CAMBRIDGE NORTH

PRELIMINARY OPERATIONAL WASTE MANAGEMENT PLAN

JUNE 2022

PREPARED BY

CASTLE FIFTEEN CONSULTING

Cambridge North Development - Hybrid Application Comprising Offices, Laboratories, and Residential

Brookgate Land Ltd

Preliminary Operational Waste Management Plan (P-OWMP)

May 2022

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Distribution List

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Prepared for:

PJA Ltd

Prepared by:

Mike Nutting
Proprietor
Castle Fifteen Consulting Ltd
15 Castle View Drive
Cromford, Matlock
Derbyshire DE4 3RL
United Kingdom

M: 07881 813570
E: miken@castle15consulting.co.uk

Prepared in association with:

PJA

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1. Introduction

Brookgate Land Ltd (Brookgate) is proposing to develop an area of land off Milton Avenue, North Cambridge, referenced hereafter as the Cambridge North Development, under two separate land uses, one office / laboratory oriented, covering Buildings S4, S5 (a multi-storey car park, the MSCP), S6, S7, S8 and S9, and one residential oriented, covering Buildings S11 to S21 inclusive – see Drawing 239-ACME-S01-0102.

The approach to the application for permission from South Cambridgeshire District Council, the Council, takes the form of a hybrid application, based on the following:

- An application for *full permission* for the majority of the non-residential land area, covering buildings S4, S6, and S7; and
- An application for *outline permission* for Buildings S8 and S9, as above, together with all of the residential land and buildings.

Building locations and inter-relationships are also as illustrated in Drawing 239-ACME-S01-0100.

A preliminary operational approach to the management of solid waste generated across both development land-use types has been developed, and is presented in this report, of which the full application element is covered in more detail than the outline, which is nevertheless addressed in an in-principle way.

This combined plan is offered as a preliminary document in order to support the hybrid application – in the anticipation that it will be further developed during the application process, and finalised as a pre-commencement deliverable required of the developer, Brookgate.

This Preliminary Operational Waste Management Plan (P-OWMP) has been created in accordance with:

- The general requirements of Policies CS16 and CS28 of the Cambridgeshire and Peterborough Minerals and Waste Core Strategy, 2011;
- More specifically in accordance with the subsequent supplementary planning guidance document for the management of solid waste (SPD) adopted by Cambridge County Council (CCC), as well as all district councils within greater Cambridge,(the Councils hereafter) (adopted 22 February 2012), the RECAP Waste Management Design Guide, which forms part of the Cambridgeshire and Peterborough Minerals and Waste Local Development Framework (LDF);
- In particular, Section 10 of the above SPD, and to meet Section 10 of the SPD, the Design Guide Toolkit; and
- Policies HQ/1, Design Principles, and SC/4, Meeting Community Needs, of the South Cambridgeshire Local Plan, relating to an appropriately high quality of design and to the meeting of community needs so far as the management of waste during occupation is concerned.

This P-OWMP is intended to provide for the development of the requirements of the SPD, as per the *Responsibilities* flow-chart presented as Figure 10.1 of the SPD document (reproduced as below) together with associated appendices and drawings / plans, across both the full application element, as well as the outline application element of the hybrid application.

Section 2 addresses the full application element, and Section 3 the outline application element.

Within these two sections, sub-sections address the following, with greater detail being provided for the full application element than for the outline application element:

- The Design Standards Checklist;
- An assessment of In-building Management proposals;
- How Collection will be made from across the Development;
- How Waste will be Managed after Collection; and
- A review of how the system will be Operated, Maintained and Monitored during its operation.

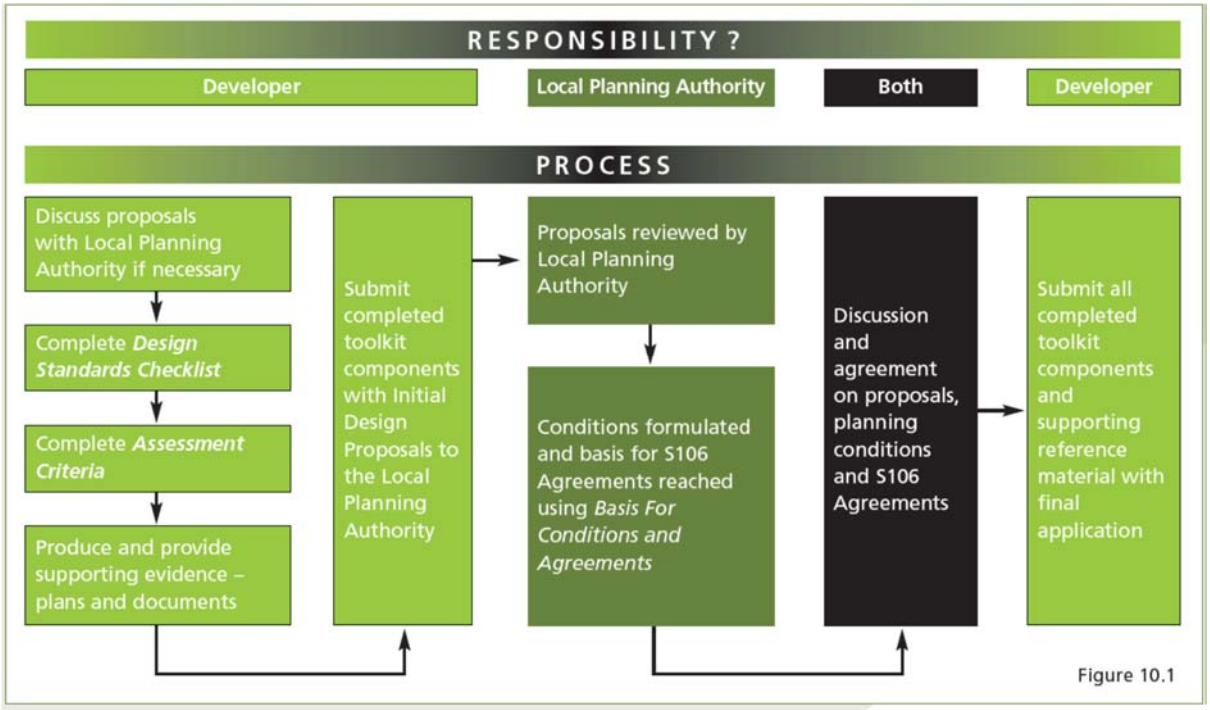


Figure 1-1 – Responsibilities flow-chart, as taken from RECAP SPD

Each section of this document is underpinned by appropriate drawings and appendices, which will be presented and explained in the general text - together with tables and/or illustrations, as may be embedded in individual Sections.

