



## EnviroDevelopment Technical Standards

National Version 1.0

Urban Development Institute of Australia

Living for the future, today.

#### EnviroDevelopment Foundation Partners

Foundation Partner in Queensland,  
South Australia and Victoria:



Other Victorian  
Foundation Partners:



Western Australian  
Foundation Partners:



#### EnviroDevelopment Element Partners

Waste:



##### Rethinking waste in Queensland

While many companies are minimising waste and recycling resources, too much of Queensland's industry-generated waste goes to landfill, with only about a third recycled. The Queensland Government's waste reforms will encourage reuse, recycling and resource recovery. Supporting programs will help businesses minimise waste sent to landfill and foster resource recovery industries.  
[www.derm.qld.gov.au/waste](http://www.derm.qld.gov.au/waste)

Energy:



Ergon Energy, as a Queensland Government Owned Corporation, operates as an electricity distributor, retailer and generator and services around 680,000 customers across its vast operating area of over one million square kilometres – 97% of the state of Queensland – from the expanding coastal and rural population centres to the remote communities of outback Queensland and the Torres Strait.

Materials:



The Queensland Government's waste reforms aim to ensure that recycling is the preferred option over landfill. More unwanted materials should be given a new life by someone else, through encouraging industry investment in resource recovery infrastructure throughout the state, building markets for recycled materials and products, and fostering new 'green' jobs.

#### EnviroDevelopment Supporters



#### EnviroDevelopment Technical Standards Partner



**HopgoodGanim**  
LAWYERS

HopgoodGanim provides sophisticated legal advisory services for the development industry, and is at the forefront of advising on the legal aspects of sustainable development. Our leading property, planning and development advisors provide a complete front to back end service, from strategic advice and project development to dispute resolution. HopgoodGanim is proud to sponsor the EnviroDevelopment National Technical Standards.

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## The EnviroDevelopment Concept

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EnviroDevelopment has been created to increase the uptake of sustainability throughout all aspects of the development process and across all development types including residential, retail, commercial and industrial as well as mixed-use developments. Its purpose is to mainstream more sustainable development, beyond display projects. It is designed to harness the enthusiasm of industry, government and the community and to inspire higher achievement than would be achieved through regulation, whilst maintaining opportunities for flexibility and innovation.

Since the public launch of the system in October 2006, EnviroDevelopment has been successful in growing awareness of sustainable development amongst developers, associated professionals, government agencies, and consumers and provided recognition to exemplary projects.

EnviroDevelopment offers independent certification of the sustainability credentials of a development. Through this recognition and related rewards, EnviroDevelopment provides an incentive-based system designed to increase sustainability in developments via key partnerships, rewards and marketing. The EnviroDevelopment framework covers a broad spectrum of environmental and community sustainability issues relevant to development. Economic impacts have been considered and integrated into the standards and will also be considered by developers on a case-by-case basis in their choice of environmental solutions.

EnviroDevelopment is separated into six key elements: ecosystems, waste, energy, materials, water and community. It also addresses issues of relevance right through the development chain, commencing from the conceptual stages of a development. This is important as addressing environmental issues at this early stage can offer better outcomes and more opportunities for reducing environmental impacts and improving environmental performance. If environmental issues are not considered at this time, only a limited array of initiatives may be able to be implemented (often limited to a building's design and construction) to reduce the overall environmental impact of the population.

The EnviroDevelopment standards have been designed to be flexible, to encourage innovation and to avoid any unintended negative outcomes that can sometimes result when standards or regulations are overly prescriptive. Hence, the EnviroDevelopment standards aim to recognise the performance of a development in achieving broad environmental goals, whilst facilitating the most appropriate or innovative method to be chosen for individual situations.

The EnviroDevelopment standards are set higher than standard practice and a development that achieves EnviroDevelopment recognition should therefore be one that represents excellence and of which the industry and community can be proud. For EnviroDevelopment to maintain its integrity and credibility as a catalyst of change and recognisable brand, the standards set must hold up under rigorous scrutiny from a range of individuals and organisations including government, community-based organisations and the scientific community.

The EnviroDevelopment standards are set at a level only a restricted number of developments (e.g. conceptualise the top 10-20%) are currently achieving. However, this level would be within the grasp of a much larger number, irrespective of site or type of development, given sufficient encouragement and incentives.

Conversely, the standards are not set so high that they would be seen as too difficult or expensive to be worth aiming for. Such a situation would see EnviroDevelopment become irrelevant and have little positive impact on industry performance or consumer awareness.

## The Elements of EnviroDevelopment

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EnviroDevelopment is designed to cover a broad spectrum of environmental and sustainability issues from the initial conceptual stages of development. There are six key elements of EnviroDevelopment. These are **ecosystems, waste, energy, materials, water** and **community**. The standards required for certification in each of the elements are explained on the following pages.

The standards have been drafted by a Technical Standards Taskforce consisting of developers, local government, state government, environmental consultants and other professionals. There has also been input from a range of other relevant experts, such as academics involved in calculating water savings or private sector organisations researching the environmental merit of particular materials. They have also been reviewed and approved by the EnviroDevelopment Board of Management.

A developer may apply to have a development certified as meeting the EnviroDevelopment standards for all or any combination of the six key elements, however, the EnviroDevelopment Board of Management has determined that a minimum number of elements shall be prescribed for all future EnviroDevelopment applications. That minimum number is determined on a state by state basis and shall be authorised by the EnviroDevelopment Board of Management and published separately. If a developer is applying for less than six elements, the essential requirements must be met. A development achieving the requirements of all or any of the EnviroDevelopment elements would be eligible for appropriate recognition as an EnviroDevelopment (i.e. only for the elements in which the particular development had qualified).

A certified development may only display the icons in the 'leaves' or the individual leaves of the element/s relevant to its certification. For example, Figures 1 and 2 show that a developer has achieved all six EnviroDevelopment elements, whilst Figures 3 and 4 denote a development that has achieved the EnviroDevelopment standards for ecosystems, waste, energy and community. A development achieving the standards for fewer than six of the elements is regarded as an exemplary development, which has focussed its efforts on a narrower range of sustainability issues.

The EnviroDevelopment marketing logo (Figure 5) is used by UDIA for marketing and promotion of the EnviroDevelopment program. This logo is not for use by developers.

**Figure 1:** The certification logo for a development achieving all six EnviroDevelopment elements.

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**Figure 2:** Horizontal version of EnviroDevelopment logo denoting a development certified as meeting all six of the EnviroDevelopment standards.



**Figure 3:** EnviroDevelopment logo denoting a development certified as meeting the EnviroDevelopment standards for ecosystems, waste, energy and community.



**Figure 4:** Horizontal version of EnviroDevelopment logo denoting a development certified as meeting the EnviroDevelopment standards for ecosystems, waste, energy and community.



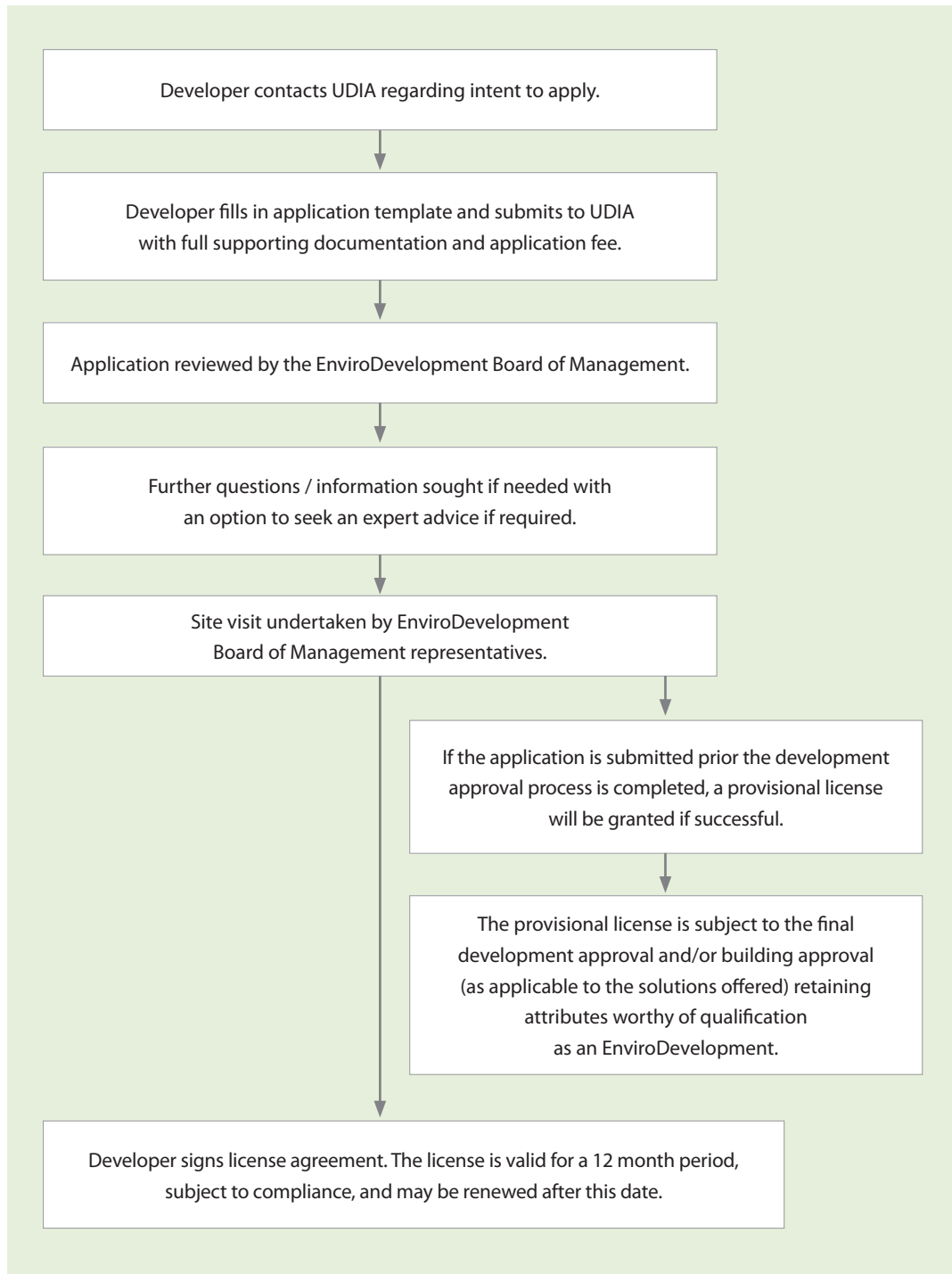
**Figure 5:** EnviroDevelopment marketing logo (UDIA use only)



## EnviroDevelopment Certification Process Guidelines

The process for EnviroDevelopment certification is outlined below in Figure 6.

**Figure 6:** EnviroDevelopment Certification Process Guidelines.



## EnviroDevelopment Certification Process Guidelines

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### **Certification Process and Submission Timing**

In principle, a developer may apply for EnviroDevelopment certification as soon as they can demonstrate, with a high level of certainty that the development will reliably meet the EnviroDevelopment requirements. It is envisaged that the application for certification will generally be submitted at the same stage as the development application is lodged or as soon as evidence is available offering certainty of achievement of EnviroDevelopment standards. This is on the basis that much of the evidence required for EnviroDevelopment is compatible with the evidence required for a development assessment and that this is likely to be the timing offering the greatest benefits of EnviroDevelopment certification to both developers and government.

Submission around the time of a development application should allow preliminary certification of qualifying developments, for use in development assessment discussions. However, the timeline for EnviroDevelopment certification may vary depending on the EnviroDevelopment solutions chosen for a particular development, as some solutions may be confirmed earlier than others. For example, a developer may have legal evidence protecting an area of vegetation earlier than they might have a covenant or body corporate design guidelines locked in place to ensure the sustainability features of buildings.

Where a developer has obtained preliminary EnviroDevelopment certification (subject to the final development approval) they must submit appropriate documentation after the development approval, highlighting any changes made since the preliminary certification.

An application for EnviroDevelopment certification should include a completed application template and all other documentation as required to clearly demonstrate reliable achievement and future delivery of initiatives to satisfy the EnviroDevelopment standards.

EnviroDevelopment applications will be considered by the EnviroDevelopment Board of Management, with advice and input from appropriately qualified experts as necessary. EnviroDevelopment certification requires the endorsement of the EnviroDevelopment Board of Management. Every effort will be made to ensure that EnviroDevelopment applications will be processed within six to eight weeks of receipt of all documentation and supporting information.

EnviroDevelopment certification will be valid for a period of 12 months from the date of approval by the EnviroDevelopment Board of Management. However, certification and use of the logo suite will only be granted after the licencing agreement and statutory declaration has been signed by both parties and all fees have been paid.

While the most appropriate time to submit an EnviroDevelopment application is usually around three months prior to the release of the first phase of the development for sale or commencement of leasing, applicants are able to delay the commencement of the term of their EnviroDevelopment license by up to six months to coincide with a specific project milestone.



## EnviroDevelopment Renewal

To renew EnviroDevelopment certification, the developer will be required to submit, four weeks before the renewal date: a completed renewal form; signed statement and all appropriate documentation detailing any changes in the development that may affect the basis upon which the EnviroDevelopment licence was granted from the time of the initial certification to the end of the period of renewal. A renewal fee (equal to 20% of the original certification fee) will also be payable.

## EnviroDevelopment Compliance

EnviroDevelopment certified projects may be subject to random site checks. Where appropriate, and at the EnviroDevelopment Board of Management's discretion, further information may be requested to ensure the integrity of EnviroDevelopment certification and the continued compliance of certified developments.

Developers of EnviroDevelopment certified projects must advise UDIA within 10 business days of any changes made, or proposed to be made, to the proposed or existing development which may affect eligibility for EnviroDevelopment certification.

If the EnviroDevelopment Board of Management has concerns regarding compliance with the standards (or any aspect of the certification) or breach of the licensing agreement, UDIA will advise the developer (licensee) of these concerns and request evidence of compliance within 10 business days of the notice.

EnviroDevelopment certification may be revoked if the EnviroDevelopment Board of Management is not satisfied that the certified EnviroDevelopment is meeting the requirements and the spirit of EnviroDevelopment. In the instance of non-conformance, the licence will be revoked and the application fee will not be refunded. There may also be cause to make public statements about such non-compliance to protect the broader integrity of EnviroDevelopment.

