Appendix 2 – Pre-Demolition Audit

ICE PROTOCOL STATEMENT

Phase 2, Avondale Drive, Hayes, UB3 3PN.

For

Higgins Partnerships

Prepared By:

NORTHEAST DEMOLITION UK LTD

Principal Contractor	**Northeast Demolition UK Ltd**
Person Responsible for Waste on Site	**Supervisor- Northeast Demolition**
Person Completing this Form	**Ronnie Mould MIDE**
Date	**27th November 2025**

CONCEPT DESIGN: 27th November 2025
CONCEPT DESIGN STAGE: TBC 2025

CONTENTS

1 INTRODUCTION

Higgins Partnerships requested Northeast Demolition UK Ltd to adopt and implement the ICE Demolition Protocol for the demolition of Phase 2, Avondale Drive, Hayes, UB3 3PN.

This document adresses the potential for reusing and recycling components and materials from the building(s) and aims to:

- Provide an understanding of the waste materials likely to arise from the demolition of the building in order to assist with the redevelopment of the Site Waste Management Plan (SWMP)
- Assist in the management of the materials removed from the building in line with the Waste Hierarchy, ie. Maximise reuse and recycling and minimise waste to landfill
- Provide evidence for environmental assessments such as BREEAM

This report contains estimations we have made on the anticipated tonnage of materials which may be recovered from the building(s) and assesses the target demolition recovery quantities for the materials which will be recycled or reclaimed as a result of the demolition works. It is then intended that the extent of materials which are recovered from the demolition process will be advised by the contractor.

2 Demolition Works: Existing Structures

The site is made up of the following structures:

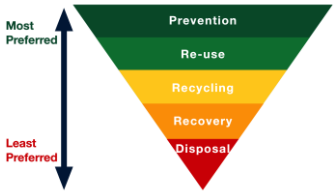
2 x 12 story, brick/concrete RC frame built flats.

The demolition works comprise of the following:

- Demolition of structures to ground slab level including full soft strip and asbestos removal.
- Removal of all concrete ground slabs/foundations.
- Crushing contcrete/hardcore on site to 6F2 for reuse.

3 Demolition Recovery

The demolition protocol requires the identification of arisings from the demolition works, their quantification and a target recovery factor / index to be calculated.



Basis for Quantities, Assumptions and Exclusions

The bill of quantities is based on the following information:

- Schedule of quantities of existing buildings.
- The ground slabs have been assumed as 200 mm thick
- Potential applications and any related issues for the resuse and reycling of the key materials in accordance with the waste heirarchy. NED use the UK Waste Heriarchy Chart as shown above.
- Opportunities for resue and recycling within the same development: Circa 9000 tonnes of hardcore & concrete to be crushed to 6F2. Including Asbestos screen, chemical testing and grading.

4 Opportunities and Identification for Resuse & Recycling

- Identification of local reprocesses or recyclers for recycling of materials: Rubbish will be taken to Westminster Waste, and Metal to All Scrap Metal, both transfer stations are approx 8 miles away from the site.
- Identification of overall recycling targets where appropriate – 98%
- Identifiction of reuse targets where appropriate – 98%
- Indentification of overall landfill diversion rate for all key materials – 98%

5 Conclusions

The quantity of material produced by the demolition process has been calculated and is shown in Appendix A, these are only an estimate and we therefore anticipate slight change to quantities upon commencement of the works. It is however a requirement of the demolition contract for quantities of materials which are being reclaimed or recycled by the demolition contractor to be fully recorded, which means that a full and comprehensive waste data log will be provided on completion of the works.

Concrete arisings and non-concrete masonry from the demolished buildings will be crushed on site to be used as a capping layer/piling mat over the area or used as infill to voids and other areas which need to be infilled . Tarmac material to be crushed to a type 2 certfied material ready for use as a drainage run cover.

The demolition contractor will be able to provide Higgins Partnerships with material transfer notes and consignment notes showing the transfer of all materials for which they have been responsible during the demolition works.

Table 1 – Demolition Waste Groups: Audit Findings & Recommendations						
EWC	**KEY GROUP**	**EXAMPLES**	**TOTAL TONNAGE**	**TOTAL RECOVERABLE**	**% REUSED**	**% RECYCLED**
170102	BRICKS/HARDCORE	Bricks/blockwork	4000	4000	0%	100%
Recommendations		Bricks on this site have a low reclaim value and will therefore be crushed to 6F2 and resued on site.				
Pontential Waste Disposal Sites		N/A				
170101	CONCRETE	pipes, kerb stones, paving slabs, concrete rubble, precast in situ	8000	8000	0%	100%
Recommendations		Concrete will be crushed to 6F2 and reused on site.				
Pontential Waste Disposal Sites		N/A				
170201	TIMBER	softwood, hardwood, board products such as plywood, chipboard, medium density fibreboard (mdf)	120	120	0%	100%
Recommendations		it is reccomended that a local reclaimation company is contacted to asses the possibility of reuse and recycling of timber products. However, if this is not possible, all timber arisings will be taken to a suitable transfer station to be recycled and reused as appropriate.				
Pontential Waste Disposal Sites		PEARCE (pearce-group.co.uk) ENVA Enva				
1703	ASPHALT & TAR	bitumen, coal tars, asphalt	20	20	0%	100%
Recommendations		Tarmac should be removed from site and recycled by a specialist waste contractor.				
Pontential Waste Disposal Sites		RMS (recycledmaterialsupply.co.uk)				
1704	METALS	radiators, cables, wires, bars, sheet	100	100	3%	97%
Recommendations		Metal sitex doors and shutters will be kept and collected by the site owner. Metal will be separated on site and it is reccommended that any non-ferrous metals should be spearated from other materials as they have a higher resale value on the metal market. These metals should be removed and taken to a licenced Waste Management centre to be recycled.				
Pontential Waste Disposal Sites		EMR EMR Global UK MRG LCM Scrap				
170904	MIXED (RUBBISH) OR OTHER	efforts should be made to categorise waste into the above categories wherever possible	120	120	0%	95%
Recommendations		Any products that cannot be categorised otherwise, will be taken to a Waste Transfer Station where it will be further segregated into different waste streams to lessen or eliminate where possible, the percentage reaching landfill.				
Pontential Waste Disposal Sites		POWERDAY Powerday WESTMINSTER WASTE Westminster Waste				

170605	HAZARDOUS	defined in the hazardous waste list (hwl) of the european waste catalogue (ewc)	20	0	0%	0%
Recommendations		An Asbestos survey should be carried out and if present, reccomendations made for it removal. All ACMs will be managed according to the Control of Asbestos Regulations 2012. All asbestos waste will be taken to a licenced Waste Disposal Centre.				
Pontential Waste Disposal Sites		Mick George Home - Mick George - Construction Industry Leaders Dem Waste HOME (demwaste.co.uk)				
170802	GYPSUM	plasterboard, plaster, fibre cement sheets	4	4	0%	100%
Recommendations		Plasterboard waste must be segregated either on site and either recycled by a licenced waste company or if absolutely necessary, sent to landfill where it must be deposited in a separate cell where no biodegradable waste has been accepted.				
Pontential Waste Disposal Sites		WESTMINSTER WASTE Westminster Waste				
170203	PLASTICS	pipes, cladding, frames, non-packaging sheet	20	20	0%	100%
Recommendations		PVC window and door frames should be recycled or reused. There any various companies who are able to reuse or recycle these approriately.				
Pontential Waste Disposal Sites		WESTMINSTER WASTE Westminster Waste				
170604	INSULATION	glass fibre, mineral wool, foamed plastic	N/A	N/A		
1501	PACKAGING	paint pots, pallets, cardboard, cable drums, wrapping bands, polythene sheets	N/A	N/A		
1602	ELECTRICAL & ELECTRONIC EQUIPMENT	electrical and electronic tvs, fridges, air-conditioning units, lamps equipment	N/A	N/A		
1301	OILS	hydraulic oil, engine oil, lubricating oil	N/A	N/A		
170103	TILES & CERAMICS	ceramic tiles, clay roof tiles, ceramic, sanitary ware	N/A	N/A		
1701	INERT	mixed rubble or excavation material, glass	N/A	N/A		
1705	SOILS	soils, clays, sand, gravel, natural stone	N/A	N/A		
	LIQUIDS	non-hazardous paints, thinners, timber treatments	N/A	N/A		
	ARCHITECTURAL FEATURES	roof tiles, reclaimed bricks, fireplaces	N/A	N/A		
		TOTAL	**12,404**	**12,384**		

Material	Reuse	Recycled		Waste
		Roads	Buildings	
Concrete	100%	10%	90%	0%
Brick/Hardcore	100%	0	100%	0%
Metals	100%	0	100%	0%
Glass	100%	0	100%	0%
Rubbish	0%	0	0%	100%
Wood	100%	0	100%	0%
Tarmac	100%	100%	0%	0%

ICE PROTOCOL STATEMENT

Wellings House, Avondale Drive, Hayes, UB3 3PN.

For

Higgins Partnerships

Prepared By:

Principal Contractor	**Northeast Demolition UK Ltd**
Person Responsible for Waste on Site	**Supervisor- Northeast Demolition**
Person Completing this Form	**Ronnie Mould MIDE**
Date	**17th November 2025**

CONCEPT DESIGN: 17th November 2025
CONCEPT DESIGN STAGE: TBC 2025

CONTENTS

1 INTRODUCTION

Higgins Partnerships requested Northeast Demolition UK Ltd to adopt and implement the ICE Demolition Protocol for the demolition of former Wellings House, Avondale Drive, Hayes, UB3 3PN.
This document adresses the potential for reusing and recycling components and materials from the building(s) and aims to:

- Provide an understanding of the waste materials likely to arise from the demolition of the building in order to assist with the redevelopment of the Site Waste Management Plan (SWMP)
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2 Demolition Works: Existing Structures

The site is made up of the following structures:
12 story, brick/concrete RC frame built flats.
Single story multi car garage, of concrete build.
The demolition works comprise of the following:

- Demolition of structures to ground slab level including full soft strip and asbestos removal.
- Removal of all concrete ground slabs/foundations.
- Crushing contcrete/hardcore on site to 6F2 for reuse.

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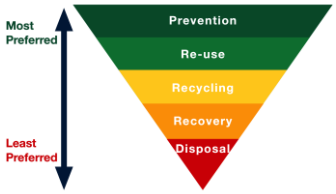

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170102	BRICKS/HARDCORE	Bricks/blockwork	2000	2000	0%	100%
Recommendations		Bricks on this site have a low reclaim value and will therefore be crushed to 6F2 and resued on site.				
Pontential Waste Disposal Sites		N/A				
170101	CONCRETE	pipes, kerb stones, paving slabs, concrete rubble, precast in situ	4000	4000	0%	100%
Recommendations		Concrete will be crushed to 6F2 and reused on site.				
Pontential Waste Disposal Sites		N/A				
170201	TIMBER	softwood, hardwood, board products such as plywood, chipboard, medium density fibreboard (mdf)	60	60	0%	100%
Recommendations		it is reccomended that a local reclaimation company is contacted to asses the possibility of reuse and recycling of timber products. However, if this is not possible, all timber arisings will be taken to a suitable transfer station to be recycled and reused as appropriate.				
Pontential Waste Disposal Sites		PEARCE (pearce-group.co.uk) ENVA Enva				
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Recommendations		Tarmac should be removed from site and recycled by a specialist waste contractor.				
Pontential Waste Disposal Sites		RMS (recycledmaterialsupply.co.uk)				
1704	METALS	radiators, cables, wires, bars, sheet	50	50	3%	97%
Recommendations		Metal sitex doors and shutters will be kept and collected by the site owner. Metal will be separated on site and it is reccommended that any non-ferrous metals should be spearated from other materials as they have a higher resale value on the metal market. These metals should be removed and taken to a licenced Waste Management centre to be recycled.				
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Material		Reuse	Recycled			Waste
170605	HAZARDOUS	defined in the hazardous waste list (hwl) of the european waste catalogue (ewc)	10	0	0%	0%
Recommendations		An Asbestos survey should be carried out and if present, reccomendations made for it removal. All ACMs will be managed according to the Control of Asbestos Regulations 2012. All asbestos waste will be taken to a licenced Waste Disposal Centre.				
Pontential Waste Disposal Sites		Mick George Home - Mick George - Construction Industry Leaders Dem Waste HOME (demwaste.co.uk)				
170802	GYPSUM	plasterboard, plaster, fibre cement sheets	2	2	0%	100%
Recommendations		Plasterboard waste must be segregated either on site and either recycled by a licenced waste company or if absolutely necessary, sent to landfill where it must be deposited in a separate cell where no biodegradable waste has been accepted.				
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170604	INSULATION	glass fibre, mineral wool, foamed plastic	N/A	N/A		
1501	PACKAGING	paint pots, pallets, cardboard, cable drums, wrapping bands, polythene sheets	N/A	N/A		
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170103	TILES & CERAMICS	ceramic tiles, clay roof tiles, ceramic, sanitary ware	N/A	N/A		
1701	INERT	mixed rubble or excavation material, glass	N/A	N/A		
1705	SOILS	soils, clays, sand, gravel, natural stone	N/A	N/A		
	LIQUIDS	non-hazardous paints, thinners, timber treatments	N/A	N/A		
	ARCHITECTURAL FEATURES	roof tiles, reclaimed bricks, fireplaces	N/A	N/A		
		TOTAL	**6,202**	**6,202**		

		Roads	Buildings	
Concrete	100%	10%	90%	0%
Brick/Hardcore	100%	0	100%	0%
Metals	100%	0	100%	0%
Glass	100%	0	100%	0%
Rubbish	0%	0	0%	100%
Wood	100%	0	100%	0%
Tarmac	100%	100%	0%	0%

Appendix 3 – Site Waste Management Plan

Waste Resource Efficiency Tracker

Guidance for completion	
1	In the Project Info page insert the info required in the cells that are white (Project name, start date, end date, value etc.
2	In the Project Info page you can update the values in the light grey cells if you have accurate date for the cost of a kwh of electricty or the m3 of water.
3	Where the Project has BREEAM or Code for Sustainable Homes, please complete this tab with the credits being targeted.
4	When there is a bill of quants in place 3. Predicted Waste should be updated with the values. Values should only be added in Column e and this will then project the waste streams.
5	With the Environment Manager go through 4. Waste Management Options and 4b. Reuse and select what will be undertaken on the site.
6	Any time a new waste carrier is brough on site then 5. Waste Carriers must be updated to reflect this.
7	The info on the tower cranes should be completed if you have any dates or information as this will help us when looking at the energy usage to see where the energy usage has increased etc.
8	On a monthly basis 1. Usage Info should be updated with any meter readings for water/electricty/diesel/delivery information and the financial value of the project for the month.
9	Once the waste reports are in from the Waste Carrier (which the Compliance Team can assist in obtaining) 6. Waste Info should be completed with the number of skips, weight and volume of waste should be updated and the % diversion from landfill. Where subcontractors are responsible for their own skips this information should be populated for any skips they have had removed too. Only input into the white areas, anything shaded grey does not need manual figures inputting as this will automatically calculate.
10	From the waste reports from the skip company update 7. Actual Waste v Predicted with the waste generated in each of the waste streams.
11	This document will be reviewed at regular intervals by the Compliance Team with the site team.
12	Once project is completed review 7. Actual Waste v Predicted and 1. Usage Info to see how the project performed against projected and against targets so that lessons learned and best practice can be fed back into the business.
13	The Dashbaord info tab gives you all the info you need for PRM's etc. This sheet is locked as you do not need to add any info to this as it will all populate from the rest of the spreadsheet being completed.

