

ESD (Environmentally Sustainable Design) Policy for Community Buildings

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RESPONSIBLE EXECUTIVE	General Manager - Community Sustainability
POLICY OWNER	Manager - Community Buildings

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1. Purpose of the Policy

The purpose of this policy is to apply Environmentally Sustainable Design principles to the design, construction, operation and management of Council community buildings.

2. Background

Kingston City Council is committed to environmental sustainability through its own practices and its role as a community leader. This is reflected in the Kingston City Council Plan 2017-2021, Goal 2.1 Environmental resilience and sustainability 2.1.1:

- To reduce environmental impacts on our natural and built environment.

The Council Plan Annual Action Plan 2017-2021 has the aim to:

- 2.1.1.4 Support environmentally sustainable development outcomes for Council buildings to consider their energy water and waste management performance.

In January 2020, Kingston City Council declared a Climate and Ecological Emergency and in doing so recognised that urgent action is required.

Council owns and operates approximately 200 community buildings. These cover a vast range of uses including Council offices, libraries, aquatic centre, lifesaving clubs, kindergartens, community hubs and sports pavilions. Collectively, Councils' community buildings have an important role to play in achieving sustainability and responding to a climate emergency because they are large consumers of energy, water and other resources, and because they are used by many members of staff and the community.

Kingston City Council expects that community buildings will be high quality, responsive to changing community needs, and able to be maintained within operational budgets.

Council acknowledges that achieving more sustainable outcomes in community buildings will involve balancing environmental objectives, life cycle performance and economic factors. For this reason, passive design initiatives, flexible design, robust construction techniques and specification of durable materials should be prioritised when designing and constructing community buildings.

This policy will assist Council in achieving the goals outlined in the Council Plan 2017-2021 as well as commitments set out in the Kingston City Council Biodiversity Strategy (2018 – 2023); Kingston City Council Integrated Water Cycle Strategy (2012), Kingston City Council Climate Change Strategy (2018-2025) and Kingston City Council Urban Cooling Strategy (2020). Leadership in sustainability also aligns with climate change adaptation planning including the management of risks to Council's assets

The policy will also enable Council to adopt a leadership role by aiming for best practice sustainability performance of Council owned community buildings, and by using its buildings to promote and educate the community about the design and use of sustainable buildings generally.

3. Vision

That the construction or major refurbishment of Council buildings minimises adverse environmental impacts in the areas such as energy use, water use and waste generation during

both the construction and operational phases of a building's life and mitigates their contribution to urban heat with the intention of developing a zero-carbon building stock.

4. Objectives

The objectives of this policy are to:

- Acknowledge design as a critical element in mitigating and adapting to climate change and recognise the net gains that may be achieved through considered application of ESD principles
- Demonstrate leadership to the community, improve internal comfort and amenity, and reduce operational costs of buildings
- Reduce peak energy demand, increase energy efficiency
- Increase use of renewable energy and reduce greenhouse gas emissions associated with buildings, with an objective of zero carbon.
- Reduce consumption of mains potable water, increase water efficiency and achieve best practice stormwater management outcomes.
- Reduce waste sent to landfill, increase the reuse and recycling of construction waste, and increase reusability of materials in buildings.
- Reduce the environment impact of materials by prioritising materials with a favorable lifecycle assessment
- Reduce the thermal impact on the surrounding area by using cool materials, and including green infrastructure (where feasible)
- Incorporate passive solar design features to enhance natural ventilation, heating, cooling and lighting and improve thermal performance
- Design for ease of maintenance and long life across the lifecycle of a building
- Provide a rationale for application of the maintenance hierarchy so investment is targeted throughout the asset lifecycle
- Support a transition away from gas towards renewable sources of energy including solar power on Council buildings (where feasible)
- Create a healthy indoor environment by using materials that are not harmful to the health, safety and wellbeing of building occupants
- Provide access to efficient and cleaner transport options to the building, by encouraging use of public transport, walking and cycling
- Guide efficiencies and flexibility of design through considered project scope and range, in acknowledgement of both future constraints and demands
- Manage the building efficiently once occupied by increasing utilisation through multi-user tenancy. This will reduce operational impacts on the environment by consolidating and minimizing waste production, energy consumption and maintenance demand
- Give due consideration to the future effects of climate change

5. Scope

The policy, and Council's associated Buildings Design Guidelines, should be referred to when planning for, or carrying out, physical changes to Council's buildings.

The policy is of relevance to all Council staff involved in the design, construction, renewal, maintenance, or disposal of Council's community buildings.

