Appendix 2 – draft policies on Circular Economy and Waste

The City Corporation is the Waste Planning Authority (WPA) for the Square Mile, with a statutory duty to plan for all the waste that is generated in the City. With no waste treatment plants in the City we rely on WPAs elsewhere to provide such facilities. However, we can design out waste by applying circular economy and waste hierarchy principles: designing for durability and modularity, making better use of under-used assets through sharing, reusing products and materials and recycling as much as possible. This approach will reduce waste exports from the City whilst application of the proximity principle will ensure that residual waste is processed as close as possible to the City.

Policy CS X Circular Economy and Waste

The City Corporation will support businesses and residents in moving towards a Zero Waste City, by applying circular economy principles, the waste hierarchy and the proximity principle at all stages of the development cycle.

The City Corporation will actively co-operate with other Waste Planning Authorities in planning for capacity to manage the City's residual waste through:

- Identifying waste management capacity in the City, or elsewhere in London, to meet the City's London Plan waste apportionment target, including through partnership working with the South-East London Waste Planning Group:
- Co-operating with Waste Planning Authorities within and beyond London to plan for suitable facilities for the City's waste:
- Safeguarding Walbrook Wharf as a waste site and wharf suitable for the river transport of waste;
- Monitoring waste movements to and from the City and reviewing its waste arisings and capacity study at least every five years.

Reason for the policy

The City Corporation has responsibility to plan for adequate facilities to manage the waste that originates in the City. This includes waste collected from the City's households and businesses, waste generated in the process of redevelopment and hazardous waste from premises such as St Bartholomew's Hospital.

The London Plan and the Mayor's Municipal Waste Management Strategy and Business Waste Management Strategy set the framework for waste management in London. These strategies promote circular economy principles and the waste hierarchy: prevention, preparing for reuse, recycling, other recovery, and disposing only as a last resort.

The London Plan has set a waste apportionment figure requiring the City to identify sites with capacity to manage 100,000 tonnes of waste annually until 2036. This figure represents the City's contribution to meeting the Mayor's target of 100% net self-sufficiency in the management of London's household and commercial and industrial waste by 2026.

The London Plan sets out criteria for the selection of waste management sites, which the City of London *Waste Arisings and Waste Management Capacity Study review 2016* used to evaluate potential sites in the City. This study concludes that, with current technologies and economic considerations, there is no viable waste management capacity within the Square Mile and that the City will not be able to satisfy the London Plan waste apportionment within its boundaries.

The City Corporation has an agreement with the London Borough of Bexley and participates in the South-East London Waste Planning Group, which comprises the boroughs of Bexley, Bromley, Greenwich, Lewisham and Southwark along with the City of London. The Group has identified sufficient waste management capacity up to 2036 to meet the combined apportionment of each of its individual members. The City will continue to contribute to London-wide waste planning through membership of the London Waste Planning Forum and will work with the GLA and the Environment Agency to improve waste planning.

For commercial reasons, a proportion of the City's waste will continue to be transported to sites outside London. This includes construction, demolition and excavation (CD&E) waste which is not covered by the Mayors targets for net self-sufficiency. Annual monitoring of such waste exports will inform Duty to Co-operate discussions with receiving authorities within and outside London to ensure that sufficient capacity remains in the planning pipeline.

It is imperative that the City adopts circular economy and waste hierarchy principles, to cut down on the quantity of useable materials that are discarded. Those materials that are discarded should be managed as close as possible to the City and transported by modes that are least damaging to the environment.

How the policy works

The City Corporation will continue to monitor the quantities and types of waste originating in the City and work with the City's communities to minimise this waste. The City Corporation will continue to work with the South-East London Waste Planning Group and other Waste Planning Authorities in London and beyond to ensure that the City's waste apportionment is met and that suitable facilities are available for the City's waste to be managed in the most sustainable way.

Changing economics and new waste management technologies means that small scale waste management is becoming more viable within the City, particularly within large development sites.

During the period 2018 – 2036 a proportion of the City of London's waste, will continue to be managed outside London. Co-operation with waste planning authorities outside London will aim to ensure that facilities with sufficient capacity remain available to accept the City's waste during this period.

The City Corporation will continue to safeguard Walbrook Wharf as a waste site and river wharf in line with the London Plan and the Safeguarded Wharves Direction. Any

proposed development which would prejudice the operation of the existing safeguarded waste site at Walbrook Wharf will be refused.

