

EBBSFLEET SUSTAINABILITY ASSESSMENT

// Commercial
Buildings



Ebbfleet
DEVELOPMENT CORPORATION



EBBSFLEET
GARDEN CITY

Commercial

One Page Design Guidance

Carbon & Energy

The primary focus is on the the delivery of Net Zero Carbon Commercial buildings. Commercial schemes should:

- Evidence via Energy Statements, use of central heat pumps to provide space heating / cooling and hot water
- Ensure sub-metering by system and building zones, and use of control systems to automatically turn off lighting / energy consuming systems during out-of-office hours and respond to occupancy levels
- **Ensure Flat/Pitched roofs should capitalise on renewable solar power potential and biodiverse roofscapes**
- Make reference to how materials are being manufactured, procured, transported and constructed onsite to reduce Upfront Carbon figures. **Low carbon mass engineered timber is widely accepted and is extremely beneficial for structural purposes in commercial buildings.** Questions should be asked about what are the big ticket carbon saving materials being used, their specifications & strategies for repair, maintenance & replacement of the buildings in the future to reduce in-use embodied carbon
- **Avoid / limit dependency on air conditioning systems; Passive cooling should be adopted where possible to reduce cooling peak loads**
- **Base window locations and sizes designs** on facade orientation, natural light optimisation and inclusion of shading devices, where appropriate
- **Take demonstrable actions to reduce embodied carbon and maximise opportunities for reuse through the provision of a Circular Economy Statement**



Water

The primary focus is to construct commercial buildings to be climate resilient, and minimise potable water use to reduce pressure on water demand. Commercial schemes should demonstrate:

- Reduced appliance and fitting flow rates to minimise water use
- Evidence of blue / green infrastructure and Sustainable Urban Drainage Systems that capture stormwater and mitigate flooding
- Evidence of permeable hard landscape surfaces
- Provision of rainwater collection and Grey water recycling measures
- **AECB Water Standard Volumes 1 + 2 provide further guidance for non-domestic buildings**



Waste & Materials

The primary focus is to construct commercial buildings to be climate resilient, and minimise potable water use to reduce pressure on water demand. Commercial schemes should demonstrate:

Commercial buildings should

- Evidence design for resilience incorporated through design plan arrangements to allow
- Incorporate appropriately secure storage provision
- Specify reused or recycled materials and landscape
- Demonstrate design for deconstruction or adaptive Construction / MMC met
- Identify material re-use on site such as bricks, crushed steel



Health & Wellbeing

The primary focus is to develop commercial buildings within healthy neighbourhoods supported with active travel and low carbon and pollution infrastructure. Commercial schemes should demonstrate evidence of:

Transport design strategies

- **Aligned with EDC Sustainable Travel Strategy** requirements and measures
- Mobility hubs within 400m of front doors to provide occupants with an interchange for sustainable modes of transportation to take them further afield. A mobility hub should provide connection between at least two types of sustainable transportation such as bus-to-train or bike-to-bus
- Car Clubs to promote reduced employee car quantities and increased car-sharing / pooling
- EV charging points to car hub / park locations as specified
- A clear public realm design hierarchy of pedestrian, cycle and public transport routes
- Secure Bicycle storage facilities

Building Quality

- Align architectural design proposals with the **Design for Ebbsfleet Character Guide**
- Demonstrate design and specification of healthy materials with low emission of Volatile Organic Compounds via EPD datasheets
- Optimise building orientation, density, massing and room locations to maximise natural daylight and limit overshadowing. Storage and circulation spaces can be positioned to the north, with office spaces and meeting rooms prioritised to the south
- Allow a distance of 1/1.5 times the building height between commercial buildings
- Demonstrate summer solar gain and overheating mitigation with shading devices

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Construct buildings with circular economy principles to create sustainable and healthy buildings that minimise waste streams.

Key objectives include:

- Resilience & adaptability has been demonstrated through variations of floor levels to allow for different tenancies
- Flexible, easily accessible and adaptable spaces for recycling waste streams
- High quality and responsibly sourced materials and treatments
- High material efficiency, high PMV, high energy efficiency with DfMA and Offsite construction methods
- Opportunities on-site or close to site for crushed aggregates/rubble and

Natural Environment

The primary focus is to construct buildings and their surroundings with green infrastructure that contributes to climate resilience and provides opportunities to enable occupants to connect with nature and make sustainable lifestyle choices. Applicants should provide evidence of:

- Diversity of native and drought resistance species of planting
- Creation and provision of habitats in the landscape
- Soft landscaping and Tree Canopy Cover strategies in alignment with **EDC'S Public Realm Strategy**
- Connect new public realm to existing
- Provision of food growing facilities
- Adoption of minimum 10% Biodiversity Net Gain and target 0.4 or greater Urban Greening Factor opportunities