Projects are categorised according to type and scale and environmental performance targets and key sustainability stakeholder involvement is defined, based on project category.

6. Definitions

Asset: A physical component of a facility which has value enables services to be provided and has an economic life of greater than 12 months.

Asset Management: The systematic and coordinated activities and practices of an organisation to optimally and sustainably deliver on its objectives through the cost-effective lifecycle management of assets.

Buildings: A building is a construction with walls, a roof and stands permanently in one place, whereas a structure is defined as a construction without a solid roof or walls. For entry into the building asset register, the minimum floor space of a building is two m², and the minimum dollar value of a building is \$5,000. For the purpose of this policy, the definition of a building includes the property and the land that the building is located on.

Building Operations and Maintenance Guide (O&M Guide): This is a source of up-to-date, relevant information for the facilities manager to ensure smooth operation of the building.

Building User Guide (BUG): This is a source of up-to-date, relevant information for the building user to ensure smooth operation of the building.

Built Environment Sustainability Scorecard (BESS): Is an assessment tool created by local governments in Victoria, managed by CASBE. It assesses the sustainability of a building's design at the planning stage.

Cool materials: Materials with high albedo and/or high emissivity which stay cooler than conventional materials under solar radiation.

Council Alliance for a Sustainable Built Environment (CASBE): Is an association of Victorian councils committed to the creation of a sustainable built environment.

Environmentally Sustainable Design (ESD): Development that meets the needs of the present without compromising the ability of future generations to meet their own needs. At Kingston this results in community buildings that are:

- durable: built to have a long life
- accessible: to people of all abilities, and by a range of transport modes
- adaptable: for a range of uses, and designed for easy access to those components that need to be replaced more frequently
- efficient: minimising the use of resources such as energy, water and materials
- clean: minimising and carefully managing waste and pollution of air and water
- responsible: made from building materials that have been sustainably sourced and ethically, for example materials with environmental accreditations
- healthy: with good lighting, air quality, and temperature for occupants
- zero carbon: electricity is preferred over gas, energy is sourced from renewable sources, buildings are shaded, air tight and adequately insulated

Facilities: Are ancillary assets other than buildings within the property boundary such as carparks, off street access roads, off street lighting, bollards, signage, pathways, street furniture and garbage bins, garden beds, trees and vegetation.

Green Star: Is a voluntary sustainability rating system for buildings in Australia, managed

by the Green Building Council of Australia. It assesses the sustainability of buildings at the design, construction and operational stages.

Lifecycle: The time interval that commences with the identification of the need for an asset and terminates with the decommissioning of the asset or any liabilities thereafter.

NABERS: Is an environmental rating tool that measures the energy, water, waste and indoor environment performance of existing buildings during operation. It is managed by the NSW Department of Environment & Heritage on behalf of the Federal, State and Territory Governments.

Sustainable Design Assessment in the Planning Process (SDAPP): Kingston City Council's planning permit application process includes Environmentally Sustainable Design (ESD) Considerations. In December 2009 Council endorsed the implementation of Sustainable Design Assessment in the Planning Process (SDAPP).

It is expected that new and major refurbishment Council building projects will meet Councils SDAPP requirements.

Urban Cooling: Strategies to mitigate urban heat island effect (areas where heat has accumulated, causing temperatures to rise above a regional average)

Zero Carbon: Causing or resulting in no net release of carbon dioxide into the atmosphere

7. Responsible Executive

General Manager Community Sustainability

8. Policy owner

Manager Community Buildings

9. Related Documents

Internal policies & documents:

Kingston City Council (2017), *Council Plan 2017-21*

Kingston City Council (2012), *Community Services and Facilities Strategic Review 2012*

Kingston City Council (2007), *Asset Management Plan Community Facilities 2007*

Kingston City Council (2018), *Biodiversity Strategy 2018-2023*

Kingston City Council (2018), *Climate Change Strategy 2018-25*

Kingston City Council (2012), *Integrated Water Cycle Strategy 2012*

Kingston City Council (2017), *Public Health and Wellbeing Plan 2017-2021*

Kingston City Council (2013), *Civil Design Requirements for Developers Part A: Integrated Stormwater Management*

Kingston City Council (2009), *Cycling and Walking Plan 2009-2013*

Kingston City Council (2012), *Open Space Strategy Update 2012*

Kingston City Council (2018), *Take Two Pledge. Sustainability Victoria*

Kingston City Council (2020), *Urban Cooling Strategy*

Federal and State Legislation:

Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

Victorian State Government Climate Change Act 2017 provides the framework that

outlines the role and responsibility of councils in response to climate change
The Local Government Act (2020) provides the framework for the establishment and operation of councils, who's primary objectives include ensuring the social, economic and environmental viability and sustainability of the municipality
The Planning and Environment Act 1987 provides the framework for planning the use, development and protection of land in the interest of the community both now and in the long-term
The National Construction Code identifies the minimum requirements (including energy and water measures) for the design, construction and performance of buildings

Other documents:

Australian Government (1992), *National Strategy for Ecologically Sustainable Development*

Where proceeding with design and development of community buildings projects, the policy should be considered in conjunction with:

- Kingston City Council Community Buildings Design Guidelines
- Kingston City Council Community Buildings Project Brief and associated design review checklist as relevant to specific project
- Building User Guide (BUG) as relevant to a specific project
- [Brief Ezy](#) – a tool which produces ESD requirements for inclusion in architectural tender / quotation documentation

10. Delegation Authority

Financial Delegations: Instrument of Purchase Delegations Trim (14/73336[v1])

11. Policy Statement

It is the policy of Kingston City Council to construct, refurbish, maintain and demolish Council buildings in such a manner that they contribute to Council's environmental objectives, and demonstrate leadership to the community. To achieve this, each project should meet defined targets aimed at managing environmental impacts with the objective of achieving zero carbon Council Buildings over the building lifecycle.

12. Policy Details

It is Council policy that:

- It is expected that Council owned building projects achieve sustainable design targets and additional criteria defined in Appendix B to this policy.
- ESD principles are applied throughout all stages of project procurement, as outlined under Appendix B to this policy

13. Implementation

This policy is to be implemented as follows:

- Determine the relevant project classification, by referring to Appendix A to this policy.
- Determine the relevant Sustainable design targets by referring to Appendix B to this policy.

- Integrate ESD principles in the design and construction of Council's Community Buildings at all stages of project procurement, as outlined in *Table 3*, in Appendix B to this policy
- Document decision making using *Table 4*, in Appendix C to this policy

14. Monitoring

This policy will be monitored to ensure its relevance in terms of community needs and expectations, Council goals, Council targets and statutory requirements, strategic direction and regulatory obligations. Council shall undertake audits to monitor compliance with ESD Buildings Policy.

Key performance indicators include:

- Percentage (%) of projects meeting the requirements in the ESD Policy
- measurement of total efficiency improvements

15. Decision Guidelines

Decisions relating to ESD are to be based upon project type as contained within Appendix A.

16. Review

Policy to be reviewed by **31st December 2021**

Appendix A

Project Category

Opportunities to improve efficiency or introduce other environmental initiatives vary according to the type and scale of a building project. Defining a project's classification is therefore the first step in establishing relevant performance targets and project processes.

Table 1 Project Category

Category	Building Project Type	Building Project Inclusions	Project Examples
A	Major new	New projects as determined by the Manager, Community Buildings or designated representative	Construction of a new Community Hub or Civic Centre
B	New	All new building works	Construction of a new kindergarten or sports pavilion.
C	Major refurbishment	All refurbishment works involving greater than 50% replacement of existing building fabric.	Refurbishment/renewal of a childcare centre or sports pavilion.
D	Minor refurbishment	All refurbishment works involving less than 50% replacement of existing building fabric.	Provision a new kitchen to an existing sports pavilion.
E	Modular *	New projects	Provision of a new sports pavilion/ kindergarten
E	Maintenance	All routine maintenance work	Application of new finishes, replacement of appliances and equipment.
F	Demolition	All major demolition work that includes 10m ³ or more of waste.	The complete or partial demolition of a building.

*Modular Projects may exist as wholly modular or as a component within a Category A/B/C/D project. In this instance project targets are to be taken from each relevant Category.

Appendix B

Sustainable Design Targets

Opportunities to improve efficiency or introduce other environmental initiatives vary according to the type and scale of a building project. Evaluation using a comprehensive building rating tool is appropriate for new projects, whilst refurbishment projects should be comprehensively assessed with less rigorous criteria and maintenance projects should meet defined sustainability objectives and targets.

This document outlines minimum sustainability standards, however, where possible, higher efficiency targets should be applied. Table 2 provides zero carbon council building targets.

