 Thermal Performance Modelling - Non-Residential** | | | | | | |
| Has preliminary modelling been undertaken in accordance with either NCC Section J (Energy Efficiency), NABERS or Green Star? | | Yes | | No | | Does the energy rating achieved meet of exceed the outcome from preliminary modelling done at the planning stage?  Provide copy of final energy ratings for all units and a copy of the specifications for all fabrics related elements. Copy of NABERS commitment agreement. |
| **Management 3.1 Metering – Multi dwelling - Residential** | | | | | | |
| Have utility meters been provided for all individual dwellings? | | Yes | No | | | Photographic evidence |
| **Management 3.2 Metering** | |  | | | | |
| Have utility meters been provided for all individual commercial tenants? | | Yes | | No | | Relevant Sample from contract documentation (Hydraulic and electrical) demonstrating compliance.  Photographic evidence of power/gas/water sub meters/switchboards. |
| **Management 3.3 Metering** | |  | | | | |
| Have all major common area services been separately submetered? | | Yes | | No | | Relevant Sample from contract documentation (Hydraulic and electrical) demonstrating compliance.  Photographic evidence of power/gas/water sub meters/switchboards |
| **Management 4.1 Building Users Guide** | | | | | | |
| Will a building users guide be produced and issued to occupants? | | Yes | | No | | Copy of the building users guide |

Water

#### Objectives:

Best practice water efficiency means using fixtures and appliances with a high WELS rating, and substituting precious drinking water with alternative water sources (such as greywater and rainwater) for uses such as toilet flushing, laundry and garden irrigation, where appropriate.

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| --- | --- | --- | --- |
| **Category** | **Design Commitment** | | Supporting Evidence |
| **Rainwater Tank** | | | |
| Total Roof Area (m2) | Yes | No | Contract documentation: Roof plan |
| Tank Size (L) | Yes | No | Receipt and photographic evidence |
| Irrigation Area (m2) | Yes | No | Photographic evidence |
| Water Efficient Landscaping | Yes | No | Landscape Plan and photographic evidence |
| Other external demand | Yes | No |  |
| **Water fixtures, fittings and connections** | | | |
| Showerhead |  |  | Photographic evidence of installed appliance and copy of purchase orders incl WELS rating |
| Bath |  |  |
| Kitchen Taps |  |  |
| Bathroom Taps |  |  |
| Dishwashers |  |  |
| Urinals |  |  |
| Washing Machine Water Efficiency |  |  |
| Irrigation connected to which non-potable water source? |  |  | Statutory declaration from project plumber |
| Non-potable water source connected to toilets |  |  |
| Non-potable water source connected to laundry | Yes | No |
| **Water 1.1 Potable water use reduction** | | | |
| What is the reduction in total potable water use due to efficient fixtures, appliances, rainwater use and recycled water use? To achieve points in this credit there must be >25% potable water reduction. | | | |
| Annual Water Consumption (kL) Reference Building |  |  | N/A |
| Annual Water Consumption (kL) Proposed Building |  |  | N/A |
| **Water 2.1 Rainwater Collection and Reuse (additional uses)** | | | |
| What is the additional reduction in potable (mains) water use due to rainwater harvesting | | | |
| Rainwater collection and reuse | 0% |  | Confirmation of reuse connection from project plumber. |
| **Water 3.1 Water Efficient Landscaping** | | | |
| Will water efficient landscaping be installed? | Yes | No | Photograph of water efficient landscaping as installed on site. |
| **Water 4.1 Building Systems Water Use Reduction** | | | |
| Where applicable, have measures been taken to reduce potable water consumption by >80% in the buildings air-conditioning chillers and when testing fire safety systems? | Yes | No | Copy of specification |
| **Residential** |  |  |  |
| Do you have a reticulated third pipe on site or a water recycling system? | Yes | No | Copy of plumbing plan  Photographic evidence (Water recycling system) |
| Are you installing a swimming pool? | Yes | No | Photographic evidence |