Policy DM X Zero Waste City

Development should be designed to promote circular economy principles throughout the life cycle of the building through:

- Flexible building design to accommodate evolving working and living patterns reducing the need for redevelopment;
- Re use and refurbishment of existing buildings, structures and materials to reduce reliance on virgin resources;
- Requiring development to be designed to allow for disassembly, reuse and recycling of deconstruction materials.
- Requiring the maximum use of recycled materials in development and off-site construction methods to reduce wastage.

All development proposals should incorporate waste facilities which must be integrated into the design of buildings, wherever feasible, and allow for separate treatment, storage and off-road collection of waste and recyclable materials.

Reason for the policy

The circular economy is an alternative to the typical 'linear' way of treating resources. By finding ways of remanufacturing, reusing or recycling materials and keeping them in use for longer we can cut down on resource use. The circular economy emphasises design for durability and modularity, making better use of under-used assets through sharing and offering products as a service. Circular economy principles can be applied to buildings and the development cycle, reducing the demand for new materials, and to the operational phase of a building's life to minimise annual waste arisings.

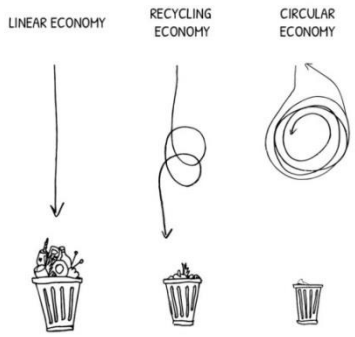

Fig x Circular Economy

The design of buildings impacts on the potential for implementation of the waste hierarchy during their operational stage, through the facilities and waste management services that are incorporated into the design. For example, reliance on single use, disposable coffee cups can be reduced by incorporating kitchen facilities into building designs and waste movements can be reduced by managing

food waste on-site through composting or anaerobic digestion. These facilities must be considered at the building's design stage.

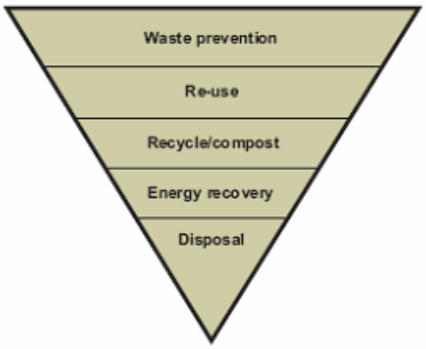

Fig X Waste Hierarchy

Waste prevention is the most desirable action on the waste hierarchy as it results in no waste whatsoever. Re-use is the next most desirable option as it involves products and materials being used again for their original intended purpose. Recycling is the next most preferable option, involving the collection of used items and processing them into raw materials to be remanufactured into usable products or materials. The recovery of energy, through techniques such as anaerobic digestion, is a way of getting the most out of otherwise useless waste. Disposal should be the absolute last resort, after all the other options have been exhausted.

On large sites opportunities for waste minimisation and on-site waste treatment, in line with the London Plan's definition of waste management, should be explored in order to minimise the transport of residual waste within and beyond the City.
Fig X provides a range of options which should be considered to facilitate a reduction in residual waste from City development sites.

Fig X Footprint and capital cost of small scale waste processing options 2016

Waste Type	Technology Type	Capacity (tpa)	Costs	Physical Footprint
Food Waste	Bio-digester	65 per unit	Capital cost £12,500, running costs typical unit £2,500pa	1m x 1m x 1.3m(h)
	In Vessel Composting	7 – 2,200	£11,500 (450Kg/week) capital cost plus £1,100pa utilities and maintenance to £56,000 capital cost (4,000Kg/week) £40 per week utilities £3,375pa utilities and maintenance	Typical unit 4m x 1m x 1.9m(h)
	Dewatering (waste reduction)	2,000 (running 8 hours/day)	£14,000 capital cost for simple bench mounted unit	0.7m x 1.5m x 0.9m(h)
	Drying (waste reduction)	7 – 7,000	£15,750 – £67,945 capital cost depending upon throughput	Typical unit 2.4m x 1.5m x 1.8m(h)
	Biomass energy plant	70 – 7,000	Example: 1 tonne of food per day, 1200kw of heat, it will use 750kw of energy, capital cost £265,000	
	Small-scale AD	200 – 1,000	Capital cost £150k-£500k depending upon throughput	11m x16m to 11m x28m
Mixed Recyclate	Sorting/Baling Recyclates	Wide range	Small system would be around capital cost £125-£150k plus installation of £5-8k. Operating costs can vary greatly, depending on how much labour you need to operate it and equipment to load/bale/remove etc. the products.	
General Waste	Pyrolysis	2,000 – 10,000	Typical capital cost of £1m for a 2,000 tpa solution. Consumables estimated as £35k per annum, maintenance £50-£60k per annum.	12m x 8m x 4m(h)