Waste Resource Efficiency Tracker

Tab Number/Name	Completed When/Frequency
Guidance for Completion	Not required - for info
Project Info	At start
BREEAM	At start
Dashboard Date	No input required, this populates once the monthly usage info is completed.
1. Usage Info	Monthly
2. Carbon Tst Conversions	Not required - for info
3. Predicted Waste	At start
4. Waste Mgmt Opts	At start
4b. Reuse & Initiatives	At start and if targets are being missed then look at other things that can be done to meet targets.
5. Waste Carriers	At start and as new waste carriers come to site.
6. Waste Info	Monthly
7. Actual Waste v Predicted	Monthly
Emissions Chart	For info - printed monthly
Water Usage Chart	For info - printed monthly
Waste Chart	For info - printed monthly
Number of Skips	For info - printed monthly
Legal	Not required - for info

Waste Resource Efficiency Tracker

Site Name:	Avondale Drive
Site Code:	C2423
Person in Charge of Project & For Ensuring Implementation of This Document:	
Start Date:	
Projected End Date:	
Gross Internal Floor Area (GIFA) m2:	29,048
Number of Units	296
Contract Value (£):	
Demolition to be Undertaken?	
If Yes Have We Arranged for Pre Demo Audit?	
Prelims Info:	
Amount for energy:	
Cost per kWh of elec avg:	£0.32000
Approx kWh purchased:	0.00
EKPI Target for Elec - KG CO2 per £100k:	#DIV/0!
Amount for water:	
Cost per m3 of water (approx):	£2.0494
Approx kWh purchased:	0.00
EKPI Target for Water - m3 per £100k:	#DIV/0!
Amount for waste:	
Approx cost per 8yd mixed waste skip:	250.00
Approx no of skips:	0.00
Approx m3 of waste	0.00
EKPI Target for Waste - m3 per £100k:	#DIV/0!

Tower Crane 1	TBS
Tower Crane 2	TBS
Tower Crane 3	
From	To
Tower Crane 4	
From	To

Reviewed by whom:	Date:	Comments

Waste Resource Efficiency Tracker

Date	No Of Skips Used to Date	M3 To Date	Tonnes To Date	Avg Tonnes Per M3	Review Usage Against Target	Actions to be Taken In next Quarter
Jan-24	20	70	25	0.357142857	Behind target but expected owing to only frame contractor on site.	Brickwork starting on site. Use segregated brick skips so we can review wastage. Engage with a pallet company to return pallets this way.

MAN03 - Responsible Construction Practices			
Credits Available	**Details**	**Yes/No**	**Support**
1	27 overall (Minimum of 9 in each category)		Speak to the Compliance Team
2	35 overall (Minimum of 11 in each category)		Speak to the Compliance Team
Exemplar	39 overall (Minimum of 13 in each category)		Speak to the Compliance Team

MAN03 - Construction Site Impacts			
Credits Available	**Details**	**Yes/No**	**Evidence**
1	Monitor and record energy consumption from the usage of plant, equipment and site accomodation. Report energy consumption (kWh per £100k and CO2 emissions in kg per £100k)	Yes	1. Usage Info
1	Monitor and record potable water consumption from the use of construction plant, equipment and site accomodation.	Yes	1. Usage Info
1	Monitor and record data on transport resulting from the delivery of the major construction materials to site and construction waste from site. Use this data to report total fuel consumption and total CO2 emissions, plus total distance travelled for materials and waste.		
1	Confirmation that all site and project timber is procured in accordance with the UK Government's Timber Procurement Policy	Yes	Responsible Sourcing Policy
1	The Principal Contractor must operate and Environmental Management System and implements best practice pollution prevention policies.	Yes	Responsible Sourcing Policy

WST01 - Construction Waste Management				
Credits Available	**Volume - m3**	**Weight - Tonnes**	**Yes/No**	**Yes/No**
1	<13.3	<11.1		6. Waste Info
2	<7.5	<6.5	Yes	6. Waste Info
3	<3.4	<3.2		6. Waste Info
Exemplary	<1.6	<1.9		6. Waste Info
1	70% Non Demo 80% Demo Excavation N/A	80% Non Demo 90% Demo Excavation N/A	Yes	6. Waste Info and Waste Reports
Exemplary	85% Non Demo 85% Demo 95% Excavation	90% Non Demo 95% Demo 95% Excavation		6. Waste Info and Waste Reports

Waste Resource Efficiency Tracker

Month	skip waste m3	skip waste tonnes	Cart away waste m3	% Waste recycled (skips)	Water m3	Emissions from Diesel kgCO2	Litres of Diesel	Emissions from Electricty kgCO2	kWh Electricity	Total Emissions kgCO2	Waste per £100k m3	Emissions from Energy kgCO2 per £100k	Water m3 per £100k	Turnover
Jan 1900	6.11	1.92	0	0.98	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Feb 1900	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Mar 1900	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Apr 1900	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
May 1900	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Jun 1900	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Jul 1900	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Aug 1900	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Sep 1900	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Oct 1900	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Nov 1900	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Dec 1900	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Jan 1901	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Feb 1901	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Mar 1901	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Apr 1901	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
May 1901	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Jun 1901	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Jul 1901	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Aug 1901	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Sep 1901	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Oct 1901	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Nov 1901	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Dec 1901	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Jan 1902	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Feb 1902	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Mar 1902	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Apr 1902	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
May 1902	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Jun 1902	0	0	0	#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Jul 1902		0		#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Aug 1902		0		#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Sep 1902		0		#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Oct 1902		0		#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Nov 1902		0		#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Dec 1902		0		#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Jan 1903		0		#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Feb 1903		0		#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Mar 1903		0		#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Apr 1903		0		#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
May 1903		0		#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Jun 1903		0		#DIV/0!	0	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.00
Jul 1903							0		0					0.00
Aug 1903							0		0					0.00
Sep 1903														
Total	6.11	1.92	0	#DIV/0!	0	0	0	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	0 0

Waste Resource Efficiency Tracker

			Jan 00	Feb 00	Mar 00	Apr 00	May 00	Jun 00	Jul 00	Aug 00	Sep 00	Oct 00	Nov 00
VALUE													
Monthly Valuation		£											
Cumulative Certified Value		£	0	0	0	0	0	0	0	0	0	0	0
ENERGY USE	**Unit**	**Initial Reading**											
In the old office	kWh	0											
Site Meter -Compound	kWh	0											
Electricity Meter 3	kWh	0											
Electricity Meter 4	kWh	0											
Electricity Meter 5	kWh	0											
Other Electricity Use	kWh												
Monthly Total Electricity Used		kWh	0	0	0	0	0	0	0	0	0	0	0
Cumulative Electricty Used		kWh	0	0	0	0	0	0	0	0	0	0	0
		Higgins or S/C Name											
Diesel	Litres												
Diesel	Litres												
Diesel	Litres												
Diesel	Litres												
Total Monthly Diesel			0	0	0	0	0	0	0	0	0	0	0
Total Diesel - Cumulative			0	0	0	0	0	0	0	0	0	0	0
WATER USE	**Unit**	**Initial Reading**											
Water Meter 1	m^3												
Water Meter 2	m^3												
Water Meter 3	m^3												
Other Water Use	m^3												
Recycled Water	m^3												
Total Monthly Water Usage		m^3	0	0	0	0	0	0	0	0	0	0	0
Total Cumulative Water Usage		m^3	0	0	0	0	0	0	0	0	0	0	0
Monthly Water Use m3 per £100k			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Cumulative Water Use m3 per £100k			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Monthly Electricity Emissions		kg CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Monthly Electricity Emissions/£100k		**kg CO2/£100k**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Cumulative Electricity Emissions		kg CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumulative Electricity Emissions/£100k		**kg CO2/£100k**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Monthly Diesel Emissions		kg CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Monthly Diesel Emissions/£100k		**kg CO2/£100k**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Cumulative Diesel Emissions		kg CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumulative Diesel Emissions/£100k		**kg CO2/£100k**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Total Monthly Emissions		kg CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Monthly Emissions Kg CO2/£100k		**kg CO2/£100k**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Total Cumulative Emissions		kg CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cumulative Emissions Kg CO2/£100k		**kg CO2/£100k**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Target Emissions/£100k			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Target Water/£100k			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Target Waste/£100k			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

			Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Oct 01
Cumulative Certified Value		£	0	0	0	0	0	0	0	0	0	0	0
Monthly Total Electricity Used		kWh	0	0	0	0	0	0	0	0	0	0	0
Cumulative Electricty Used		kWh	0	0	0	0	0	0	0	0	0	0	0
Total Monthly Diesel			0	0	0	0	0	0	0	0	0	0	0
Total Diesel - Cumulative			0	0	0	0	0	0	0	0	0	0	0
Total Monthly Water Usage		m^3	0	0	0	0	0	0	0	0	0	0	0
Total Cumulative Water Usage		m^3	0	0	0	0	0	0	0	0	0	0	0
Monthly Water Use m3 per £100k			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Cumulative Water Use m3 per £100k			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Monthly Electricity Emissions		kg CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Monthly Electricity Emissions/£100k		**kg CO2/£100k**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Cumulative Electricity Emissions		kg CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumulative Electricity Emissions/£100k		**kg CO2/£100k**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Monthly Diesel Emissions		kg CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Monthly Diesel Emissions/£100k		**kg CO2/£100k**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Cumulative Diesel Emissions		kg CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumulative Diesel Emissions/£100k		**kg CO2/£100k**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Total Monthly Emissions		kg CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Monthly Emissions Kg CO2/£100k		**kg CO2/£100k**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Total Cumulative Emissions		kg CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cumulative Emissions Kg CO2/£100k		**kg CO2/£100k**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Target Emissions/£100k			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
Target Water/£100k			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
Target Waste/£100k			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	

			Nov 01	Dec 01	Jan 02	Feb 02	Mar 02	Apr 02	May 02	Jun 02	Jul 02	Aug 02	Sep 02
Cumulative Certified Value		£	0	0	0	0	0	0	0	0	0	0	0
Monthly Total Electricity Used		kWh	0	0	0	0	0	0	0	0	0	0	0
Cumulative Electricty Used		kWh	0	0	0	0	0	0	0	0	0	0	0
Total Monthly Diesel			0	0	0	0	0	0	0	0	0	0	0
Total Diesel - Cumulative			0	0	0	0	0	0	0	0	0	0	0
Total Monthly Water Usage		m^3	0	0	0	0	0	0	0	0	0	0	0
Total Cumulative Water Usage		m^3	0	0	0	0	0	0	0	0	0	0	0
Monthly Water Use m3 per £100k			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Cumulative Water Use m3 per £100k			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Monthly Electricity Emissions		kg CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Monthly Electricity Emissions/£100k		**kg CO2/£100k**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Cumulative Electricity Emissions		kg CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumulative Electricity Emissions/£100k		**kg CO2/£100k**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Monthly Diesel Emissions		kg CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Monthly Diesel Emissions/£100k		**kg CO2/£100k**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Cumulative Diesel Emissions		kg CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumulative Diesel Emissions/£100k		**kg CO2/£100k**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Total Monthly Emissions		kg CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Monthly Emissions Kg CO2/£100k		**kg CO2/£100k**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Total Cumulative Emissions		kg CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cumulative Emissions Kg CO2/£100k		**kg CO2/£100k**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

			Oct 02	Nov 02	Dec 02	Jan 03	Feb 03	Mar 03	Apr 03	May 03	Jun 03	Jul 03	Aug 03
Cumulative Certified Value		£	0	0	0	0	0	0	0	0	0	0	0
Monthly Total Electricity Used		kWh	0	0	0	0	0	0	0	0	0	0	0
Cumulative Electricty Used		kWh	0	0	0	0	0	0	0	0	0	0	0
Total Monthly Diesel			0	0	0	0	0	0	0	0	0	0	0
Total Diesel - Cumulative			0	0	0	0	0	0	0	0	0	0	0
Total Monthly Water Usage		m^3	0	0	0	0	0	0	0	0	0	0	0
Total Cumulative Water Usage		m^3	0	0	0	0	0	0	0	0	0	0	0
Monthly Water Use m3 per £100k			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Cumulative Water Use m3 per £100k			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Monthly Electricity Emissions		kg CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Monthly Electricity Emissions/£100k		**kg CO2/£100k**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Cumulative Electricity Emissions		kg CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumulative Electricity Emissions/£100k		**kg CO2/£100k**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Monthly Diesel Emissions		kg CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Monthly Diesel Emissions/£100k		**kg CO2/£100k**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Cumulative Diesel Emissions		kg CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumulative Diesel Emissions/£100k		**kg CO2/£100k**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Total Monthly Emissions		kg CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Monthly Emissions Kg CO2/£100k		**kg CO2/£100k**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Total Cumulative Emissions		kg CO2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cumulative Emissions Kg CO2/£100k		**kg CO2/£100k**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Energy conversion factors

Fuel	Number of units	Conversion factor	Units	KgCO2e
Grid electricity		0.20707	kWh	0
Natural gas		0.18293	kWh (Gross CV)	0
		5.36115	therms	0
		2.03839	cubic meters	0
LPG		0.21450	kWh	0
		6.28637	therms	0
		1.55713	litres	0
Gas oil		3226.58	tonnes	0
		0.25650	kWh	0
		2.75541	litres	0
Fuel oil		3228.89	tonnes	0
		0.26813	kWh	0
Burning oil		3165.04	tonnes	0
		0.24677	kWh	0
Diesel		3015.65	tonnes	0
		0.23908	kWh	0
		2.51206	litres	0
Petrol		2806.66	tonnes	0
		0.22166	kWh	0
		2.09747	litres	0
Industrial coal		2396.48	tonnes	0
		0.32262	kWh	0
Wood pellets		51.56192	tonnes	0
		0.01074	kWh	0
Total kgCO2e				0

Passenger transport conversion factors

Car size	Distance	Conversion factor	Units	$KgCO_2e$
Small up to 1.4 litre petrol		0.1408	km	0
		0.2266	miles	0
Medium 1.4-2 litre petrol		0.1782	km	0
		0.2868	miles	0
Large, over 2.0 litre petrol		0.2722	km	0
		0.4381	miles	0
Average petrol car		0.1639	km	0
		0.2638	miles	0
Small, up to 1.7 litre diesel		0.1393	km	0
		0.2242	miles	0
Medium, 1.7-2.0 litre diesel		0.1672	km	0
		0.269	miles	0
Large, over 2 litre diesel		0.2086	km	0
		0.3357	miles	0
Average diesel car		0.1698	km	0
		0.2733	miles	0
Total $kgCO_2e$				0