## Energy

#### Objective:

Best practice design for energy efficiency means designing buildings that need minimal heating and cooling because they are well insulated, have appropriate summer shading, have good orientation to take advantage of the sun for heating, and have high efficiency fittings and appliances. On-site renewable energy generation is also encouraged to supplement or meet energy needs. The Energy section works by comparing your project to an identical size 'reference' project that meets current minimum standards. Points are awarded where your project demonstrates an improvement above the reference case.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Category | | | | Design Commitment | | | | | | Supporting Evidence | | |
| **Energy Profile** | | | | | | | | | | | | |
| Are you installing a solar photovoltaic (PV) system? | | | | Yes | | | No | | | Photographic evidence | | |
| Are you installing any other renewable energy system(s)? | | | | Yes | | | No | | | Photographic evidence | | |
| Gas Supply | | | | Yes | | | No | | | N/A | | |
| Are you installing a cogeneration or trigeneration system? | | | | Yes | | | No | | | Photographic evidence | | |
| **Non-Residential Approach** | | | | | | | | | | | | |
| **Energy DTS** | | | | | | | | | | | | |
| If you used the BESS Deem to Satisfy (DtS) method for Energy, complete the boxes below. | | | | Yes | | | No | | | N/A | | |
| Do all facades demonstrate a min 10% improvement in required BCA insulation level (total R value upwards and downwards)? | | | | Yes | | | No | | | Copy of contract specifications with R values | | |
| Does all glazing meet a 10% improvement in required BCA glazing calculator (or better than 90% of total allowance)? | | | | Yes | | | No | | | Copy of glazing specifications and receipts. | | |
| Are heating and cooling systems within one Star, or Coefficient of Performance (CoP) & Energy Efficiency Ratios (EER) 85% or better than the most efficient equivalent capacity unit available? | | | | Yes | | | No | | | Copy of contract specifications and receipts. | | |
| Are water heating systems within one Star, or 85% or better than the most efficient equivalent capacity unit available? | | | | Yes | | | No | | | Copy of contract specifications and receipt. | | |
| **Energy Credits** | | | | | | | | | | | | |
| **Energy 1.1 Thermal Performance Rating - Non-Residential** | | | | | | | | | | | | |
| What is the % reduction in heating and cooling energy consumption against the reference case (NCC 2016 BCA Volume 1 Section J) | | | | % | | |  | | | Copy of final energy rating achieved | | |
| Are greenhouse gas emissions >10% below the benchmark | | | | Yes | | | No | | | Copy of final energy rating achieved | | |
| **Energy 1.2 Thermal Performance rating - Residential** | | | |  | | |  | | |  | | |
| What is the average NatHERS rating? | | | |  | | |  | | | Copy of NatHERS certificates | | |
| **Energy 2.1 Greenhouse Gas Emissions** | | | | | | | | | | | | |
| What is the percentage reduction in annual greenhouse gas emissions against the benchmark? | | Provide copy of the NatHERS certificates for all units, | | | | | | | | | | |
| **Energy 2.2 Peak Demand** | | | | | | | | | | | | |
| Has the instantaneous (peak-hour) demand been reduced by >25% | % | | | | |  | | | | | | Provide evidence that the commitments made at the planning stage have been implemented including:   * Contract specifications for R values * Receipts for heating and cooling systems with spec including CoP/EER or star rating plus photos of installed systems. * Photos of installed solar hot water systems * Photos of installed external clothes lines |
| **Energy 2.3 Electricity Consumption** | | | | | | | | | | | | |