It should be noted that this P-OWMP is provided to accompany the application for planning consent in *draft* form only. The final version of this document will be developed as an element of any pre-occupation requirements as may be applied to the development by South Cambridgeshire District Council in issuing any conditional planning permission

2. Full Application Assessment

2.1 Introduction

The parts of the Cambridge North Development for which full permission is sought will release the useable areas across 3 separate buildings, S4, S6 and S7 (together with a MSCP, as building S5) all of which are to house offices and laboratories, with minor allocations for retail, see Appendix A1 for additional, solid waste specific, and building-by-building land-use areas details) and drawings both presented in this document, Drawings 239-ACME-S01-0102 and 0100, and as generally.

The table at Appendix A1 presents the respective areas, as NIA, for each of the 3 buildings to be developed under the application for full permission within the Cambridge North Development.

Each building will be:

- Separately developed / constructed;
- Provided with its own access / servicing strategy;
- Operated by a dedicated FM (facilities management) team – noting that more than one team maybe employed / provided by the same services company across the development as a whole;
- Provided with separate, dedicated, waste management infrastructure; and
- Assessed in its own right for compliance with the SPD, noting that non-office/laboratory users/occupiers will be responsible for managing their own waste in accordance with the SPD.

2.2 Design Standards Checklist

The table below has been prepared in order to replicate the relevant sections of Table 10.3 of the SPD Design Guide Toolkit as are considered applicable to the North Cambridge Development, and have been completed in order to present the required information to the Councils (i.e. Cambridge County and South Cambridge District Councils) for consideration.

Table 2-1 – Design Standards Checklist, Commercial Waste

Key Consideration	Minimum Standards (as per SPD)	Minimum Standards Met ? Y/N	Comment / explanation why SPD Standards are / are not met
Commercial waste storage provisions, as per Part 4.15 of the Design Guide	Offices – 2,600 litres / 1,000m^2 GFA	N	2,000 litres / 1,000m^2 GFA
	Retail – 5,000 litres / 1,000m^2 GFA	N	4,000 litres / 1,000m^2 GFA
	Restaurants / Fast-food – 1,500litres / 20 places	N	3,500 litres / 1,000m^2 GFA
	NOTE – specified in the Design Guide as derived from the City of Westminster requirements for the management of waste and recyclables, with a storage allocation of not less than 1/3rd for dry recyclables		NOTE – revised City of Westminster requirements used, as listed above, to reflect updated underpinning guidance since the Design Guide was issued – this includes provision of proportion of storage required for dry recyclables (70% capacity) and residual & organic wastes

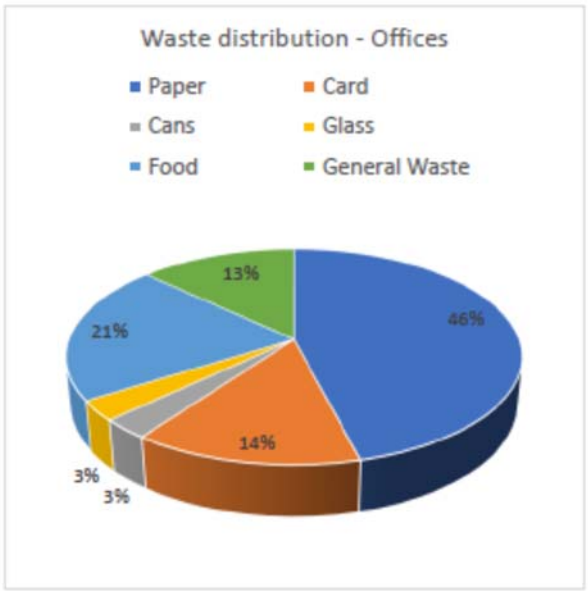
Waste Storage Points, as per Parts 5.10 and 5.14 of the Guide	Facilities Management (FM) service for all elements of all buildings	Y	FM servicing to be provided for each building
	<30m vertical distance for waste movement within a building	Y	Secure management to be provided for confidential documents and clinical waste – via separate management routes, with these elements of waste not touching the 'standard' route, and therefore excluded from calculations
	Separate containers (of required cumulative capacity) for each material stream(s)	Y	Separate containers, with in-container compaction, provided for each material type, reflecting the City of Westminster requirement for 70% of each origin for dry recyclables
	Container storage / placement locations to meet requirements of Design Guide Appendix D	Y	Container / waste store to meet requirements as per Appendix D
	Between 10m (preferred) and 25m (maximum) container movement distance from store / holding location to service vehicle	Y	Distances and service routes within / to and from buildings are as per Drawing 239-ACME-S01-0100derived from the 'Checklist for Developers' issued by the Council
	Container movement routes not less than 1.5m wide, and gradients not greater than 1(v) : 12(h)		Vehicle service routes are as per Drawing 05425-C-2207

2.3 In-building Materials Management

2.3.1 General

Confidential documents, principally paper and / or card, will be deposited in dedicated 3rd-party provided containers, with the containers being services on an as-needed basis, thereby running around the standard servicing approach / frequency – a nominal amount of such waste has been removed from the standard waste management calculations, equating to half (50%) of the paper, or approximately one quarter (25%) of the total arisings by volume, based on a typical waste composition for office waste, as below.

Figure 2-1 – Typical office-waste make-up, by material type



Potentially hazardous clinical waste will be managed, via a dedicated service provider, on a laboratory-by-laboratory basis, with containers (euro-bins, 'sharps' containers, or as otherwise required / used), filled and held in a laboratory setting and sealed to prevent subsequent opening.

Excluding the above specialist wastes, the servicing of each building will be undertaken by the appropriate FM team, with:

- Material(s) being segregated at source, reflecting three (3) streams, comprising:
  - dry recyclables (namely paper / card, dense plastic, metal and glass, collected and moved as a mixed material stream) from both the laboratories and offices;
  - organic / food waste; and
  - residual wastes;
- Separate in-building / in-office containers will be provided for each material, where appropriate grouped for ease of access by users or specifically separated for means of material stream management, e.g. potentially hazardous clinical waste;
- Interim amalgamation as part of the building servicing / cleaning provision;
- Transfer within the building to a dedicated waste / refuse store, with appropriate transfer from the cleaning equipment to dedicated containers;
- Appropriate in-container compaction; and
- Removal of containers for emptying by a 3rd-party service provider(s), with a dedicated service provided for the potentially hazardous clinical waste material stream.