2023

PREDICTED WASTE STREAMS

COMPLETED BY :

Element	Material	Guidance	AREA / VOLUME	UNIT	WASTE ALLOWANCE (%)	CERAMICS / BRICKS (m^3)	CONCRETE (m^3)	INERT (m^3)	INSULATION (m^3)	METALS (m^3)	OFFICE / CANTEEN (m^3)	PACKAGING (m^3)	PLASTER / CEMENT (m^3)	PLASTICS (m^3)	TIMBER (m^3)	LIQUIDS & OILS (m^3)	OTHER HAZARDOUS (m^3)	Total Quantity (m^3)
Prelims		Calculate Manually																0.0
Enabling Works	e.g. Vegetation	Calculate Manually		m3	10.0%		0.00											0.0
Demolition	Brickwork / concrete	Volume of Building		m3	20.0%	0.00	0.00		0.00	0.00			0.00		0.00			0.0
	Other (e.g. from Pre-Demolition Audit)	Calculate Manually																0.0
Substructure (Cart away)	Inert	From BOQ		m3	100.0%			0.00										0.0
	Hazardous	From BOQ		m3	100.0%												0.00	0.0
Substructure	Piling Spoil	From BOQ	6293.00	m3	100.0%			6293.00										6293.0
	Piling Waste	Volume of Piles	6293.00	m3	5.0%		314.65											314.7
	Foundations	From BOQ	3110.00	m3	1.0%		31.10											31.1
	Other Substructure (e.g. Drainage)	Calculate Manually																0.0
Frame & Upper Floors	Concrete	From BOQ	8960.00	m3	1.0%		89.60			11.20								100.8
	Steel (reinforcement)	From BOQ		T	0.1%					0.0000								0.0
	Timber(block C Roof)	From BOQ		m3	10.0%										0.00			0.0
	Other (e.g. Formwork)	Calculate Manually																0.0
Roof Structure	Concrete (incl above)	From BOQ		m3	1.0%		0.00			0.00								0.0
	Steel (reinforcement incl above)	From BOQ		T	1.0%					0.00								0.0
	Timber (incl above)	From BOQ		m3	10.0%										0.00			0.0
	Other	Calculate Manually																0.0
Roof Covering	Tiled	From BOQ		m2	5.0%		0.00			0.00		0.00						0.0
	Cladding	From BOQ		m2	5.0%				0.00	0.00		0.00						0.0
	Felt/Single Membrane (roof,podium, balconies)	From BOQ		m2	10.0%				0.00			0.00		0.00		0.00		0.0
	Other	Calculate Manually																0.0
External Walls	Curtain Walling	From BOQ		m2	1.0%			0.00		0.00		0.00						0.0
	Metal Cladding	From BOQ		m2	5.0%				0.00	0.00		0.00						0.0
	Timber	From BOQ		m3	10.0%										0.00			0.0
	Rainscreen	From BOQ		m2	10.0%	0.00				0.00		0.00						0.0
	Traditional Masonry	From BOQ		m2	10.0%	0.00			0.00			0.00	0.00		0.00			0.0
	Other	Calculate Manually																0.0
Windows & External Doors	Packaging	Total Area		m2	100.0%							0.00						0.0
	Other	Calculate Manually																0.0
Internal Walls	Brick/Block	From BOQ		m2	10.0%	0.00							0.00		0.00			0.0
	Drywall	From BOQ		m2	20.0%				0.00				0.00					0.0
	Other	Calculate Manually																0.0
Internal Doors	(Packaging)	From BOQ		No.	100.0%							0.00						0.0
	Other	Calculate Manually																0.0
Joinery	(Skirting etc)	From BOQ		m	10.0%							0.00			0.00			0.0
Fixtures & Fittings	Fixed	Calculate Manually																0.0
	Loose	Calculate Manually																0.0
Wall Finishes	Plaster	From BOQ		m2	15.0%								0.00					0.0
	Paint (Waste Containers)	From BOQ		m2	10.0%					0.00				0.00				0.0
	Ceramic Tile	From BOQ		m2	10.0%	0.00						0.00		0.00				0.0
	Other (e.g. Coverings)	Calculate Manually																0.0
	Other	Calculate Manually																0.0
Floor Finishes	Carpet	From BOQ		m2	15.0%							0.00		0.00				0.0
	Rubber flooring	From BOQ		m2	15.0%							0.00		0.00				0.0
	Wood	From BOQ		m3	15.0%							0.00			0.00			0.0
	Other	Calculate Manually																0.0
Ceiling Finishes	Plaster incl in walls	From BOQ		m2	15.0%								0.00					0.0
	Paint Incl in walls	From BOQ		m2	10.0%					0.00				0.00				0.0
	Suspended	From BOQ		m2	10.0%				0.00				0.00					0.0
	Other	Calculate Manually																0.0
External Works	Hard Landscaping	Area of Surface		m2	10.0%	0.00						0.00						0.0
	Soft Landscaping	Area of Surface		m2	10.0%							0.00						0.0
	Other	Calculate Manually																0.0
Mechanical Installation		Calculate Manually																0.0
Electrical Installation		Calculate Manually																0.0
Lift Installation		Calculate Manually																0.0
Builders work in connection		Calculate Manually																0.0
Site Works		Calculate Manually																0.0
Miscellaneous 1		Calculate Manually																0.0
Miscellaneous 2		Calculate Manually																0.0
Miscellaneous 3		Calculate Manually																0.0
Miscellaneous 4		Calculate Manually																0.0
Miscellaneous 5		Calculate Manually																0.0
Construction Waste Misc		Calculate Manually																0.0
Demolition Waste Misc		Calculate Manually																0.0
Excavation Waste Misc		Calculate Manually																0.0
			TOTALS			0.0	435.4	6293.0	0.0	11.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6739.6

WASTE MANAGEMENT OPTIONS

	Demolition Waste			Excavation/Enabling Waste			Construction Waste												All Waste
Waste Type	**Volume (m^3)**	**Waste Management**	**✓ = P ✗ = O**	**Volume (m^3)**	**Waste Management**	**✓ = P ✗ = O**	**Volume (m^3)**	**Reduce**	**✓ = P ✗ = O**	**Reuse**	**✓ = P ✗ = O**	**Recycle**	**✓ = P ✗ = O**	**Recover**	**✓ = P ✗ = O**	**Dispose**	**✓ = P ✗ = O**	**Total Waste Volume (m^3)**
CERAMICS / BRICKS	0.0	Investigate opportunities to re-use material on-site. Alternatively segregate at source for re-cycling	✓	0.0			0.0	Just in time delivery if applicable to project and suitable storage.	✓	Crushed on-site and beneficially reuse as hardcore or as feedstock for new concrete. Reuse offcuts and part-damaged bricks and tiles where possible.	✗	Crushed off-site and recycled as hardcore or feedstock for new concrete.				Dispose in an inert landfill site, or exempt site for ground cover.	✗	**0.0**
CONCRETE	0.0	Investigate opportunities to re-use material on-site. Alternatively segregate at source for re-cycling	✓	345.8	Investigate opportunities to re-use material on-site. Alternatively segregate at source for re-cycling	✓	89.6	Just in time delivery if applicable to project, suitable storage and design sizes to be pre-cut.	✓	Crushed on-site and beneficially reuse as hardcore or as feedstock for new concrete. Reuse offcuts and part-damaged bricks and tiles where possible.	✓	Crushed off-site and recycled as feedstock for new concrete.				Dispose in an inert landfill site, or exempt site for ground cover.	✗	**435.4**
INERT	0.0	Investigate opportunities to re-use material on-site. Alternatively segregate at source for re-cycling		6293.0	Investigate opportunities to re-use material on-site. Alternatively segregate at source for re-cycling	✓	0.0			Segregate soils from stones using screener. Crush stones on-site and beneficially reuse as hardcore or as feedstock for new concrete.	✓	Segregate soils from stones using screener. Crush stones off-site and recycled				Dispose in an inert landfill site, or exempt site for ground cover.	✗	**6293.0**
INSULATION	0.0			0.0			0.0	Just in time delivery if applicable to project, suitable storage and design sizes to be pre-cut.	✓	Insulation boards or rolls can be recovered for reuse, where they are of suitable quality and where there is a market demand.		Source company for stripping and recycling of insulation. Be alert to loose fibres.				Dispose in a non-hazardous landfill.	✗	**0.0**
METALS	0.0	Demolition contractor to segregate at source for recycling	✓	0.0			11.2	Just in time delivery if applicable to project, suitable storage and design sizes to be pre-cut.	✓	Segregate reusable items for collection by companies for reuse.		Segregate at source for collection by companies for remanufacturing or recycling.	✓			Dispose in a non-hazardous landfill.	✗	**11.2**
OFFICE / CANTEEN	0.0			0.0			0.0					Source companies for recycling or composting.				Dispose in a non-hazardous landfill site.	✗	**0.0**
PACKAGING	0.0			0.0			0.0	Liaise with supply chain to reduce packaging on-site and agree take back scheme where possible.	✓	Return or reuse on-site where possible.	✓	Source companies for recycling or composting. Be alert to any preservatives or treatments that contain dangerous substances.		Segregate cardboard for energy recovery through an incinerator or CH Power. Be alert to any preservatives or treatments that contain dangerous substances.		Dispose in a non-hazardous landfill site.	✗	**0.0**
PLASTER / CEMENT	0.0	Demolition contractor to segregate at source for recycling	✓	0.0			0.0	Just in time delivery if applicable to project, suitable storage and design sizes to be pre-cut. Repair rather than replace if possible - see www.gpda.com ('technical tips' section) for guidance on when it is safe to repair/reuse plasterboard.	✓	Segregate and reuse unused boards and offcuts off-site. Use a segregated skip (often provided by management companies) or employ a bag based take-back scheme managed by the plasterboard manufacturers. These reduce contamination and so increase the amount that can be reused/recycled.	✓	Segreate plasterboard sheets for pre-treatment and recycling off-site.	✓			Ensure that the concentration of sulphate bearing waste is below than 10%. If greater, dispose in a hazardous landfill or a single cell in non-hazardous landfill. Investigate opportunities for size reduction before disposal.	✗	**0.0**
PLASTICS	0.0	Demolition contractor to segregate for recycling at waste transfer station		0.0			0.0	Just in time delivery if applicable to project, suitable storage and design sizes to be pre-cut.	✓	Segregate at source where there is a demand for collection and reuse off-site.		Segregate at source where there is a demand for collection and recycling off-site.				Dispose in a non-hazardous landfill site.	✗	**0.0**
TIMBER	0.0	Demolition contractor to segregate at source for recycling	✓	0.0			0.0	Just in time delivery if applicable to project, suitable storage and design sizes to be pre-cut.	✓	Segregate for reuse on-site where dimensional timbers are of suitable quality. Consider wood-chiping on-site for landscaping or compost. Otherwise source companies for reuse. Be alert to treatments and preservatives that contain dangerous substances.	✓	Segregate timber at source for collection by companies for remanufacturing, recycling or composting. Be alert to treatments and preservatives that contain dangerous substances.	✓	Segregate for energy recovery through an incinerator or CHP plant. Be alert to any preservatives or treatments that contain dangerous substances.	✗	Dispose in a non-hazardous landfill site.	✗	**0.0**
VEGETATION	0.0			0.0			0.0											**0.0**
LIQUIDS & OILS	0.0	Demolition contractor to investigate methods for treatment		0.0			0.0											**0.0**
OTHER HAZARDOUS	0.0	Demolition contractor to investigate possible methods for remediation, and safe method for disposal		0.0	Demolition contractor to investigate possible methods for remediation, and safe method for disposal	✓	0.0			Reuse only after being pre-treated and where the dangerous substances have been eliminated or are in low concentration.	✗	Recycle only after being pre-treated and where the dangerous substances have been eliminated or are in low concentration.	✗			Dispose in a hazardous landfill, single cell in non-hazardous. Investigate opportunities for size reduction before disposal.	✗	**0.0**
Total Quantity	0.0			6638.8			100.8											**6739.6**

NOTES:
Space permitting, Higgins endeavour to segregate on site whenever possible, and when generated waste volumes make this a feasible option.
As a minimum, mixed waste skips will be transferred to a permitted waste management company for pre-treatment (including physical segregation), and onward recycling.

Waste Resource Efficiency Tracker

	Applicable	Reduce		Reuse		Recycle	Recover	Dispose
		Higgins Standard	Site Specific	Higgins Standard	Site Specific			
CERAMICS / BRICKS		Just in time delivery if applicable to project and suitable storage.		Crushed on-site and beneficially reuse as hardcore or as feedstock for new concrete. Reuse offcuts and part-damaged bricks and tiles where possible.		Crushed off-site and recycled as hardcore or feedstock for new concrete.		Dispose in an inert landfill site, or exempt site for ground cover.
CONCRETE		Just in time delivery if applicable to project, suitable storage and design sizes to be pre-cut.		Crushed on-site and beneficially reuse as hardcore or as feedstock for new concrete. Reuse offcuts and part-damaged bricks and tiles where possible.		Crushed off-site and recycled as feedstock for new concrete.		Dispose in an inert landfill site, or exempt site for ground cover.
ELECTRICAL EQUIPMENT						Segregate at source for collection by companies for remanufacturing or recycling.		
FURNITURE						Segregate at source for collection by companies for remanufacturing or recycling.		
INERT				Segregate soils from stones using screener. Crush stones on-site and beneficially reuse as hardcore or as feedstock for new concrete.		Segregate soils from stones using screener. Crush stones off-site and recycled		Dispose in an inert landfill site, or exempt site for ground cover.
INSULATION		Just in time delivery if applicable to project, suitable storage and design sizes to be pre-cut.		Insulation boards or rolls can be recovered for reuse, where they are of suitable quality and where there is a market demand.		Source company for stripping and recycling of insulation. Be alert to loose fibres.		Dispose in a non-hazardous landfill.
METALS		Just in time delivery if applicable to project, suitable storage and design sizes to be pre-cut.		Segregate reusable items for cellection by companies for reuse.		Segregate at source for collection by companies for remanufacturing or recycling.		Dispose in a non-hazardous landfill.
OFFICE / CANTEEN						Source companies for recycling or composting.		Dispose in a non-hazardous landfill site.
PACKAGING		Liaise with supply chain to reduce packaging on-site and agree take back scheme where possible.		Return or reuse on-site where possible.		Source companies for recycling or composting. Be alert to any preservatives or treatments that contain dangerous substances.	Segregate cardboard for energy recovery through an incinerator or CH Power. Be alert to any preservatives or treatments that contain dangerous substances.	Dispose in a non-hazardous landfill site.
PLASTER / CEMENT		Just in time delivery if applicable to project, suitable storage and design sizes to be pre-cut. Repair rather than replace if possible - see www.gpda.com ('technical tips' setcion) for guidance on when it is safe to repair/reuse plasterboard.		Segregate and reuse unused boards and offcuts off-site. Use a segregated skip (often provided by management companies) or employ a bag based take-back scheme managed by the plasterboard manufacturers. These reduce contamination and so increase the amount that can be reused/recylced.		Segretate plasterboard sheets for pre-treatment and recycling off-site.		Ensure that the concentration of sulphate bearing waste is below than 10%. If greater, dispose in a hazardous landfill or a single cell in non-hazardous landfill. Investigate opportunities for size reduction before disposal.
PLASTICS		Just in time delivery if applicable to project, suitable storage and design sizes to be pre-cut.		Segregate at source where there is a demand for collection and reuse off-site.		Segregate at source where there is a demand for collection and recycling off-site.		Dispose in a non-hazardous landfill site.
TIMBER		Just in time delivery if applicable to project, suitable storage and design sizes to be pre-cut.		Segregate for reuse on-site where dimensional timbers are of suitable quality. Consider wood-chiping on-site for landscaping or compost. Otherwise source companies for reuse. Be alert to treatments and preservatives that contain dangerous substances.		Segregate timber at source for collection by companies for remanufacturing, recycling or composting. Be alert to treatments and preservatives that contain dangerous substances.	Segregate for energy recovery through an incinerator or CHP plant. Be alert to any preservatives or treatments that contain dangerous substances.	Dispose in a non-hazardous landfill site.
VEGETATION								
LIQUIDS & OILS								
OTHER HAZARDOUS				Reuse only after being pre-treated and where the dangerous substances have been eliminated or are in low concentration.		Recycle only after being pre-treated and where the dangerous substances have been eliminated or are in low concentration.		Dispose in a hazardous landfill, single cell in non-hazardous. Investigate opportunities for size reduction before disposal.