| Is the annual electricity consumption >10% below the benchmark | | | | Yes | | | No | | | Copy of NatHERS/ energy rating certificates | | |
| **Energy 2.4 Gas Consumption** | | | |  | | |  | | |  | | |
| Is the annual gas consumption >10% below the benchmark? | | | |  | | |  | | |  | | |
| Reference Building MJ | | | | | | | | | | | | |
| Proposed Building MJ | | | | Yes | | | No | | | Copy of NatHERS/ energy rating Certificates | | |
| **Energy 3.1 Carpark Ventilation** | | | |  | | |  | | |  | | |
| If you have a basement carpark, is it either: (a) fully naturally ventilated (no mechanical ventilation system), or (b) use Carbon Monoxide monitoring to control the operation and speed of the ventilation fans | | | |  | | |  | | |  | | |
| **Energy 3.2 Hot Water** | | | | | | | | | | | | |
| Does the hot water system use >10% less energy (gas and electricity) than the reference case? | | | | Yes | | | No | | | Copy of electrical plan. | | |
| **Energy 3.3 External Lighting – single dwelling** | | | | | | | | | | | | |
| Is the external lighting controlled by a motion detector? | | | | Yes | | | No | | | Copy of NatHERS/ energy rating certificates  Photographic evidence of hot water unit. | | |
| **Energy 3.4 Clothes Drying** | | | | | | | | | | | | |
| Does the combination of clothes lines and efficient dryers reduce energy (gas + electricity) consumption by more than 10% | | | Yes | | | | No | | | | Photographic evidence | |
| **Energy 3.5 Internal Lighting – Residential Single dwelling** | | | | | | | | | | | | |
| Does the development achieve a maximum power intensity of 4W/sqm or less? | | | | Yes | | | | No | | Copy of NatHERS/ energy rating Certificate  Picture of installed clothes lines | | |
| **Energy 3.6 Internal Lighting – Residential multiple dwellings** | | | | | | | | | | | | |
| Is the maximum power density (w/m2) in at least 90% of the relevant building class at least 20% lower than required by Table J6.2a of the NCC 2019 Vol 1 (Class 2-9) and clause 3.12.5.5 NCC 2019 Vol2 (Class 1 and 10) | | | | | Yes | | No | | | | Lighting calculations and light specifications. | |
| **Energy 3.7 Internal Lighting - Non-Residential** | | | | | | | | | | | | |
| Is the maximum illumination power density (W/m2) in at least 90% of the relevant building class at least 20% lower than required by Table J6.2a of the NCC 2016 BCA Volume 1 Section J (Class 2 to 9) | | | | Yes | | | | | No | | | Light specifications. |
| **Energy 4.1 Combined Heat and Power (cogeneration / trigeneration)** | | | | | | | | | | | | |
| Does the CHP system reduce the class of buildings GHG emissions by more than 25%? | | | | Yes | | | No | | | Light specifications. | | |
| Net Electricity Generation | | | | | | | | | | | | |
| Gas Consumption | | | | Yes | | | No | | | * Report including details of the combined heat and power system and energy calculations. | | |
| **Energy 4.2 Renewable Energy Systems - Solar** | | | |  | | |  | | |
| Does the solar power system provide 5% of the estimated energy consumption of the building class it supplies? | | | |  | | |  | | |
| **Energy 4.4 Renewable Energy Systems - Other** | | | | | | | | | | | | |
| Does another form of renewable energy (not solar or wind) provide 5% of the estimated energy consumption of the building class it supplies? | | | | Yes | | | No | | | A report including specifications of the renewable energy system and energy calculations.  Photograph of installed renewable energy system. | | |
| **Energy 4.5 – Solar PV Houses and Townhouses** | | | |  | | |  | | |  | | |
| Does a solar PV system provide 30% of the annual energy consumption of the building class it supplies? | | | | Yes | | | No | | | A report including specifications of the solar PV system and energy calculations.   * Photograph of installed renewable energy system. | | |