Wastes generated by other building occupiers will be managed by each occupant, using dedicated servicing provisions not covered in detail in this document, as they will form part of site-by-site negotiations yet to be undertaken, Nevertheless, provisions will be made in general accord of the SPD which forms the basis of this D-OWMP, reflecting the predicted amounts to be managed, as per Appendix A1 and A2 (as a provisional assessment only at this time).

2.3.2 In-Building Capacity Provisions

Typical Waste Streams

Waste predictions for each building are as presented in Appendix A1, noting that the detail to follow does not include the management of waste generated by other than the occupation and use of offices and laboratories, as reference immediately above.

These show the:

- Predicted amount of waste generated by each activity, by building;
- How many of which containers (wheelie or Euro bins) are required, by building; and
- How and when servicing is undertaken, assuming:
  - Twice-weekly service visits for potentially hazardous clinical waste;
  - Twice-weekly service visits for all other non-confidential waste streams; and
  - Service visits on an as-needed basis for confidential wastes.

Each building is provided with a dedicated waste room / refuse store, to be developed in accordance with BS 5906:2005, as a minimum, together with other relevant British Standards, as appropriate and as per the summary table provided at Appendix C, and is sufficiently large to adequately contain the required number of containers, noting that:

- The management of the two (2) specialist waste streams will not entail use of this facility; and
- In-container compaction is to be used to optimise container contents and minimise container numbers.

Drawing 239-ACME-S01-0100 shows where the waste rooms / refuse stores are located – at ground-floor level in each building.

Unless otherwise referred to the following bin sizes / capacities will be utilised:

- For potentially hazardous clinical waste – 1,00 litre Eurobins (lockable) and / or sharps containers (lockable) – suitable for in-container compaction;
- For dry mixed recyclables – 1,100 or 1,280 litre Eurobins – suitable for in-container compaction;
- For residual waste – as above; and
- For organic / food waste – 360 litre or 240 litres, respectively, on an assumed 50:50 basis – only 360 litres suitable for in-container compaction, for reasons of a) bin design / size and b) dead-weight of filled bin, noting that, for reasons of conservatism, only 240 litre containers have been used for prediction purposes in this document.

Bulky / larger Items

Storage capacity / provision for bulky and unwanted items, including WEEE, will be made on a building-by-building basis within the waste room / refuse store, with on-demand servicing being used to minimise any material build-up.

2.4 Collection from the Development

As previously briefly referred to, servicing of the waste streams described above will be provided on the basis of:

- Twice-weekly by specialist service contractor for potentially hazardous clinical wastes – locked yellow containers and / or sharps containers;
- Twice-weekly collection by 3rd-party service provider for mixed dry recyclables, organic / food wastes and residual wastes;
- On-demand for confidential wastes; and
- On-demand for large or bulky items, WEEE, etc.

Reflecting the choice to make the central area of the development vehicle-free, dedicated service routes are as shown in Drawing 05425-C-2207

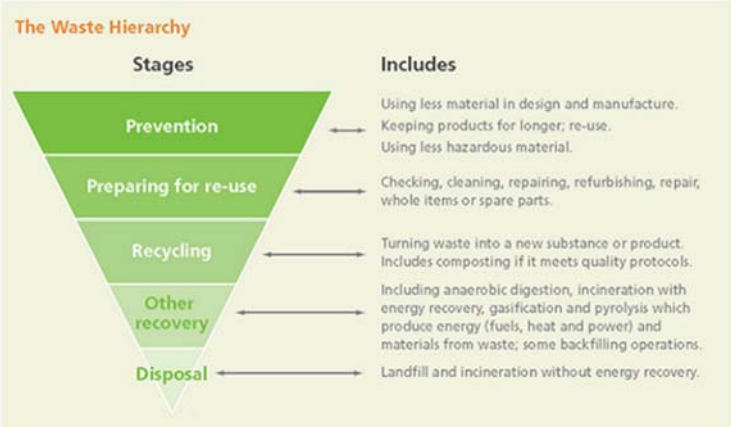
Pull-distances for full containers have been selected to meet the required maximum distance of 10m wherever possible for 4-wheeled bins - and where not practicable, the FM team will assist service providers using dedicated battery-powered mini-tugs, as per the example presented in Appendix B3, e.g. https://www.mastermover.com/bin-mover/

2.5 Management of Waste once removed from the Development

In the absence of dedicated contracts for any of the waste streams previously considered in the P-OWMP, the development FM team(s) will ensure compliance with UK best-practice and statute regarding on-site segregation and off-site diversion from landfill, as may apply to commercial wastes, from time to time.

Overall, the management of solid waste from the Cambridge North Development will take into account the waste hierarchy, as below, and look to maximise diversion away from landfill (as final disposal) and maximise recovery, either of material(s) and / or energy, as per Figure 2-2 below.

Figure 2-2 – Waste Hierarchy Graphic



It is envisaged that:

- Potentially hazardous clinical waste will be thermally treated by means of disposal, either via autoclaving and / or incineration (with the 'with energy recovery' option preferred);
- Mixed dry recyclables will be taken to an appropriately approved and operated MRF, for separation into individual material streams, for re-introduction into relevant manufacturing sectors;
- Mixed organic / food waste will be taken for further processing, via either AD (anaerobic digestion) or in-vessel composting – with appropriate recovery of either material(s) and / or energy; and
- Residual waste will most probably be subjected to incineration with energy recovery, possibly via some form of SRF/RDF production (secondary recovered fuel/ refuse derived fuel) as a pre-cursor to incineration.

Once operational, information to support the above will be obtained and retained by building FM team(s).

2.6 Operation, Monitoring and Maintenance

The operation and maintenance of the proposed system for solid waste management system for the development will be undertaken by the site FM team, employed by the development manager / owner as a dedicated function.

All waste-related infrastructure and equipment will be maintained in accordance with supplier / manufacturer requirements and recommendations, and a program of preventative maintenance and cleaning will be applied to the following items by the FM team;

- Bins / containers, using a visiting / mobile cleaning system;
- Individual building waste rooms / refuse stores;
- Bulky waste provisions, as above; and
- All connecting corridors, etc.

Monitoring of the effectiveness of the system and its implementation / use will include the use of a system to be developed by the FM team as part of building commissioning, and will cover, to include the specialist waste streams referred to in Section 3.1:

- Recorded incidences of operational / system use non-compliances / breaches by building occupants / users;
- User-complaints, if determined by site FM team to be a valid complaint; and
- Physical and/or control-system failures / outages, other than as may be planned as part of the maintenance schedule.