The developer may be declared by the EnviroDevelopment Board of Management to be ineligible for EnviroDevelopment certification for any project for a period of two years if found to breach the agreement or provide incorrect or false statements. Similarly, any third parties or consultants found to be providing substantially incorrect or false statements or evidence for the purpose of EnviroDevelopment certification may be declared by the EnviroDevelopment Board of Management to be ineligible to provide evidence for EnviroDevelopment certification for a period of two years. Such actions by any party may be found to constitute a breach of the UDIA Code of Ethics and result in loss of UDIA Membership.

The use of the EnviroDevelopment logo system is protected and action will be taken against persons or organisations found to be fraudulently representing a development, or a component of a development, as an EnviroDevelopment, or fraudulently representing any other product as EnviroDevelopment certified or endorsed.

EnviroDevelopment certification is not an alternative to compliance with all Federal, State and Local legislative and regulatory requirements. EnviroDevelopments must fulfil all legislative and regulatory requirements.

### **EnviroDevelopment Standards Review**

The EnviroDevelopment Technical Standards will be reviewed periodically as required to ensure that the criteria are appropriate in light of new technology, regulation or standard practices. Where EnviroDevelopment applications are received which demonstrate exceptional environmental performance, equivalent to or exceeding the standards required for certification but which fail to comply with the existing detail of the EnviroDevelopment criteria, in exceptional circumstances and at the discretion of the EnviroDevelopment Board of Management, this may trigger a review of the EnviroDevelopment standards and the certification may be approved.

Applicants and other interested parties should refer to the website ([www.envirodevelopment.com.au](http://www.envirodevelopment.com.au)) for the most recent versions of the EnviroDevelopment standards. Although the EnviroDevelopment standards outline the evidence required for EnviroDevelopment certification, applicants must ensure that sufficient evidence is provided to justify claims that criteria have been met.

When the EnviroDevelopment Technical Standards are reviewed and a revised set of standards is released, a current certified EnviroDevelopment is required to demonstrate as part of the annual recertification process how the development's future stages will comply with the revised EnviroDevelopment Technical Standards. The revised standards will not apply retrospectively (i.e. to those dwellings / buildings already approved / built) and applicants will not be required to undertake further baseline studies such as further baseline ecological assessment studies. The EnviroDevelopment Board of Management shall retain the right to vary or amend the application of this requirement at its absolute discretion.

## Important Application Notes

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Each project must comply with all Federal, State and Local legislative and regulatory requirements.

When applying for EnviroDevelopment certification, some criteria may not be relevant to a specific project due to site constraints, development type or because a particular requirement would cause perverse environmental or social outcomes. During the application process, if a particular requirement is not relevant and/or feasible for a specific reason, mark the column 'not applicable' and provide reasoning why the criteria is not applicable or feasible in this instance. If a requirement is not addressed at all, with no reasoning provided, it will be assumed by the EnviroDevelopment Board of Management that this requirement has not been met.

Unless otherwise stated, criteria is relevant to each different development type. If there are different requirements for various development types, it will be noted at the start of the criteria sub-section.

Examples stated within element criteria are not intended to be exclusive and are intended as a compliance guide only.

Each requirement is worth one point, unless otherwise stated.

## Development Categories

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Throughout the standards document, the following development categories delineate which criteria are relevant or the specific requirements for various development types. If an applicant is not clear on which development category applies to the relevant project, the applicant should contact EnviroDevelopment Head Office to seek clarification.

**Category 1 Development (C1)** means a development where the primary use is residential with a density of up to 30 dwellings per hectare.

**Category 2 Development (C2)** means a development where the primary use is residential with a density of equal to or more than 30 dwellings per hectare.

**Category 3 Development (C3)** means a mixed use development.

**Category 4 Development (C4)** means a development where the primary use is commercial or retail.

**Category 5 Development (C5)** means a development where the primary use is industrial.

## Essential Requirements

If a *development* is applying for certification for less than six elements of EnviroDevelopment, a developer must also meet the following essential requirements and provide sufficient supporting documentation as outlined below.

| Criteria   | Supporting Documentation Requirement   |
|--|--|
| (a) Conduct thorough <i>Ecological Assessment</i> and site analysis, prior to planning and design phase using an <i>appropriately qualified professional</i> to identify areas of prime significance for conservation and to identify areas where clearing and/or major earthworks should specifically not occur. The <i>development</i> must adequately consider and preserve significant areas based on the advice of this report. | Evidence of Ecological Assessment and site analysis e.g. report and statement from developer.<br><br>Landscape plan to demonstrate that landscaping strategy is sympathetic to the site and development type.  |
| (b) Install effective sediment and erosion control measures during construction and operation. As a minimum, these should comply with all Federal, State and Local legislative and regulatory requirements.  | Evidence that appropriate sediment control and stormwater management plans will be in place during and after construction e.g. erosion and sediment control plan.  |
| (c) Recycle and reuse all vegetative debris on site (e.g. for landscaping or composting purposes) to the greatest extent possible. If not feasible, arrangements should be made for vegetative debris to be transported for reuse or disposed of at a fully licensed recycler or reprocessor. There should be no pit burning of green waste on site.   | <i>Statement of Compliance</i> from developer.<br>If transporting offsite for reuse or disposal, details of the licensed recycler or reprocessor should be provided.   |
| (d) Demonstrate assessment of solar orientation of lots/buildings options to provide best practice solar access opportunities.   | Provide evidence that lot layouts and building orientations are providing optimal solar orientation within the constraints of the site.  |
| (e) Demonstrate how the <i>development</i> will reduce greenhouse gas production beyond regulatory requirements.   | <i>Statement of Compliance</i> from the developer and architect and copy of <i>Design Guidelines</i> .   |
| (f) Demonstrate use of local manufacturers and/or suppliers, or utilise the most economical method of transportation with regard to fossil fuels.  | <i>Statement of Compliance</i> from developer outlining how local materials and suppliers have been considered. Evidence should also be provided demonstrating that the developer has engaged local labour and/or subcontractors on a permanent basis. |
| (g) Demonstrate how the <i>development</i> will reduce irrigation <i>potable water</i> consumption.  | Irrigation plan and statement from landscape architect and developer regarding irrigation methods.   |
| (h) Provide evidence that community consultation and feedback informs design.  | <i>Statement of Compliance</i> from the developer, evidence of consultation documents e.g. evidence of public meeting/s, evidence of letter drop, evidence of liaison with traditional owners.   |



## 1. Ecosystems Element of EnviroDevelopment

|                   |  |
|-------------------|--|
| <b>TITLE:</b>     | Ecosystems   |
| <b>OBJECTIVE:</b> | To maintain healthy and resilient ecosystems based on natural processes with rich native biodiversity.   |
| <b>TARGET:</b>    | Development that aims to protect and enhance existing native ecosystems and encourages natural systems and native biodiversity and rehabilitates degraded sites. |

### PRINCIPLES

- Encourage resilient natural ecological communities and protect natural connectivity.
- Encourage maintenance (during and after construction) of native vegetation where existing, and rehabilitation of locally native vegetation where not already in existence in a healthy state.
- Encourage protection and rehabilitation of riparian vegetation and wetlands.
- Avoid water pollution and degradation of water quality in waterways and natural systems and remediate any water quality problems occurring on-site or in neighbouring areas.
- Minimise disruption to landform and natural ecosystems.
- Encourage development on previously developed or degraded sites, whilst considering affordability.
- Encourage protection (during and after construction) of existing habitats for native animals or rehabilitation of such habitats where not already in existence in a healthy state.
- Maintain and enhance viable habitat size to improve connectivity and reduce fragmentation.
- Promote biodiversity and sustainability awareness.
- Ensure the necessary monitoring and maintenance programs exist to assess ongoing ecosystem performance.

### BENEFITS AND INCENTIVES

#### Possible Benefits for Occupants

- Satisfaction that occupier is reducing ecological footprint and protecting natural ecosystems and native biodiversity.
- Enhanced interaction with nature – may offer health and lifestyle benefits.
- Enhanced amenity of area to provide for greater liveability.

#### Possible Benefits for Local, State or Federal Government and Environmental Groups

- Improvement in catchment health.
- Reduced need for future retrofitting for changed climate conditions by providing an adaptive environment.
- Greater private allocation of land for native biodiversity.
- Increased private sector investment in ecosystem and biodiversity protection (reduced costs for council but better outcomes).
- Raises awareness of need to protect ecosystems and biodiversity.
- Helps raise community awareness of government's efforts to enhance sustainability.
- Greater community commitment to ecosystems and native biodiversity.
- Help to reduce the ecological footprint of communities.
- More attractive and sustainable city/shire/state.

#### Possible Benefits for Developers

- Potential savings in development costs and/or access to incentives.
- Reduced approval/assessment times.
- Marketing advantages through quality product and EnviroDevelopment promotion.
- Enhanced product.
- Visual benefits.
- Improved corporate image.

| Criteria   | Supporting Documentation Requirement   |
|--|--|
| <p><b>1.1 ESSENTIAL ACTIONS</b></p> <p><b>1.1.2</b> Conduct thorough site analysis to ascertain and manage key features of relevance to this section, including aquatic ecosystems, flora, fauna habitats and landforms. This report forms part of the evidence required for EnviroDevelopment certification.</p> <p><b>1.1.3</b> Achieve the requirements under each of the following sections:</p> <p><b>C1 Developments:</b></p> <ul style="list-style-type: none"> <li>• Aquatic Ecosystems (1.2)</li> <li>• Landform (1.3)</li> <li>• Flora (1.4)</li> <li>• Fauna (1.5)</li> </ul> <p><b>C2, C3, C4, C5 Developments:</b></p> <ul style="list-style-type: none"> <li>• Aquatic Ecosystems (1.2)</li> <li>• Landform (1.3)</li> <li>• Flora and Fauna (1.6)</li> </ul>  |  |
| <p><b>1.2 AQUATIC ECOSYSTEMS</b></p> <p>Must meet ALL the requirements of this section as outlined below.</p> <p><b>1.2.1</b> Protect, and where appropriate enhance, natural surface and groundwater hydrological regime including riparian zones and buffers (where relevant depending on site) in consideration of the stability, ecological integrity and functionality of receiving environments. This includes incorporating any natural hydrological features and appropriate habitat features into the <i>development</i> design.</p> <p><b>1.2.2</b> Incorporate integrated water cycle management principles into <i>development</i> design including water sensitive urban design devices such as swales, bioretention basins and wetlands utilised as water treatment devices where appropriate. Set quantifiable water quality targets and verify design through accepted modelling (e.g. <i>MUSIC</i>). Recognition can also be given for stormwater reuse (such as in infill sites) where appropriate water treatment measures and infrastructure are to be utilised.</p> <p>Note: may not be appropriate for high density sites. Unless very high treatment levels are to be implemented, application of water sensitive urban design to industrial sites should include the structural separation of areas likely to be contaminated, such as work areas from roofs and other less contaminated surfaces to enable standard urban stormwater treatment devices and water reuse.</p> <p><b>1.2.3</b> Comply with supported catchment management plans and any appropriate regulatory plans including flood protection management and river management plans.</p> <p><b>1.2.4</b> Minimise use of pesticides, herbicides and chemical fertilisers (can be achieved through choice of landscaping and physical termite barriers.).</p> <p><b>1.2.5</b> Ensure appropriate drainage to protect both water cycle and infrastructure. This should include maintenance of permeable surfaces where possible, including use of permeable pavement in preference to non-permeable pavements.</p> <p><b>1.2.6</b> Incorporate adequate stormwater management provisions during and post construction to avoid enhanced risk of flooding and flood damage and to reduce risk of pollution entering waterways. Design and construct to limit the post-development peak one-year average recurrence interval (ARI) event discharge to the receiving waterway to the pre-development peak one-year ARI event discharge. Must also consider impact on and from adjacent sites.</p> | <p>Evidence of incorporation of Water Sensitive Urban Design (WSUD) principles (e.g. swales instead of concrete curbs where appropriate), protection of watercourses, design encouragement of water infiltration as necessary to show achievement of this requirement. Evidence could include, but is not limited to, illustrative evidence including maps and drawings showing topography contours, hydrology and WSUD features. Water balance calculations or <i>MUSIC</i> modelling authorised by developer and / or engineer is also helpful as evidence of the sufficiency of WSUD features and the impact of the <i>development</i> on natural hydrology, stormwater quantities and sediment loads.</p> <p>Evidence of water quality measures (and reasons where they have not been incorporated) from engineer, environmental scientist (or related professional) and developer as appropriate.</p> <p>Statement and illustrative evidence including topography maps and drawings outlining compatibility with catchment plans, protection of natural hydrological features, riparian zones and buffers.</p> <p>Statement outlining steps to minimise use of pesticides, herbicides and artificial fertilisers.</p> |