## Stormwater

#### Objective:

Best practice stormwater management means incorporating water sensitive urban design strategies such as rainwater tanks, raingardens, porous paving and landscaping to reduce the volume of run-off and the pollutant load on local waterways.

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| --- | --- | --- | --- |
| **Which stormwater modelling are you using?** | STORM – MUSIC - OTHER | | |
| Category | Design Commitment | | Supporting evidence |
| Has best practice stormwater management been demonstrated? | Yes | No | Modelling report (STORM/ MUSIC). Photographic evidence of water management system (raingarden, tanks, trench, etc.) |
| STORM score achieved |  |  |
| MUSIC modelling results |  |  |  |

## Indoor Environmental Quality

#### Objective:

Best practice design for Indoor Environment Quality means that building occupants can enjoy a comfortable space with good air quality, adequate daylight and ventilation. Indoor environment quality is affected by building orientation and layout, window sizes and specification, shading devices, products used for construction and fit-out and neighbouring structures.

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| **Category** | **Design Commitment** | | **Supporting Evidence** |
| **IEQ 1.1 and IEQ 1.2 - Deemed to Satisfy method - Residential Daylight Access** | | | |
| Was the BESS Deemed to Satisfy method used for IEQ? | Yes | No | If yes, respond to the questions below: |
| Are all living areas and bedroom less than 8m deep (5m if south facing)? | Yes | No | Plan + photographic evidence |
| Do all living areas and bedrooms have a floor to ceiling height of at least 2.7m ? | Yes | No | Plan + photographic evidence |
| Does all glazing to living areas achieve at least 60% VLT? | Yes | No | Plan + Photographic evidence + window specification |
| Do all living areas have an external facing window (not into a courtyard, light well or other major obstruction)? | Yes | No | Plan + photographic evidence |
| Does the building(s) comply with the requirements of the building separation tables? | Yes | No | Plan |
| **IEQ 1.4 Daylight Access - Non-Residential** | | | |
| What % of the nominated floor area has at least 2% daylight factor? |  |  | Provide evidence that the parameters used for daylight model have been implemented including:   * VLT of glazing installed * Surface reflectance – photos of finish |
|  |  |  |  |
| **IEQ 2.1 - Effective Natural Ventilation** | | | |
| Are 60% - 100% of habitable rooms effectively naturally ventilated? |  |  | Photo examples of openable windows in correct location according to endorsed plans |
| **IEQ 2.2 – Cross Flow Ventilation** | | | |
| Do all habitable rooms achieve natural cross flow ventilation? |  |  | Photo examples of openable windows in correct location according to endorsed plans |
| **IEQ 3.1 – Thermal Comfort Double Glazing** | | | |
| Is double glazing used for all habitable rooms? |  |  | Copy of window specifications |
| **IEQ 3.2 – Thermal Comfort External Shading** | | | |
| Is external shading provided to all glazing receiving direct sunlight (north, east & west elevations)? |  |  | Photos of external shading installed as per endorsed plans |

## Transport

#### Objective:

Best practice design for transport means creating buildings that encourage walking, cycling, public transport, car sharing, and the use of lower emissions

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Category** | | | **Design Commitment** | | | | | **Supporting Evidence** |
| **Transport 1.1 Bicycle parking - Residential** | | | | | | | | |
| Is there at least one secure bicycle space per dwelling? | Yes | | | | No | Photographic evidence | | |
| **Transport 1.2 Bicycle parking – Residential Visitor** | | | | | | | | |
| Is there at least one visitor bicycle space per 5 dwellings? | Yes | | | | No | Photographic evidence | | |
| **Transport 1.3 Bicycle Parking – Convenience residential** | | | | | | | | |
| Are bike parking facilities for residents located at ground level? | Yes | | | | No | Plan and Photographic evidence | | |
| **Transport 1.4 Bicycle Parking - Non-Residential** | | | | | | | | |
| Have the planning scheme requirements for employee bicycle parking been exceeded by at least 50% (or a minimum of 2 spaces provided where there is no planning scheme requirement)? | | | Yes | No | | | | Picture of bicycle parking |
| No. Of Bicycle Spaces Provided | | |  |  | | | |
| **Transport 1.5 Bicycle Parking - Non-Residential Visitor** | | | | | | | | |
| Have the planning scheme requirements for visitor bicycle parking been exceeded by at least 50% (or a minimum of 1 space provided where there is no planning scheme requirement)? | | | Yes | No | | | | Picture of bicycle parking |
| No. Of Bicycle Spaces Provided | | |  |  | | | |
| **Transport 1.6 End of trip facilities – Non- Residential** | | | | | | | | |
| Provide 1 shower per 10 bicycle spaces | | Yes | | No | | | Photographic evidence | |
| Change facilities | | Yes | | No | | | Photographic evidence | |
| 1 secure locker per bike space | | Yes | | No | | | Photographic evidence | |
| **Transport 2.1 Electric Vehicle Infrastructure** | | | | | | | | |
| Are facilities are provided for the charging of electric vehicles? | | | Yes | No | | | | Picture of the charging facility |
| **Transport 2.2 Car Share Scheme** | | | | | | | | |
| Has a formal car sharing scheme been integrated into the development? | | | Yes | No | | | | Copy of car sharing scheme agreement |
| **Transport 2.3 Motorbikes / Mopeds** | | | | | | | | |
| Are a minimum of 5% of vehicle parking spaces designed and labelled for motorbikes (must be at least 5 motorbike spaces)? | | | Yes | No | | | | Picture of motorbike parking spaces. |