Commercial

Carbon and Energy

Sustainability Performance Assessment

< Guidance

	Performance measure	Will not deliver Net-Zero Ebbsfleet	Towards Net-Zero	Net-zero best practice
Whole Life Carbon	Whole life carbon CO2 emission from both embodied and operational stages- (modules A-C, excluding B6- B7) CO2 e / m2 (GIA)	>970 kgCO2 e/m2 (RIBA 2030 outcomes)	≤970 kgCO2 e/m2 (RIBA 2030 outcomes)	≤530 kgCO2 e/m2 (LETI targets)
	Upfront carbon Upfront carbon (A1-A5) kg CO2 e / m2 (GIA)	>600 kgCO2 e/m2 (LETI targets / RIBA 2030 outcomes)	≤600 kgCO2 e/m2 (LETI targets / RIBA 2030 outcomes)	≤350 kgCO2 e/m2 (LETI targets / RIBA 2030 outcomes)
Energy Efficiency	Energy Use Intensity (EUI) Annual measure of the total energy consumed in a building. kWh / m2 / y (GIA)	>75 kWh/m2/y (RIBA 2030 outcomes)	<75 kWh/m2/y (RIBA 2030 outcomes)	≤55 kWh/m2/y (LETI targets / RIBA 2030 outcomes)
Passive Design	Operational Space heating Space heating demand of a dwelling kWh / m2	>40 kWh/m2	≤40 kWh/m2 (AECB targets)	≤15 kWh/m2 (LETI targets / RIBA 2030 outcomes)
Renewables	Renewables % of energy demand supplied by onsite renewables	≤50% annual energy for at least 2 floors generated on site	≥50% annual energy for at least 2 floors generated on site	100% annual energy for at least 2 floors generated on site
Energy Management	Energy Management % building with a comprehensive metering + management strategy	Not included (Provide justification)	Not Applicable	100% inc. sub-metering approach for occupiers





Commercial Waste & Materials

Sustainability Performance Assessment

< Guidance

Circular Economy

Performance measure	Will not deliver Net-Zero Ebbsfleet	Towards Net-Zero	Net-zero best practice
Circular sourcing % building materials by volume that are reused, recycled, secondary and renewable in construction See glossary for definition.	<30% Provide comprehensive justification	≥30% Provide Circular Economy Statement as a written summary.	≥50% Provide Circular Economy statement and Table of results.*
Responsible sourcing % construction materials by volume that are responsibly sourced	<75% of key materials are responsibly sourced	≥75% of key materials are responsibly sourced	100% of key materials are responsibly sourced. Provide Circular Economy statement
End of life reusability % building materials/ elements reusable at end of life by volume/tonnage	Not designed for reuse and/or disassembly	≥50% of "Space" layer and 50% whole of building materials are designed for disassembly and reuse	'Moving Towards Net Zero' target + Material passports introduced sitewide
Construction waste Waste to landfill and % incinerated volume/tonnage	Waste to landfill and incineration	*Zero non-hazardous waste to landfill and ≤10% incinerated.	*Zero non-hazardous waste to landfill and 0% incinerated.
Offsite Manufactured, MMC, Pre-manufactured % Pre manufactured volume/tonnage	<10% PMV	≥10 - 50% PMV	> 50% PMV



* Referencing GLA CE Template v1.1 May 2023



Commercial

Health & Wellbeing

Sustainability Performance Assessment

< Guidance

	Performance measure	Will not deliver a healthy Ebbsfleet	Towards a healthy Ebbsfleet	Healthy Ebbsfleet
Sustainable Travel	Cycle parking & facilities No. of secure (enclosed), high quality cycle parking spaces & facilities per person	Policy compliant	Not Applicable	1 space / 10 staff 1 shower / 10 spaces (min. 1 shower) 1 locker / space
	Car club Distance from car club and ratio of car/number of units	1 Car club bay or less within 5 minute walk of entire site	Not Applicable	2 car club bays within 5 minute walk of entire site
	Transport connections Distance to public transport stops and Mobility as a Service (MaaS) hubs	Less than entire site within 400m of a bus stop	Entire site within 400m of a bus stop	Entire site within 400m of a mobility hubs (car share, bike share, bike hubs, bus stops)
Healthy Homes and Buildings	Healthy materials % surface area of materials that restrict VOC emissions	<90% flooring, <75% insulation, ceiling wall panels from WELL	≥90% flooring, ≥75% insulation, ceiling wall panels from WELL	≥95% flooring, ≥85% insulation, ceiling wall panels from WELL
	Internal daylighting Compliance with minimum daylight standards	BS EN 17037 daylight standard (Minimum 300 lx of natural light over 50% of the space)	WELL* light feature pre-conditions	WELL* light feature pre-conditions + daylight simulations undertaken
Overheating	Overheating All buildings to pass overheating criteria	Part O requirements (Overheating Calculations: Simplified Method)	≥80% pass 2050 weather scenario (Dynamic Thermal Modelling: CIBSE TM59 Calculations)	100% pass 2050 weather scenario (Dynamic Thermal Modelling: CIBSE TM59 Calculations)