3. Outline Application Assessment

3.1 Introduction

The parts of the Cambridge North Development for which outline permission is sought will release the following useable areas across, drawings both presented in this document, see 'Drawings' section, and as submitted generally in support of the application:

- 2 separate buildings, S7 and S8 both of which are to house offices and laboratories, with minor allocations for retail, see Appendix A2 for *provisional*, solid waste specific, and building-by-building land-use areas details; and
- 11 separate residential blocks, with minor allocations for retail and leisure, see Appendix A3 for *provisional* solid waste specific and building-by-building land-use areas.

Note that the tables presented at Appendix A2 and A3 respectively present the provisional areas, as NIA, for each of the buildings to be developed under the application for outline permission at the Cambridge North Development, and may be amended during the application process.

For the office / laboratory buildings, each building will be:

- Separately developed / constructed;
- Provided with its own access / servicing strategy;
- Operated by a dedicated FM (facilities management) team – noting that more than one team maybe employed / provided by the same services company across the development as a whole;
- Provided with separate, dedicated, waste management infrastructure; and
- Assessed in its own right for compliance with the SPD, noting that non-office/laboratory users/occupiers will be responsible for managing their own waste in accordance with the SPD.

For the residential buildings, while each building will be developed separately and provided with its own waste / refuse storage room, the servicing strategy has yet to be finalised, but will be established in order to meet the reasonable requirements of the Council, using either Council-delivered services, or those provided by a 3rd-party specialist service provider, assuming either a weekly or twice-weekly frequency, as may be defined as being appropriate.

3.2 Design Standards Checklist

For the non-residential part of the outline application element of the application, details are as provided in Section 2.2.

For the residential part, the table below has been prepared in order to replicate the relevant sections of Table 10.3 of the SPD Design Guide Toolkit as are considered applicable to the residential quarter of the Cambridge North Development, and have been completed in order to present the required information to the Councils for consideration.

Table 3-1 – Design Standards Checklist, Residential Waste

Key Consideration	Minimum Standards (as per SPD)	Minimum Standards Met ? Y/N	Comment / explanation why SPD Standards are / are not met
Waste generation and Storage Requirements as per Sections 4 & 5 of the Design Guide	Internal capacity – 35-40 litres required	Y	Segregation into dry mixed recyclables, residual waste and organic waste to be provided for
	Per-property generation rates provided for as per Table 4.1	Y	Combined generation rates provisionally developed on a per-building basis
	Storage provisions provided for as per waste segregation requirements, on the basis of separate bins for each material type, allowing bulk-storage prior to servicing	Y	Combined storage provided on a building-by-building basis
Waste Storage Points, as per Part 5.10 of the Guide	Facilities Management (FM) service for all elements of all buildings	Y	Servicing approach yet to be finalised, but development design / building layout such that FM not prevented, nor direct servicing by the Council regards access, etc., as below
	<30m vertical distance for waste movement within a building	Y	
	Separate containers (of required cumulative capacity) for each material stream(s)	Y	Separate containers, provided for each material type, reflecting required segregation approach
	Container storage / placement locations to meet requirements of Design Guide Appendix C	Y	
	Between 10m (preferred) and 25m (maximum) container movement distance from store / holding location to service vehicle	Y	Distances and service routes within / to and from buildings are as per Drawing 239-ACME-S01-0100derived from the 'Checklist for Developers' issued by the Council
	Container movement routes not less than 1.5m wide, and gradients not greater than 1(v) : 12(h)	Y	Vehicle service routes are as per Drawing 05425-C-2207

3.3 In-building Materials Management

3.3.1 In-Building Capacity Provisions – Office / Laboratory Development

Proposals for the management of materials generated from the non-residential element of the outline application are as provided for in Section 2.3, as previously reviewed.

Proposals for the management of materials generated from the residential element of the outline application are as presented to follow in Section 3.3.2.

Excluding the above specialist wastes, the servicing of each building will be undertaken by the appropriate FM team, with:

- Material(s) being segregated at source, reflecting three (3) streams, comprising:
  - dry recyclables (namely paper / card, dense plastic, metal and glass, collected and moved as a mixed material stream) from both the laboratories and offices;
  - organic / food waste; and
  - residual wastes;

- Separate in-building / in-office containers will be provided for each material, where appropriate grouped for ease of access by users or specifically separated for means of material stream management, e.g. potentially hazardous clinical waste;
- Interim amalgamation as part of the building servicing / cleaning provision;
- Transfer within the building to a dedicated waste / refuse store, with appropriate transfer from the cleaning equipment to dedicated containers;
- Appropriate in-container compaction; and
- Removal of containers for emptying by a 3rd-party service provider(s), with a dedicated service provided for the potentially hazardous clinical waste material stream.

3.3.2 In-Building Capacity Provisions – Residential Development

Typical Waste Streams

Provisional waste predictions for each building are as presented in Appendix A3.

These show the:

- Predicted amount of waste generated by each activity, by building;
- How many of which containers (wheelie or Euro bins) are required, by building; and
- How and when servicing is undertaken, assuming a single weekly collection, subject to the confirmation of the servicing strategy.

Each building will be provided with a dedicated waste room / refuse store, to be developed in accordance with BS 5906:2005, as a minimum, together with other relevant British Standards, as appropriate, as per the summary table provided at Appendix C, and will be of sufficient size to adequately accommodate the required number of containers, as *provisionally* predicted.

Unless otherwise referred to the following bin sizes / capacities will be utilised:

- For dry mixed recyclables – 1,100 or 1,280 litre Eurobins;
- For residual waste – as above; and
- For organic / food waste – 360 litres.

Bulky / larger Items

Storage capacity / provision for bulky and unwanted items, including WEEE, will be made on a building-by-building basis within the waste room / refuse store, with on-demand servicing being used to minimise any material build-up.

3.4 Collection from the Development

As previously briefly referred to, the *provisional* approach to the servicing of the waste streams described above will be provided on the basis of:

- Once-weekly collection by the Council or 3rd-party service provider for mixed dry recyclables, organic / food wastes and residual wastes; and
- On-demand for large or bulky items, WEEE, etc.

Pull-distances for full containers have been selected to meet the required maximum distance of 10m wherever possible.

3.5 Management of Waste once removed from the Development

In the absence of dedicated contracts for any of the waste streams previously considered in the P-OWMP, the yet-to-be-confirmed servicing strategy will ensure compliance with UK best-practice and statute regarding on-site segregation and off-site diversion from landfill, as may apply to residential wastes, from time to time, noting that if the Council is appointed as service provider, its contracts are assumed by default to meet this.