| Criteria   | Supporting Documentation Requirement   |
|--|--|
| <p><b>1.2.7</b> Install effective sediment and erosion control measures during construction and operation. As a minimum, these should comply with all Federal, State and Local legislative and regulatory requirements.</p>  | <p>Evidence that appropriate sediment control and stormwater management plans will be in place during and after construction e.g. erosion and sediment control plan.</p>   |
| <p><b>1.3 LAND FORM</b></p> <p><b>1.3.1</b> Conduct thorough site analysis prior to planning and design to identify areas of prime significance for conservation and to identify areas where clearing and/or major earthworks should specifically not occur. This site analysis should also consider the suitability of the site for earthworks and construction. The development must adequately consider and preserve significant areas based on the advice of this report.</p> <p><b>1.3.2</b> Achieve at least FOUR of the following.</p> <p>Note: if a <i>development</i> is unable to achieve four of the following options and the developer shows good reason why the criteria could not be met (for example, with regards to minimising cut and fill), but can provide evidence from an <i>appropriately qualified professional</i> confirming that the development has managed to achieve a significant net benefit to the environment and given appropriate consideration to downstream impacts (as per criteria 1.2), then the <i>development</i> may still be considered for EnviroDevelopment Ecosystems recognition at the discretion of the EnviroDevelopment Board of Management.</p> <p><b>1.3.2.1</b> Retain local and adjacent natural landform and integrate with natural landscape and topographic features or build on <i>brownfield site</i> rehabilitating open space areas and minimise detrimental landform change impacts on water or sediment movement.</p> <p><b>1.3.2.2</b> Locate on a <i>brownfield site</i> (two points) or site that had been <i>significantly modified</i> from its natural state and had little or no ecological value (one point). Site must be decontaminated and where there will be significant open space efforts must be made to rehabilitate natural ecosystems, natural resources, and native biodiversity values of the site.</p> <p><b>1.3.2.3</b> Build only on stable, non-flooding land, or if building on land prone to flooding, the site design must:</p> <ul style="list-style-type: none"> <li>• Create a flood credit and reduce levels in flood volumes</li> <li>• Reduce velocity of floods coming off the site</li> <li>• Offer specific flooding benefits to adjacent wetlands.</li> </ul> <p><b>1.3.2.4</b> Ensure a maximum cut and fill of 1.5m (i.e. total retaining wall height of 1.5 metres or 75cm cut and 75cm fill for example) including bulk earthworks (excluding those earthworks which are necessary for WSUD measures or which have been included to meet regulatory requirements). Credit cannot be gained for this point if there is reason to believe that builders will later increase the cut and fill. This may mean that for sloping lots some form of architectural solutions or review mechanism (e.g. for body corporates) may need to be provided.</p> <p><b>1.3.2.5</b> Ensure cut and fill on maximum 30% of site. Credit cannot be gained for this point if there is reason to believe that builders will later increase the cut and fill. This may mean that for sloping lots some form of architectural solutions or review mechanism (e.g. for body corporates) may need to be provided.</p> <p><b>1.3.2.6</b> Employ construction methods to minimise disruption to landform and natural drainage contours (e.g. elevated platforms lightweight in construction are generally encouraged on sloping sites in preference to cut and fill concrete slabs on earth).</p> <p><b>1.3.2.7</b> Minimise site disturbance during construction and limit earthworks and native vegetation. Bushfire protection measures should respond to the particular site and address state and local requirements.</p> | <p>Specific information and wording in <i>development</i> specifications, drawings and plans and in letters of instruction to contractors and briefings to staff to indicate requirements to protect landform as per options.</p> <p>Evidence or statement from engineer/ planner stating how this requirement has been met.</p> <p>If building on a <i>brownfield site</i> or <i>significantly modified site</i>, provide details of use of site prior to new development in the form of a site photo prior to development and statement from environmental professional / landscape architect / related professional detailing ecological value of the site prior to <i>development</i>.</p> <p>Evidence that buildings have been designed so as to be considerate of existing site landforms, topography and constraints.</p> <p>Evidence could include topography maps / contour maps, site photos, site plans with an explanation of how site disturbance has been minimised.</p> |

| Criteria   | Supporting Documentation Requirement   |
|--|--|
| <p><b>1.3.2.8</b> Design and construct street layout to fit with topography with minimal disruption.</p> <p><b>1.3.2.9</b> Employ best practice site remediation techniques to remove contaminants from degraded sites.</p> <p><b>1.3.2.10</b> Develop a climate change risk assessment for the site which considers factors that impact the <i>development</i> site such as flooding, sea level rise, inland inundation, immunity from extreme events, bushfire hazards.</p>  |  |
| <p><b>For C2, C3, C4, C5 developments, projects must meet the criteria in 1.6. For C1 developments and all other projects, proceed to 1.4 and 1.5.</b></p>   |  |
| <p><b>1.4 FLORA</b></p> <p><b>C1 Developments</b></p> <p><b>1.4.1</b> Conduct thorough <i>Ecological Assessment</i>, prior to planning and design phase using an <i>appropriately qualified professional</i> to identify areas of prime significance for conservation and to identify areas where clearing and/or major earthworks should specifically not occur. The <i>development</i> must adequately consider and preserve significant areas based on the advice of this report.</p> <p><b>1.4.2</b> Prevent the planting of invasive species as per WONS (Weeds Of National Significance), weeds on the National Environmental Heritage List (Department of Environment and Heritage), State declared species and those incorporated in the relevant planning scheme.</p> <p><b>1.4.3</b> Designate and protect any sensitive conservation areas.</p> <p><b>1.4.4</b> Achieve at least 12 POINTS from the following options:</p> <p><b>1.4.4.1</b> Have an <i>appropriately qualified professional</i> conduct a baseline site assessment of the site prior to planning and design phase, noting areas of ecological value and demonstrate that the <i>development</i> will protect such areas to the greatest extent possible.</p> <p><b>1.4.4.2</b> Conduct thorough ecological flora survey to ascertain biodiversity and occurrences of <i>vulnerable or threatened species</i> and design <i>development</i> to facilitate the conservation of such species.</p> <p>The <i>development</i> shall take significant additional steps over and above the standard requirements and demonstrate significant net gain to the flora and ecosystems, above the standard requirements. If the site has little existing value or no <i>vulnerable species or threatened species</i> (as listed under the EPBC Act or IUCN Red List or State Government legislation), the ecological study should note as such.</p> <p><b>1.4.4.3</b> More than 90% of all plant species introduced to the site for landscaping <i>public spaces</i>, or for landscaping private areas prior to sale, are <i>locally native</i>.</p> <p><b>1.4.4.4</b> Rehabilitate disturbed sites and degraded natural ecosystems.</p> <p><b>1.4.4.5</b> Locate on a <i>brownfield site</i> or site that had been <i>significantly modified</i> from its natural state and had little or limited ecological value (up to three points).</p> <p><b>1.4.4.6</b> Have bushfire mitigation and management plans which are cognisant of the principles bushfire ecology and take appropriate management actions.</p> <p><b>1.4.4.7</b> Demonstrate appropriate consideration of future maintenance of native flora and habitat, including initiating a maintenance plan and arranging means for the continuation of this beyond the development and sales stage.</p> <p><b>1.4.4.8</b> Retain at least 40% of the existing native trees above 3 metres in height.</p> | <p>Evidence of Ecological Assessment and its findings from an <i>appropriately qualified professional</i> and appropriate consideration of this assessment in plans and site management and landscape plans.</p> <p>Evidence should include appropriate plans (flora/bushfire management/weed and pest.), landscaping schedules/lists and details of measures to protect areas, species or features of conservation value.</p> <p>Evidence from environmental science professional, landscape architect (or related professional) and developer as appropriate.</p> <p>If claiming points under 1.4.4.5 the following evidence must be provided: if building on a <i>brownfield</i> or <i>significantly modified</i> site, provide details of use of site prior to new development in the form of a site photo prior to development and statement from environmental professional / landscape architect / related professional detailing ecological value of the site prior to <i>development</i>.</p> |



| Criteria   | Supporting Documentation Requirement   |
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| <p><b>1.4.4.9</b> Retain <i>locally native</i> plant species and natural ecosystems on 30% or more of the site.</p> <p><b>1.4.4.10</b> Implement an appropriate weed and pest management strategy, including site rehabilitation and management of environmental weeds.</p> <p><b>1.4.4.11</b> Establish a native plant procurement program to assist with supply issues of indigenous local provenance stock for the purposes of landscaping of public open space areas, private land holding and the local region.</p> <p><b>1.4.4.12</b> Establish and encourage vegetation communities within a <i>development</i>, including the incorporation of <i>threatened species</i> (either local, state or national) within streetscape plantings.</p> <p><b>1.4.4.13</b> Develop a construction management plan with adequate hygiene practices to avoid the importation of weeds and pathogens.</p> <p><b>1.4.4.14</b> Identify and use potential habitat trees within streetscape / open space areas which provide foraging opportunities and related biodiversity benefits.</p> <p><b>1.4.4.15</b> Implement a monitoring plan (at least 5 years in duration) to assess fauna, flora and habitat quality and health.</p> <p>Note: this may be conducted through partnerships with tertiary institutions and/or local community groups.</p> <p><b>1.4.4.16</b> Vegetate existing corridors to enhance the preservation of flora and fauna and associated interrelationships.</p> <p><b>1.4.4.17</b> Contribute green space significantly in excess of the requirements for green space (subject to acceptance by government of its suitability as either parkland or for conservation value. This area should predominantly include (i.e. be more than 80%) native species. This requirement can be fulfilled by either transfer of an appropriate area of suitable land to a statutory authority or other entity, or by securing its green space purpose by another legal means (i.e. statutory covenants), or monetary contribution to the relevant authority or an established not-for-profit green group for conservation or green space purposes.</p> <p>Points are to be allocated pro-rata for each 20% in excess of government requirements and 5 points for 100% in excess of government requirements. This is capped at a maximum of 5 points. Stringent <i>design guidelines</i> or other protective measures to secure the use of private land for open space and flora and fauna purposes may also be applicable and contribute to the green space calculations for EnviroDevelopment purposes (however, if the longevity of such measures or benefits is likely to be less than through other means there may need to be a discount factor used in the calculations).</p> <p>Points under this criteria can be claimed if evidence is provided of off-site land holdings, however this land holding can only be claimed once and must have nature conservation value.</p> | <p>When claiming points under this category, a Statement of Compliance must be provided regarding the ongoing ownership and maintenance arrangements (in the form of an approved management plan) for this land to provide certainty about the longevity of its maintenance as green space.</p>  |
| <p><b>1.5 FAUNA</b></p> <p><b>C1 Developments</b></p> <p><b>1.5.1</b> Conduct thorough <i>Ecological Assessment</i>, prior to planning and design phase to identify areas of significant habitat for indigenous species for conservation and to identify areas where clearing and/or major earthworks should specifically not occur. The <i>development</i> must adequately consider and preserve significant areas based on the advice of this report.</p>  | <p>Evidence of <i>Ecological Assessment</i> and appropriate consideration in plans and site management and landscape plans.</p> <p>Evidence should include appropriate plans (ecological fauna survey, master plan, pest management strategy) and details of measures to protect areas, species or features of conservation value.</p> |

| Criteria  | Supporting Documentation Requirement  |
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| <p><b>1.5.2</b> Achieve at least 10 POINTS from the following options:</p> <p><b>1.5.2.1</b> Conduct thorough ecological fauna survey, prior to planning and design phase to ascertain biodiversity and populations of <i>vulnerable species</i> or <i>threatened species</i> and demonstrate that <i>development</i> will facilitate their conservation. Take significant additional steps over and above the standard requirements and demonstrate significant net gain to fauna above the standard requirements. If the site has little existing value or no <i>vulnerable species</i> or <i>threatened species</i> (as listed under the EPBC Act or IUCN Red List or State Government legislation), the ecological study should note as such.</p> <p><b>1.5.2.2</b> Locate on a <i>brownfield site</i> or a site that has been <i>significantly modified</i> from its natural state and had little or no ecological value (up to three points available).</p> <p><b>1.5.2.3</b> Retain, enhance and link additional planting of native vegetation areas of ecological importance to facilitate the safe movement of native fauna.</p> <p><b>1.5.2.4</b> Ensure ecological corridors are not severed by road networks without provision of appropriate fauna crossings, bridges or tunnels.</p> <p><b>1.5.2.5</b> Limit fencing and other structures that restrict safe fauna movement.</p> <p><b>1.5.2.6</b> Adopt traffic management strategies to protect fauna e.g. fauna safe fencing.</p> <p><b>1.5.2.7</b> Provide appropriate structures and policies to facilitate native fauna habitation e.g. fauna boxes, hollow trees, relocate felled timber to open space areas.</p> <p><b>1.5.2.8</b> Adopt measures to protect native animals through maintenance of habitat and control of non-native predators or competing species.</p> <p><b>1.5.2.9</b> Implement a pest management strategy.</p> <p><b>1.5.2.10</b> Have dog and/or cat exclusion zones to allow safe movement of native fauna, particularly in wildlife corridors.</p> <p><b>1.5.2.11</b> Reduce heat island effect through:</p> <ul style="list-style-type: none"> <li>• reduction of hardstand areas;</li> <li>• consideration of roof colour and area; and/or</li> <li>• utilisation of different materials for their construction (e.g. open-grid pavement) or green (vegetated) or shaded surfaces or light coloured surfaces.</li> </ul> <p><b>1.5.2.12</b> Minimise light, air and noise pollution during and post-construction i.e. no direct beam light should be directed beyond the site boundaries or upwards, except where it is falling directly on a surface that it is intended to illuminate (exemptions may be made for illuminated place names).</p> <p><b>1.5.2.13</b> Provide a monitoring plan (at least 5 years in duration) to assess fauna, flora and habitat quality and health.<br/>Note: this may be conducted through partnerships with tertiary institutions and/or local community groups.</p> <p><b>1.5.2.14</b> Rehabilitate waterways, wetlands or waterway corridors to improve the health of aquatic habitats.</p> <p><b>1.5.2.15</b> Develop a site specific fauna management plan for the demolition and construction phases of the project.</p> | <p>Evidence from environmental science professional/ landscape architect /related professional and developer as appropriate.</p> <p>If claiming points under 1.5.2.2 the following evidence must be provided: If building on a <i>brownfield</i> or <i>significantly modified</i> site, provide details of use of site prior to new <i>development</i> in the form of a site photo prior to <i>development</i> and statement from environmental professional / landscape architect / related professional detailing ecological value of the site prior to <i>development</i>.</p> |

| Criteria   | Supporting Documentation Requirement   |
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| <p><b>1.5.2.16</b> Contribute green space significantly in excess of the requirements for green space (subject to agreement by government of its suitability as either parkland or for conservation value – however this does not mean that the land title must be handed over to government). This area should predominantly include (i.e. be more than 80%) native species. This requirement can be fulfilled by either transfer of an appropriate area of suitable land to a statutory authority or other entity, or by securing its green space purpose by another legal means (i.e. statutory covenants), or monetary contribution to the relevant authority or an established not-for-profit environmental group for conservation or green space purposes.</p> <p>Points are to be allocated pro-rata for each 20% in excess of government requirements and 5 points for 100% in excess of government requirements. This is capped at a maximum of 5 points. Stringent <i>design guidelines</i> or other protective measures to secure the use of private land for open space and flora and fauna purposes may also be applicable and contribute to the green space calculations for EnviroDevelopment purposes (however, if the longevity of such measures or benefits is likely to be less than through other means there may need to be a discount factor used in the calculations). Points under the criteria can be claimed if evidence is provided of off-site land holdings, however this land holding can only be claimed once and must have nature conservation value.</p>  | <p>When claiming points under this category, a statement must be made regarding the ongoing ownership and maintenance arrangements (in the form of an approved management plan) for this land to provide certainty about the longevity of its maintenance as green space.</p>  |
| <p><b>1.6 FLORA AND FAUNA</b></p> <p><b>C2, C3, C4, C5 Developments</b></p> <p>Achieve at least SIX POINTS from the following options:</p> <p><b>1.6.1</b> Locate on a <i>brownfield site</i> or site that had been <i>significantly modified</i> from its natural state and had little or no existing ecological value.</p> <p><b>1.6.2</b> Rehabilitate disturbed sites and degraded natural ecosystems.</p> <p><b>1.6.3</b> More than 90% of all plant species introduced to the site for landscaping public spaces, or for landscaping private areas prior to sale, are <i>locally native</i>.</p> <p><b>1.6.4</b> Encourage local native plant species through their incorporation in landscaping and encouragement of their use by purchasers and private land holders.</p> <p><b>1.6.5</b> Include green roofs or green walls, incorporating native plant species into the development.</p> <p><b>1.6.6</b> Encourage the incorporation of community and productive gardens including space for garden plots, communal or individual vegetable gardens, formal landscaped areas for community uses.</p> <p><b>1.6.7</b> Utilise mature trees (height greater than 2m) throughout landscaping.</p> <p><b>1.6.8</b> Reduce heat island effect through:</p> <ul style="list-style-type: none"> <li>• reduction of hardstand areas;</li> <li>• consideration of roof colour and area; and/or</li> <li>• utilisation of different materials for their construction (e.g. open-grid pavement) or green (vegetated) or shaded surfaces or light coloured surfaces.</li> </ul> <p><b>1.6.9</b> Minimise light and air pollution during and post-construction i.e. no direct beam light should be directed beyond the site boundaries or upwards, except where it is falling directly on a surface that it is intended to illuminate (exemptions may be made for illuminated place names).</p> | <p>Evidence should include appropriate plans (landscape schedule/plan, masterplan) and details of measures to enhance the ecological features of the <i>development</i>.</p> <p>Evidence to be signed by environmental science professional/ landscape architect /related professional) and developer as appropriate.</p> <p>If claiming points under 1.6.1 the following evidence must be provided: If building on a <i>brownfield</i> or <i>significantly modified</i> site, provide details of use of site prior to new <i>development</i> in the form of a site photo prior to <i>development</i> and statement from environmental professional / landscape architect / related professional detailing ecological value of the site prior to <i>development</i>.</p> |