Table 2 Zero Carbon Council Building Targets

Area	Target
Energy source	100% renewable energy (eg. on-site solar or off-site GreenPower purchase)
Shading	External shading for east and west windows
Insulation	Roof: minimum R5 Walls: Minimum R2.5
Glazing	Minimum R0.3 and U value 3.3 windows & doors
Airtightness	Achieve a building envelop airtightness value of less than 5ACH at 50pa of pressure under tests conditions
Air ventilation	Achieve an air ventilation rate of 1ACH every 2 hours (under natural air exchange conditions). Including the recovery of heat to 90% in exchanged air and filtering of air to M5 / G4
On-site as built verification and certification	Three onsite inspections: Pre insulation Pre plaster Post occupancy

Where defined sustainability benchmarks cannot be achieved, written justification is to be provided.

Stakeholder Involvement

It is relatively straightforward to recommend efficiency targets for *New* buildings, however establishing ESD objectives for *Major and Minor Refurbishment, Maintenance and Demolitions* projects requires stakeholder input to define appropriate targets and priorities. For these classifications, the ESD component of the project brief should be determined through stakeholder collaboration.

Table 3 - Sustainable Design Targets, Procedures and Stakeholder Involvement

The table below outlines the minimum sustainable design targets, procedures and involvement of key sustainability stakeholders for each project phase.

Appendix B

Table 3 - Sustainable Design Targets, Procedures and Stakeholder Involvement

Category A - Building Project Type - Major New >\$2m

Sustainable Design Target	Define		Plan	Implement		Close
	Scoping	Project Brief	Concept Design Design Development	Documentation	Construction Project Handover	Monitoring Evaluation
<p><i>Built Environment Sustainability Scorecard (BESS) - 'Excellent' rating or</i></p> <p><i>Green Star 'As Built' 5 star (Australian Excellence) or equivalent</i></p> <p>Compliance with Kingston City Council <i>Civil Design Requirements For Developers Part A: Integrated Stormwater Management</i></p> <p>Energy Monitoring System (EMS) to Council guidelines</p> <p>All materials /products will be manufactured under any of the following: <ul style="list-style-type: none"> o Ecospecifier Green Tag Green Rate V3.1; o Good Environmental Choice (GECA); and / or o The Institute for Market Transformation to Sustainability (MTS) Sustainable Materials Rating Technology standard Version 4.0 - SmaRT 4.0. </p> <p>Alternatively, materials and products must be durable, include some eco-preferred content, be modular and / or come from a manufacturer with product stewardship programs and ISO 14001 certification</p>	<p>Procedures Scoping workshop to determine site specific constraints and opportunities and project methodology</p> <ul style="list-style-type: none"> • Passive design • ESD budget • Site opportunities • Existing buildings on site • Strategic objectives for site /surrounds • Energy source 	<p>Procedures Project brief to identify ESD opportunities and performance objectives, including:</p> <ul style="list-style-type: none"> • Site specific ESD constraints and opportunities • ESD budget • Performance objectives and targets • ESD submission requirements • Requirement for ESD consultant • Information relating to ESD/Design process 	<p>Procedures ESD Management Plan to be prepared by consultant. Must meet Council's SDAPP requirements as a minimum, and consider (as relevant):</p> <ul style="list-style-type: none"> • Passive design e.g. orientation/natural ventilation • Relationship of building to site and surrounds - native vegetation, habitat and topography • Siting/building footprint to minimise site disturbance • Site microclimate • Conceptual services design • Feasibility of active technology • Preliminary energy ratings • Feasibility of converting energy sources for improved performance <p>Consultant brief will detail requirements for specific project</p> <p>Report to be approved by Council before proceeding</p> <p>Additional requirements to be addressed include:</p> <ul style="list-style-type: none"> • A report explaining why Green Star is the appropriate assessment tool for the development (demonstration/ highly visible sites only) • Compliance with the <i>Kingston City Council Procurement policy</i> 	<p>Procedures Documentation to include all ESD initiatives outlined in ESD report.</p> <p>Achievement of previously defined targets to be confirmed prior to commencing tender documentation</p> <p>Tender documents to include:</p> <ul style="list-style-type: none"> • Requirement for construction management plan (CMP) • Construction waste recycling targets • Submission requirements to enable preparation of Building User's Guide (BUG) Environmental credentials required of contractors 	<p>Procedures Contractor to comply with all ESD aspects of project documentation/ Construction Management Plan.</p> <p>Contractor to hand over all material relevant to the Building User's Guide.</p> <p>Building User's Guide is to be prepared by Council's ESD advisor or Council's Environmental Planning Team.</p>	<p>Procedures air tightness values tested. Blower test.</p> <p>Post occupancy evaluation (POE) is to be conducted within the timeframe determined in the project brief.</p> <p>Active systems are to be evaluated for performance, and fine building tuning undertaken to ensure that the building operates as intended.</p> <p>Information obtained through the POE process is to be considered at scoping stage of future projects of a similar type and scale.</p>
	<p>Stakeholders Manager Community Buildings or designated representative Environmental Planning Officer/ESD advisor Project Manager</p>	<p>Stakeholders Manager Community Buildings or designated representative Environmental Planning Officer Project Manager End Users</p>	<p>Stakeholders Project Manager Environmental Planning Officer/ Internal ESD advisor External ESD consultant Consultant Architect End Users</p>	<p>Stakeholders Project Manager Internal ESD advisor External ESD consultant Consultant Architect</p>	<p>Stakeholders Project Manager Internal ESD advisor Consultant Architect End Users</p>	<p>Stakeholders Project Manager Internal ESD advisor External ESD consultant End Users</p>