## Waste

#### Objective:

To ensure waste avoidance, reuse and recycling during the operational life of the building.

To ensure durability and long-term reusability of building materials.

To ensure sufficient space is allocated for future change in waste management needs, including (where possible) composting and green waste facilities.

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| --- | --- | --- | --- |
| **Category** | **Design Commitment** | | **Supporting Evidence** |
| **Waste 1.1 - Construction Waste - Building Re-Use** | | | |
| If the development is on a site that has been previously developed, has at least 30% of the existing building been re-used? | Yes | No | Photographic evidence |
| **Waste 2.1 - Operational Waste - Food & Garden Waste** | | | |
| Are facilities provided for on-site management of food and garden waste? | Yes | No | Photographic evidence |
| **Waste 2.2 - Operational Waste - Convenience of Recycling** | | | |
| Are the recycling facilities at least as convenient for occupants as facilities for general waste? | Yes | No | Photographic evidence |

## Urban Ecology

#### Objective:

To protect and enhance biodiversity within the municipality.

To provide environmentally sustainable landscapes and natural habitats and minimise the urban heat island effect.

To encourage the retention of significant trees. To encourage the planting of indigenous vegetation.

To encourage the provision of space for productive gardens, particularly in larger residential developments.

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| **Category** | | | **Design Commitment** | | | | | **Supporting Evidence** |
| **Urban Ecology 1.1 Communal Spaces** | | | | | | | | |
| Is there at least the following amount of common space measured in square meters :  \* 1m² for each of the first 50 occupants  \* Additional 0.5m² for each occupant between 51 and 250  \* Additional 0.25m² for each occupant above 251 | | | Yes | | | No | | Photographic Evidence |
| **Urban Ecology 2.1 Vegetation** | | | | | | | | |
| How much of the site is covered with vegetation, expressed as a percentage of the total site area | | |  | | |  | | Photographic evidence that landscape is in line with endorsed landscape plan |
| **Urban Ecology 2.2 Green Roofs** | | | | | | | | |
| Does the development incorporate a green roof? | | | Yes | | | No | | Photographic evidence |
| **Urban Ecology 2.3 Green Walls and Facades** | | | | | | | | |
| Does the development incorporate a green wall or facade? | | | Yes | | | No | | Photographic evidence |
| **Urban Ecology 2.4 Private open space – Balcony/courtyard ecology - Residential** | | | | | | | | |
| Is there a tap and drain on every balcony / courtyard? | | Yes | | | No | | | Photographic evidence |
| **Urban Ecology 3.1 Food production - Residential** | | | | | | | | |
| Food production area | Yes | | | No | | | Photographic Evidence | |
| **Urban Ecology 3.2 Food Production - Non-Residential** | | | | | | | | |
| Is there at least 0.25m² of space per occupant dedicated to food production? | | | Yes | | | No | | Photographic evidence |

## Others (not included in the BESS scorecard).

**Materials**

###### Objectives:

-retain as much of the existing structure as possible

-specify use of recycled materials

-sustainable materials choice, certified by a third party such as [GECA](http://geca.eco/product-finder/)

-locally sourced building products to minimise emissions from transportation.