* WELL Certified building standard



Commercial Water

Sustainability Performance Assessment

< Guidance

	Performance measure	Non water-resilient	Towards water-resilient	Water resilient
Sustainable Drainage	SuD s Sustainable Urban Drainage Systems See glossary for definition.	No SuDs measures provided Provide justification	SuD s measures provided	SuD s measures include 100% above ground attenuation
	Surface water run off Runoff volume	No control measures provided Provide justification	Control runoff to greenfield volume	Control runoff to greenfield volume and no net increase in volume from existing state
Water Use	Potable Water Use Water usage per person / BREEAM criteria	13-16 l/p/d (RIBA 2030 outcomes)	<13 l/p/d (RIBA 2030 outcomes)	BREEAM Excellent
	Water Collection Water collection or recycling measures	100% provision of water butts	Rainwater harvesting systems	Grey water recycling & harvesting





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Natural Environment

Sustainability Performance Assessment

< Guidance

	Performance measure	Under-performing	A greener Garden City	Garden City Best Practice
BNG	Biodiversity Net Gain % biodiversity net gain (BNG)	Not Applicable	≥10 BNG	≥20% BNG
Green Infrastructure	Urban Greening Factor Urban Greening Factor	< 0.3 target score	Not Applicable	Net-zero best practice ≥ 0.3 target score
	Tree Canopy cover % tree canopy cover of amenity and public realm outdoor space	Not aligned with Ebbsfleet Public Realm Strategy: No. Street trees per 50m length	Aligned with Ebbsfleet Public Realm Strategy: No. Street trees per 50m length	Aligned with Ebbsfleet Public Realm Strategy + Tree canopy >20% of the masterplan area
	Green Roof coverage % roofs covered in green roofs. (For Residential Apartment Buildings only)	<5% of roof area	5-20% of roof area	>20% of roof area
	Food Growing Proximity to community growing garden, orchard or allotment.	Community Garden, Allotment or Orchard within 15 minutes walk of entire development site	Community Garden, Allotment or Orchard within 5mins walk of entire development site	Community Garden, Allotment or Orchard, provided within development phase site.
	Drought resistance % drought resistant species of trees, shrubs and ornamental planting specification	No Drought resistant planting provided. (Provide justification)	≥80% planting to be drought tolerant	100% planting to be drought tolerant





Commercial

Inclusive growth + community development

Performance measure	Assessment criteria	Yes	No
Community Engagement	Project has delivered engagement aligned with EDC's guidance on community engagement , and facilitated co-design events early in the design process to up-skill the community on design, and enable them to engage in the co-design of the project.	<input type="checkbox"/>	<input type="checkbox"/>
Community Engagement	Project has utilised a digital engagement platform throughout the design process to provide a portal for all briefing and community engagement activities, and to provide feedback on community proposals and ideas.	<input type="checkbox"/>	<input type="checkbox"/>
Accessibility	Project has included an access consultant to enable best practice accessibility within the project.	<input type="checkbox"/>	<input type="checkbox"/>
Accessibility	For projects with a public facility included, the public area of the project has applied the public building section of the London Legacy Development Corporation's Inclusive Design Standards.	<input type="checkbox"/>	<input type="checkbox"/>
Inclusive Growth and Social Value	Applicants have considered how the project can support the delivery of the Ebbsfleet Inclusive Growth Strategy, and engage with EDC's Inclusive Growth Manager to identify opportunities, and establish commitments during the pre-application process.	<input type="checkbox"/>	<input type="checkbox"/>
Arts and Culture	Design team has reviewed the <u>Ebbsfleet Public Art Strategy</u> , and integrated the Ebbsfleet public art principles into the project and design process.	<input type="checkbox"/>	<input type="checkbox"/>



Application Assessment Summary

Project Name: _____ Date: _____

Sustainability Themes / Performance Measure	Please select Sustainability Level achieved in each measure		
Carbon & Energy			
Whole life Carbon			
Upfront Carbon			
Energy efficiency : Energy Use Intensity (EUI)			
Passive Design : Space heating			
Renewables			
Energy Management		N/A	
Waste & Materials			
Circular sourcing			
Responsible sourcing			
End of life reusability			
Construction waste			
Offsite Manufactured, MMC, Pre-manufactured			
Health & Wellbeing			
Cycle parking & facilities		N/A	
Car club		N/A	
Transport connections			
Healthy materials			
Internal daylighting			
Overheating			
Water			
Sustainable Urban Drainage Systems (SuDs)			
Surface water run off			
Potable Water use			
Water Collection			
Natural Environment			
Biodiversity Net Gain	N/A		
Urban Greening Factor		N/A	
Tree Canopy cover			
Green Roof coverage			
Food growing			
Drought resistance			