Waste Initiatives

List any proposed actions, initatives and technologies that will be used to reduce the quantities of waste produced on site:

Action/Initiative/Technology	Required Resources	Benefit to project	Complete (Y)
Material Off Cut Area			
Community Wood Recycling Scheme			
Material Take Back Scheme			

Energy Initiatives

List any proposed actions, initatives and technologies that will be used to reduce carbon emissions (electricity, gas, diesel) on site:

Action/Initiative/Technology	Required Resources	Benefit to project	Complete (Y)
Eco cabins			
Connection to grid within 6 weeks			
Use of Bio fuel for generators			

Water Initiatives

List any proposed actions, initatives and technologies that will be used to reduce water usage on site:

Action/Initiative/Technology	Required Resources	Benefit to project	Complete (Y)
Dry ramp instead of water wheel wash			
Rainwater harvesting			
Fan mist system for demo dust suppression			

Pre-Demolition Audits

Pre-Demolition Audits present a quantification of a range of materials and products expected to be generated in the course of demolition works. It aims to identify the key waste products, their potential for reuse, reclamation or recycling, their economic potential and environmental rewards. Higgins requires its demolition contractors to provide information on the various material types and quantities.

Material Exchange/Reuse Networks

Many unwanted items and materials commonly discarded can be re-used for their original purpose, without undergoing re-processing or recycling, thus saving the energy and resources of manufacture as well as the costs of disposal. There are numerous materials exchange initiatives and reuse organisations providing national coverage. Speak to the Environmental Manager for more information on these.

Demolition and Excavation Materials Reuse

In order to have more control over schedule and cost, Higgins encourage the use of a self-regulatory approach for the reuse of demolition and excavated material. In this approach evidence is required to prove that materials reused on site are actually products that meet construction specifications and so can be reused on site.

	Procedure
EXCAVATED MATERIAL	
Greenfield Sites	Summary statement confirming compliance
Brownfield Sites	
Less than 1000 tonnes	DICoP (CL:AIRE) or Waste Exemption
More than 1000 tonnes	DICoP
Transfer of material between sites	DICoP
Crushed Demolition Material	
Less than 5000 tonnes	WRAP Quality Protocol or Waste Exemption
More than 5000 tonnes	WRAP Quality Protocol
Transfer of material between sites	WRAP Quality Protocol
NOTE: Records of material treatment, stockpiling and final destination	

Take Back Schemes

Many material suppliers will provide take back schemes on their products (off cuts and uncontaminated used material). The materials taken back are generally returned to the manufacturing process, therefore reducing the quantities of new raw materials required. Speak to your Environmental Manager to discuss the use of takeback schemes.

Waste Resource Efficiency Tracker

Waste Carrier Name	Higgins/Sub Contractor	Waste Carrier Reg No.	Expiry Date	Copy On File	Destination Sites	Distance from Site to Waste Transfer Station (miles)	Waste Management Licence/Permit/Exemptions	Copy on File	Comments	Still on site
Sortera	Higgins	CBDU 90075			Uxbridge		EPR/CB3709XH			

		Jan 00	Feb 00	Mar 00	Apr 00	May 00	Jun 00	Jul 00	Aug 00	Sep 00	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01
Higgins															
GBN	Number of Skips	1													
GBN	Total Yds	8													
GBN	Total Tonnes	1.92	0	0	0	0	0	0	0	0	0	0	0	0	0
GBN	Convert to M3	6.11	0	0	0	0	0	0	0	0	0	0	0	0	0
GBN	% Diversion from Landfill	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%
GBN	M3 Diverted from Landfill	5.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Frame Contractor															
	Number of Skips														
0	Total Yds														
0	Total Tonnes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	Convert to M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	% Diversion from Landfill														
0	M3 Diverted from Landfill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Plastering Contractor	TBC														
	Number of Skips	0													
0	Total Yds	0													
0	Total Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	Convert to M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	% Diversion from Landfill														
0	M3 Diverted from Landfill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sub Contractor															
Skip Co Name	Number of Skips		0												
Skip Co Name	Total Yds		0												
Skip Co Name	Total Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skip Co Name	Convert to M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skip Co Name	% Diversion from Landfill														
Skip Co Name	M3 Diverted from Landfill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sub Contractor															
	Number of Skips														
0	Total Yds														
0	Total Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	Convert to M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	% Diversion from Landfill														
0	M3 Diverted from Landfill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Monthly Totals	Number of Skips in Month	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Yds	8	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Tonnes	1.92	0	0	0	0	0	0	0	0	0	0	0	0	0
	Convert to M3	6.11	0	0	0	0	0	0	0	0	0	0	0	0	0
	Diversion from Landfill	98.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	M3 Diverted from Landfill	5.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Monthly M3 per £100k	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Cumulative Totals	Number of Skips Cumulative	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	Total Yds	8	8	0	0	0	0	0	0	0	0	0	0	0	0
	Total Tonnes	1.92	1.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Convert to M3	6.11	6.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Diversion from Landfill	98.00%	98.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	M3 Diverted from Landfill	5.99	5.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Cumulative M3 per £100k	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	Waste Target m3/£100k	#DIV/0!													
Excavtion	Number of Muckaway Lorris in the Month														
Excavtion	M3 (assume 8 wheeler = 13)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Excavtion	Tonnes (8 wheeler = approx 18)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Excavtion	% Diversion from Landfill	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
	Cumulative Muckaway Volume M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Demolition	Number of Lorries in the Month														
Demolition	M3 (assume 8 wheeler = 13)														
Demolition	Tonnes (8 wheeler = approx 18)														
Demolition	% Diversion from Landfill	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
	Cumulative Muckaway Volume M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Hazardous Waste Movements in the Month	0	0	0	0	0	0	0	0						
0	Weight kg														
0	% Diversion from Landfill	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Cumulative Haz Waste - KG	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BREEAM	Cumulative Waste M3 Per 100m2 GIFA	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BREEAM	Cumulative Waste Tonnes Per 100m2 GIFA	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Oct 01	Nov 01	Dec 01	Jan 02	Feb 02	Mar 02	Apr 02
Higgins															
GBN	Number of Skips														
GBN	Total Yds														
GBN	Total Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GBN	Convert to M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GBN	% Diversion from Landfill	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%
GBN	M3 Diverted from Landfill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Frame Contractor															
	Number of Skips														
0	Total Yds														
0	Total Tonnes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	Convert to M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	% Diversion from Landfill														
0	M3 Diverted from Landfill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Plastering Contractor	TBC														
	Number of Skips														
0	Total Yds														
0	Total Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	Convert to M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	% Diversion from Landfill														
0	M3 Diverted from Landfill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sub Contractor															
Skip Co Name	Number of Skips														
Skip Co Name	Total Yds														
Skip Co Name	Total Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skip Co Name	Convert to M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skip Co Name	% Diversion from Landfill														
Skip Co Name	M3 Diverted from Landfill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sub Contractor															
	Number of Skips														
0	Total Yds														
0	Total Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	Convert to M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	% Diversion from Landfill														
0	M3 Diverted from Landfill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Monthly Totals	Number of Skips in Month	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Yds	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Convert to M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Diversion from Landfill	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	M3 Diverted from Landfill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Monthly M3 per £100k	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Cumulative Totals	Number of Skips Cumulative	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Yds	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Tonnes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Convert to M3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Diversion from Landfill	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	M3 Diverted from Landfill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Cumulative M3 per £100k	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Excavtion	Number of Muckaway Lorris in the Month														
Excavtion	M3 (assume 8 wheeler = 13)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Excavtion	Tonnes (8 wheeler = approx 18)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Excavtion	% Diversion from Landfill	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
	Cumulative Muckaway Volume M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Demolition	Number of Lorries in the Month														
Demolition	M3 (assume 8 wheeler = 13)								0	0	0	0	0	0	0
Demolition	Tonnes (8 wheeler = approx 18)								0	0	0	0	0	0	0
Demolition	% Diversion from Landfill	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
	Cumulative Muckaway Volume M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Hazardous Waste Movements in the Month														
0	Weight kg														
0	% Diversion from Landfill	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Cumulative Haz Waste - KG	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BREEAM	Cumulative Waste M3 Per 100m2 GIFA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.43	16.43	16.43	16.43	16.43	16.43	16.43
BREEAM	Cumulative Waste Tonnes Per 100m2 GIFA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.03	3.03	3.03	3.03	3.03	3.03	3.03

		May 02	Jun 02	Jul 02	Aug 02	Sep 02	Oct 02	Nov 02	Dec 02	Jan 03	Feb 03	Mar 03	Apr 03	May 03	Jun 03
Higgins															
GBN	Number of Skips														
GBN	Total Yds														
GBN	Total Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GBN	Convert to M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GBN	% Diversion from Landfill	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%
GBN	M3 Diverted from Landfill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Frame Contractor															
	Number of Skips														
0	Total Yds														
0	Total Tonnes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	Convert to M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	% Diversion from Landfill														
0	M3 Diverted from Landfill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Plastering Contractor	TBC														
	Number of Skips														
0	Total Yds														
0	Total Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	Convert to M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	% Diversion from Landfill														
0	M3 Diverted from Landfill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sub Contractor															
Skip Co Name	Number of Skips														
Skip Co Name	Total Yds														
Skip Co Name	Total Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skip Co Name	Convert to M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skip Co Name	% Diversion from Landfill														
Skip Co Name	M3 Diverted from Landfill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sub Contractor															
	Number of Skips														
0	Total Yds														
0	Total Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	Convert to M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	% Diversion from Landfill														
0	M3 Diverted from Landfill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Monthly Totals	Number of Skips in Month	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Yds	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Tonnes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Convert to M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Diversion from Landfill	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	M3 Diverted from Landfill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Monthly M3 per £100k	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Cumulative Totals	Number of Skips Cumulative	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Yds	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Tonnes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Convert to M3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Diversion from Landfill	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	M3 Diverted from Landfill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Cumulative M3 per £100k	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Excavtion	Number of Muckaway Lorris in the Month														
Excavtion	M3 (assume 8 wheeler = 13)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Excavtion	Tonnes (8 wheeler = approx 18)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Excavtion	% Diversion from Landfill	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
	Cumulative Muckaway Volume M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Demolition	Number of Lorries in the Month														
Demolition	M3 (assume 8 wheeler = 13)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Demolition	Tonnes (8 wheeler = approx 18)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Demolition	% Diversion from Landfill	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
	Cumulative Muckaway Volume M3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Hazardous Waste Movements in the Month														
0	Weight kg														
0	% Diversion from Landfill	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Cumulative Haz Waste - KG	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BREEAM	Cumulative Waste M3 Per 100m2 GIFA	16.43	16.43	16.43	16.43	16.43	16.43	16.43	16.43	16.43	16.43	16.43	16.43	16.43	16.43
BREEAM	Cumulative Waste Tonnes Per 100m2 GIFA	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03

Conversions	
Conversion yd to m3	0.76375
yds to tonnes	0.24

BREEAM	M3	
Lower	Upper	
7.51	13.3	1 Credit
3.41	7.5	2 Credits
1.61	3.4	3 Credits
0	1.6	Exemplary

BREEAM	Tonnes	
Lower	Upper	
6.51	11.1	1 Credit
3.21	6.5	2 Credits
1.91	3.2	3 Credits
0	1.9	Exemplary