| Criteria   | Supporting Documentation Requirement  |
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| <p><b>1.6.10</b> Minimise noise pollution during and post-construction.</p> <p><b>1.6.11</b> Provide a monitoring plan (at least 5 years in duration) to assess ongoing fauna, flora and habitat quality and health.</p> <p>Note: this may be conducted through partnerships with tertiary institutions and/or local community groups.</p> <p><b>1.6.12</b> Develop a construction management plan with adequate hygiene practices to avoid the importation of weeds and pathogens.</p> <p><b>1.6.13</b> Contribute green space significantly in excess of the requirements for green space (subject to agreement by government) of its suitability as either parkland or for conservation value. This area should predominantly include (i.e. be more than 80%) native species. This requirement can be fulfilled by either transfer of an appropriate area of suitable land to a statutory authority or other entity, or by securing its green space purpose by another legal means (i.e. statutory covenants), or monetary contribution to the relevant authority or an established not-for-profit environmental group for conservation or green space purposes.</p> <p>Points are to be allocated pro-rata for each 20% in excess of government requirements and 5 points for 100% in excess of government requirements. This is capped at a maximum of 5 points. Stringent <i>design guidelines</i> or other protective measures to secure the use of private land for open space and flora and fauna purposes may also be applicable and contribute to the green space calculations for EnviroDevelopment purposes (however, if the longevity of such measures is likely to be less than through other means there may need to be a discount factor used in the calculations).</p> <p>Points can be claimed if evidence is provided of off-site land holdings, however this land holding can only be claimed once and must have nature conservation value.</p> | <p>When claiming points under this category, a statement must be made regarding the ongoing ownership and maintenance arrangements (in the form of an approved management plan) for this land to provide certainty about the longevity of its maintenance as green space.</p> |



## 2. Waste Element of EnviroDevelopment

|                   |  |
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| <b>TITLE:</b>     | Waste  |
| <b>OBJECTIVE:</b> | Reduced waste sent to landfill, more efficient use of resources  |
| <b>TARGET:</b>    | Development that has implemented waste management procedures and practices which reduce the amount of waste to landfill and facilitates recycling. |

### PRINCIPLES

- Encourage recycling of construction and demolition materials and reduce the amount of waste being dispatched to landfill.
- Minimise on-site pollution during the construction phase.
- Promote the re-use of existing buildings and materials and reduce demand for resources.
- Promote occupancy awareness of waste generation and encourage recycling, composting and waste reduction through the provision of appropriate facilities.
- More efficient use of resources.

### BENEFITS AND INCENTIVES

#### Possible Benefits for Occupants

- Reduce pollution.
- Satisfaction that occupier is reducing the volume of landfill.
- Ease of recycling.
- Gardening benefits to occupiers as a result of composting.

#### Possible Benefits for Local, State or Federal Government or Supplier Companies

- Reduction in resource consumption.
- Reduction in the development industry's impact on waste generation and contribution to landfill.
- Reduction in the demand for landfill space.
- Advantage suppliers that produce materials which can be recycled or which have minimal packaging.
- Advantage suppliers and businesses that reuse or recycle materials.
- More attractive and sustainable city/shire/state.
- Help to reduce the ecological footprint of communities.
- Helps raise community awareness of the need to minimise demand for products that are not recyclable and which significantly contribute to landfill.
- Urban areas which are better planned for waste collection and recycling.
- Greater community commitment to waste minimisation.

#### Possible Benefits for Developers

- Reduced approval/assessment times.
- Reduced costs and charges for waste removal and disposal.
- Reduced costs for recycling and the availability of more affordable materials from recycled sources due to economies of scale resulting from increased business for the recycling industry.
- Cost savings from reduced resource consumption and wastage.
- Marketing advantages through quality product and EnviroDevelopment promotion.
- Improved corporate image.
- Visual benefits.

| Criteria   | Supporting Documentation Requirement  |
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| <p><b>2.1 ESSENTIAL ACTIONS</b></p> <p><b>2.1.1</b> Identify the local recyclers, secondary product manufacturers and material streams available to the site to be used in the pre-construction and construction phase. Provide reasoning for the selection of the appropriate rationale for waste management. Information provided under this criterion will be used, in tandem with criteria-specific statements and documentation, to assess the project's performance under 2.2, 2.3, 2.4. Non-metropolitan sites may apply for special consideration under specific sections within this element where recycling facilities are not nearby.</p> <p><b>2.1.2</b> Achieve the requirements from the following sections:</p> <ul style="list-style-type: none"> <li>• Pre-construction (2.2)</li> <li>• Construction (2.3)</li> <li>• Post-construction (2.4)</li> </ul>   | <p>Map highlighting relevant facilities. <i>Statement of Compliance</i> from developer or sustainability consultant providing reasoning for the site-specific waste rationale. Details of off site recycling agreements, including licence / approval details of the facility.</p>  |
| <p><b>2.2 PRE-CONSTRUCTION: DEMOLITION, LAND CLEARING AND SITE PREPARATION PHASE</b></p> <p>Achieve EACH of the following requirements:</p> <p><b>2.2.1</b> Design and implement a site waste management plan or a project environmental management plan for pre-construction and construction phases.</p> <p><b>2.2.2</b> Reuse existing materials including steel or timber, from the original façade where possible.</p> <p><b>2.2.3</b> Recycle or reuse a minimum of 60% of demolition, land clearing or civil works materials/products on site. In the event that demolition, land clearing or civil works materials cannot be recycled on site, full details of the operators to be engaged, including all licences they hold to operate and materials streams to be recovered as part of the off-site activity must be provided. Recyclable materials include, but are not limited to: cardboard, bricks, glass, metal, timber and concrete. Materials which can be reused include but are not limited to: cleared vegetation used as mulch and rock/concrete recycled for crossovers, road aggregates and drainage mediums.</p> <p><b>2.2.4</b> Stockpiled and reused all topsoil to best advantage on site, unless contaminated. Location of stockpile and measures to protect erosion and dispersion of topsoil (e.g. hydro turf) must be demonstrated and indicated on plans.</p> <p><b>2.2.5</b> Manage and dispose/treat hazardous substances, pollutants and contaminants in accordance with all state regulatory requirements. Records must be maintained and be made available for auditing purposes where such material streams are disposed off site for the duration of the project. Where these materials are treated or used on-site, they must be treated according to a sanctioned remediation process as is approved by the relevant State Environment Agency or responsible regulators.</p> <p><b>2.2.6</b> Recycle and reuse all vegetative debris on site (e.g. for landscaping or composting purposes) to the greatest extent possible. If not feasible, arrangements should be made for vegetative debris to be transported for reuse or disposed of at a fully licensed recycled or reprocessor. There should be no pit burning of green waste on site.</p> | <p>Site Waste Management Plan endorsed by the developer, with further statements from the engineer as appropriate. The plan must address each of the requirements for the pre-construction and construction phases.</p> <p>There should also be a written statement by the local authority environmental officer or recycling organisation as appropriate to explain mechanisms in place to facilitate recycling.</p> <p>Details of any on site treatment processes for hazardous substances, pollutants, contaminants or acid sulphate soils must be provided and such processes must be supported by approved State Agency requirements and laws.</p> |

| Criteria  | Supporting Documentation Requirement  |
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| <p><b>2.2.7</b> Manage Acid Sulphate Soils in accordance with the appropriate approved management process as required by the relevant State Environment Agency or responsible regulator for this waste stream.</p> <p><b>2.2.8</b> Install site appropriate and conforming site management practices to control erosion, run-off, and dust.</p>   |   |
| <p><b>2.3 CONSTRUCTION PHASE</b></p> <p><b>2.3.1</b> Recycle or reuse at least 60% of all civil and built form construction waste (by mass).<br/>In addition to 2.3.1, achieve at least FOUR of the following options:</p> <p><b>2.3.2</b> Use written strategies (e.g. incentive programs) and/or contracts with sub-contractors and contractors to include a clause requiring waste avoidance and minimisation practices and a requirement to dispose of or reuse/recycle waste in an environmentally responsible manner.</p> <p><b>2.3.3</b> Utilisation of waste-recycling contractors or sub-contractors who provide skip bins.</p> <p><b>2.3.4</b> Require waste minimisation techniques, waste recycling and waste management plans and policies of sub-contractors to be considered and used as criteria during the tender/selection process.</p> <p><b>2.3.5</b> Establish a managed on site recycling facility to enable on site crushing and recycling of construction materials (e.g. excess timber and bricks).</p> <p><b>2.3.6</b> Include waste minimisation techniques as a part of the employee induction and/or ongoing training process.</p> <p><b>2.3.7</b> Use of suppliers who take off-cuts or excess materials for reuse.</p> <p><b>2.3.8</b> Select materials and products which minimise and/or recycle packaging (e.g. avoid excessive packaging such as plastic-wrapped fixtures or fasteners). Advise suppliers of preference for materials not to be over-packaged and where possible take all packaging delivered off site for recycling.</p> <p><b>2.3.9</b> Design <i>development</i> to maximise use of standard sizes of materials wherever possible to minimise waste.</p> <p><b>2.3.10</b> Use of licensed skip providers who provide all records of materials recovered, recycled and removed from the site to the project manager.</p> | <p>Evidence of a waste management plan.<br/>Quarterly reports, including waste records should be kept for compliance purposes.</p> <p>Evidence of contracts and/or documentation from local authority, waste contractor or engineer and developer as appropriate to show evidence of achievement of at least four of the options in this section.</p> |

| Criteria   | Supporting Documentation Requirement  |
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| <p><b>2.4 POST-CONSTRUCTION PHASE</b></p> <p><b>C1 Developments:</b></p> <p><b>2.4.1</b> Establish a community education program, specifically educating on the waste hierarchy of reduce, reuse and recycle.</p> <p>In addition to 2.4.1, achieve at least ONE of the following requirements:</p> <p><b>2.4.2</b> Provide on lot and/or on site facilities for a compost facility for use by each dwelling/office/facility if this is possible and practical on site (e.g. if there is also a garden of sufficient size to use it on). If individual household/office/facility compost bins cannot be provided, a communal facility may be provided. Compost facility should be at least one cubic meter in size and can be used to recycle a balanced mix of green material (fruit and vegetable scraps) and brown material (twigs).</p> <p><b>2.4.3</b> Ensure that there are arrangements in place (e.g. contract with appropriate organisation, body corporate procedures or local government service) to provide collection and reuse of garden/green waste.</p> <p><b>2.4.4</b> Establish during <i>development</i> and occupancy phases, a recycling centre where mulch, rock, fencing, and other construction materials can be crushed and reused to provide landscaping supplies for occupants.</p> <p><b>C2, C3, C4, C5 Developments:</b></p> <p>Achieve EACH of the following requirements:</p> <p><b>2.4.5</b> Provide separate facilities for recycling at each level of a high density <i>development</i> e.g. chute or central collection point. Industrial – provide separate recycling facilities in common areas including public open space.</p> <p><b>2.4.6</b> Facilitate a waste recycling induction for all tenants.</p> | <p>Evidence of community education resources and proposed implementation arrangements.</p> <p>In the instance that a communal compost facility is provided, evidence in the form of an agreement or contract should be provided detailing how the responsibility and ongoing maintenance of the facility will be managed.</p> <p><i>Statement of Compliance</i> from developer and local authority or service provider.</p> <p>Evidence of proposed location and timing for recycling centre.</p> <p>Evidence in plans and statement from local authority, architect or building designer.</p> <p>Evidence in leasing contract and <i>Statement of Compliance</i> from developer.</p> |





### 3. Energy Element of EnviroDevelopment

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| <b>TITLE:</b>     | Energy  |
| <b>OBJECTIVE:</b> | Reduced usage of polluting sources and support use of renewable energy.<br>Enhance comfort through design.  |
| <b>TARGET:</b>    | Implement measures that would optimise energy reduction and achieve 20% reduction in greenhouse gas (GHG) production across the development over and above current regulatory requirements. |

#### PRINCIPLES

To reduce greenhouse gas production there are four fundamental options, although the solution for a development may be a combination of these options:

- Reduced energy usage through design.
- Demand and behavioural management devices and programs.
- Use of alternative energy sources (e.g. solar, wind, biomass, gas, hydro) for a portion of the development's energy use (without increasing energy use unnecessarily/unreasonably).
- Use of more greenhouse gas efficient appliances and fixtures.

#### BENEFITS AND INCENTIVES

##### Possible Benefits for Occupants

- Reduced operating costs.
- More affordable, more sustainable housing/buildings.
- Qualification for 'green home loans', which may be offered by some financial institutions.
- Full or partial self-sufficiency of supply (relative to developments supplied only with grid electricity supplies). This may give some relief from power blackouts.
- Increased productivity.
- Rebates for solar panels and solar water heating systems, appliances.
- Increased comfort levels.
- Enhanced marketability and property value.
- Enhanced amenity to provide for greater liveability.
- Satisfaction that occupier is reducing ecological footprint.