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Table 3 - Sustainable Design Targets, Procedures and Stakeholder Involvement continued

Category B - Building Project Type - Major New <\$2m

Sustainable Design Target	Define		Plan	Implement		Close
	Scoping	Project Brief	Concept Design Design Development	Documentation	Construction Project Handover	Monitoring Evaluation
<p><i>Built Environment Sustainability Scorecard (BESS) - 'Excellent' rating</i></p> <p><i>or equivalent</i></p> <p>Compliance with <i>Kingston City Council Civil Design Requirements For Developers Part A: Integrated Stormwater Management</i></p> <p>Materials and products must be durable, include some eco-preferred content, be modular and / or come from a manufacturer with product stewardship programs and ISO 14001 certification</p>	<p>Procedures Scoping workshop to determine site specific constraints and opportunities and project methodology</p> <ul style="list-style-type: none"> • Passive design • ESD budget • Site opportunities • Existing buildings on site • Strategic objectives for site /surrounds 	<p>Procedures Project brief to identify ESD opportunities and performance objectives, including:</p> <ul style="list-style-type: none"> • Site specific ESD constraints and opportunities • ESD budget • Performance objectives and targets • ESD submission requirements • Requirement for ESD consultant • Information relating to ESD/Design process 	<p>Procedures ESD Management Plan to be prepared by consultant. Must meet Council's SDAPP requirements as a minimum.</p> <p>To include (as relevant):</p> <ul style="list-style-type: none"> • Passive design e.g. orientation/natural ventilation • Relationship of building to site and surrounds - native vegetation, habitat and topography • Siting/building footprint to minimise site disturbance • Site microclimate • Conceptual services design • Feasibility of active technology • Preliminary energy ratings • Feasibility of converting energy sources for improved performance <p>Report to be approved by Council before proceeding</p> <p>Additional requirements to be addressed include:</p> <ul style="list-style-type: none"> • A report explaining why Green Star is the appropriate assessment tool for the development (demonstration/ highly visible sites only) • Compliance with the <i>Kingston City Council Procurement policy</i> 	<p>Procedures Documentation to include all ESD initiatives outlined in ESD report.</p> <p>Achievement of previously defined targets to be confirmed prior to commencing tender documentation</p> <p>Tender documents to include:</p> <ul style="list-style-type: none"> • Requirement for construction management plan (CMP) • Construction waste recycling targets • Submission requirements to enable preparation of Building User's Guide (BUG) • Environmental credentials required of contractors 	<p>Procedures Contractor to comply with all ESD aspects of project documentation/ Construction Management Plan.</p> <p>Contractor to hand over all material relevant to the Building User's Guide.</p> <p>Building User's Guide is to be prepared by Council's ESD advisor or Council's Environmental Planning Team.</p>	<p>Procedures Post occupancy evaluation (POE) is to be conducted within the timeframe determined in the project brief.</p> <p>Active systems are to be evaluated for performance, and fine building tuning undertaken to ensure that the building operates as intended.</p> <p>Information obtained through the POE process is to be considered at scoping stage of future projects of a similar type and scale.</p>
	<p>Stakeholders Manager Community Buildings or designated representative Project Manager Environmental Planning Officer / Internal ESD advisor</p>	<p>Stakeholders Manager Community Buildings or designated representative Project Manager Environmental Planning Officer/ Internal ESD advisor End Users</p>	<p>Stakeholders Project Manager Environmental Planning Officer / Internal ESD advisor External ESD consultant Consultant Architect End Users</p>	<p>Stakeholders Project Manager Environmental Planning Officer / Internal ESD advisor External ESD consultant</p>	<p>Stakeholders Project Manager Internal ESD advisor Architect End Users</p>	<p>Stakeholders Project Manager Internal ESD advisor External ESD consultant End Users</p>

Appendix B

Table 3 - Sustainable Design Targets, Procedures and Stakeholder Involvement continued

Category C - Building Project Type - Major Refurbishment.