Source: City of London Waste Arisings and Waste Management Capacity Study 2016, Anthesis

Waste treatment, storage and collection facilities must be integrated into new development and considered at an early stage in the design of developments to avoid the problems created by the placing of waste on the highway. Adequate provision must be made for the volume and types of residual waste and recyclables expected to be generated, especially the amount of paper and packaging generated by offices. The need to avoid health hazards associated with waste from catering establishments, the waste storage and collection needs of street traders, the separate storage of recyclable waste and the special arrangements required for the storage and transportation of clinical and hazardous waste should be considered, where necessary.

<u>How the policy works</u>

Pre-application consultation on suitable waste treatment, storage and collection facilities is encouraged.

- EIA Development

For development that requires an Environmental Impact Assessment (EIA) the Environmental Statement should fully address how construction, demolition and excavation (CD&E) waste will be minimised and how the waste arisings during the operational phase of the development will be minimised and managed. This should include consideration of on-site facilities to reduce the need for waste vehicle movements such as on-site composting or anaerobic digestion, or waste consolidation.

- Other Major development

For all other Major development proposals, the sustainability statement should provide evidence of the application of circular economy principles and the adherence to the waste hierarchy. This could include reuse of existing buildings and structures, provision of Site Waste Management Strategies for the construction phase and Zero Waste Plans for the operational stage of the development. Major development should aim to achieve maximum BREEAM credits for Waste.

- All other development

For all other development, the Design and Access statement should demonstrate how waste minimisation and the circular economy have been considered in the design of the development. The Environmental Statement (for EIA applications) or sustainability statement should provide an assessment of on-site waste treatment options and quantities of residual waste likely to arise from the site.

Waste and recyclables should be capable of collection from off-street service areas which are integrated into the design of buildings. The provision of such areas may not be practicable in small developments or refurbishments and may conflict with the protection of listed buildings and conservation areas. In such cases waste stores within the site near the highway are preferable to the presentation of waste and recyclables on the pavement. Residential developments including short-term-lets must be provided with ground floor waste and recyclables storage and collection facilities, with direct access to the highway for collection purposes.

The City Corporation will attach appropriate planning conditions relating to waste treatment, storage and collection, but may also make use of its other regulatory powers to control waste in the City. Compliance with the City of London's operational waste requirements should contribute to BREEAM requirements for waste credits.

Policy DM X Sustainable Waste Transport

The environmental impact of waste transport will be minimised through:

- Encouraging the use of the river for removal of deconstruction waste and delivery of construction materials;
- Ensuring maximum use of rail and waterways for the transport of excavation waste particularly from major infrastructure projects;
- Requiring low and zero emissions transport modes for waste movement;
- Reducing the number of waste vehicles by promoting optimum use of waste transport vehicle capacity through on-site or multi- site consolidation of waste.

Reason for the policy

The proximity principle advocates that waste should be managed as close as possible to where it originates, to reduce the environmental impacts of its transportation. The City's restricted land area makes the provision of waste facilities within the City problematic. We therefore rely on movement of the waste that is

generated in the City to appropriate waste management facilities elsewhere in London and beyond London's boundaries. (fig x)