-specify recycled cement content in concrete

-timber sourced from certified Environmental Stewardship Programme, such as [FSC](https://au.fsc.org/en-au)

-metal produced from post-consumer waste

|  |  |  |  |
| --- | --- | --- | --- |
| **Material** | **Design Commitment** | | **Supporting Evidence** |
|  | **Yes** | **No** |  |
| Retention of existing structure |  |  | *Describe extent of retained structure & provide photos* |
| Recycled materials used |  |  | *Product receipts & photos* |
| Third party certified sustainable materials |  |  | *Product receipts & photos* |
| Locally sourced materials used |  |  | *Product receipts & photos* |
| High recycled cement content in concrete |  |  | *Product receipts & photos* |
| Timber sourced from environmental stewardship program |  |  | *Product receipts & photos* |
| Metal produced from post-consumer waste |  |  | *Product receipts & photos* |
| Others |  |  |  |

#### Indoor Environment Quality (IEQ)

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| --- | --- | --- | --- |
| Low toxicity products used |  | *Low VOC adhesives and paints used* | *Product receipts* |

#### Water Efficiency

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| --- | --- | --- | --- |
| **Item** | **Implemented? Y/N** | **Commentary** | **Evidence** |
| Grey water treatment system |  | *Describe system* | *Photo* |

#### Stormwater

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | **Implemented? Y/N** | **Commentary** | **Evidence** |
| Porous paving installed |  | *Describe where installed* | *Photo* |
| Raingarden installed |  | *Describe where installed* | *Photo* |

#### Transport

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | **Implemented? Y/N** | **Commentary** | **Evidence** |
| Green travel plan |  | *Describe what has been provided to occupants* | *Attach Green Travel Plan* |

#### Waste Management

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | **Implemented? Y/N** | **Commentary** | **Evidence** |
| Organic waste separation |  | *Describe* | *Photo* |
| On site management of organic waste |  | *Describe management system and person responsible* | *Photo* |
| E-waste separation and collection |  | *Describe* | *Photo* |
| Provision of charity collection bin |  | *Describe* | *Photo* |
| Operational Waste Management Plan |  | *Describe what has been provided to occupants* | *Attach Operational WMP* |

#### Urban Ecology

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | **Implemented? Y/N** | **Commentary** | **Evidence** |
| Pre-development vegetation retained |  | *Describe* | *Photo* |
| Vegetation increased compared to pre-development conditions |  | *Describe* | *Landscape plan & photo* |
| Indigenous & native vegetation |  | *Describe* | *Product receipts & photo* |

**Innovation**

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | **Implemented? Y/N** | **Commentary** | **Evidence** |
| ESD strategy/ technology new to Victoria |  | *Describe* | *Photos, product receipts as applicable* |
| Innovative response to local climate conditions |  | *Describe* | *Relevant excepts from plans & photos* |

**Checklist of Photographic Evidence**

|  |  |
| --- | --- |
| **Category** | **Supporting Evidence** |
| **Management 3.1 Metering – Multi dwelling - Residential** | |
| Have utility meters been provided for all individual dwellings ? | Pic of individual utility meters |
| **Management 3.2 Metering** |  |
| Have utility meters been provided for all individual commercial tenants? | Pic of utility meter / tenant. |
| **Management 3.3 Metering** |  |
| Have all major common area services been separately submetered? | Pic of meter / switchboard for common areas. |