	Define		Plan		Implement	Close
Sustainable Design Target	Scoping	Project Brief	Concept Design Design Development	Documentation	Construction Project Handover	Monitoring Evaluation
<p>Minimum NABERS rating (if applicable) 4.0 stars for:</p> <ul style="list-style-type: none"> • Energy: • Water: <p><i>Built Environment Sustainability Scorecard (BESS) - 'Best Practice' rating</i></p> <p>Compliance with Kingston City Council <i>Civil Design Requirements For Developers Part A: Integrated Stormwater Management</i></p> <p>Materials and products must be durable, include some eco-preferred content, be modular and / or come from a manufacturer with product stewardship programs and ISO 14001 certification</p>	<p>Procedures Scoping workshop to determine site specific constraints and opportunities and project methodology</p> <ul style="list-style-type: none"> • Passive design • ESD budget • Site opportunities • Existing buildings on site • Strategic objectives for site /surrounds 	<p>Procedures Project brief to identify ESD opportunities and performance objectives, including</p> <ul style="list-style-type: none"> • Site specific ESD constraints and opportunities • ESD budget • Performance objectives and targets • ESD submission requirements • Requirement for ESD consultant • Information relating to ESD/Design process 	<p>Procedures ESD Management Plan to be prepared by consultant. Must meet Council's SDAPP requirements as a minimum, and consider (as relevant):</p> <ul style="list-style-type: none"> • Passive design e.g. orientation/natural ventilation • Siting/building footprint to minimise site disturbance • Site microclimate • Existing building fabric - environmental performance • Air tightness • Conceptual services design • Feasibility of active technology • Preliminary energy ratings • Feasibility of converting energy sources for improved performance • Report to be approved by Council before proceeding <p>Additional requirements to be addressed include:</p> <ul style="list-style-type: none"> • Compliance with the <i>Kingston City Council Procurement policy</i> 	<p>Procedures Documentation to include all ESD initiatives outlined in ESD report.</p> <p>Achievement of previously defined targets to be confirmed prior to commencing tender documentation</p> <p>Tender documents to include:</p> <ul style="list-style-type: none"> • Requirement for construction management plan (CMP) • Construction waste recycling targets • Submission requirements to enable preparation of Building User's Guide (BUG) • Environmental credentials required of contractors 	<p>Procedures Contractor to comply with all ESD aspects of project documentation/ Construction Management Plan. Contractor to hand over all material relevant to the Building User's Guide. Building User's Guide is to be prepared by Council's ESD advisor or Council's Environmental Planning Team.</p>	<p>Procedures Post occupancy evaluation (POE) is to be conducted within the timeframe determined in the project brief. Active systems are to be evaluated for performance, and fine building tuning undertaken to ensure that the building operates as intended. Information obtained through the POE process is to be considered at scoping stage of future projects of a similar type and scale.</p>
	<p>Stakeholders Manager Community Buildings or designated representative Project Manager Environmental Planning Officer / Internal ESD advisor</p>	<p>Stakeholders Manager Community Buildings or designated representative Project Manager Environmental Planning Officer/ Internal ESD advisor End Users</p>	<p>Stakeholders Project Manager Environmental Planning Officer / Internal ESD advisor External ESD consultant Consultant Architect End Users</p>	<p>Stakeholders Project Manager Internal ESD advisor External ESD consultant Consultant Architect</p>	<p>Stakeholders Project Manager Internal ESD advisor Consultant Architect End Users</p>	<p>Stakeholders Project Manager Internal ESD advisor External ESD consultant End Users</p>

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Table 3 - Sustainable Design Targets, Procedures and Stakeholder Involvement continued