Further detail has already been provided in Section 2.5.

3.6 Operation, Monitoring and Maintenance

In the absence of a defined servicing strategy, the development of an operation and maintenance strategy has yet to be undertaken. Nevertheless, it is likely to reflect that previously presented in Section 2.6, subject to minor amendments to reflect the eventual service provider.

4. Summary and Conclusions

This Preliminary Operational Waste Management Plan, P-OWMP, for the North Cambridge Development proposed by Brookgate, developed as it has been to reflect the requirements of the RECAP Waste Management Design Guide, the SPD, demonstrates compliance with the general objectives of Policies CS16 and CS28 of the Cambridgeshire and Peterborough Minerals and Waste Core Strategy, as enshrined in the Cambridgeshire and Peterborough Minerals and Waste Local Development Framework (LDF), as well as policies HQ/1 and SC/4 of the South Cambridgeshire Local Plan.

Compliance is demonstrated in some detail for that element of the application for full permission, principally for offices and laboratories (with minor allocations for retail / leisure), and in an outline, *provisional*, approach for those elements of the application where outline permission is sought.

Additionally, it demonstrates best-practice compliance with BS5906:2005, in that, even though the subject of the assessment comprises a commercial development as opposed to a residential one, in that it:

- Minimises the number of vehicle movements necessary in order to implement the management of waste generated as a result of the occupation of the buildings concerned (see Section 1 for the allocation between the full permission and the outline permission) – through the use of a dedicated site FM team, coupled with on-site segregation and compaction, which together help optimise the efficiency of the system proposed;
- Actively encourages the at-source segregation of waste / potentially recyclable materials, using a 3-stream approach more akin to that required for non-commercial developments, in excess of the minimum requirement of two material streams;
- Provides for a minimum of 3/4 days storage, in excess of the minimum requirement of 2 days; and
- Makes an appropriate contribution to the street-scene around the development, in that the system proposed minimises (or avoids) most needs for reversing moments, and avoids the need to temporarily hold containers on the public highway at all times.

The simplified checklist presented to follow has been adapted from the Council's 'checklist for developers' (of residential properties), and is used to show compliance with the Council's requirements and/or best practice.

Table 4-1 – Design Standards Checklist – Compliance Summary

Requirements	Yes / No	Observation / Comment
Predicted amount of waste / materials modelled per source, i.e. per building	Yes	2021 City of Westminster requirements used for non-residential waste, as an up-date from the previous requirements, as per SPD, with reductions for clinical waste and confidential waste CCC SPD requirements used for residential waste requirements
Number of containers / bins identified, per building	Yes	As above, plus the use of in-container compaction for non-residential elements only

Waste storage provision sized / specified, per building, to match maximum likely storage requirements, and appropriately equipped	Yes	BS5906:2005 and SPD requirements used / met
Distance to waste room within each building assessed	Yes	SPD target of 30m recognised, noting that waste will be collected for the most-part by the building FM team for the non-residential elements of the proposed development
Distance between waste room and service vehicle bay	Yes	Targeted as 10m, with 25m maximum, noting that building FM team will assist, and use trolley-assistance where required for the non-residential elements of the proposed development
Openings used for bin movement sized appropriately, travel-route gradients assessed and easy access to rear of service vehicles designed	Yes	Requirements of SPD and BS5906:2005 met
Adverse impact of bin collection on public realm minimised	Yes	As per SPD, bin collection avoids the need to retain on public routes, off-line service vehicle parking provided and reversing minimised, with maximum distance of 12m achieved

5. Drawings

Site location plan - not provided for reasons of duplication, as this sits within the application pack

Site layout plan – with building numbers – Drawing 239-ACME-S01-0102

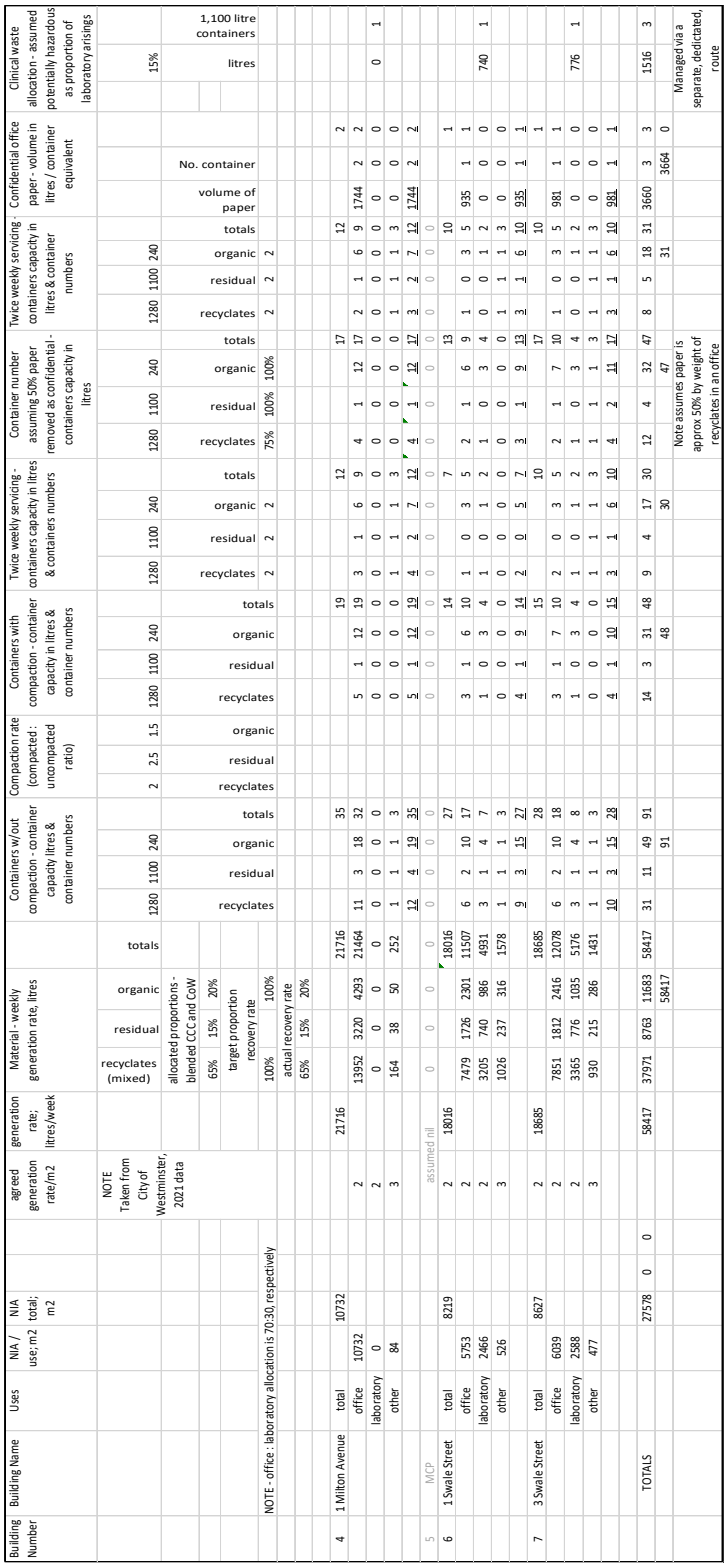
Site layout plan – with land-uses – Drawing 239-ACME-S01-0100