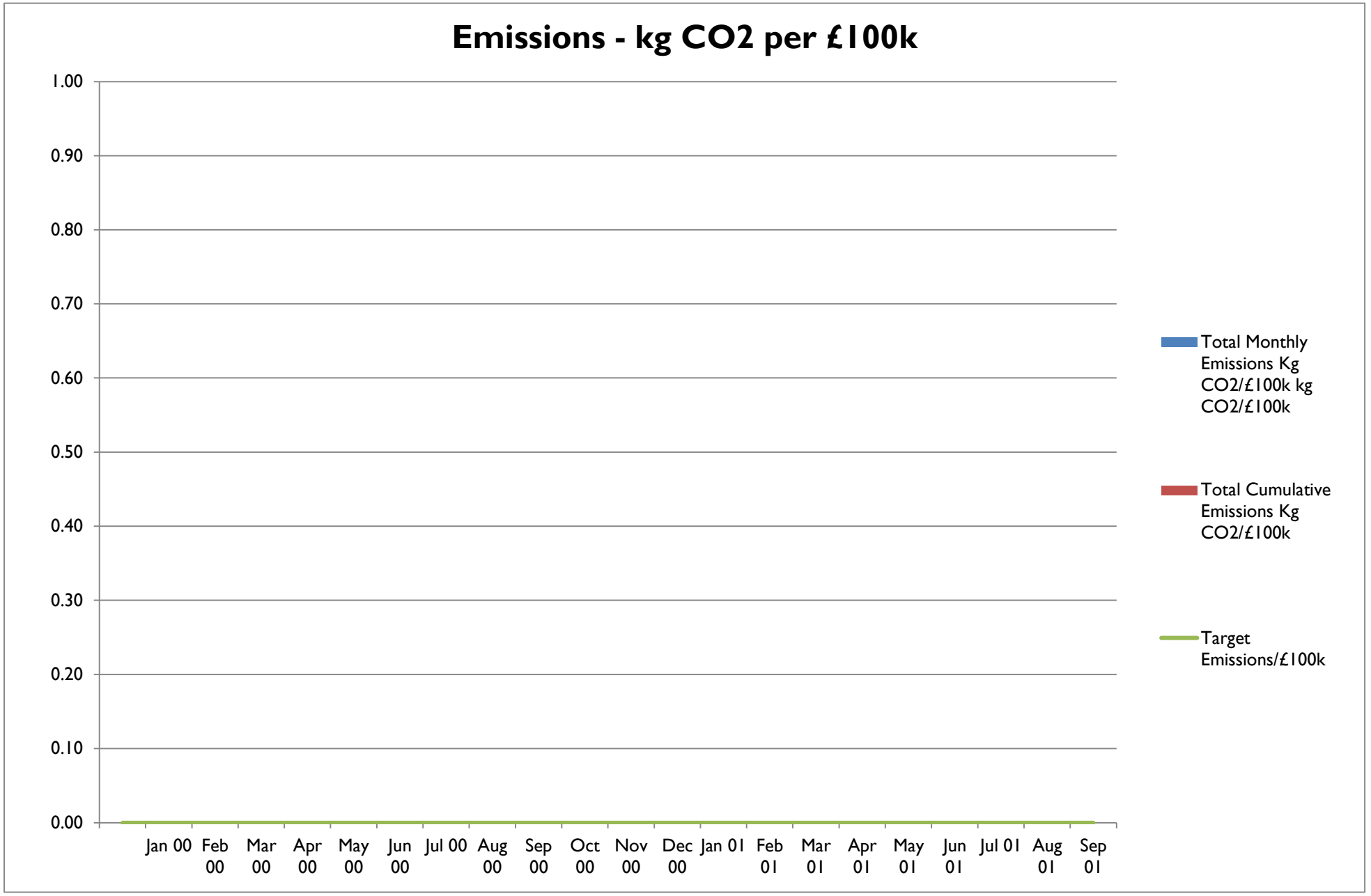
13	16.6
9.2	12.9
0	9.2

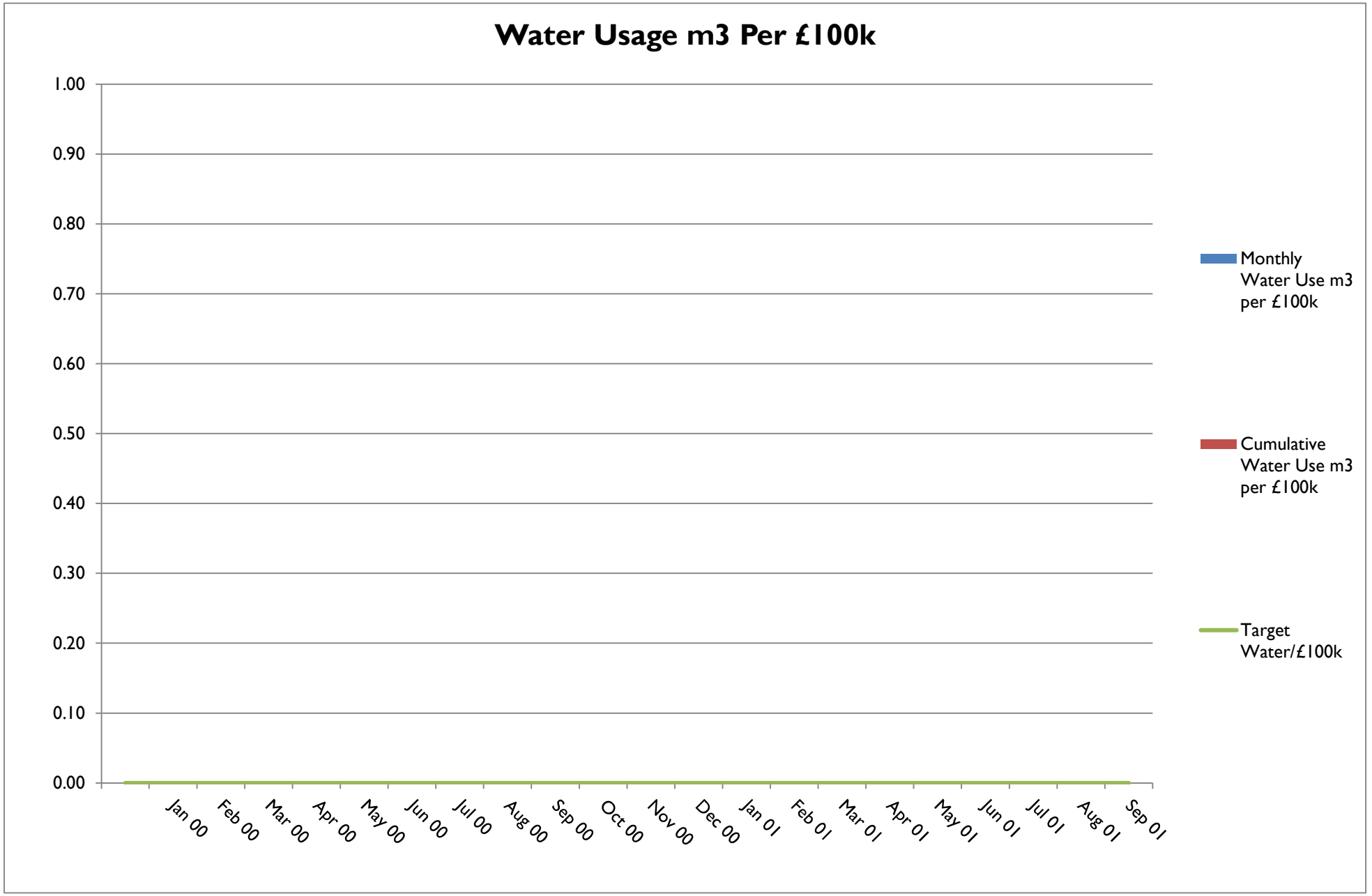
Waste Type	Waste Carrier Month	Jan 00	Feb 00	Mar 00	Apr 00	May 00	Jun 00	Jul 00	Aug 00	Sep 00	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	TOTAL	PROJECTED
CERAMICS / BRICKS	170102																					0.00	0.00
CONCRETE	170101																					0.00	435.35
INERT	170107																					0.00	6,293.00
INSULATION	170604																					0.00	0.00
METALS	170407																					0.00	11.20
OFFICE / CANTEEN	200301																					0.00	0.00
PACKAGING	150101																					0.00	0.00
PLASTER / CEMENT	170802																					0.00	0.00
PLASTICS	170203																					0.00	0.00
TIMBER	170201																					0.00	0.00
VEGETATION	200201																					0.00	
GLASS	170202																					0.00	
LIQUIDS & OILS																						0.00	0.00
HAZARDOUS ITEMS																						0.00	0.00
CONTAMINATED SOIL*	170503																					0.00	
MASTIC TUBES*	140604																					0.00	
PAINT TINS*	150104																					0.00	
REFUSE DERIVED FUEL (RDF)																						0.00	
LANDFILL																						0.00	
Total Quantity		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	6,739.55

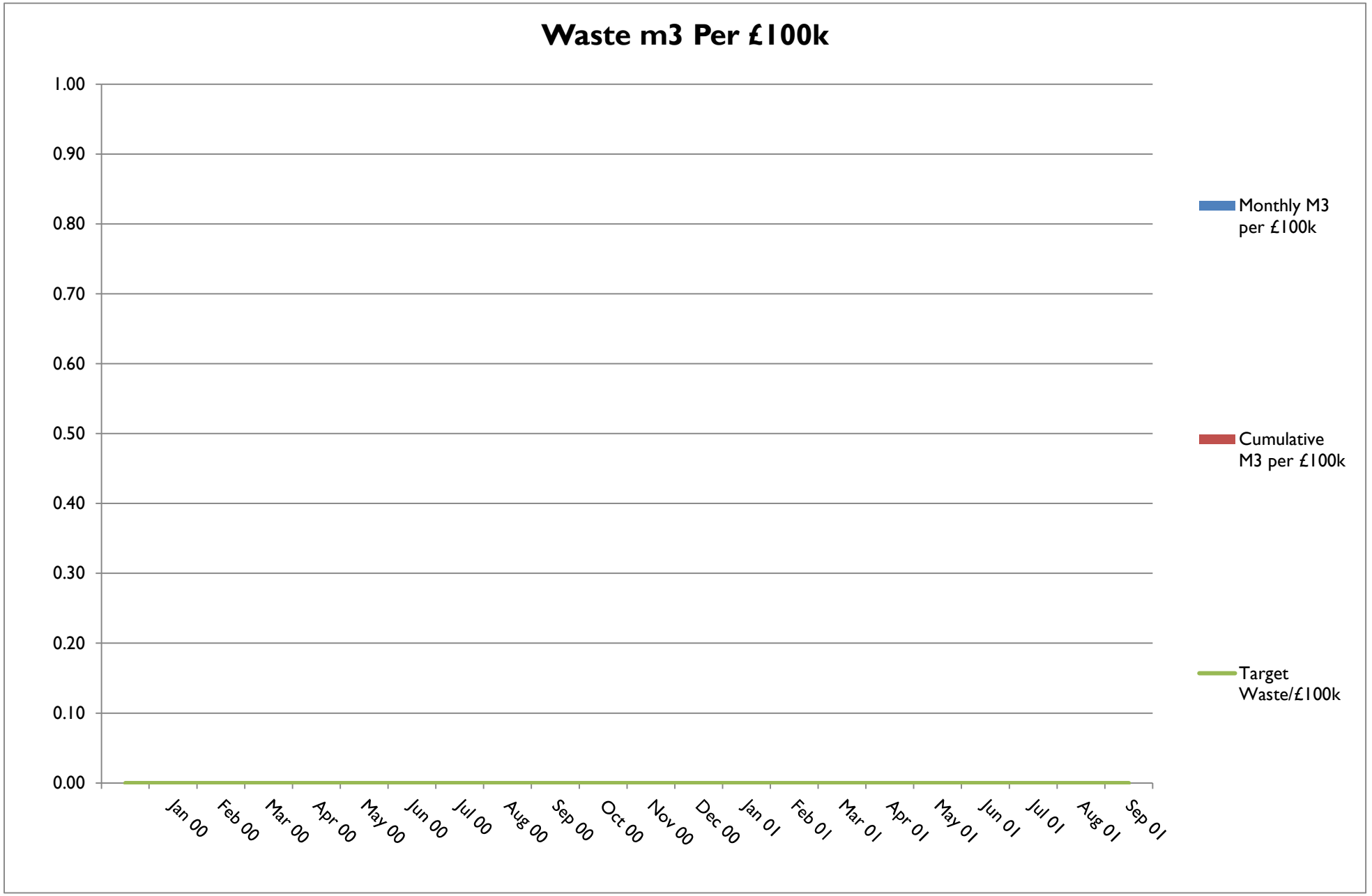
Landfill %	#DIV/0!
Diverted from Landfill %	#DIV/0!

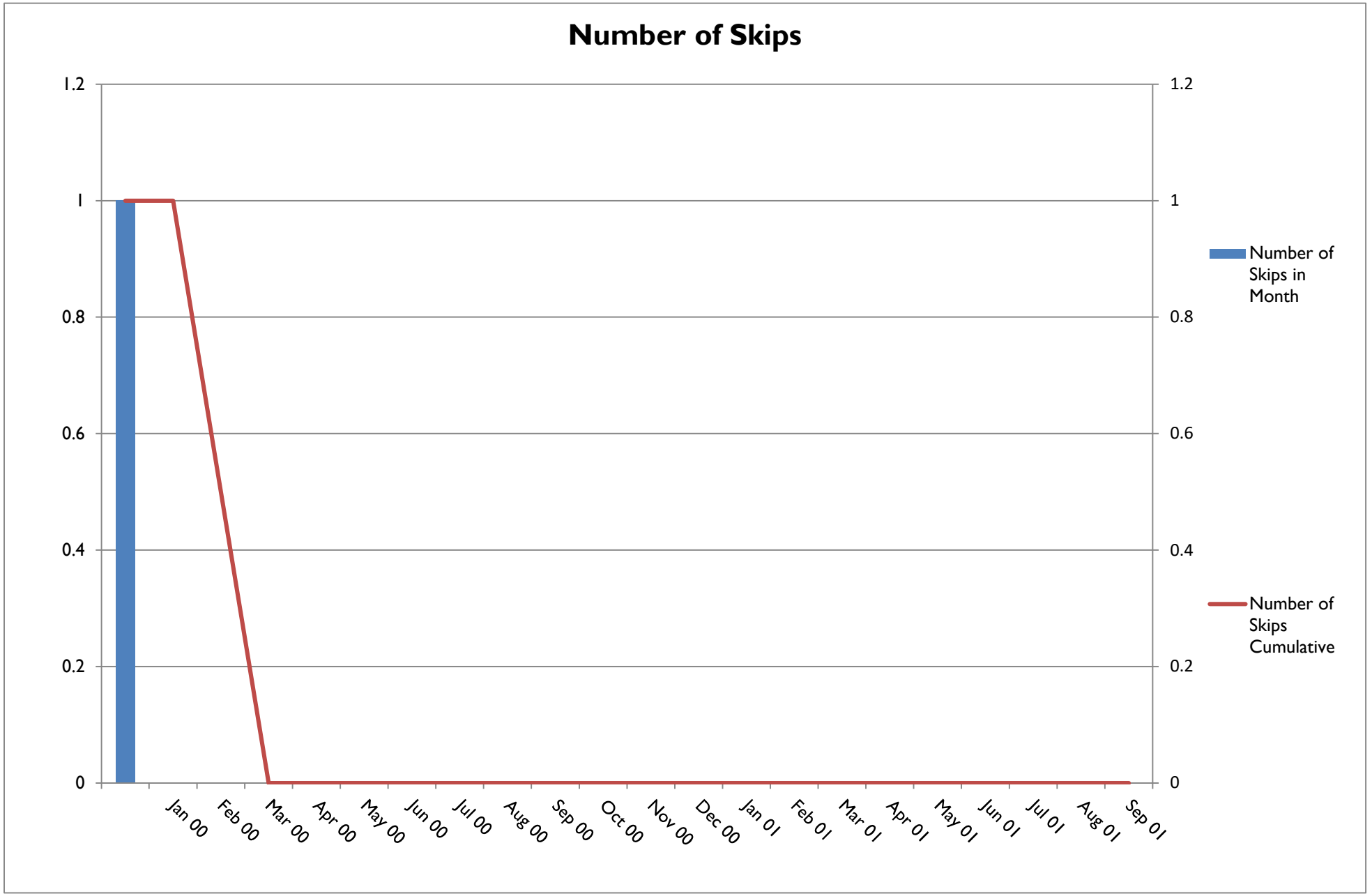
Up to three credits are available where non-hazardous construction waste generated by the building's construction phase (excluding demolition and excavation waste) meets or exceeds resource efficiency benchmarks.