##### Possible Benefits for Local, State or Federal Government or Energy Companies

- Reduced infrastructure costs/delay infrastructure upgrades/equivalent to enhanced capacity.
- Reduced size of energy infrastructure requirements.
- Reduced greenhouse gas emissions.
- Can facilitate greater population growth for limited resources.
- Reduced size of energy infrastructure requirements.
- Reduced peak load.
- More attractive and sustainable city/shire/state.
- Helps to reduce the ecological footprint of communities.
- Helps raise community awareness of government's efforts to enhance sustainability.
- Helps raise community awareness of the need to protect the environment and only use resources sustainably.

### Possible Benefits for Developers

- Reduced infrastructure charges/rebates based on reduced energy demand as agreed by local council, other levels of government or energy companies.
- Reduced approval/assessment times.
- Funding for alternative energy sources.
- Rebates for specific initiatives e.g. solar panels and solar water heating systems.
- State, Federal or energy company incentives for reduced GHGs and energy efficiencies.
- Marketing advantages through quality product and EnviroDevelopment promotion.
- Improved corporate image.
- More affordable more sustainable housing/buildings.

| Criteria   | Supporting Documentation Requirement   |
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| <p><b>3.1 ESSENTIAL ACTIONS</b></p> <p>Achieve EACH of the following requirements:</p> <p><b>3.1.1</b> Consider solar orientation of lots and solar access to buildings.</p> <p><b>C1:</b> <i>Development</i> must consider solar orientation of lots to provide best practice solar access opportunities as well as ensure that buildings and their associated outdoor spaces are positioned on the lot in a manner that will enhance the solar amenity of the primary living areas, both internal and external.</p> <p><b>C2, C3, C4, C5:</b> <i>Development</i> must be masterplanned and controlled through the development process to demonstrate that positive passive design outcomes are assured.</p> <p><b>3.1.2</b> Demonstrate that shielding from summer sun, ventilation and topography have been considered and addressed at a masterplanning level.</p> <p><b>3.1.3</b> Ensure there are measures aimed at specifically reducing peak load at a masterplanning level. This should include use of off-peak energy or timers for uses such as community pool filters, unless energy is provided by an energy source independent of the grid and some measures are in place aimed at reducing the use of air conditioners in community buildings/spaces. This may also include load limiting devices, direct load control or other hardwired interventions.</p> <p><b>3.1.4</b> Provide efficient lighting in common areas (e.g. street lighting, <i>public spaces</i>), such as through utilising solar power, fluorescent, or LED fittings.</p> <p><b>3.1.5</b> Demonstrate measures to assist with community education of energy efficiency and greenhouse gas reduction. This may be in the form of a household energy rating, interpretative signage throughout common areas, fact sheets and energy meters.</p> <p><b>3.1.6</b> Meet requirements of 3.2 to show reduction in greenhouse gas production.</p> | <p>Provide evidence that lot layouts and building orientations, including the positioning of fenestration/access points, habitable/non-habitable zones and associated outdoor areas (as appropriate) have been/will be designed to encourage ideal solar orientation. This may include a site analysis of local climatic data (average monthly temperatures, humidity, rainfall, wind speed/direction), topography, solar access (including sun paths), boundary clearances and/or adjacent property information. Also provide evidence that good design intentions are assured through the <i>development process</i> by the provision of a system of education, advice, control and monitoring, including through the use of Building Envelope Plans administered through <i>Design Guidelines</i>.</p> <p>Provision in <i>Design Guidelines</i> or equivalent or <i>Statement of Compliance</i> from developer.</p> <p>Evidence in masterplan or electrical plans with <i>Statement of Compliance</i> from engineer or developer.</p> <p>Evidence in masterplan or electrical plans with <i>Statement of Compliance</i> from engineer or developer.</p> <p>Evidence in masterplan or electrical plans with <i>Statement of Compliance</i> from engineer or developer.</p> |

| Criteria   | Supporting Documentation Requirement  |
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| <p><b>3.2 REDUCTION IN GREENHOUSE GAS PRODUCTION</b></p> <p>Reduce greenhouse gas production within the development by at least 20% more than required under current Federal, State and Local government regulatory means. This could be achieved by either or a combination of the following:</p> <p><b>3.2.1 Alternative Energy Sources</b></p> <p>Provision of solar power (or other non-polluting, renewable power source).</p> <p><b>3.2.2 Energy Efficient Appliances and Fixtures</b></p> <p>Use of appliances and fixtures which produce less greenhouse gas emissions than what is currently mandated. This may include, but is not limited to:</p> <ul style="list-style-type: none"> <li>• Greenhouse gas efficient hot water systems (e.g. gas boosted solar, electric boosted solar).</li> <li>• Appliance palette with appliances which have a higher energy star rating than the average.</li> <li>• Air conditioning systems which have a higher coefficient of performance (COP) and energy efficiency ratio (EER) than is mandated.</li> <li>• Energy efficient lighting throughout dwellings and workspaces (more than is mandated).</li> </ul> <p><b>3.2.3 Non-energy alternatives – reduction through design</b></p> <p>Measures to increase the air flow and natural ventilation through buildings to lower the use of mechanical ventilation systems. This may include the achievement of higher star rating than is currently mandated or minimum requirements under the <i>Building Code of Australia</i> and relevant State legislation (e.g. <i>Queensland Development Code</i> and <i>BASIX</i>) through:</p> <ul style="list-style-type: none"> <li>• improved cross-flow ventilation;</li> <li>• zoning of heating / cooling spaces within dwellings;</li> <li>• appropriate size, location and protection of glazing;</li> <li>• incorporation of natural breezeways;</li> <li>• use of shading devices;</li> <li>• insulation;</li> <li>• use of thermal mass; and/or</li> <li>• use of landscaping for shading purposes.</li> </ul> <p><b>3.2.4 Demand/Behavioural Management</b></p> <p>This may include:</p> <ul style="list-style-type: none"> <li>• Demand management devices in individual homes or workspaces.</li> <li>• Education e.g. end user manual, community workshop.</li> <li>• Use of load monitoring devices e.g. energy monitors, building information modelling.</li> <li>• Comprehensive tenant induction and regular body corporate / tenant meetings to discuss energy usage and efficiencies.</li> </ul> | <p>Statement from engineer showing the energy requirements and the energy provision through alternative sources (i.e. calculations on the energy balance). May also require submission of evidence of performance efficiencies of specific technology.</p> <p><i>Statement of Compliance</i> from developer and Design Guidelines.</p> <p>Evidence should include one of the following:</p> <ul style="list-style-type: none"> <li>• Evidence of energy efficiency using BERS, AccuRate, FirstRate5 or NatHERS, NABERS or similar.</li> <li>• Statement from engineer showing the energy requirements of the <i>development</i> and the energy savings compared to regulatory requirements and the energy provision through alternative sources (i.e. calculations on the energy balance). If the applicant provides information regarding star ratings of houses, evidence should include ABSA (Association of Building Sustainability Assessors) certificate using second generation software systems' thermal calculation method.</li> </ul> <p>Evidence in <i>Design Guidelines</i> or electrical plans with <i>Statement of Compliance</i> from engineer or developer. Evidence of end user manual and proposed structure of end user education program.</p> |



## 4. Materials Element of EnviroDevelopment

|                   |   |
|-------------------|---|
| <b>TITLE:</b>     | Materials   |
| <b>OBJECTIVE:</b> | Environmentally responsible material usage  |
| <b>TARGET:</b>    | Development that predominantly utilises environmentally responsible materials to lower environmental impacts in preference to other materials when such options are available and feasible, without significantly jeopardising the functionality or liveability of the development. |

### PRINCIPLES

- Encourage selection of materials from environmentally responsible sources such as:
  - reuse resources (including buildings, structures and materials)
  - use recycled resources (e.g. materials)
  - renewable sources
  - non-polluting sources
  - low lifecycle energy materials (i.e. encourage choice of materials that are not energy-intensive to produce, are locally available and durable)
  - materials that are low emission and do not emit toxic gases or dangerous particles
- Encourage high indoor air quality through choice of materials
- Maintain design and performance standards
- Encourage use of materials that can be recycled or reused at the end life of the development
- Maintain affordability within reasonable parameters

### BENEFITS AND INCENTIVES

#### Possible Benefits for Occupants

- Satisfaction that occupier is reducing ecological footprint through reduced greenhouse gas production, reduced pollution and/or reduced detrimental impacts on the environment.
- Comfortable, safe living areas with health benefits through reduced toxic surfaces or gases and reduced allergens.
- Pride about environmentally friendly housing choice.
- Lower lifecycle energy materials are often more durable.
- Enhanced marketability and property value.
- Reduced operating costs and ongoing maintenance costs.

#### Possible Benefits for Local, State or Federal Government or Supplier Companies

- Energy efficiency leading to reduced greenhouse gas production and reduced pollution, which in turn can lead to a more liveable environment and help reduce climate change.
- Advantage suppliers that source materials or inputs from renewable sources (e.g. sustainable timber or other organic sources), or produce materials through recycling or other environmentally friendly processes.
- Encourages recycling and reduces landfill.
- More attractive and sustainable city/shire/state.
- Helps raise community awareness of government's efforts to enhance sustainability.
- Helps raise community awareness of the need to protect the environment and use resources responsibly.
- Health benefits from better indoor air quality and reduced toxic products.
- Reduction in resource consumption.
- Help to reduce the ecological footprint of communities.

### Possible Benefits for Developers

- Marketing advantages through quality product and EnviroDevelopment promotion.
- Product differentiation.
- Improved corporate image.
- More affordable environmentally responsible material choices through economies of scale.
- Some government incentives may be possible through helping to reduce climate change.
- Lower lifecycle energy materials may be more affordable than some others due to lower energy inputs in production or transport.

| Criteria  | Supporting Documentation Requirement  |
|---|---|
| <p><b>4.1 ESSENTIAL ACTIONS</b></p> <p>Must meet the criteria from the following sections:</p> <ul style="list-style-type: none"> <li>• <i>Environmentally responsible materials</i> (4.2)</li> <li>• Low Emission Materials (4.3)</li> <li>• Local products (4.4)</li> <li>• Minimise packaging (4.5)</li> <li>• End User Education (4.6)</li> </ul>   | <p>Meet the evidence requirements of each section.</p>  |
| <p><b>4.2 ENVIRONMENTALLY RESPONSIBLE MATERIALS</b></p> <p>Ensure the use of a minimum 20% of construction materials (by volume) are made from either (or a combination of):</p> <ul style="list-style-type: none"> <li>• Materials with a recycled content (4.2.1)</li> <li>• Reused materials (4.2.2)</li> <li>• Renewable materials (4.2.3)</li> <li>• Total <i>lifecycle energy</i> (4.2.4)</li> <li>• <i>Responsibly Manufactured Materials</i> (4.2.5)</li> </ul> <p>To meet this criteria, at least 60% of the <i>environmentally responsible materials</i> requirement (i.e. 12% of total materials used for construction) must be used in built form i.e. in house / building construction. However, applicants may partially meet this criteria by using <i>environmentally responsible materials</i> in civil works e.g. crushing of cement for road aggregate, recycling of bricks for the purposes of pathways. The recycling and mulching of vegetative debris for landscaping purposes will not be recognised (contained within the waste element).</p> <p>For solely land developers, the use of <i>environmentally responsible materials</i> must be demonstrated in civil works and in any buildings which are directly contracted by the <i>development</i> (e.g. community building/facilities, park shelters, public art), and encouraged in private spaces through design guidelines.</p> <p><b>4.2.1 Materials with a Recycled Content</b></p> <ul style="list-style-type: none"> <li>• Materials that have a high recycled product content e.g. concrete.</li> </ul> <p>Note: If a material contains less than around 50% recycled content then it will need to contribute a higher portion of the building pro rata i.e. a material of 25% recycled content would need to make up approximately 40% of the building materials to totally fulfil this requirement.</p> <p><b>4.2.2 Reused Materials</b></p> <ul style="list-style-type: none"> <li>• Reuse of products such as timber.</li> <li>• Reused structure or façade. This may include the sourcing of a suitable structure / façade from an off site location and its relocation to site, or the use of an existing structure/façade on site for a specific purpose e.g. the use of an existing dwelling for the purposes of a community centre/sales office.</li> </ul> | <p>Evidence in plans and statement from engineer, architect or building designer and developer.</p> <p>Evidence should include a statement from the developer and the supplier about the recycled content of materials and reference to the relevant clauses within <i>design guidelines</i> if appropriate.</p> <p>Include an indication of the proportion of the total materials used in the development which are <i>environmentally responsible materials</i>.</p> <p>Evidence should include a statement from developer explaining what was reused in the <i>development</i>. There should also be a statement from the developer and the supplier about the source of the reused materials and reference to the relevant clauses within <i>design guidelines</i>.</p> <p>Include an indication of the proportion of the total materials used in the development which are <i>environmentally responsible materials</i>.</p> |

| Criteria  | Supporting Documentation Requirement   |
|---|--|
| <p><b>4.2.3 Renewable Materials</b></p> <p>Sustainable, renewable sources include materials that come from sustainably produced organic products such as sustainable forestry operations, straw, sustainable bamboo plantations. They can also include other materials that are produced and recycled through an environmentally friendly (low energy usage, non-polluting) process.</p> <p><b>4.2.4 Total Lifecycle Energy</b></p> <p>Materials with <i>lifecycle energy</i> at least 30% lower than standard alternative product fulfilling a comparable purpose (considering extraction, production transport and durability). The <i>Building Products Life Cycle Inventory</i> (BP LCI) should be utilised when calculating the difference between products.</p> <p>Where no suitable scientific data exists for total lifecycle energy components of particular materials, it would be expected that calculations factor in:</p> <ul style="list-style-type: none"> <li>• An estimation of the energy required in their production (embodied energy);</li> <li>• An estimation of the energy required for their transport (thereby advantaging local suppliers); and</li> <li>• An estimation of the longevity of the materials compared to alternative products (i.e. if a product is twice as durable and likely to be used for this purpose for twice as long then under this formula it can afford to utilise twice as much energy in its production and/or transport than alternative products and still have the same lifecycle energy estimate).</li> </ul> <p>The lifecycle energy of a component should be evaluated by comparison to other products fulfilling a comparable role. For example, for a wall it should be per m<sup>2</sup> of wall area and for insulation it should be compared to other products that achieve the same <i>R score</i>.</p> <p><b>4.2.5 Responsibly Manufactured Materials</b></p> <p>Use of suppliers who produce <i>responsibly manufactured materials</i>. To qualify, products should be from manufacturers who certify (or ideally have externally certified) that their product manufacturing process uses less than 70% of the water or fossil fuel energy and reduces wastes and polluting by-products by more than 30% compared to industry standards or major manufacturers producing comparable products. To meet this requirement, materials making up 20% of the materials used must include materials used in at least 3 of the following categories:</p> <ol style="list-style-type: none"> <li>1. Framing</li> <li>2. Roofing</li> <li>3. Flooring</li> <li>4. External walls</li> <li>5. Internal walls</li> <li>6. Foundations</li> <li>7. Staircases</li> <li>8. Other</li> </ol> | <p>A statement should be provided from the developer outlining the mechanism by which materials qualify as being from sustainable, renewable sources. Appropriate certification (e.g. that timber comes from sustainable forestry practices) must also be provided where applicable.</p> <p>Include an indication of the proportion of the total materials used in the <i>development</i> which are materials of this category.</p> <p>Evidence for this section can include data from the <i>Building Products Innovation Council's</i> Life Cycle Inventory, and research documentation from research organisations (e.g. Universities, CSIRO) as to the specifications of materials having low lifecycle energy costs.</p> <p>Include an indication of the proportion of the total materials used in the <i>development</i> which are materials of this category.</p> <p>Evidence may include <i>EMS certification</i>/chain of custody certificate/or equivalent documentation certifying environmental benefits compared to industry standards (e.g. statement detailing manufacturing production compared to industry standards) from the manufacturer or supplier issued at either the production stage or both the production and extraction phases for each material as appropriate.</p> <p>Include an indication of the proportion of the total materials used in the <i>development</i> which are materials of this category.</p> |