Refuse vehicle tracking – Drawing 05425-C-2207

NOTE drawings are provided as a separate Zip file, so as not to otherwise constrain their size or clarity when combined with the text of this report.

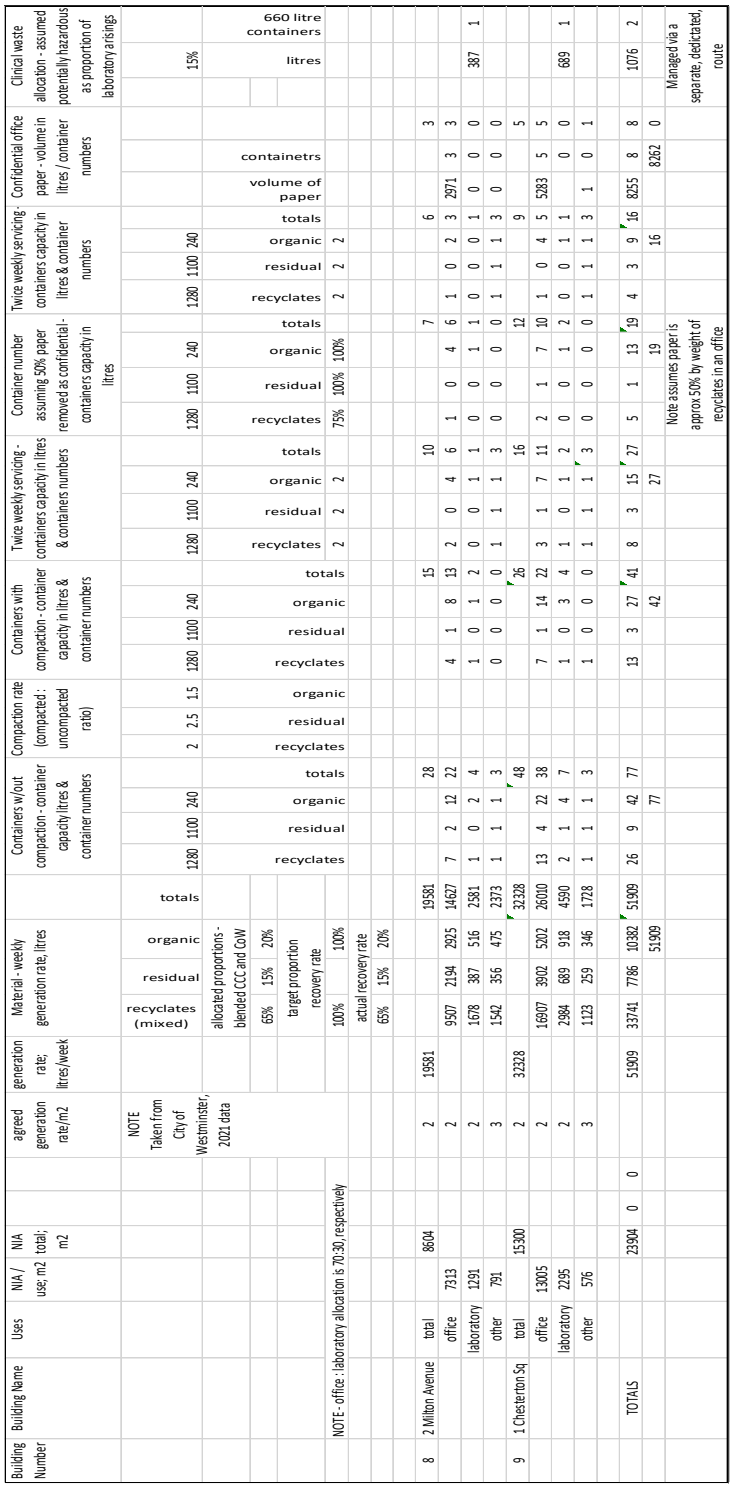
Appendix A Waste Predictions Table

A.1 Spreadsheet Extract – Full Permission Non-Residential element



Building Number	Building Name	Uses	NIA / use; m2	NIA total; m2		agreed generation rate/m2	generation rate; litres/week	Material - weekly generation rate, litres				Containers w/out compaction : container capacity litres & container numbers					Compaction rate (compacted : uncompacted ratio)			Containers with compaction - container capacity in litres & container numbers					Twice weekly servicing - containers capacity in litres & containers numbers					Container number assuming 50% paper removed as confidential - containers capacity in litres					Twice weekly servicing - containers capacity in litres & containers numbers					Confidential office paper - volume in litres / container equivalent				Clinical waste allocation - assumed potentially hazardous as proportion of laboratory arisings			
	NOTE - office : laboratory allocation is 70:30, respectively							100%		100%																																				
								actual recovery rate																																								
								65%	15%	20%																																						
4	1 Milton Avenue	total		10732			21716			21716					35								19					12				17				12				2							
		office	10732			2		13952	3220	4293	21464	11	3	18	32					5	1	12	19					1	6	9	4	1	12	17	2	1	6	9	1744	2	2						
		laboratory	0			2		0	0	0	0	0	0	0	0					0	0	0	0					0	0	0	0	0	0	0	0	0	0	0	0	0	0				0	1	
		other	84			3		164	38	50	252	1	1	1	3					0	0	0	0					1	1	3	0	0	0	0	0	1	1	3	1744	2	2						
5	MCP							0	0	0	0	12	4	19	35					5	1	12	19					1	4	12	4	1	12	17	2	1	7	12	1744	2	2						
6	1 Swale Street	total		8219			18016			18016					27								14					7				13				10				1							
		office	5753			2		7479	1726	2301	11507	6	2	10	17					3	1	6	10					2	1	6	9	1	0	3	5	935	1	1									
		laboratory	2466			2		3205	740	986	4931	3	1	4	7					1	0	3	4					1	0	3	4	0	0	1	2	0	0	0	0	0	0				740	1	
		other	526			3		1026	237	316	1578	1	1	1	3					0	0	0	0					0	0	0	0	0	0	1	1	3	0	0	935	1	1						
7	3 Swale Street	total		8627			18685			18685					28								15					10				17				10				1							
		office	6039			2		7851	1812	2416	12078	6	2	10	18					3	1	7	10					2	0	3	5	1	0	3	5	981	1	1									
		laboratory	2588			2		3365	776	1035	5176	3	1	4	8					1	0	3	4					1	0	3	4	0	0	1	2	0	0	0	0	0	0				776	1	
		other	477			3		930	215	286	1431	1	1	1	3					0	0	0	0					1	1	3	1	1	1	3	0	0	0	0	0	0	0						
												10	3	15	28					4	1	10	15					1	4	10	3	1	6	10	3	1	6	10	981	1	1						
	TOTALS			27578	0	0	58417	37971	8763	11683	58417	31	11	49	91					14	3	31	48					9	4	17	30	12	4	32	47	8	5	18	31	3660	3	3		1516	3		
										58417				91								48							30			47				31			3664	0						
																																Note assumes paper is approx 50% by weight of recyclates in an office											Managed via a separate, dedicated, route		