Category D - Building Project Type - Minor Refurbishment

Sustainable Design Target	Define		Plan	Implement		Close
	Scoping	Project Brief	Concept Design Design Development	Documentation	Construction Project Handover	Monitoring Evaluation
<p>New appliances within one Energy Star of best available</p> <p>New water fixtures and fittings within one WELS star of best available</p> <p>Materials selection to comply with the ESD requirements of the project brief</p> <p>Heating and cooling systems where designed by a mechanical specialist to include:</p> <ul style="list-style-type: none"> o Full compliance with minimum energy performance standards (MEPS) and BCA requirements o Time switches o Zoning o Dampers o Insulated ductwork o Variable speed fans o Outdoor air economy cycle o Not to operate when external door or window open more than 1 minute <p>Where package systems are utilised, they are to have an energy star rating of within one star of the best available system.</p> <p>Materials and products must be durable, include some eco preferred content, be modular and/or come from a manufacturer with product stewardship programs and ISO 14001 certification</p>	<p>Procedures Scoping workshop to determine site specific constraints and opportunities and project methodology</p> <ul style="list-style-type: none"> • Passive design • ESD budget • Existing buildings on site 	<p>Procedures Project brief to identify ESD opportunities and performance objectives, including:</p> <ul style="list-style-type: none"> • Site specific ESD constraints and opportunities • ESD budget • Performance objectives and targets • ESD submission requirements 	<p>Procedures ESD statement to be prepared by Consultant Architect. Must meet Council's SDAPP requirements as a minimum, and to consider (as relevant):</p> <ul style="list-style-type: none"> o Passive design e.g. orientation/natural ventilation o Existing building fabric - environmental performance o Air tightness o Feasibility of active technology o Feasibility of converting energy sources for improved performance <p>Additional requirements to be addressed include:</p> <ul style="list-style-type: none"> o Compliance with the <i>Kingston City Council Procurement policy</i> 	<p>Procedures Documentation to include all ESD initiatives outlined in ESD statement</p> <p>Achievement of previously defined targets to be confirmed prior to commencing tender documentation</p> <p>Tender documents to include:</p> <ul style="list-style-type: none"> • Construction waste recycling targets 	<p>Procedures Contractor to comply with all ESD aspects of project documentation/ Construction Management Plan.</p>	<p>Procedures Information obtained through the POE process is to be considered at scoping stage of future projects of a similar type and scale.</p>
	<p>Stakeholders Project Manager Internal ESD advisor</p>	<p>Stakeholders Project Manager Internal ESD Advisor</p>	<p>Stakeholders Project Manager Consultant Architect End Users</p>	<p>Stakeholders Project Manager Consultant Architect</p>	<p>Stakeholders Project Manager Consultant Architect End Users</p>	<p>Stakeholders Maintenance team End Users</p>

Appendix B

Table 3 - Sustainable Design Targets, Procedures and Stakeholder Involvement continued
Category E - Building Project Type - Modular

Sustainable Design Target	Define		Plan		Implement	Close
	Scoping	Project Brief	Concept Design Design Development	Documentation	Construction Project Handover	Monitoring Evaluation
<p>New appliances within one Energy Star of best available</p> <p>New water fixtures and fittings within one WELS star of best available</p> <p>Materials selection to comply with the ESD requirements of the project brief</p> <p>Minimum target for reuse and recycling of construction waste 90%</p> <p>All materials /products will be manufactured under any of the following: <ul style="list-style-type: none"> o Ecospecifier Green Tag o Green Rate V3.1; o Good Environmental Choice (GECA); and / or o The Institute for Market Transformation to Sustainability (MTS) Sustainable Materials Rating Technology standard Version 4.0 - SmaRT 4.0. <p>Alternatively, materials and products must be durable, include some eco-preferred content, be modular and / or come from a manufacturer with product stewardship programs and ISO 14001 certification</p> </p>	<p>Procedures Scoping workshop to determine site specific constraints and opportunities and project methodology</p> <ul style="list-style-type: none"> • Passive design • ESD budget • Existing buildings on site <p>Stakeholders Project Manager Environmental Planning Officer / Internal ESD advisor</p>	<p>Procedures Brief to include requirement for</p> <ul style="list-style-type: none"> - significantly reduced material use and waste - Material chain of custody documentation - Protection of materials and completed modules for waste minimisation <p>Contractor brief to articulate targets</p> <p>Stakeholders Project Manager Environmental Planning Officer / Internal ESD Advisor</p>	<p>Procedures To consider (as relevant):</p> <ul style="list-style-type: none"> o Passive design e.g. orientation/natural ventilation o Existing building fabric - environmental performance o Air tightness o Feasibility of active technology o Feasibility of converting energy sources for improved performance <p>Stakeholders Project Manager Consultant Architect End Users</p>	<p>Procedures Project schedule to include hold points for 3rd party inspections and auditing</p> <p>Stakeholders Project Manager Internal ESD advisor</p>	<p>Procedures Contractor to comply with brief requirements.</p> <p>Inclusion of hold points relevant to scope of project prior to release of modules for installation.</p> <p>Stakeholders Project Manager</p>	<p>Procedures Rectification if required</p> <p>Information obtained through the POE process is to be considered at scoping stage of future projects of a similar type and scale.</p> <p>Stakeholders Project Manager Internal ESD advisor</p>