| Criteria  | Supporting Documentation Requirement  |
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| <p><b>4.3 LOW EMISSION MATERIALS</b></p> <p>Utilise <i>low emission</i> products in common areas and encouraged in private dwellings, outdoor space or commercial or industrial space and meet at least TWO of the following options:</p> <p><b>4.3.1</b> Use low emission paints on all internal painted surfaces.</p> <p><b>4.3.2</b> Use low emission floor coverings on all indoor covered floors.</p> <p><b>4.3.3</b> Use low emission sealants and adhesives where possible.</p> <p><b>4.3.4</b> Select non-allergenic materials for furnishings where feasible.</p> <p><b>4.3.5</b> Composite wood product which is low emission formaldehyde or no composite wood product used.</p> <p><b>4.3.6</b> Wood products are stained with wood treatments that are natural, such as linseed oil or beeswax polish.</p> <p><b>4.3.7</b> Reduced use of formaldehyde products.</p> | <p>Statement from developer and architect and/or interior decorator as applicable, stating how this requirement has been met.</p> |
| <p><b>4.4 LOCALLY SOURCED PRODUCTS/RESOURCES</b></p> <p>Consider utilising local manufacturers and/or suppliers, or utilise the most economical method of transportation with regard to fossil fuels. Evidence should also be provided demonstrating that the developer has engaged local labour and/or subcontractors on a permanent basis.</p>  | <p>Statement from developer outlining such consideration of local materials and suppliers.</p>                                    |
| <p><b>4.5 MINIMISE PACKAGING</b></p> <p>Select materials and suppliers that minimise and/or recycle packaging e.g. recycle all packaging brought onto site, return packaging to supplier, request reduced packaging in contract. Applicable to civil works and built form.</p>  | <p>Statement from developer outlining such consideration of materials and suppliers that minimise and/or recycle packaging.</p>   |
| <p><b>4.6 END USER EDUCATION</b></p> <p>Provide end user education regarding the use of <i>environmentally responsible materials</i>, low emission materials and maintenance requirements. This may be demonstrated through interpretive signage, fact sheets and end user manuals.</p>   | <p>Evidence of end user education or communication plan for the <i>development</i>.</p>   |



## 5. Water Element of EnviroDevelopment

**TITLE:** Water

**OBJECTIVE:** Improved water use efficiency

**TARGET:** Measures that would achieve at least a 20% reduction in *potable water* use beyond regulatory measures and have no potable water irrigation requirements.

### PRINCIPLES

- Reduce potable water use. There are two fundamental strategies to achieve this:
  - Reduce overall water use by 20% beyond regulatory means – e.g. through water efficiency mechanisms.
  - Utilise alternative water sources (e.g. rainwater, stormwater, dual reticulation) to meet irrigation demand for public open space and common areas of the project or use drought tolerant species which require no establishment period.

### BENEFITS AND INCENTIVES

#### Possible Benefits for Occupants

- Reduced operating costs.
- Self-sufficiency of supply.
- Rebates for rainwater tanks, appliances.
- Enhanced marketability and property value.
- More sustainable housing.
- Qualification for 'green homes loans', as offered by some financial institutions.
- Satisfaction that occupier is reducing ecological footprint.

#### Possible Benefits for Local, State or Federal Government

- Reduced mains water consumption.
- Reduced infrastructure costs/delay infrastructure upgrades/equivalent to enhanced capacity.
- Improved stormwater quality through improved stormwater management.
- Reduced local flooding through reducing peak stormwater discharges.
- Can facilitate greater population growth for limited resources.
- More attractive and sustainable city/shire/state.
- Helps raise community awareness of government's efforts to enhance sustainability.
- Helps raise community awareness of the need to protect the environment and only use resources sustainably.
- Helps to reduce the ecological footprint of communities.

#### Possible Benefits for Developers

- Greater lot utilisation.
- Marketing advantages through quality product and EnviroDevelopment promotion.
- Recognition of development as an EnviroDevelopment.
- Improved corporate image.
- Rebates for rainwater tanks, appliances.



| Criteria   | Supporting Documentation Requirement   |
|--|--|
| <p><b>5.1 ESSENTIAL ACTIONS</b></p> <p>Meet the criteria from the following sections:</p> <ul style="list-style-type: none"> <li>Reduction in potable water demand (5.1.1)</li> <li>Irrigation (5.1.2)</li> </ul> <p><b>5.1.1 REDUCTION IN POTABLE WATER DEMAND</b></p> <p>Reduce potable water usage within the <i>development</i> (excluding common area irrigation requirements captured in 5.1.2) by at least 20% more than required under relevant Federal, State and Local government regulatory means.</p> <p>This may be achieved by any or a combination of the following means:</p> <ul style="list-style-type: none"> <li>Stormwater harvesting (e.g. broad scale collection of stormwater runoff for use in irrigation).</li> <li>Plumbing of recycled water reticulation (such as dual reticulation facilitating the reuse of treated effluent water).</li> <li>Greywater reuse (e.g. plumbing to facilitate reuse of greywater on lot).</li> <li>Rainwater harvesting (e.g. collection of rainwater in tanks from roof runoff).</li> <li>Use of underground water sources</li> <li>Water use efficiency (e.g. fittings with a higher WELS rating than mandated through regulation, rainwater tanks with larger capacity than mandated)</li> <li>Dedicated water wise landscaping packages for private open space/outdoor areas (e.g. provision of drought tolerant species plantings for use in individual outdoor landscaping).</li> </ul> <p><b>5.1.2 IRRIGATION</b></p> <p><b>5.1.2.1</b> Use drought tolerant species which have no irrigation requirements for public open space and common areas of the project (i.e. excluding private courtyards, gardens, outdoor areas). Where irrigation is required either for ongoing watering or for the purposes of establishment, water should be supplemented from a non-potable source including through:</p> <ul style="list-style-type: none"> <li>Stormwater harvesting (e.g. broad scale collection of stormwater runoff for use in irrigation).</li> <li>Plumbing of recycled water reticulation (such as dual reticulation facilitating the reuse of treated effluent water).</li> <li>Greywater reuse (e.g. plumbing to facilitate reuse of greywater on lot).</li> <li>Rainwater harvesting (e.g. collection of rainwater in tanks from roof runoff).</li> <li>Use of underground water sources.</li> </ul> <p><b>5.1.2.2</b> Demonstrate that irrigation will be delivered via the most efficient system for that situation. Water should be directly applied to the vegetation to limit evaporation, runoff or wastage. Mulch must be applied to planted areas and maintained.</p> | <p>Certification by engineer or local government engineer or <i>development</i> assessment officer or other qualified professional (e.g. through water balance calculations and hydrological modelling and a statement) that sufficient stormwater will be available and that the civil works will be constructed in such a way as to facilitate its harvest and use. (Such infrastructure should be constructed as part of the civil works.)</p> <p><i>Design guidelines</i> and worked calculations showing how initiatives will achieve at least 20% reduced potable water usage compared to regulatory requirements.</p> <p>Landscape palette and statement from landscape architect.</p> <p>Certification by engineer or local government engineer or <i>development</i> assessment officer or other qualified professional (e.g. through water balance calculations and hydrological modelling and a statement) that sufficient non-potable water will be available and that the civil works will be constructed in such a way as to facilitate its harvest and use. (Such infrastructure should be constructed as part of the civil works.)</p> <p>If using an underground water source, certification of bore license and capacity should be provided. Must also show proof of recharge (by hydro-geologist) and water balance calculations to show that there will be no net drain on aquifer. Where irrigation is sourced from a recycled water or greywater supply, a soil management plan must be provided.</p> <p>Irrigation plan or statement from landscape architect regarding irrigation methods.</p> |
| <p><b>5.2 END USER EDUCATION</b></p> <p>Provide end user education regarding potable water reduction throughout the development, including measures undertaken to reduce potable water usage in the built form and reduction in irrigation requirements for public open space and common areas. This may be demonstrated through interpretive signage, fact sheets, and end user manuals.</p>  | <p>Evidence of end user education or communication plan for the <i>development</i>.</p>  |



## 6. Community Element of EnviroDevelopment

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| <b>TITLE:</b>     | Community  |
| <b>OBJECTIVE:</b> | Vibrant, cohesive, healthy, happy, adaptable, prosperous, sustainable communities.   |
| <b>TARGET:</b>    | Development that encourages social capital, community spirit, sustainable local facilities, reduced use of private motor vehicles, a sense of safety/security and accessible and flexible design that welcomes a diversity of people and adapts to their changing needs. |

### PRINCIPLES

- Consult with surrounding community and traditional owners.
- Encourage community cohesiveness and interactions through the provision of facilities, the ongoing support of community social capital such as community organisations and/or networks and sub-division layout design/masterplan.
- Encourage use of *public transport* or walking and cycling.
- Accessible local employment, education and services to encourage cohesive community and reduce the need for regular travel beyond the local area.
- Encourage safe, accessible, comfortable housing, facilities and workplaces.
- Protect heritage.
- Maintain and enhance community assets.

### BENEFITS AND INCENTIVES

#### Possible Benefits for Occupants

- Comfortable and accessible buildings and facilities.
- Cohesive and supportive communities.
- Reduced transport costs.
- Happy community and home environment.
- Nurturing environment.
- Satisfaction that occupier is reducing ecological footprint.
- Healthy indoor environment and better community infrastructure can offer health benefits.
- Less time commuting in car in traffic.
- More affordable more sustainable housing.
- Enhanced marketability and property value.
- Safe, secure communities.

#### Possible Benefits for Local, State or Federal Government

- Enables the ability to promote population growth through more efficient use of limited resources.
- Cohesive and supportive communities.
- Less dislocation due to less need to move to new areas.
- Increased private sector investment in better community design and facilities (reduced costs for local government but better outcomes).
- Helps raise community awareness of government's efforts to enhance sustainability.
- Helps raise community awareness of the benefits of cohesive and diverse community.
- More attractive and sustainable city/shire/state.

#### Possible Benefits for Developers

- Reduced approval/assessment times.
- Marketing advantages through quality product and EnviroDevelopment promotion.
- Assists in explaining benefits of design features to potential purchasers.
- Improved corporate image.
- Increased Local Government recognition of the merit of community attributes, facilities and considerations of project.

| Criteria  | Supporting Documentation Requirement  |
|---|---|
| <p><b>6.1 ESSENTIAL ACTIONS</b></p> <p><b>6.1.1</b> Demonstrate that the project is driven by a clear vision, with defined environmental, economic and social sustainability goals including measurable performance targets.</p> <p><b>6.1.2 C1 developments</b> less than 100 lots/units – achieve the requirements of FIVE of the following sections.</p> <p><b>C1 developments</b> greater than 100 lots/units – achieve the requirements of SIX of the following sections.</p> <p><b>C2, C3, C4, C5 developments</b> – achieve FIVE of the following sections.</p> <ul style="list-style-type: none"> <li>• Community Consultation, Planning and Development (6.2)</li> <li>• Ongoing Community Engagement and Governance (6.3)</li> <li>• Transport (6.4)</li> <li>• Place Making (6.5)</li> <li>• Community Prosperity (6.6)</li> <li>• Local Facilities (6.7)</li> <li>• Safe, Accessible Communities (6.8)</li> <li>• Indoor Environment Quality (6.9)</li> </ul>   | <p>Evidence of <i>development</i> vision and sustainability goals with corresponding measurable performance targets.</p> <p>Meet the evidence requirements of the relevant sections.</p>  |
| <p><b>6.2 COMMUNITY CONSULTATION, PLANNING AND DEVELOPMENT</b></p> <p>Must meet ALL requirements for this section.</p> <p><b>6.2.1</b> Demonstrate and provide evidence of efforts to understand, engage and consider the wishes of all sectors of the local community, including traditional owners.</p> <p><b>6.2.2</b> Raise awareness and engage with stakeholders who may have an interest in <i>development</i>, beyond regulatory requirement. This could be simply through an appropriate on site billboard, an appropriately targeted letter drop or an open meeting for example.</p> <p>Note: this will mean different measures depending on the level of assessment required i.e. code, impact etc.</p> <p><b>6.2.3</b> Document evidence that community feedback has been considered and incorporated where feasible and appropriate.</p> <p><b>6.2.4</b> Consider and appropriately preserve and / or recognise indigenous and post-European cultural heritage.</p> <p>Note: if the <i>development</i> occurs within an area already zoned for that use (for example an industrial designation under a planning instrument) appropriate evidence shall be provided that the <i>development</i> complies with that zoning and is keeping with the intention of the planning instrument. Evidence of community consultation associated with the relevant planning instrument required.</p> | <p>Statement from the developer stating how the requirements have been met.</p> <p>Concise report outlining methods and results of research on local community wishes and how they have been considered in the <i>development</i>. Evidence of measures to raise awareness e.g. photo of billboard and statement about timing and duration that it was visible, evidence of public meeting/s and attendance, evidence of letter drop, evidence of relevant phone calls. Evidence of recognition and protection or considerate reuse of cultural heritage sites or structures (and artefacts) if applicable and in keeping with advice from traditional owners, long-term locals or historical advisors.</p> <p>This could include:</p> <ul style="list-style-type: none"> <li>• Evidence of voluntary liaison with traditional owner, if such a group can be identified, and the consideration of Indigenous cultural values in the processes, design and construction of the <i>development</i>.</li> <li>• Evidence of consideration of significant post European cultural heritage, such as retaining significant trees, fences, old machinery and structures of significance, interpretive signage, research of site history and publication, promotion and incorporation in the design of same and naming of elements</li> </ul> |