A.2 Provisional Spreadsheet Extract – Outline Permission Non-Residential element



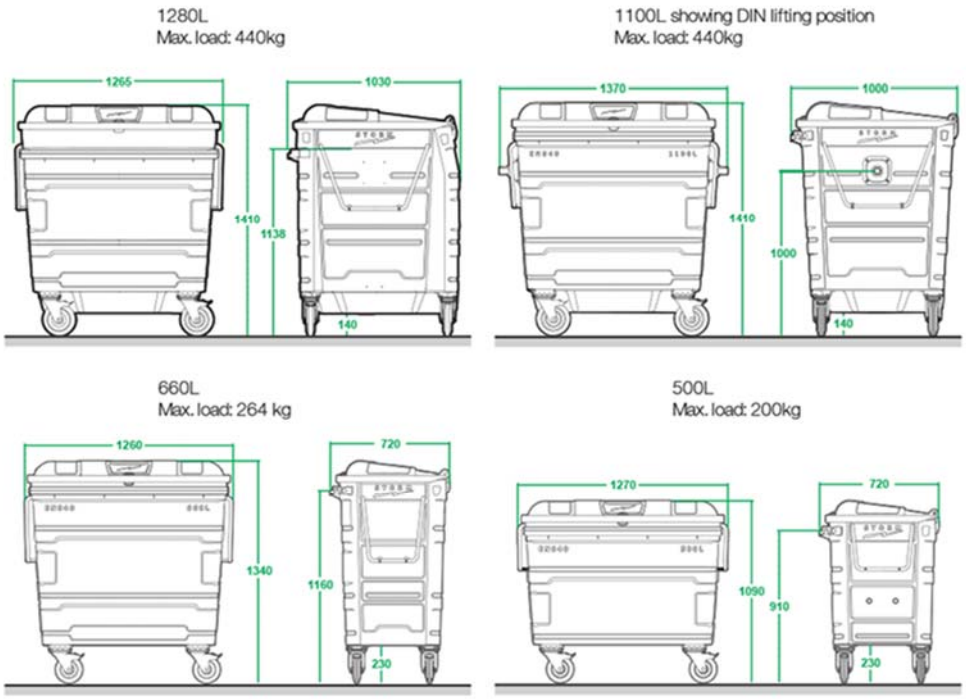
Building Number	Building Name	Uses	NIA / use; m2	NIA total; m2	agreed generation rate/m2	generation rate; litres/week	Material - weekly generation rate; litres				Containers w/out compaction - container capacity litres & container numbers				Compaction rate (compacted : uncompacted ratio)				Containers with compaction - container capacity in litres & container numbers				Twice weekly servicing - containers capacity in litres & containers numbers				Container number assuming 50% paper removed as confidential - containers capacity in litres				Twice weekly servicing - containers capacity in litres & container numbers				Confidential office paper - volume in litres / container numbers			Clinical waste allocation - assumed potentially hazardous as proportion of laboratory arisings	
							recyclates (mixed)	residual	organic	totals	recyclates	residual	organic	totals	recyclates	residual	organic	totals	recyclates	residual	organic	totals	recyclates	residual	organic	totals	recyclates	residual	organic	totals	recyclates	residual	organic	totals	volume of paper	containetrs	litres	660 litre containers
					NOTE Taken from City of Westminster, 2021 data		allocated proportions - blended CCC and CoW																														15%	
							65%	15%	20%																													
							target proportion recovery rate																															
NOTE - office : laboratory allocation is 70:30, respectively							100%		100%		1280	1100	240		2	2.5	1.5		1280	1100	240		1280	1100	240		1280	1100	240		1280	1100	240					
							actual recovery rate																																
							65%	15%	20%																													
8	2 Milton Avenue	total		8604	2	19581				19581	7	2	12	22				4	1	8	13	2	0	4	6	1	0	4	6	1	0	2	3	2971	3	3		1076	2
		office	7313		2		9507	2194	2925	14627	1	0	2	4				1	0	1	2	0	0	1	1	0	0	1	1	0	0	1	1	0	0	0		387	1
		laboratory	1291		2		1678	387	516	2581	1	1	1	3				0	0	0	0	1	1	1	3	0	0	0	0	0	0	1	1	0	0	0			
		other	791		3		1542	356	475	2373	1	1	1	3				0	0	0	0	1	1	1	3	0	0	0	0	1	1	1	3	1	0	1			
9	1 Chesterton Sq	total		15300	2	32328				32328				48							26				16				12				9			5			
		office	13005		2		16907	3902	5202	26010	13	4	22	38				7	1	14	22	3	1	7	11	2	1	7	10	1	0	4	5	5283	5	5			
		laboratory	2295		2		2984	689	918	4590	2	1	4	7				1	0	3	4	1	0	1	2	0	0	1	2	0	0	1	1		0	0		689	1
		other	576		3		1123	259	346	1728	1	1	1	3				1	0	0	0	1	1	1	3	0	0	0	0	1	1	1	3	1	0	1			
		TOTALS		23904	0	51909	33741	7786	10382	51909	26	9	42	77				13	3	27	41	8	3	15	27	4	3	9	16	5	1	13	19	8255	8	8		1076	2
									51909				77							42				27				16			19		8262	0			
																															Note assumes paper is approx 50% by weight of recyclates in an office					Managed via a separate, dedicated, route	