**Table 3 - Sustainable Design Targets, Procedures and Stakeholder Involvement continued
Category F and G - Building Project Type - Maintenance and Demolition**

Sustainable Design Target	Define		Plan		Implement	Close
	Scoping	Project Brief	Concept Design Design Development	Documentation	Construction Project Handover	Monitoring Evaluation
New appliances within one Energy Star of best available	Procedures Targets pre-determined	Procedures Contractor brief to articulate targets	Procedures N/A	Procedures N/A	Procedures Contractor to comply with brief requirements	Procedures N/A
New water fixtures and fittings within one WELS star of best available	Stakeholders Project Manager Internal ESD advisor	Stakeholders Project Manager	Stakeholders N/A	Stakeholders N/A	Stakeholders Project Manager	Stakeholders N/A
Materials selection to comply with the ESD requirements of the project brief Minimum target for reuse and recycling of construction waste 60%						

Appendix C

Table 4 - Sustainable Design checklist (Guidance for Project Manager)

Project:				
Date:				
	ACTION	COMPLETION		COMMENTS
SCOPING	<p>Scoping workshop to determine site specific constraints and opportunities and project methodology. To include Environment Unit.</p> <ul style="list-style-type: none"> • Passive design • ESD budget • Site opportunities • Existing buildings on site • Strategic objectives for site /surrounds (eg.zero carbon, ecological preservation, urban cooling) 	Y	N	
PROJECT BRIEF	<p>Project brief to identify ESD opportunities and performance objectives, including:</p> <ul style="list-style-type: none"> • Site specific ESD constraints and opportunities • ESD budget • Performance objectives and targets • ESD submission requirements • Requirement for ESD consultant • Information relating to ESD/Design process 	Y	N	
CONCEPT DESIGN	<p>ESD Management Plan to be prepared by consultant. Must meet Council's SDAPP requirements as a minimum.</p> <p>To include (as relevant):</p> <ul style="list-style-type: none"> • Passive design e.g. orientation/natural ventilation • Relationship of building to site and surrounds - native vegetation, habitat and topography • Siting/building footprint to minimise site disturbance • Site microclimate • Conceptual services design • Feasibility of active technology • Preliminary energy ratings 	Y	N	

Appendix C

Table 3 - Sustainable Design checklist (Guidance for Project Manager)

Project:				
Date:				
ACTION		COMPLETION		COMMENTS
	<ul style="list-style-type: none"> Requirements necessary to achieve efficiency targets defined at Appendix A Energy choice justified & documented <p>Report to be approved by Project Manager before proceeding</p> <p>Additional requirements to be addressed include:</p> <ul style="list-style-type: none"> Provide a report to Council regarding the costs/benefits of achieving a Green Star 'As Built' rating. Compliance with the <i>Kingston City Council Procurement policy</i> 			
DOCUMENTATION	<p>Documentation to include all ESD initiatives outlined in ESD report.</p> <p>Achievement of previously defined targets to be confirmed prior to commencing tender documentation</p> <p>Tender documents to include:</p> <ul style="list-style-type: none"> Requirement for construction management plan (CMP) Construction waste recycling targets Submission requirements to enable preparation of Building User's Guide (BUG) Environmental credentials required of contractors 	Y	N	

Appendix C

Table 4 - Sustainable Design checklist (Guidance for Project Manager)

Project:				
Date:				
	ACTION	COMPLETION		COMMENTS
CONSTRUCTION - PROJECT HANDOVER	Contractor to comply with all ESD aspects of project documentation/ Construction Management Plan.	Y	N	
	Contractor to hand over all material relevant to the Building User's Guide.			
	Building User's Guide is to be prepared by Council's ESD advisor or Council's Environmental Planning Team.			
MONITORING & EVALUATION	Post occupancy evaluation (POE) is to be conducted within the timeframe determined in the project brief.	Y	N	
	Active systems are to be evaluated for performance, and fine building tuning undertaken to ensure that the building operates as intended.			
	Information obtained through the POE process is to be considered at scoping stage of future projects of a similar type and scale.			