| Criteria   | Supporting Documentation Requirement  |
|--|---|
| <p><b>6.3 ONGOING COMMUNITY ENGAGEMENT AND GOVERNANCE</b></p> <p><b>6.3.1</b> Establish a structure or framework for ongoing community involvement and establish ongoing partnerships with the broader community.</p> <p>In addition to 6.3.1, achieve at least FIVE of the following or identify other actions appropriate to the local context:</p> <p><b>6.3.2</b> Facilitate community grants programs.</p> <p><b>6.3.3</b> Sponsor, facilitate and/or provide local community groups / events. May be within the <i>development</i> or supporting the surrounding community.</p> <p><b>6.3.4</b> Involve local trainees in construction activities.</p> <p><b>6.3.5</b> Engage with local environmental groups/catchment organisations for ongoing community-based environmental restoration and maintenance activities.</p> <p><b>6.3.6</b> Employ a <i>community development</i> officer who takes a working role within community organisations.</p> <p><b>6.3.7</b> Establish and manage community bodies e.g. body corporate, to run community facilities, community title, club, organisation or committee. Significant efforts must be made to ensure a suitable structure to be self-sufficient upon completion of the <i>development</i> phase.</p> <p><b>6.3.8</b> Disseminate information amongst occupants and the surrounding community.</p> <p><b>6.3.9</b> Conduct monthly tenant/community meetings to discuss sustainability initiatives and behavioural management.</p> <p><b>6.3.10</b> Provide a community communication system (e.g. intranet, newsletter, community notice board).</p>  | <p>Evidence of structure and framework including a list of measurables and delivery timeframes.</p>   |
| <p><b>6.4 TRANSPORT</b></p> <p><b>C1 Developments</b></p> <p>Achieve at least TWO of the following options. Each option is worth one point unless otherwise stated.</p> <p><b>6.4.1 Bicycle Parking</b> (must achieve all FOUR points)</p> <p><b>6.4.1.1</b> Provide bicycle parking for residents and visitors. For multi-unit dwellings, there should be provision for at least 1 bicycle space per dwelling provided for residents and 1 space per 5 units provided for visitor parking. Detached houses would require at least 2 bicycle parks per dwelling.</p> <p><b>6.4.1.2</b> Provide bicycle parking within a secure part of the building or in a secure part of the yard, where bicycles can be locked securely and protected from the elements, such as lock up carpark areas or the basement of multi-unit residential or mixed use office buildings. Bicycle parks must also be arranged so that parking manoeuvres will not damage adjacent cars and bicycles.</p> <p><b>6.4.1.3</b> Place bicycle parking in public view, easily accessible from the road and arranged so that parking manoeuvres will not damage adjacent cars and bicycles.</p> <p><b>6.4.1.4</b> Demonstrate encouragement of active transport.</p> <p><b>6.4.2 Pathways</b></p> <p>Provide connecting, safe, attractive, well-lit and efficient walking and cycling pathways running wholly in <i>public spaces</i> (including streets and open spaces), directly connecting residential and commercial areas to <i>local facilities</i> and providing links between areas. Also connect with paths in neighbouring areas and provide appropriate bicycle parking at <i>public transport stops</i> and community facilities. Paths should have some areas of adjacent shade, shelter and seating. Demonstrate encouragement of active transport options.</p> | <p>Evidence in plans, and statement from engineer or masterplanner or developer stating how the requirements have been met.</p> <p>Evidence in plans, and statement from engineer or masterplanner or developer stating how the requirements have been met.</p> |

| Criteria  | Supporting Documentation Requirement  |
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| <p><b>6.4.3 Public Transport</b></p> <p>Locate <i>development</i> such that it will have good access (e.g. by proximity or by accessible pathways and bikeways) to <i>public transport</i>. In addition to demonstrating compliance with one of the following, promotion of public transport options amongst the community should also be demonstrated. Public transport provision could be shown through:</p> <p><b>6.4.3.1</b> Higher density or 1.5 times the average density of the <i>development</i> within 500 metres of a transport stop with at least 5 services per weekday by the time the buildings within the <i>development</i> are 50% occupied) to <i>local facilities</i> or other service centres or connecting transport systems. Legible direction signage to <i>public transport</i> stops is provided at key locations.</p> <p><b>6.4.3.2</b> Provide access to <i>public transport</i> such that 75% of dwellings are within 500 metres, of a transport stop with at least 5 services per weekday by the time the buildings within the <i>development</i> are 50% occupied) to <i>local facilities</i> or other service centres or connecting transport systems. Legible direction signage to <i>public transport</i> stops is provided at key locations.</p> <p><b>6.4.3.3</b> Provide a community transport network such as car pool, community minibus to facilities.</p> <p><b>6.4.3.4</b> Provide <i>public transport</i> subsidies or vouchers or similar to residents or an appropriate supplier of services.</p> <p><b>6.4.4 Working From Home</b></p> <p>Facilities to encourage working from home could include:</p> <p><b>6.4.4.1</b> Provision of communication technology and wiring within dwellings e.g. fast internet facilities.</p> <p><b>6.4.4.2</b> Design of floor plates and building designs to facilitate office.</p> <p><b>6.4.4.3</b> Provide an adequately equipped community centre.</p> | <p>Evidence of existing transport location/s and frequency of service together with details of proposal to council and negotiations to date.</p> <p>Evidence in plans and statement from developer stating how the requirements have been met.</p>              |
| <p><b>6.4 TRANSPORT (Cont.)</b></p> <p><b>C2, C3, C4, C5 Developments</b></p> <p>Achieve at least TWO POINTS from the following options:</p> <p><b>6.4.5 Bicycle Parking</b></p> <p><b>6.4.5.1</b> Provide adequate and secure bicycle parking for employees and visitors. Bicycle parks must also be arranged so that parking manoeuvres will not damage adjacent cars and bicycles. (one point). In addition to the provision of bicycle parking, promotion of active transport options should be demonstrated. For commercial buildings, end of trip facilities must be provided in excess of State and Local government requirements. If no current State or Local government policy exists on this topic, compliance with Queensland Transport's End-of-Trip Facilities for Bicycle Riders Guide will be expected.</p> <p><b>6.4.6 Pathways</b></p> <p><b>6.3.6.1</b> Provide connecting, safe, attractive, well-lit and efficient walking and cycling pathway spaces (including streets and open spaces). Also connect with paths in neighbouring areas, properties and facilities. Paths should have some areas of adjacent shade and shelter and seating. Demonstrate encouragement of active transport options. (one point)</p>  | <p>Evidence in plans, and statement from engineer or masterplanner or developer stating how the requirements have been met.</p> <p>Evidence in plans, and statement from engineer or masterplanner or developer stating how the requirements have been met.</p> |

| Criteria   | Supporting Documentation Requirement   |
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| <p><b>6.4.7 Public Transport</b></p> <p>Locate <i>development</i> such that it will have good access to <i>public transport</i> (e.g. by proximity or by accessible pathways and bikeways). In addition to demonstrating compliance with one of the following, promotion of public transport options amongst the community should also be demonstrated. Public transport provision could be shown through:</p> <p><b>6.4.7.1</b> Locate <i>development</i> within 500m of a transport stop with at least 5 services per weekday to <i>local facilities</i> or other service centres or connecting transport systems. (two points)</p> <p><b>6.4.7.2</b> Locate <i>development</i> within 1km of a transport stop with at least 5 services per weekday to <i>local facilities</i> or other service centres or connecting transport systems (one point)</p> <p><b>6.4.7.3</b> Locate <i>development</i> so that greater than 50% of employees or other occupants are within 2km of public transport with at least 5 services per weekday by the time the development is 50% occupied (one point).</p> <p><b>6.4.8 Shared Transport</b></p> <p><b>6.4.8.1</b> Provide community transport network such as car pool, community minibus to facilities. (one point)</p> <p><b>6.4.8.2</b> Provide <i>public transport</i> subsidy or vouchers or similar. (one point)</p> <p><b>6.4.8.3</b> Provide a shared transport system to cater for transport needs such as for those employees involved in shift work. (one point)</p> <p><b>6.4.8.4</b> Provide parking spaces which are designed and labelled for small vehicles (2.3m wide and 5.0m long). (one point)</p>  | <p>Evidence of existing transport location/s and frequency of service together with details of proposal to council and negotiations to date.</p> <p>Evidence in plans, and statement from engineer or masterplanner or developer stating how the requirements have been met.</p> |
| <p><b>6.5 PLACE MAKING</b></p> <p><b>6.5.1 C1 and C2 developments</b> of greater than 100 lots/units – achieve at least TEN of the following.</p> <p><b>C1 and C2 developments</b> of less than 100 lots/units – achieve at least EIGHT of the following.</p> <p><b>C3, C4 and C5 developments</b> – achieve at least SEVEN of the following.</p> <p>Note: Relevant development type/s are stated in brackets as a guide.</p> <p><b>6.5.1.1 (C1)</b> Ensure 50% of houses overlook public space (not just road). Built form should address public open space through appropriate placement of windows to habitable rooms and positioning of outdoor living areas. This is to enhance social interaction, passive surveillance and may improve the views from living areas.</p> <p><b>6.5.1.2 (All)</b> Provide <i>local facilities</i> and or <i>community facilities</i> (e.g. recreation facilities, shops, cafe, restaurants, town hall, gardens and BBQ facilities.).</p> <p><b>6.5.1.3 (C1)</b> Provide significant diversity of housing types including a mix of dwelling sizes (e.g. number of bedrooms) and/or densities of housing.</p> <p><b>6.5.1.4 (C1)</b> Provide at least 10% of houses, blocks of land or house and land packages are <i>affordable</i> and are interspersed with other housing, not in a group together or isolated from other housing.</p> <p><b>6.5.1.5 (All)</b> Employ a strategy to unite community through unique assets or attributes of the area.</p> <p><b>6.5.1.6 (All)</b> Provide other evidence of design consideration and encouragement of community spirit and networks.</p> <p><b>6.5.1.7 (All)</b> Ensure that where fences are provided (or boundary or area is reasonably likely to be fenced) that there are (or will be) no non-transparent or non-permeable fences higher than 1m at front of property (or where the property links to <i>public space</i> if this is not at the front).</p> | <p>Evidence in plans and statement from masterplanner or developer.</p> <p>Must also show evidence of mechanisms in place for ongoing maintenance beyond the <i>development</i> and sales stages.</p>  |

| Criteria  | Supporting Documentation Requirement  |
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| <p><b>6.5.1.8 (C1, C2, C3, C4)</b> Designed <i>development</i> and lot layout to encourage interaction between members of the community.</p> <p><b>6.5.1.9 (All)</b> Provide an attractive, safe and walkable street environment by planting street trees at 12-25 metre intervals, or demonstrate intervals appropriate to the chosen tree species and region to ensure maximum shade for pedestrians.</p> <p><b>6.5.1.10 (All)</b> Incorporate public art within the <i>development</i>.</p> <p><b>6.5.1.11 (All)</b> Incorporate public art within the <i>development</i> which strongly represents the area's history and which is made by local artist/s. (two points)</p> <p><b>6.5.1.12 (C1)</b> Dedicate permanent and viable growing spaces and / or related facilities (e.g. greenhouses) within the project for the purposes of a community garden.</p> <p><b>6.5.1.13 (C5)</b> Provide diverse employment opportunities and encourages local employees.</p> <p><b>6.5.1.14 (All)</b> Ensure an equitable distribution of visual amenity (e.g. landscaping, native bushland, green space) within the <i>development</i>, providing opportunities for activity areas for residents and employees.</p> <p><b>6.5.1.15 (C5)</b> Encourage interaction within and between properties and local services, provided through linkages (e.g. pathways), transport (shuttle services), incentives (e.g. discount vouchers, events).</p> <p><b>6.5.1.16 (C5)</b> Encourage tenants with a similar theme (e.g. sustainably manufactured materials).</p> <p><b>6.5.1.17 (C3, C4, C5)</b> Incorporate environmental induction in tenant leases and contracts for employees and tenants.</p> <p><b>6.5.1.18 (C5)</b> Encourage co-location of symbiotic industries (e.g. industrial ecology concept - where one business uses the by-products of another business).</p> <p>Note: Community facilities must be situated in desirable locations.</p> |   |
| <p><b>6.6 COMMUNITY PROSPERITY</b></p> <p>Develop a community economic / employment statement which identifies:</p> <ul style="list-style-type: none"> <li>- economic goals and priorities for the community.</li> <li>- employment targets and the job balance ratio.</li> <li>- activities to be provided within the <i>development</i> e.g. retail, industrial, commercial or community based.</li> <li>- socio-economic profile of the host local government area (based on at least the last two census).</li> </ul> <p>Note, where there have been local government amalgamations, define using a similar area.</p> <ul style="list-style-type: none"> <li>- how the development will contribute to the host local government area's socio-economic profile.</li> <li>- net percentage increase in the number of jobs in the local area where the <i>development</i> replaces productive uses (e.g. redevelopment of an industrial area).</li> </ul>  | <p><i>Statement of Compliance</i> from developer and evidence of community economic / employment statement.</p> |