|  |  |
| --- | --- |
| **Category** | **Supporting Evidence** |
| Tank Size (L) | Pic of Water Tank on site |
| Irrigation Area (m2) | Pic of irrigated area |
| Water Efficient Landscaping | Pic of water efficient landscaping |
| **Water fixtures, fittings and connections** | |
| Showerhead | Photographic evidence of installed appliance and copy of purchase orders incl WELS rating |
| Bath |
| Kitchen Taps |  |
| Bathroom Taps |
| Dishwashers |
| Urinals |
| Washing Machine Water Efficiency |
| **Water 3.1 Water Efficient Landscaping** | |
| Will water efficient landscaping be installed? | Photograph of water efficient landscaping as installed on site. |
| **Residential** |  |
| Do you have a reticulated third pipe on site or a water recycling system? | Pic of third pipe being installed  Pic of recycled water tap. |
| Are you installing a swimming pool? | Pic of the swimming pool. |

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| **Energy Profile** | |
| Are you installing a solar photovoltaic (PV) system? | Pic of installed solar system. |
| Are you installing any other renewable energy system(s)? | Pic of the installed renewable. |
| Are you installing a cogeneration or trigeneration system? | Pic of cogeneration / tri generation system on site |
| **Non-Residential Approach** | |
| Do all facades demonstrate a min 10% improvement in required BCA insulation level (total R value upwards and downwards)? | Working Site pics of insulation installed in walls, ceiling, subfloor. |
| Does all glazing meet a 10% improvement in required BCA glazing calculator (or better than 90% of total allowance)? | Photographic evidence of windows installed on site with stickers showing U values, |
| **Energy 3.2 Hot Water** | |
| Does the hot water system use >10% less energy (gas and electricity) than the reference case? | Photographic evidence of hot water unit installed on site |
| **Energy 3.3 External Lighting – single dwelling** | |
| Is the external lighting controlled by a motion detector? | Site pic of motion detector |
| **Energy 3.4 Clothes Drying** | |
| Does the combination of clothes lines and efficient dryers reduce energy (gas + electricity) consumption by more than 10% | Picture of installed clothe lines |

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| Has best practice stormwater management been demonstrated? | Photographic evidence of water management system (raingarden, tanks, trench, etc.) installed on site. |

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| Are all living areas and bedroom less than 8m deep (5m if south facing)? | Plan + photographic evidence of at least 10% of the living areas |
| Do all living areas and bedrooms have a floor to ceiling height of at least 2.7m ? | Plan + photographic evidence of at least 10% of the living areas |
| Does all glazing to living areas achieve at least 60% VLT? | Plan + Photographic evidence of installed glazing with sticker on it |
| Do all living areas have an external facing window (not into a courtyard, light well or other major obstruction)? | Plan + photographic evidence of installed glazing with sticker on it. |

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| **IEQ 2.1 and IEQ 2.2 - Effective natural ventilation and Natural Cross Flow Ventilation** | *Photo examples of openable windows in correct location according to endorsed plans* |
| **IEQ 3.2 External shading to all glazing receiving direct sunlight (north, east & west elevations)** | *Installed as per endorsed plans. Site pictures of external shading.* |
| **Transport 1.1 Bicycle parking - Residential** | |
| Is there at least one secure bicycle space per dwelling? | Site pic. of secured bike space. |
| **Transport 1.2 Bicycle parking – Residential Visitor** | |
| Is there at least one visitor bicycle space per 5 dwellings? | Site pic. of secured bike space |
| **Transport 1.4 Bicycle Parking - Non-Residential** | |
| Have the planning scheme requirements for employee bicycle parking been exceeded by at least 50% (or a minimum of 2 spaces provided where there is no planning scheme requirement)? | Site pic. of all bike spaces |
| No. Of Bicycle Spaces Provided |
| **Transport 1.5 Bicycle Parking - Non-Residential Visitor** | |
| Have the planning scheme requirements for visitor bicycle parking been exceeded by at least 50% (or a minimum of 1 space provided where there is no planning scheme requirement)? | Site pic. of all bike spaces |
| No. Of Bicycle Spaces Provided |
| **Transport 1.6 End of trip facilities – Non- Residential** | |
| Provide 1 shower per 10 bicycle spaces | Picture of site showers |
| Change facilities | Picture of change facilities |
| 1 secure locker per bike space | Picture of site lockers |
| **Transport 2.1 Electric Vehicle Infrastructure** | |
| Are facilities are provided for the charging of electric vehicles? | Picture of the charging facility on site. |
| **Transport 2.3 Motorbikes / Mopeds** | |
| Are a minimum of 5% of vehicle parking spaces designed and labelled for motorbikes (must be at least 5 motorbike spaces)? | Picture of motorbike parking spaces. |