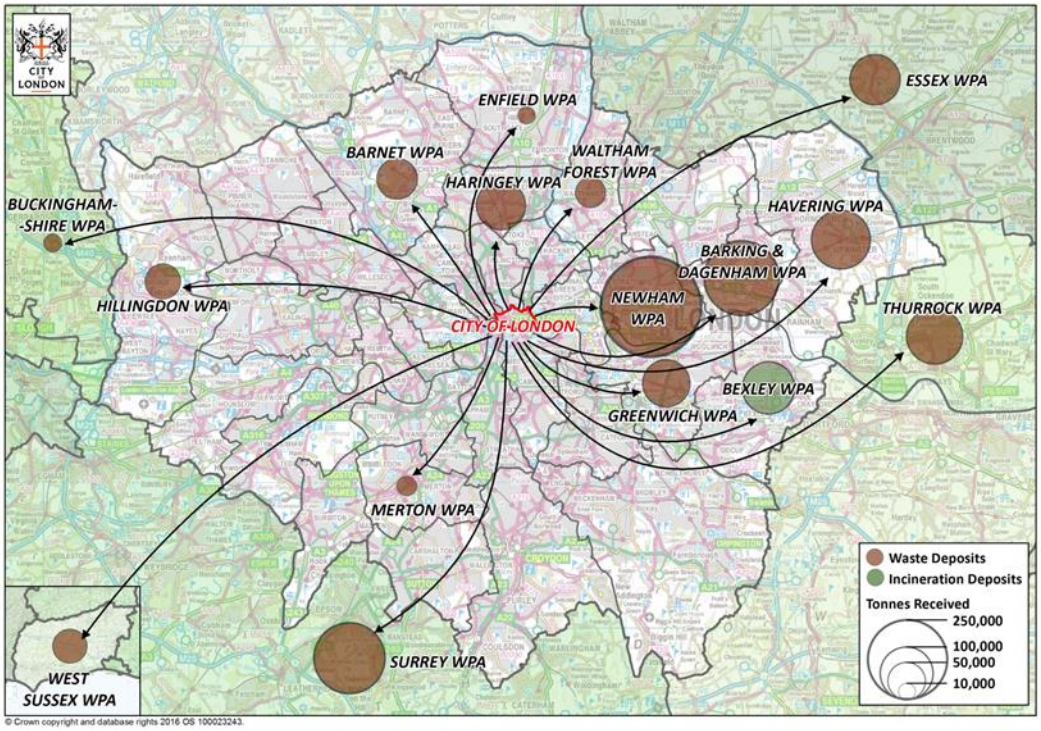

Fig X destinations for the City's waste 2010-2014

Unlike other local authority areas, the majority of the waste that is generated in the City is managed by private contractors. A proportion of the City's waste, including the small fraction of household waste, is transported by river from the safeguarded waste transfer station at Walbrook Wharf. The remainder is transported primarily by road, with destinations varying from one year to the next due to the commercial decisions of private waste contractors.

This policy aims to maximise the use of the River Thames for waste transport, encourage transport modes such as rail and other waterways and encourage efficient use of low and zero emissions road vehicles for transporting waste.

<u>How the policy works</u>

Assessment of potential conflicts such as noise, vibration, odour, visual impact, pedestrian access and road or river transport will be taken into account in consideration of proposals. Mitigation may be necessary to allow development to proceed where a potential conflict is identified.

The City Corporation will continue to work with the Port of London Authority, Marine Management Organisation and the Environment Agency to enable sustainable use of the River Thames for the movement of freight and waste.

- Major development
  Construction Logistics Plans should identify how sustainable transport of waste materials from the site will be addressed during the construction phase.

Delivery and servicing plans should demonstrate how the transport of waste will be minimised and low emission vehicles enabled during the operational phase of the building's life.

- All other development
  Planning application documents should clearly demonstrate how waste minimisation, storage and sustainable waste transport have been addressed.

Policy DM X New waste management sites

When new facilities for waste management, handling and transfer are proposed developers will be required to demonstrate through design and sustainability statements that the benefits of the proposed development outweigh any adverse impacts and particularly that:

- the development will handle waste which has been generated locally;
- access arrangements, mode of transport and transport routes will minimise the potential for congestion and environmental impacts, including local air quality impacts and carbon emissions. Use of the river for transport of waste and recyclables will be encouraged;
- the carbon impact of the development will be minimised. New waste facilities should comply with the Mayor's Carbon Intensity Floor (CIF);
- the development is designed with resilience to natural and man-made safety and security challenges.

Noise-sensitive development adjacent to the existing waste site at Walbrook Wharf and development which would compromise the use of the river for waste operations, will be resisted

Development in the vicinity of new waste management sites should not compromise the waste management operations on the site or create an unacceptable land use conflict.

Reason for the policy

Although the City is unlikely to be able to accommodate large waste management facilities within its boundary, changes in technology and waste transport costs may make small scale commercial facilities viable in the future.

How the policy works

The criteria set out in this policy will be used, alongside other policy considerations, to evaluate the suitability of proposed waste facilities and appropriate conditions will be applied to ensure that any new facility is suitable for the City's high density urban environment.