| Criteria   | Supporting Documentation Requirement  |
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| <p><b>6.7 LOCAL FACILITIES</b></p> <p><b>C1, C2, C3, C4 Developments</b></p> <p>Locate near (such that 75% of residences/workplaces are within 2km by foot) or provide at least FIVE of the following local services. Local facilities should be co-located near public transport stops and pathways.</p> <p><b>C5 Developments</b></p> <p>Locate near (such that the <i>development</i> is within 2km) or provide at least THREE of the following local services.</p> <p><b>6.7.1</b> Newsagent</p> <p><b>6.7.2</b> Grocery/corner store</p> <p><b>6.7.3</b> Primary school</p> <p><b>6.7.4</b> Secondary school</p> <p><b>6.7.5</b> University</p> <p><b>6.7.6</b> Kindergarten, preschool, or childcare</p> <p><b>6.7.7</b> Medical practice</p> <p><b>6.7.8</b> Chemist</p> <p><b>6.7.9</b> Specialty stores</p> <p><b>6.7.10</b> Cafes and/or restaurants</p> <p><b>6.7.11</b> Parks and open space</p> <p><b>6.7.12</b> Playground and/or recreation facilities</p> <p><b>6.7.13</b> Community centre</p> <p><b>6.7.14</b> <i>Public transport</i> hub</p> <p><b>6.7.15</b> Bank or cash machine</p> <p><b>6.7.16</b> Post office</p> <p><b>6.7.17</b> Emergency Services (including rural fire brigade, ambulance, police)</p> <p><b>6.7.18</b> Communication centre or business centre</p> <p><b>6.7.19</b> Information exchange medium e.g. community notice board, newsletter, website</p> <p><b>6.7.20</b> Community portal (ADSL or better facilities)</p> <p><b>6.7.21</b> Community accessible facilities / spaces e.g. rooms, public areas, education centres</p> <p><b>6.7.22</b> Educational facility or material e.g. interpretative signage, tours, open days, brochures.</p> | <p>Evidence in plans, and statement from engineer or masterplanner and developer. Must also show evidence of mechanisms in place for on-going maintenance beyond the <i>development</i> and sales stages.</p> |
| <p><b>6.8 SAFE AND ACCESSIBLE COMMUNITIES</b></p> <p><b>6.8.1</b> Demonstrate how the project has been designed to encourage a safe environment, reduce crime and encourage positive interaction between residents /employees and other local people using the area, according to Crime Prevention Through Environmental Design (<i>CPTED</i>).</p> <p>Achieve at least ONE of the following options:</p> <p><b>C1 Developments</b></p> <p><b>6.8.2 Safe and Accessible Checklist</b></p> <p>Achieve in at least 50% of dwellings 'Gold' performance levels under the Federal Government's Department of Families, Housing, Community Services and Indigenous Affairs' Liveable Housing Design Guidelines.</p>   | <p>Evidence in plans, and statement from architect or building designer and developer.</p>  |



| Criteria   | Supporting Documentation Requirement  |
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| <p><b>6.8.3 Comparable Efforts for Safe Accessible Community</b></p> <p>Demonstrate that significant efforts have been made to ensure that individual dwellings/or local buildings (e.g. <i>community facilities</i>) will be comfortable, accessible, safe and appropriate for a variety of people, including aging or disabled people and children. This can also include measures to reduce noise or light pollution.</p> <p><b>C2, C3, C4, C5 Developments</b></p> <p><b>6.8.4 Comparable Efforts for Safe Accessible Community</b></p> <p>Demonstrate that significant efforts have been made to ensure that buildings (e.g. sheds, offices, factories) will be comfortable, accessible, safe and appropriate for a variety of people, including aging or disabled people and children.</p>   | <p>Evidence in plans, and statement from architect or building designer and developer.</p> <p>Evidence in plans, and statement from architect or building designer and developer.</p>   |
| <p><b>6.9 INDOOR ENVIRONMENT QUALITY</b></p> <p><b>C1, C2, C3, C4 Developments</b></p> <p>Meet requirements for at least TWO of the following options:</p> <p><b>6.9.1</b> Provide good ventilation to all dwellings, offices and <i>community facilities</i> where applicable. This can be shown through any of the following options:</p> <p><b>6.9.1.1</b> Demonstrate that natural ventilation will be good and that noise and security issues are unlikely to cause occupants to keep windows closed.</p> <p><b>6.9.1.2</b> Evidence of good ventilation in mechanically ventilated buildings, could include:</p> <ul style="list-style-type: none"> <li>• The fans and ductwork are sized to meet greater than 20% improvement on the outside air requirements required by current Australian Standards, or</li> <li>• Locating outdoor air intake away from pollutant sources, (such as traffic) so that air supply is designed to meet current Australian Standards requirements, or</li> <li>• Removing pollutants from local outdoor sources through the use of an appropriate filtration system capable of achieving ≥ F8 filter performance rating or equivalent in accordance with current Australian Standards or equivalent improvement in air quality.</li> </ul> <p><b>6.9.1.3</b> Use acoustic ventilation systems to allow for natural ventilation without compromising noise attenuation.</p> <p><b>6.9.2</b> Flue all kitchen range hoods to the outside of the building on all gas ovens and/or effectively naturally ventilate kitchens or mechanically ventilate with dedicated exhausts.</p> <p><b>6.9.3</b> Noise: Locate and shield air conditioning, if provided, so as to prevent noise nuisance to occupiers of residential buildings or minimise noise transmission from external sources (e.g. traffic noise) i.e. design buildings so that the bedrooms, living rooms and offices are designed to be capable of achieving greater than the satisfactory noise levels recommended by AS2107 -2000: Acoustics – Recommended design sound levels and reverberation times for building interiors.</p> | <p>Evidence in plans, or design guidelines and statement from engineer or masterplanner and developer stating how the requirements have been, or will be, met.</p> <p>Evidence in plans and statement from engineer or masterplanner and developer stating how the requirements have been, or will be, met.</p> |

| Criteria   | Supporting Documentation Requirement |
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| <p><b>C5 Developments</b></p> <p>Meet requirements for at least ONE of the following options:</p> <p><b>6.9.4</b> Provide good ventilation to all buildings, offices and factories. This can be shown through any of the following options:</p> <p><b>6.9.4.1</b> Demonstrate that natural ventilation will be of a good standard and that neighbourhood noise and security issues are unlikely to cause tenants / employees to keep windows closed.</p> <p><b>6.9.4.2</b> Demonstrate good ventilation of mechanically ventilated buildings. This could be demonstrated through:</p> <ul style="list-style-type: none"> <li>• The fans and ductwork are sized to meet greater than 20% improvement on the outside air requirements required by AS1668.2-2002 - The Use of Ventilation and Air Conditioning in Buildings. Mechanical Ventilation for Acceptable Indoor Air Quality, or</li> <li>• Locating outdoor air intake away from air pollutant sources, (such as traffic) so that air supply is designed to meet AS1668.2-2002 - The Use of Ventilation and Air Conditioning in Buildings. Mechanical Ventilation for Acceptable Indoor Air Quality requirements, or</li> <li>• Removing pollutants from local outdoor sources through the use of an appropriate filtration system capable of achieving ≥ F8 filter performance rating in accordance with AS1324.1-2001 - Air Filters for use in General Ventilation and Air Conditioning. Application Performance and Construction or equivalent improvement in air quality.</li> </ul> <p><b>6.9.5</b> Locate and shield air conditioning, if provided, so as to prevent noise nuisance to occupiers of nearby properties or minimize noise transmission from external sources (e.g. traffic noise). Buildings should be designed so that they are capable of achieving greater than the satisfactory noise levels recommended by Australian Standard 2107 -2000: Acoustics – Recommended design sound levels and reverberation times for building interiors.</p> |                                      |

## Glossary of Terms

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**Affordable** in the context of houses and units means the rent payable by occupiers or the mortgage repayments payable by the owner occupiers are less than 30% of the median household income for the local region. Mortgage repayments payable would equate to a household earning an average income in the region (local government area usually), with a 10% deposit and a loan over 30 years being able to service a mortgage with mortgage costs taking up no more than 30 per cent of their income. In developments with more than 100 homes/units should achieve this objective.

**Anticipated population over the age of fifteen** means the number of dwellings multiplied by the average household size of the host local government area, then multiplied by the incidence of population over fifteen within the host local government area. Data is to be taken from official data sources which may include the most recent ABS Census or State or Commonwealth Government projections or data sets.

**Appropriately qualified professional** means a person or persons with tertiary qualifications or equivalent in environmental science (or similar).

**BASIX** means the New South Wales Government's water and energy assessment tool.

**Brownfield site** means land within an urban area, which at the time of purchase, 50% of the site had been previously built on.

**Building Code of Australia** means the set of technical provisions for the design and construction of buildings and other structures, produced and maintained by the Australian Building Codes Board (ABCB) on behalf of the Australian Government and State and Territory Governments.

**Building Products Innovation Council** means the national body representing Australia's building product associations and developer of the *Building Products Life Cycle Inventory*.

**Building Products Life Cycle Inventory** means the method and database developed by the *Building Products Innovation Council* for life cycle assessment of building products.

**Category 1 Development (C1)** means a development where the primary use is residential with a density of less than 30 dwellings per hectare.

**Category 2 Development (C2)** means a development where the primary use is residential with a density of more than 30 dwellings per hectare.

**Category 3 Development (C3)** means a mixed-use development.

**Category 4 Development (C4)** means a development where the primary use is commercial or retail.

**Category 5 Development (C5)** means a development where the primary use is industrial.

**Community Development Officer** means a person employed to employ a range of practices to service members of the community and increase liveability and social interaction.

**Community facilities** includes community halls, community centres, recreational clubs, parkland and other facilities designed and constructed for communal use by occupiers, residents and employees (as applicable).

**COP** means coefficient of performance of air conditioning systems.

**CPTED** means Crime Prevention through Environmental Design, as amended or replaced from time to time.

**Design guidelines** means an enforceable system of design and related principles whether operating under contract, deed, covenant, architectural and landscape code for body corporates or some other means satisfactory to the EnviroDevelopment Board of Management. The developer may be asked to demonstrate active design guideline enforcement.

**Development** means the development which is the subject of the application for EnviroDevelopment.

**Ecological Assessment** means a report based on the assessment of the entire area potentially affected by the development including an evaluation of both the biotic and abiotic components of the subject area.

**EER** means the energy efficiency ratio relating to the performance of air conditioning systems.

**EMS Certification** means formal certification of an organisation's Environmental Management System which is a structured framework for managing an organisation's environmental impacts.

**Environmentally responsible materials** means materials as described under 4.2 of the EnviroDevelopment Technical Standards.

**EPBC Act** means Environmental Protection and Biodiversity Act 1999, as amended or replaced from time to time.

**Estimated employed residential population** means the *anticipated population over the age of fifteen* multiplied by the average labour force participation rate of the host local government area.

**IUCN Redlist** means the index compiled by the International Union for Conservation of Nature to identify and document plant and animal species most in need of conservation attention if global extinction rates are to be reduced, as amended or replaced from time to time.

**Life cycle Energy** means the aggregate of direct energy inputs to a product during manufacture, including energy inputs needed to produce components, materials and services needed for the manufacturing process.

**Local facilities** includes those facilities identified in 6.7 of the EnviroDevelopment technical standards.

**Locally native** means native plants which are endemic to the area.

**MUSIC** means the Model for Urban Stormwater Improvement Conceptualisation simulation software which simulates urban stormwater systems operating at a range of temporal and spatial scales, catchments and modelling time steps.

**Non-toxic products** mean those that do not emit VOC gases or other known toxic substances.

**Overlook or overlooking** means a clear line of sight from windows, doors and other openings within a building.

**Potable Water** means water of a quality suitable for drinking, cooking and personal bathing having regard to the Australian Drinking Water Guidelines developed by the National Health and Medical Research Council and amended or replaced from time to time.

**Public space** means land that is publicly accessible but must be more than just road.

**Public transport** includes bus, rail or ferry services.

**Public transport stop** means a location identified by a provider of public transport services as being a dedicated pick up and drop off area for that service.

**Queensland Development Code** means the Queensland Department of Infrastructure and Planning's Queensland-specific building standards which cover Queensland matters outside the scope of, and in addition to, the *Building Code of Australia*.

**R Score** is a measure of thermal resistance as a ratio of temperature difference across the insulator and heat flow per unit area.

**Responsibly Manufactured Materials** means those materials which are from manufacturers who have sourced input materials from sustainable sources and have implemented cleaner production principles i.e. the manufacturing process involves minimal use of non-renewable energy and water and either there are no polluting by products or such by products are significantly reduced.

**Significantly modified** means land which has previously been utilised for intensive uses and has little or limited ecological value.

**Standard Development** means a development that is comparable (having regard to relevant factors including the use, number of premises, size of overall development, percentage of land dedicated as public use space) to the Development that only complies with *Building Code of Australia* requirements.

**Statement of Compliance** means a statutory declaration by the developer or, where the developer is a corporation, by an authorised director, which sets out the particular facts and circumstances and details the level of compliance with the criteria.

**Sustainable forestry operations** means timber which is sourced from either a certified timber source or is accompanied by chain of custody documentation as evidence that the timber has been sourced from a legally harvested and sustainably managed forest.

**Threatened Species** means as listed under the EPBC Act or IUCN Red List or State Government Legislation.

**VOC** means volatile organic compounds.

**Vulnerable Species** means as listed under the EPBC Act or IUCN Red List or State Government Legislation.







HopgoodGanim advised Leighton Properties on the development of HQ, a green-rated commercial and retail centre in Brisbane's Fortitude Valley.

## Strategic legal advice for green property developers

### Consideration of environmental sustainability in property development is critical in today's climate.

Green development is here to stay, and HopgoodGanim has invested heavily in building substantial knowledge of and experience in the development and accreditation of green property.

We have been the lead advisor on many significant, high-profile green property developments in recent years - for example, Leighton Properties' HQ development, a green-rated commercial and retail centre in Brisbane's Fortitude Valley. Our experience with green development means we are well placed to advise on all aspects of planning and development, construction and infrastructure, and commercial property.

Our lawyers don't just advise on the legal aspects of green development - they are actively involved in the industry and are committed to keeping up-to-date with the latest developments in this growing area. Associate Tammy Berghofer is the sole legal representative on the EnviroDevelopment Technical Standards Taskforce, of which our firm is also a member.

As a long-term supporter of the Urban Development Institute of Australia, HopgoodGanim is proud to sponsor the EnviroDevelopment National Technical Standards.

### Our green property specialists



David Nicholls, Partner

T 07 3024 0368

E [d.nicholls@hopgoodganim.com.au](mailto:d.nicholls@hopgoodganim.com.au)



Sarah Persijn, Senior Associate

T 07 3024 0367

E [s.persijn@hopgoodganim.com.au](mailto:s.persijn@hopgoodganim.com.au)



Tammy Berghofer, Associate

EnviroDevelopment Professional

T 07 3024 0318

E [t.berghofer@hopgoodganim.com.au](mailto:t.berghofer@hopgoodganim.com.au)



Angie Coleman, Associate

Accredited Green Star Associate

T 07 3024 0385

E [a.coleman@hopgoodganim.com.au](mailto:a.coleman@hopgoodganim.com.au)



### A UDIA Initiative

Urban Development Institute of Australia

info@envirodevelopment.com.au

[www.envirodevelopment.com.au](http://www.envirodevelopment.com.au)

GPO Box 2279, Brisbane QLD 4001

Level 17, 141 Queen Street, Brisbane QLD 4000

Telephone 07 3229 1589 Facsimile 07 3229 7857

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