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| **Waste 1.1 - Construction Waste - Building Re-Use** | | | |
| If the development is on a site that has been previously developed, has at least 30% of the existing building been re-used? | | | Picture of the remaining part of the building in the new built form |
| **Waste 2.1 - Operational Waste - Food & Garden Waste** | | | |
| Are facilities provided for on-site management of food and garden waste? | | | Picture of site management of food and garden waste. |
| **Waste 2.2 - Operational Waste - Convenience of Recycling** | | | |
| Are the recycling facilities at least as convenient for occupants as facilities for general waste? | | | Picture of site recycling facilities |
| **Urban Ecology 1.1 Communal Spaces** | | | |
| Is there at least the following amount of common space measured in square meters :  \* 1m² for each of the first 50 occupants  \* Additional 0.5m² for each occupant between 51 and 250  \* Additional 0.25m² for each occupant above 251 | | | Picture of communal space. |
| **Urban Ecology 2.1 Vegetation** | | | |
| How much of the site is covered with vegetation, expressed as a percentage of the total site area | | | Photographic evidence that landscape is in line with endorsed landscape plan |
| **Urban Ecology 2.2 Green Roofs** | | | |
| Does the development incorporate a green roof? | | | Pic of Green roof implemented on site. |
| **Urban Ecology 2.3 Green Walls and Facades** | | | |
| Does the development incorporate a green wall or facade? | | | Picture of installed green wall |
| **Urban Ecology 2.4 Private open space – Balcony/courtyard ecology - Residential** | | | |
| Is there a tap and drain on every balcony / courtyard? | | picture of installed tap and drain | |
| **Urban Ecology 3.1 Food production - Residential** | | | |
| Food production area | picture of food production area | | |
| **Urban Ecology 3.2 Food Production - Non-Residential** | | | |
| Is there at least 0.25m² of space per occupant dedicated to food production? | | | picture of food production area |

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| **Materials** | **Evidence** |
| Retention of existing structure | *Picture of retained structure* |
| Recycled materials used | *site picture of recycled material* |
| Third party certified sustainable materials | *Site picture of sustainable material + sticker* |
| Locally sourced materials used | *Site picture of local material + delivery coupon* |
| High recycled cement content in concrete | *Picture of concrete* |
| Timber sourced from environmental stewardship program | *Picture of timber + sticker* |
| Metal produced from post-consumer waste | *Picture of metal + sticker* |
| Others |  |

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| **Integrated Water Management** | **Evidence** |
| Grey water treatment system | *Picture of installed grey water system* |
| Porous paving installed | *Picture of porous paving* |
| Raingarden installed | *picture of installed raingarden* |

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| **Waste** | **Evidence** |
| Organic waste separation | *picture of organic waste management system* |
| On site management of organic waste | *picture of organic waste management system* |
| E-waste separation and collection | *Picture and location of E waste bin + associated sign* |
| Provision of charity collection bin | *Picture and location of Charity bin + associated sign* |

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| **Urban Ecology** | **Evidence** |
| Pre-development vegetation retained | *Picture of remaining vegetation* |
| Vegetation increased compared to pre-development conditions | *Landscape plan & picture of new landscape* |
| Indigenous & native vegetation | *Product receipts & photo* |

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| **Innovation** | **Evidence** |
| ESD strategy/ technology new to Victoria | *Photos, product receipts as applicable* |
| Innovative response to local climate conditions | *Relevant excepts from plans & photos* |