Amount of waste generated per 100m2 (gross internal floor area) Tonnes per 100m2	
One Credit	<11.1
Two Credits	<6.5
Three Credits	<3.2
Exemplar Level	<1.9
Actual Waste Generated per 100m² =	


Emissions - kg CO2 per £100k
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
Jan 00
Feb 00
Mar 00
Apr 00
May 00
Jun 00
Jul 00
Aug 00
Sep 00
Oct 00
Nov 00
Dec 00
Jan 01
Feb 01
Mar 01
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Total Monthly Emissions Kg CO2/£100k kg CO2/£100k
Total Cumulative Emissions Kg CO2/£100k
Target Emissions/£100k


Water Usage m3 Per £100k
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
Jan 00
Feb 00
Mar 00
Apr 00
May 00
Jun 00
Jul 00
Aug 00
Sep 00
Oct 00
Nov 00
Dec 00
Jan 01
Feb 01
Mar 01
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Monthly Water Use m3 per £100k
Cumulative Water Use m3 per £100k
Target Water/£100k


Waste m3 Per £100k
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
Jan 00
Feb 00
Mar 00
Apr 00
May 00
Jun 00
Jul 00
Aug 00
Sep 00
Oct 00
Nov 00
Dec 00
Jan 01
Feb 01
Mar 01
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Monthly M3 per £100k
Cumulative M3 per £100k
Target Waste/£100k


Number of Skips
1.2
1
0.8
0.6
0.4
0.2
0
Jan 00
Feb 00
Mar 00
Apr 00
May 00
Jun 00
Jul 00
Aug 00
Sep 00
Oct 00
Nov 00
Dec 00
Jan 01
Feb 01
Mar 01
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Number of Skips in Month
Number of Skips Cumulative

There are two types of documentation controlling the transfer of wastes from our sites. They are **Waste Transfer Notes** (for non-hazardous wastes) and **Hazardous Waste Consignment Notes** (for hazardous wastes).

Waste Transfer Documents show carriers who handle our waste what they are dealing with so that they can manage it safely and legally. No waste should ever leave our sites without either document in place.

NOTE: Copies of all Waste Transfer Notes must be kept for at least two years and Hazardous Waste Consignment Notes for three years. They should be readily available upon demand for inspection by the Environment Agency or Local Authority.

Appendix 4 – Operational Waste Management Plan

AVONDALE DRIVE

OPERATIONAL WASTE MANAGEMENT STRATEGY

PROJECT NO. 25-243 DOC NO. D012

DATE: DECEMBER 2025

VERSION: 1.0

CLIENT: LONDON BOROUGH OF HILLINGDON

Velocity Transport Planning Ltd

www.velocity-tp.com

DOCUMENT CONTROL SHEET

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	Name	Date completed
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Notes

The document reference number, revision number and date are given on the footer of each page

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1 INTRODUCTION

1.1 PROJECT INTRODUCTION

1.1.1 This Operational Waste Management Strategy (OWMS) has been prepared by Velocity Transport Planning, on behalf of the London Borough of Hillingdon ('the Applicant') in support of a Reserved Matters Application (RMA) for Land at Avondale Drive, pursuant to Condition 1 of the hybrid permission for the site. A Section 73 application (application ref: 76551/APP/2025/2861) is currently pending and will be determined prior to the approval of this RMA. Therefore, this RMA responds to the revised wording of the planning conditions proposed within the Section 73 application.

1.1.2 This OWMS considers the potential impacts that may arise from waste generated during the operational phase of the Proposed Development, with the overall aim of developing a strategy for legislative compliance and good practice in the separation, storage and collection of waste arising.

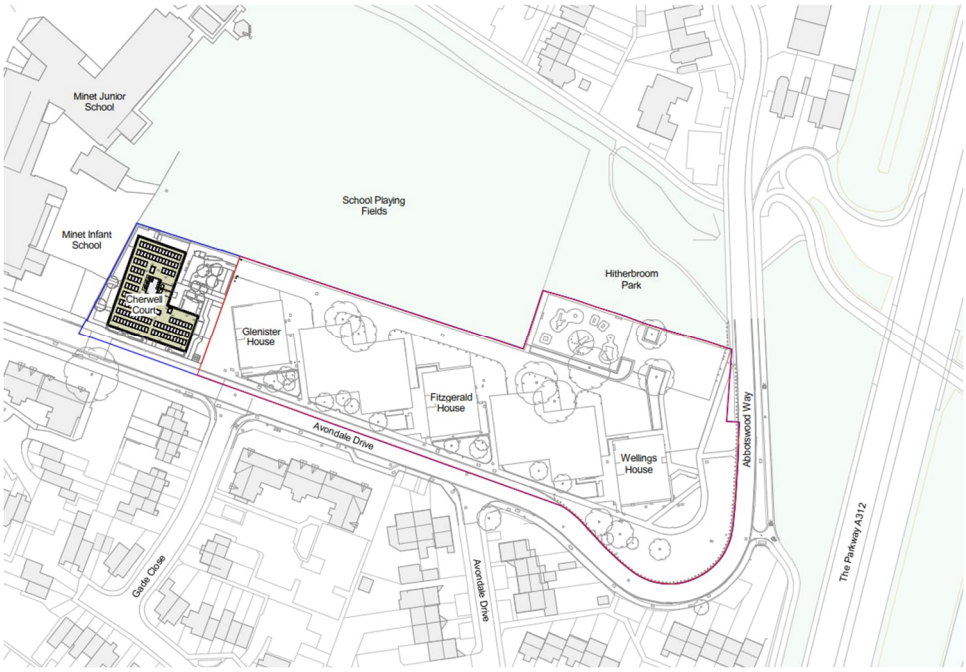
1.1.3 This OWMS has been prepared to partially discharge Condition 37 of the planning permission, which is replicated below:

> *'Each application for reserved matters shall be accompanied by a detailed Circular Economy Statement and Operational Waste Management Strategy in line with the GLA's Circular Economy Statement Guidance, which shall be submitted to and approved in writing by the Local Planning Authority. The statement shall adhere to the principles set out in the draft Circular Economy Statement. The development shall be carried out in accordance with the details so approved.*
>
> *REASON*
> *In the interests of sustainable waste management and in order to maximise the re-use of material in accordance with Policy SI7 and D3 of the London Plan.'*

1.2 EXISTING SITE

1.2.1 The site is bound to the north by Minet Junior School, to the east by Abbottswood Way, to the south by Avondale Drive and to the west by Phase 1a of the development. The site location is shown in Figure 1-1 below, where the outline planning application and reserved matters application boundaries are indicated by the blue and red lines, respectively.

Figure 1-1 Site Location



1.2.2 The site occupies the majority of the Avondale Drive Estate comprising Phases 1b and 2 (Development Zones 2 and 3) of the wider masterplan. The original wider estate consists of three 13-storey blocks of flats containing 144 homes in total, all of which are two-bedroom homes. This RMA follows the completion of Phase 1a, new apartment building of 30 homes, located on the western end of the estate.

1.2.3 The surrounding area generally comprises two to three storey residential dwellings (including that to the southern side of Avondale Drive); Hitherboom Park is located to the north of the site and Minet Infant School is located to the west.

1.3 PROPOSED DEVELOPMENT

1.3.1 The Proposed Development is described as follows:

> *"Submission of Reserved Matters Application (Access, Appearance, Landscaping, Layout and Scale) pursuant to Condition 1 of Application ref:76551/APP/2025/2861 (Outline permission (with all matters reserved) for residential floorspace (Class C3) including demolition of all existing buildings and structures; erection of new buildings; new pedestrian and vehicular accesses; associated amenity space, open space, landscaping; car and cycle parking spaces; plant, refuse storage, servicing area and other works incidental to the proposed development;) for the erection of dwellings with associated landscaping, amenity space, parking, access, and associated works."*

1.4 DOCUMENT STRUCTURE

1.4.1 The report is set out in the following format:

- Section 2: Waste Legislation, Policy, and Guidance – details of the national legislation and local waste policy that have relevance to the Proposed Development.

- Section 3: Management of Residential Waste – provides an estimate of residential waste arising and outlines the plan which will be adopted to manage the waste arising from the Proposed Development once operational.
- Section 4: Summary & Conclusions
- Appendix A: National and Local Waste Policy & Guidance
- Appendix B: Proposed Highway Layout

2 WASTE LEGISLATION, POLICY & GUIDANCE

2.1 INTRODUCTION

2.1.1 The UK is no longer a member of the European Union. EU legislation as it applied to the UK on 31 December 2020 is now incorporated into UK domestic legislation.

2.1.2 This section focuses on the details of the national legislation that is relevant to the Proposed Development, in addition to waste policy and guidance at a local level, reviewed as part of the preparation of this OWMS.

2.2 NATIONAL LEGISLATION

2.2.1 A list of relevant national waste legislation is outlined below in reverse chronological order:

2.2.2 The Separation of Waste (England) Regulations 2025 – These regulations came into force on 31 March 2025, revising how household and commercial recyclable and organic waste is managed. They introduce exemptions under the Environmental Protection Act 1990 so that waste collection authorities may collect metal, glass, and plastic together, and for households, food waste and garden waste together, without needing to satisfy the usual justification tests. Businesses defined as micro-firms (fewer than 10 full-time equivalent employees) are exempt from the stricter separation requirements until 31 March 2027.

2.2.3 The Waste (Circular Economy) (Amendment) Regulations 2020 – These regulations came into force on 1 October 2020 and amended a raft of primary and secondary legislation on waste, to introduce a revised legislative framework to support the EU's Circular Economy Package (CEP), identifying steps for the reduction of waste and establishing an ambitious and credible long-term path for waste management and recycling.

2.2.4 Waste Management, The Duty of Care Code of Practice (2018 update) - This code of practice replaces the 1996 Code and is pursuant to Section 34(9) of the Environmental Protection Act 1990. It sets out practical guidance on how to meet waste duty of care requirements and is admissible as evidence in legal proceedings i.e. its rules will be taken into account where relevant in any case based on breach of the duty of care.

2.2.5 The Waste (England and Wales) Regulations 2011 - Waste collection authorities must collect wastepaper, metal, plastic, and glass separately. This legislation also imposes a duty on waste collection authorities, when making arrangements for the collection of such waste, to ensure that those arrangements are by way of separate collection.

2.2.6 Environmental Protection Act 1990 - Part II of the Act was originally implemented by the Duty of Care Regulations 1991.

2.3 NATIONAL, LONDON & LOCAL WASTE POLICY

2.3.1 The relevant national, London and local waste policy reviewed during the preparation of this OWMS is outlined below and further detail is provided in APPENDIX A.

- Ministry of Housing, Communities & Local Government (MHCLG), *National Planning Policy Framework* (2024);
- Department for Communities & Local Government (DCLG), *National Planning Policy for Waste* (2014);

- Department for Environment, Food and Rural Affairs (DEFRA), *Our Waste, Our Resources: A Strategy for England* (2018);
- DEFRA, *Waste Management Plan for England* (2021);
- HM Government, *A Green Future: Our 25 Year Plan to Improve the Environment* (2018);
- Greater London Authority (GLA), *The London Plan 2021* (March 2021);
- West London Waste Authority (WLWA), *West London Waste Plan* (2015);
- LBH, *Hillingdon Local Plan (Part 1) – Strategic Policies* (2012); and
- LBH, *Hillingdon Local Plan (Part 2)* (September 2020).

2.4 CIRCULAR ECONOMY CONSIDERATIONS

MANAGEMENT OF MUNICIPAL WASTE

2.4.1 This OWMS will demonstrate:

- The quantity of municipal waste the Proposed Development is expected to generate once operational;
- How operational waste will be managed in accordance with the *Waste Hierarchy;*
- How operational waste management performance will be monitored and reported; and
- That measures such as consolidated, smart logistics and community-led waste minimisation schemes have been explored.

2.4.2 Additional information related to the *Waste Hierarchy* and other prevailing guidance mentioned in this section can be found in APPENDIX A.

2.4.3 Once operational, residential waste will be managed in accordance with the *Waste Hierarchy*.

2.4.4 The London Plan Policy SI 7 indicates the target of at least 65% of any municipal waste to be recycled by 2030, and no biodegradable or recyclable waste to be disposed of to landfill by 2026.

2.4.5 Residential recycling rates are dictated by the collection authority; facilities have been designed in accordance with LBH requirements stated in guidance from Officers and BS5906:2005 – *Waste Management in Buildings – Code of Practice*. As recycling performance increases, the waste storage can be adapted to reflect these changes and meet the relevant 65% target.

2.4.6 Residential waste streams will include:

- Residual waste;
- Dry Mixed Recycling (DMR); and
- Food waste.

2.4.7 LBH currently accepts the following types to be put into the DMR bin, including:

- Cardboard;
- Mixed paper;
- Plastic packaging;
- Tins and cans;
- Glass; and

- Aluminium foils.

2.4.8 LBH currently does not provide separate collection and recycling services for food waste from private apartments. It is expected that LBH will introduce a weekly food waste collection service to every property across the borough to comply with recent legislation.

2.4.9 This legislation may also potentially require LBH to separate paper and card from other materials within the DMR stream. It is not anticipated that it will be required to segregate the DMR into further individual waste streams (hard plastics, films, aluminium, glass, other plastics and metals).

2.4.10 If this becomes necessary to reflect prevailing legislation, the overall waste storage capacity would not be increased (only the number of separate waste streams). Hence, the residential waste stores could be configured to accommodate further waste stream segregation.

2.4.11 Using waste arising figures from LBH for 2022-2023, with census information from 2021 it is possible to calculate that the average LBH household produces 0.39 tonnes of waste per annum.

2.4.12 Therefore, a total of 104 tonnes of municipal waste is estimated to be generated by the Proposed Development per annum once operational.

2.4.13 Individual waste streams will be transported to suitably licenced facilities for processing at a Materials Recycling Facility (MRF), Energy from Waste (EfW) or Anaerobic Digestion (AD) facility or bulking and onward transfer at a Waste Transfer Station (WTS).

2.4.14 Table 2-1 below details the facilities used by LBH for management of residential waste.

Table 2-1 Residential Waste Disposal Facilities

Contractor	Facility Type	Permit Number	Address	Contact	Distance (Miles)	EWC Codes
Grundon Waste Management Limited	EfW	BT2866IG	Grundon Waste Management Ltd, Lakeside Road, Colnbrook, Slough, Buckinghamshire, SL3 0EG	01753 688430	10.5	20 – Mixed Municipal Waste and Similar Materials from Commerce and Industry - Mixed Municipal Waste (03 01)
Suez Advanced Solutions Limited	EfW	EPR/ZP3937KL	Severnside Energy Recovery Centre, Severn Road, Bristol, South Gloucestershire, BS10 7GB	0117 938 1229	115	
N&P Crayford MRF Limited	MRF	KB3806FD	Crayford MRF Century Wharf, Crayford Creek, Crayford, Dartford, Kent, DA1 4HQ	01322 337770	64.7	20 – Mixed Municipal Waste and Similar Materials from Commerce and Industry – Paper and Cardboard (01 01) Glass (01 02) Plastics (01 39) Metals (01 40)
Riverside AD Limited	AD	EPR/AB3307LK	Riverside AD Facility 43, Willow Lane, Mitcham, Surrey, CR4 4NA	0333 900 9333	37	20 – Mixed Municipal Waste and Similar Materials from Commerce and Industry – Biodegradable Kitchen and Canteen Waste (01 08)
Suez Recycling and Recovery UK Limited	WTS	AB3605FM	Victoria Road Waste Transfer Station, Victoria Road, South Ruislip, Middlesex, HA4 0YS	020 8329 1030	4.7	20 – Mixed Municipal Waste and Similar Materials from Commerce and Industry - Paper and Cardboard (01 01) Glass (01 02) Plastics (01 39) Biodegradable Kitchen and Canteen Waste (01 08) Metals (01 40) Mixed Municipal Waste (03 01)
		AB3709CF	Transport Avenue Transfer Station, Transport Avenue, Brentford, Middlesex, TW8 9HF	020 8568 7836	8.2	

OPERATIONAL WASTE REPORTING

2.4.15 The building operator will be contractually responsible for all operational waste reporting for the Proposed Development. This reporting will be based either on number of container lifts per waste stream, or collection weight data if available. Data requirements and reporting methods will be agreed with the relevant authorities once all elements are occupied.