A.3 Provisional Spreadsheet Extract – Outline Permission Residential element

							total external waste storage capacity (litres)				allocated material streams (%)			container sizes (litres) & number of containers required			
Building	Accomodation Type	Studio	1 bed	2 bed	3 bed	totals	1 room	2 rooms	3 rooms	4 rooms	totals	recyclables	organic	residual	recyclables	organic	residual	total
	Room equivalent (see RECAP Table 4.1)	1 room	2 rooms	3 rooms	4 rooms	No of Properties	240	340	440	540		60%	20%	20%	1,100	360	1,100	
S11			14	26		40		4,760	11,440		16,200	9,720	3,240	3,240	9	9	3	21
S12			18	20		38		6,120	8,800		14,920	8,952	2,984	2,984	8	8	3	19
S13		5	28	26	2	61	1,200	9,520	11,440	1,080	23,240	13,944	4,648	4,648	13	13	4	30
S14			5	17	7	29		1,700	7,480	3,780	12,960	7,776	2,592	2,592	7	7	2	17
S15			9	18	5	32		3,060	7,920	2,700	13,680	8,208	2,736	2,736	7	8	2	18
S16			15	18	0	33		5,100	7,920	0	13,020	7,812	2,604	2,604	7	7	2	17
S17			15	14	4	33		5,100	6,160	2,160	13,420	8,052	2,684	2,684	7	7	2	17
S18			20	9	5	34		6,800	3,960	2,700	13,460	8,076	2,692	2,692	7	7	2	17
S19		7	21	20		48	1,680	7,140	8,800		17,620	10,572	3,524	3,524	10	10	3	23
S20			14	26		40		4,760	11,440		16,200	9,720	3,240	3,240	9	9	3	21
S21			18	19		37		6,120	8,360		14,480	8,688	2,896	2,896	8	8	3	19
11		12	177	213	23	425	2,880	60,180	93,720	12,420	169,200	101,520	33,840	33,840	92	94	31	217
											169,200			169,200				
NOTE	Non-residential land-uses across Buildings S13-16 and S17-21 will be assessed at full application																	

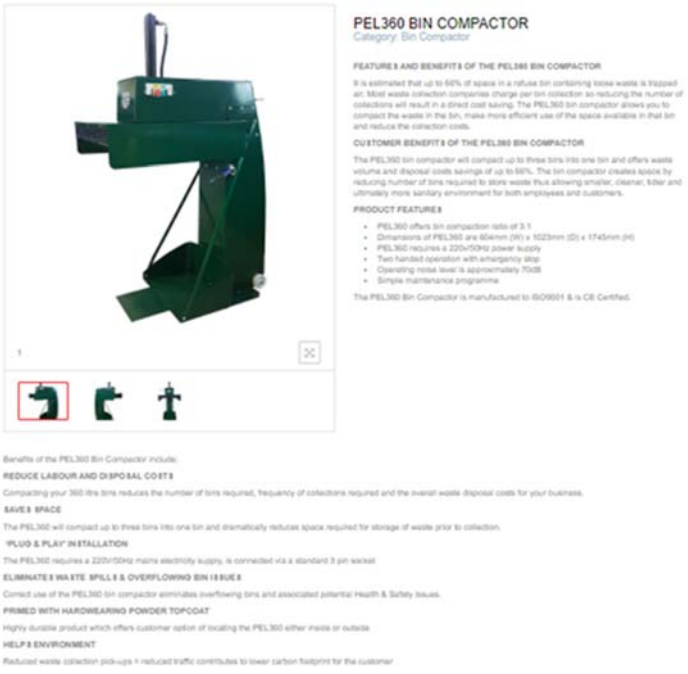
Appendix B Equipment Examples

B.1 Containers / Bins



B.2 In-container Compaction

In-container compactor - https://www.qcr.co.uk/balers-compactors/qcr-1100-bin-press/a/16/ , https://www.tonyteam.co.uk/products/bin-compactors/tt1100e-bin-compactor/, https://waste-handling-solutions.com/product/1100l-bin-compactor/ or the like, subject to final selection / purchase



B.3 Bin Tug

https://www.epowertrucks.co.uk/product-category/pedestrian-controlled-electric-tugs/?gclid=Cj0KCQiAjJOQBhCkARIsAEKMtO2y9P09rjFtuRDJwaXfpQgkEH9YC284UVjr7au5GEOZxjkjy5kJlnMaApfJEALw_wcB

https://www.mastermover.com/bin-mover/

Appendix C Waste Room/Store Provisions

RECAP, at Appendix D, provides for the minimum requirements for waste rooms / stores, as adapted from BS 5906:2005, as below.

Feature	Design
Walls and Roofs	To be made of a non-combustible, robust, secure and impervious material with a fire resistance of 1 hour (as tested in accordance with BS 476-21).
Floors	To be made from a hard impervious material with a smooth finish and a minimum thickness of 100mm. There should not be any steps or projections at the entrance.
Doors	Width to be 1.8m – 2m (minimum). To be made of steel or of some other material with a fire resistance of 30 minutes (as tested in accordance with BS 476-22). Should also be self-closing except where they communicate directly with the outside air. Should be hung so that hinges are not damaged where the doors are allowed to swing wide. Should open outward and be capable of being opened from the inside and outside to prevent the risk of individual users becoming trapped.
Door Frames	To be metal, hardwood or metal clad softwood. Door frames should also be situated in the external wall and rebated into the reveals of the opening.
Junctions of Walls with Floors	To be covered with the coving formed to prevent damage to the walls from the containers – in accordance with BS 1703
Drainage	To be via a trapped gully connecting to the foul sewer. Floors should have an appropriate fall towards the drainage point.
Ventilation	Areas for ventilation to be situated as near to the top and bottom of the container as possible with the total ventilation area to be not less than 0.2m2.
Lighting	Electrical lighting to be provided by bulkhead fittings within the storage compound with housings rated to IP65 in BS EN 60529:1992. Luminaires to be low energy light fittings and switching should be via proximity detection or time delayed.
Cleansing	A hose union tap with water supply should be provided at the compound.
Access Paths	Should be a minimum of 2m wide and feature a hard finished surface with a dropped kerb to enable ease of access.
Signage	Where multiple bin stores are provided these should be signed so that these can be clearly identified by users e.g. recycling/general waste.