SMART LOGISTICS & WASTE MINIMISATION

2.4.16 Through good practice measures, occupants will be encouraged to reduce and prevent waste. Both the developer and the LBH waste management department will be encouraged to engage with residents upon occupation, to ensure they are aware of how to minimise their waste.

2.4.17 Community-led waste minimising initiatives will be encouraged, such as partnering with organisations that can redistribute redundant items or furniture on site, including:

- Warp-it;
- Collectco; and
- Reuse Network.

2.4.18 LBH is part of the West London West Authority (WLWA) who host campaigns and local events including:

- Clothes Swaps;
- Reusable Nappy Events; and
- Fixing Factory for broken technology.

3 MANAGEMENT OF RESIDENTIAL WASTE

3.1 INTRODUCTION

3.1.1 This section outlines the proposed strategy that will be used to manage the operational waste arising from the Proposed Development, which will comprise of a number of residential blocks.

3.1.2 LBH do not provide published guidance relating to design of waste management facilities within new developments. In the absence of dedicated guidance, this strategy has been developed in accordance with standards provided by LBH Officers and British Standard BS5906:2005 *Waste Management in Buildings – Code of Practice* (hereafter referred to as 'the Guidance').

3.2 CURRENT WASTE MANAGEMENT SERVICES

3.2.1 Table 3-1 outlines the current waste collection and disposal services provided by LBH for residents.

Table 3-1 LBH Residential Waste Management Services

Service	Details
Residual Waste	Collected weekly in black bags or green bins
Dry-Mixed Recycling (DMR) collection	Collected weekly in clear bags or black bins
Garden waste collection	Subscription service in reusable bags
Food waste collection	Collected weekly in 23-litre caddies
Bulky waste collection	Chargeable collection service
Local recycling points	A number are located across the borough
Reuse and Recycling Centres	A reuse and recycling centre is available for residents to use at: New Years Green Lane Harefield UB9 6LX

3.3 PROPOSED DEVELOPMENT

3.3.1 Figure 3-1 below shows the configuration of the Proposed Development.

Figure 3-1 Proposed Development Configuration

3.3.2 Table 3-2 summarises the accommodation schedule for the Proposed Development.

Table 3-2 Accommodation Schedule

Phase	Core	Tenure	Number of Units								Number of Beds
			1B2P	2B3P	2B4P	3B4P	3B5P	3B6P	4B7P	Total	
2	B	Social Rent	14	7	9	-	3	-	-	33	55
	C		14	2	14	-	2	-	-	32	52
	D		3	4	8	1	12	-	-	28	66
1B	E	Private	47	2	44	-	-	-	-	93	139
	F		13	-	18	-	22	-	-	53	115
	F	Social Rent	3	4	2	2	11	1	4	27	74
Total			94	19	95	3	50	1	4	266	501

3.4 PROPOSED WASTE MANAGEMENT STRATEGY

3.4.1 The proposed strategy to manage residential waste has been devised to provide a high-quality service to residents whilst also being compliant with the Guidance.

3.4.2 The proposed waste management strategy has been split into the following parts:

- Internal Residential Waste Storage (Refer to Section 3.5);
- Residential Waste Management Strategy (Refer to Section 3.6); and
- Bulky Waste (Refer to Section 3.7).

3.5 INTERNAL RESIDENTIAL WASTE STORAGE

3.5.1 Each residential property will be provided with a segregated waste bin, to conveniently store and organise their waste materials before transferring these to the external containers. This will be provided via a segregated bin which will be fixed into an appropriate kitchen unit with a minimum width of 500mm.

3.5.2 Figure 3-2 shows an example of a commercially available segregated kitchen bin.

Figure 3-2 Example Segregated Kitchen Bin[1]

3.5.3 The segregated waste bin shown in Figure 3-2 includes the following bin capacities:

- Residual Waste: 20 litres; and
- Recyclables: 20 litres;

3.5.4 Where food waste is collected from communal waste stores, a small 5-litre food waste caddy may be used for the collection of food waste within the apartment prior to the transfer of the food waste to the bulk container within the waste store.

3.5.5 Figure 3-3 shows an example of a food waste caddy for internal use.

Figure 3-3 Example Food Waste Caddy

[1] Example Kitchen Bin

https://selectcomponents.com/product/400mm-40l-grey-base-mounted-2-x-20ltr-containers/?gad_source=1&gclid=EAIaIQobChMI68LA29j3igMVSplQBh0_CDfWEAQYBCABEgLEe_D_BwEhttps://www.hafele.co.uk/en/product/pull-out-waste-bin-for-hinged-door-cabinets-2x-10-1x-20-litres/0000008e000185f900040023/ -SearchParameter=&Category=DMPAqBtGW4gAAAFP5sY4Inbm&checkbox_fs_waste_bin_installation=Bottom+Mounted&FF.followSearch=9950&@P.FF.followSearch=9997&PageNumber=1&OriginalPageSize=12&PageSize=12&Position=7&OrigPos=287&ProductListSize=18

3.6 RESIDENTIAL WASTE STRATEGY

INDIVIDUAL DWELLINGS

3.6.1 As part of the Proposed Development, some ground-floor residential units will be served by their own dedicated waste storage facilities.

3.6.2 The following section details the residential waste strategy for the individual dwellings within the Proposed Development. The properties all have ground level access.

3.6.3 The individual dwellings receiving kerbside collections are shown in green in Figure 3-4 below.

Figure 3-4 Individual Dwellings

3.6.4 LBH is a non-wheelie bin collection borough for individual properties, with residual and DMR collected in sacks from the kerbside.

3.6.5 Table 3-3 details the storage requirements for individual dwellings, as informed by the LBH Recycling Team.

Table 3-3 LBH Storage Requirements - Individual Dwellings

Residual Waste	DMR	Food
90-Litres	90-Litres	23-Litre Green Caddy

3.6.6 Each unit will be provided with sufficient space to store the waste summarised in Table 3-3 within their curtilage. The waste may be stored either in the collection sacks or within a self-provided 90-litre dustbin.

3.6.7 Prior to collection, residents will present their individual sacks at the end of their property boundary or adjacent to the pavement no earlier than 5:30pm on the day before.

The LBH Refuse Collection Vehicle (RCV) will stop adjacent to the presented sacks as part of an ongoing rolling stop and the collection operatives will transfer the sacks into the rear of the vehicle.

COMMUNAL PROPERTIES

3.6.8 Most of the residential units within the Proposed Development will be provided with access to communal waste storage facilities.

ESTIMATED WASTE GENERATION

3.6.9 Table 3-4 below shows the accommodation schedule for residential units provided with communal waste storage.

Table 3-4 Accommodation Schedule - Communal Waste Storage

Phase	Core	Tenure	Number of Units								Number of Beds
			1B2P	2B3P	2B4P	3B4P	3B5P	4B6P	4B7P	Total	
2	B	Social Rent	14	7	8	-	1	-	-	30	47
	C		14	2	13	-	-	-	-	29	44
	D		3	4	8	1	10	-	-	26	60
1B	E	Private	48	4	44	-	-	1	1	98	152
	F	Private and Social Rent	13	2	20	-	33	-	-	68	156
Total			92	19	93	1	44	1	1	251	459

3.6.10 Table 3-5 details the LBH residential waste metrics for properties with communal waste storage, as agreed with the LBH Recycling Team.

Table 3-5 Residential Waste Metrics – Waste Storage

Unit Type	Storage Provision (Litres)		
	Residual Waste	DMR	Food Waste
1-Bed	60	60	10
2-Bed	120	120	
3-Bed	240	240	
4-Bed	360	360	

3.6.11 Applying the waste metric summarised in Table 3-5 to the accommodation schedule in Table 3-4, Table 3-6 below summarises the estimated weekly waste generation for the Proposed Development once operational.

Table 3-6 Estimated Weekly Waste Generation - Communal Waste Storage

Phase	Core	Tenure	Weekly Waste Generation (Litres)			
			Residual Waste	DMR	Food Waste	Total
2	B	Social Rent	2,820	2,820	300	5,940
	C		2,640	2,640	290	5,570
	D		3,600	3,600	260	7,460
1B	E	Private	9,120	9,120	980	19,220
	F	Private and Social Rent	9,360	9,360	680	19,400
Total			27,540	27,540	2,510	57,590

WASTE STORAGE

3.6.12 Each core will be provided with a residential waste store at ground floor level, for residents to deposit their segregated waste.

3.6.13 Residual waste and DMR will be stored in 1,100-litre Eurobins, an example of which is shown in Figure 3-5 below.

Figure 3-5 Example 1,100-Litre Eurobin

3.6.14 Food waste will be stored in 140-litre wheeled bins, an example of which is shown in Figure 3-6 below.

Figure 3-6 Example 140-Litre Wheeled Bin

3.6.15 Based on the estimated weekly waste generation detailed in Table 3-6, Table 3-7 below summarises the waste storage requirements for the Proposed Development for properties with communal waste storage.

Table 3-7 Communal Waste Storage Requirements

Phase	Core	Tenure	Number of Containers			
			1,100-Litre Eurobins		140-Litre Wheeled Bins	Total
			Residual Waste	DMR	Food Waste	
2	B	Social Rent	3	3	3	9
	C		3	3	3	9
	D		4	4	2	10
1B	E	Private	9	9	7	25
	F	Private and Social Rent	9	9	5	23
Total			28	28	20	76

3.6.16 Table 3-8 below details the dimensions of the containers summarised in Table 3-6.

Table 3-8 Container Dimensions – Communal Waste Storage

Container	Dimensions (mm)			Source
	Height	Width	Depth	
1,100-Litre Eurobin	1,380	1,260	1,000	LBH Recycling Team
140-Litre Wheeled Bin	1,366	734	734	

3.6.17 Residents will be required to transport the waste from their property directly to the residential waste store using the passenger lifts (where necessary), where they will segregate the waste into the appropriately labelled bins.

3.6.18 The locations of the ground-floor level residential waste stores are shown in green in Figure 3-7.

Figure 3-7 Residential Waste Stores

3.6.19 The configurations of the residential waste stores are shown in Figure 3-8 and Figure 3-9 below.

Figure 3-8 Residential Waste Store Configuration - Phase 2

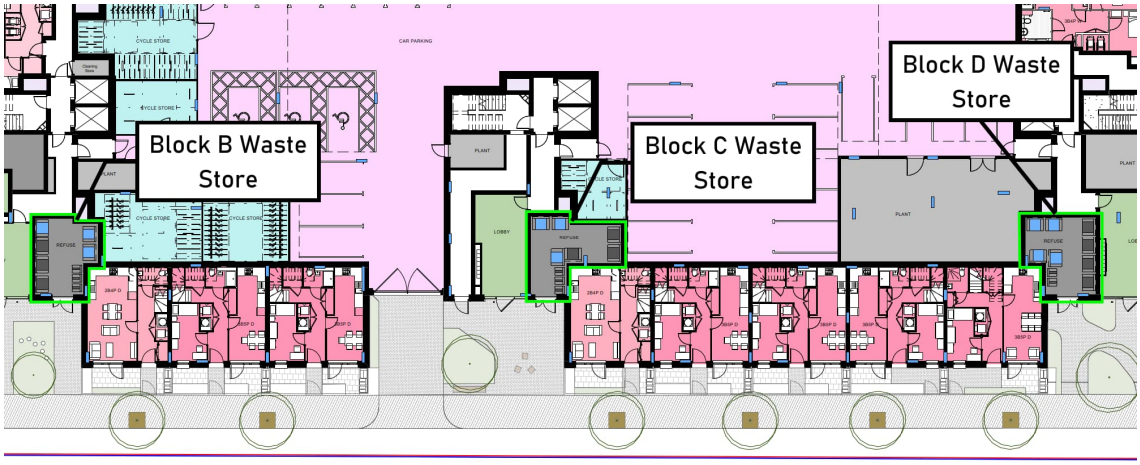


Figure 3-9 Residential Waste Store Configuration - Phase 1B

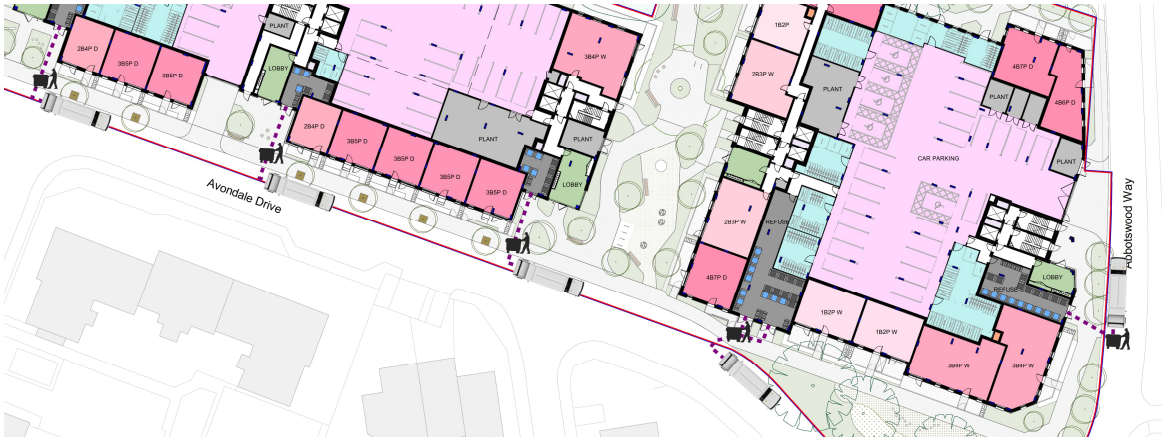
3.6.20 All waste facilities will be designed to British Standard BS5906:2005 *Waste Management in Buildings – Code of Practice* standards. In summary, the waste facilities will include the following:

- A suitable water point in close proximity to allow washing down;
- All surfaces will be sealed with a suitable wash proof finish (vinyl, tiles etc.);
- All surfaces will be easy to clean;
- Suitable floor drain; and
- Suitable lighting and ventilation.

WASTE COLLECTION

3.6.21 On the nominated collection day, the LBH RCV will approach the Proposed Development and stop in a safe and legal position on the kerbside of Avondale Drive and Abbotswood Way adjacent to each of the residential waste stores as shown in Figure 3-10 below, which should be considered indicative.

Figure 3-10 RCV Collection Access



3.6.22 The LBH waste collection operatives will access the bins from each residential waste store directly, and wheel them to the waiting RCV.

3.6.23 Once the bins have been emptied, the operatives will return them to the residential waste stores.

3.6.24 The route between the residential waste stores and the RCV will:

- be free from steps or kerbs;
- have a solid foundation;
- have a smooth, solid surface; and
- be level and have a gradient of no more than 1:12, with a minimum width of 2 metres.

3.6.25 Clear space on the kerbside will be provided for the RCV and dropped kerbs in locations for transition of bins to the carriageway during collections.

3.6.26 The proposed highways layout is included in APPENDIX B.

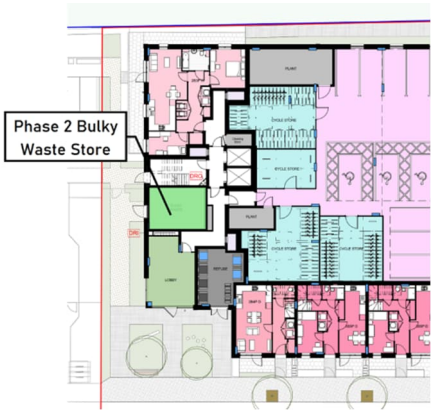
3.7 BULKY WASTE

3.7.1 Residents in each building will be provided with access to bulky waste storage facilities for large redundant items such as furniture or appliances.

3.7.2 The shared bulky waste will be located in Block E of the Proposed Development, as shown in Figure 3-11 and Figure 3-12 below.

Figure 3-11 Phase 1B Bulky Waste Storage

Figure 3-12 Phase 2 Bulky Waste Storage



3.7.3 The estate management team will be responsible for managing bulky waste at the Proposed Development, to ensure the residential waste stores are not blocked on collection days.

3.7.4 Residents will contact LBH to pay for collection and place items in the bulky waste storage facilities.

3.7.5 On the nominated day, the LBH collection crew will attend the bulky waste storage areas and collect the presented items.

4 SUMMARY AND CONCLUSION

4.1 SUMMARY

RESIDENTIAL WASTE

4.1.1 Estimated weekly waste generation has been calculated using residential waste metrics extracted from the Guidance.

4.1.2 Each residential kitchen area will incorporate sufficient internal waste storage containers to promote the separation of recyclable materials at the source.

4.1.3 Residents in individual dwellings will store their bagged waste in a suitable container positioned within the curtilage of their property and present them on the boundary for collection.

4.1.4 Residents with access to communal waste facilities will deposit their segregated waste into clearly labelled bins within residential waste stores at ground level.

4.1.5 All residential waste facilities will be constructed to BS5906:2005 standards.

4.1.6 Waste within the residential waste stores will be stored in separate containers by waste stream, segregated into residual waste, DMR, and food waste.

4.1.7 Residual waste and DMR will be stored in 1,100-litre Eurobins; food waste will be stored in 140-litre wheeled bins, as per the Guidance.

4.1.8 On collection days, the LBH collection crew will access the bins directly from the residential waste stores and from the boundaries of the individual dwellings, returning them once emptied.

BULKY WASTE

4.1.9 Residents will be provided access to shared bulky waste storage facilities by the estate management team.

4.1.10 Following payment by the resident, LBH will collect bulky waste items from the ground-level bulky waste storage area within Block E on the nominated collection day.

4.1.11 Management of bulky waste will be overseen by the estate management team.

4.2 CONCLUSION

4.2.1 This OWMS has taken into account the need to lessen the overall impact of waste generation through the recycling of materials from the operational phase of the Proposed Development.

4.2.2 The proposals set out in this strategy meet the requirements of relevant waste policy and follow applicable guidance.

APPENDIX A

NATIONAL, LONDON AND LOCAL WASTE POLICY & GUIDANCE

NATIONAL WASTE POLICY

MHCLG, NATIONAL PLANNING POLICY FRAMEWORK (2024)[2]

The revised National Planning Policy Framework was updated in December 2024 and sets out the government's planning policies for England and how these are expected to be applied. It does not include anything of relevance to waste management that would apply to the Proposed Development.

DCLG, NATIONAL PLANNING POLICY FOR WASTE (2014)[3]

The National Planning Policy for Waste replaces 'Planning Policy Statement 10: Planning for Sustainable Waste Management (PPS 10) and is to be considered alongside other national planning policy for England - such as in the NPPF and the Waste Management Plan for England. As the primary focus is on planning for waste management facilities, it is not considered relevant to the Proposed Development.

DEFRA, OUR WASTE, OUR RESOURCES: A STRATEGY FOR ENGLAND (2018)[4]

The strategy sets out how England will preserve the stock of material resources by minimising waste, promoting resource efficiency, and moving towards a circular economy. At the same time, the country will minimise the damage caused to the natural environment by reducing and managing waste safely and carefully, and by tackling waste crime.

It combines actions the country will take now, with firm commitments for the coming years, and gives a clear longer-term policy direction in line with the 25 Year Environment Plan. This is the blueprint for eliminating avoidable plastic waste over the lifetime of the 25 Year Plan, doubling resource productivity, and eliminating avoidable waste of all kinds by 2050.

DEFRA, WASTE MANAGEMENT PLAN FOR ENGLAND (2021)[5]

The Waste Management Plan for England fulfils the requirements of the Waste (England and Wales) Regulations 2011 for the waste management plan to be reviewed every six years. It focuses on waste arisings and their management. It is a high-level, non-site-specific document and provides an analysis of the current waste management situation in England. It does not include anything of relevance to waste management that would apply to the Proposed Development.

WASTE HIERARCHY

The Waste Hierarchy requires avoidance of waste in the first instance followed by reducing the volume that requires disposal after it has been generated.

It gives an order of preference for waste management options to minimise the volume for disposal, as shown in Figure A1.1.

---

[2] MHCLG (2024) *National Planning Policy Framework*
https://assets.publishing.service.gov.uk/media/675abd214cbda57cacd3476e/NPPF-December-2024.pdf

[3] DCLG (2014) *National Planning Policy for Waste*
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/364759/141015_National_Planning_Policy_for_Waste.pdf

[4] Defra (2018), *Our Waste, Our Resources: A Strategy for England*
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/765914/resources-waste-strategy-dec-2018.pdf

[5] DEFRA (2021), *Waste Management Plan for England*
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/955897/waste-management-plan-for-england-2021.pdf

Figure A1.1: The Waste Hierarchy

The main principles of the Waste Hierarchy are:

- Waste should be prevented or reduced at source as far as possible;
- Where waste cannot be prevented, waste materials or products should be reused directly or refurbished and then reused;
- Waste materials should be recycled or reprocessed into a form that allows them to be reclaimed as a secondary raw material;
- Where useful secondary materials cannot be reclaimed, the energy content of the waste should be recovered and used as a substitute for non-renewable energy resources; and
- Only if waste cannot be prevented, reclaimed or recovered, should it be disposed of into the environment, and this should only be undertaken in a controlled manner.

The Waste Hierarchy has been implemented in England and Wales by the Waste (England and Wales) Regulations 2011. These regulations require that an establishment or undertaking that imports, produces, collects, transports, recovers or disposes of waste must take reasonable steps to apply the Waste Hierarchy when waste is transferred or disposed of.

HM GOVERNMENT, A GREEN FUTURE: OUR 25 YEAR PLAN TO IMPROVE THE ENVIRONMENT (2018)[6]

The 25 Year Environment Plan sets out government action to help the natural world regain and retain good health. Its aim is to deliver cleaner air and water in cities and rural landscapes, protect threatened species and provide richer wildlife habitats. It calls for an approach to agriculture, forestry, land use and fishing that puts the environment first.

With regard to waste management, the plan details aims which include:

- Zero avoidable plastic waste by 2042;
- Reduce food waste; and
- Improving the management of residual waste.

[6] HM Government (2018), *A Green Future: Our 25 Year Plan to Improve The Environment*
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf

LONDON WASTE POLICY & GUIDANCE

GLA, THE LONDON PLAN (MARCH 2021)[7]

The London Plan is the overall strategic plan for London, it sets out an integrated economic, environmental, transport and social framework for the development of London over the next 20-25 years.

The strategy includes the following waste management policy that has influenced the development of more specific business waste guidance:

> *'Policy D3 Optimising site capacity through the design-led approach*
>
> *3.1B.18 Shared and easily accessible storage space supporting separate collection of dry recyclables, food waste and other waste should be considered in the early design stages to help improve recycling rates, reduce smell, odour and vehicle movements, and improve street scene and community safety.'*
>
> *'Policy SI7 Reducing waste and supporting the circular economy*
>
> *Resource conservation, waste reduction, increases in material re-use and recycling, and reduction in waste going for disposal will be achieved by the Mayor, waste planning authorities and industry working in collaboration to:*
>
> *5) design developments with adequate, flexible and easily accessible storage space and collection systems that support, as a minimum, the separate collection of dry recyclables (at least card, paper, mixed plastics, metals, glass) and food.'*

GLA, LONDON ENVIRONMENT STRATEGY (2018)[8]

The Mayor, with the new London Environment Strategy, aims to make London a zero-waste city. By 2026, no biodegradable or recyclable waste will be sent to landfill and by 2030, 65% of London's municipal waste will be recycled.

With regards to waste management within the Proposed Development, the following extracts are of relevance:

> '*To help them achieve the recycling targets, waste authorities should deliver the following minimum level of service for household recycling:*

- all properties with kerbside recycling collections to receive a separate weekly food waste collection
- all properties to receive a collection of, at a minimum, the six main dry recycling materials, i.e. glass, cans, paper, card, plastic bottles and mixed rigid plastics (tubs, pots and trays)

> *Proposal 7.2.1.c The Mayor will support efforts to increase recycling rates in flats*
>
> *The Mayor will encourage Resource London to provide more support and funding to those waste authorities that are working towards achieving higher recycling performance in flats. Through LWARB, the Mayor will seek additional funding to tackle recycling performance in flats. The London Plan requires that all new developments referred to the Mayor include adequate recycling storage for at least the six main dry recyclable materials and food.*

---

[7] GLA (2021) *The London Plan*
https://www.london.gov.uk/sites/default/files/the_london_plan_2021.pdf

[8] GLA (2018) *London Environment Strategy*
https://www.london.gov.uk/sites/default/files/london_environment_strategy_0.pdf

Waste authorities, through the planning application process, should apply the waste management planning advice for flats, including the domestic rented sector, developed by LWARB in partnership with the London Environment Directors Network (LEDNET).'

LONDON PLAN GUIDANCE: CIRCULAR ECONOMY STATEMENTS (2022)[9]

The London Plan Guidance Circular Economy Statements puts circular economy principles at the heart of designing new buildings, requiring buildings that can more easily be dismantled and adapted over their lifetime. It treats building materials as resources rather than waste, and puts in place a clear hierarchy, prioritising the retention of existing structures above demolition, where this is the more sustainable and appropriate approach.

The guidance applies to the largest developments in London that are referable to the Mayor, as required by London Plan Policy 2021 SI 7, however boroughs are encouraged to apply the policies for smaller developments.

LOCAL WASTE POLICY & GUIDANCE

WEST LONDON WASTE AUTHORITY (WLWA), WEST LONDON WASTE PLAN (2015)[10]

This document is the Joint Waste Plan for the London Boroughs of Brent, Ealing, Harrow, Hillington, Hounslow, Richmond upon Thames and Old Oak and Park Royal Development Corporation. In London, six boroughs agreed to co-operate to produce a single waste plan for their combined area that now forms part of each of their respective Local Plans. It also forms part of the development plan for the Old Oak and Park Royal Development Corporation (OPDC).

The West London Waste Plan:

- Details the estimated amounts for the different site types of waste that will be produced in West London up to 2031;
- Identifies and protects the current sites to help deal with that waste;
- Identifies the shortfall of capacity need over the life of the Plan (to 2031); and
- Allocated a set of sites to meet the shortfall which are preferred for waste related development.

Policy WLWP 4: *Ensuring High Quality Development* provides a range of criteria to guide developers in the consideration of mitigation of the impacts of their development on the environment, the community and appearance of the local area. Developers are expected to have actively considered innovative and sustainable design approaches so that developments are in accordance with best practice. Developers are expected to submit details of proposed control measures with any planning applications.

Policy WLP 6: *Sustainable Site Waste Management* states that the management of waste from a development should be in accordance with the waste hierarchy, and developments should support the management of wastes as far up the hierarchy as possible.

LBH, HILLINGDON LOCAL PLAN (PART 1) – STRATEGIC POLICIES (2012)[11]

Policy EM11: *Sustainable Waste Management* states that the LBH aims to reduce the amount of waste produced within the Borough. The policy states that all new developments must address waste management at all stages of the development's life

[9] GLA (2022) *Circular Economy Statements* https://www.london.gov.uk/sites/default/files/circular_economy_statements_lpg_0.pdf

[10] WLWA (2015) *West London Waste Plan* https://www.brent.gov.uk/media/16402581/west-london-waste-plan.pdf

[11] LBH (2012) *Local Plan Part 1 https://www.hillingdon.gov.uk/media/3080/Local-Plan-Part-1---Strategic-Policies/pdf/npLocal_Plan_Part_1_Strategic_Policies_15_feb_2013_a_1_1.pdf?m=1598370401647*

from design and construction through to operation and end use. It is also noted that developments should aim to manage waste towards the upper end of the waste hierarchy (i.e. prevent, reduce, re-use). The LBH aim to achieve this by promoting the reduction of waste generation through implementing measures such as bioremediation of soils and best practice in building construction.

LBH, HILLINGDON LOCAL PLAN (PART 2) (SEPTEMBER 2020)[12];

Policy DMHB 11: *Design of New Development* states that the design of waste management facilities within new developments must be factored into the design from the start. The policy states that all proposals for new developments are expected to provide satisfactory arrangements for internal and external storage and collection for general waste and recyclable waste. External bins should be located and screened to avoid adverse visual impacts to both occupiers and neighbours as waste has the potential to cause serious nuisance if not managed appropriately.

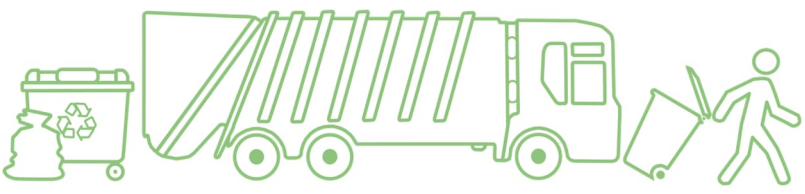
Policy MIN 4: *Re-use and Recycling of Aggregates* states that all developments are encouraged to:

- Recycle and re-use construction, demolition and excavation waste as aggregates;
- Process and re-use recyclable material on-site, and where this is not possible, the material should be re-used at another site for land restoration; and
- Use substitute or recycled materials in new development in place of primary materials.

[12] LBH (2020), Local Plan Part 2 https://www.hillingdon.gov.uk/media/3084/Hillingdon-Local-Plan-Part-2-Development-Management-Policies/pdf/pdLPP2_Development_Management_Policies_-_ADOPTED_VERSION_JAN_2020_1.pdf?m=1598370641570

APPENDIX B

PROPOSED HIGHWAY LAYOUT



VELOCITY

Appendix 5 – Cut and Fill Calculations

CUT AND FILL ASSESSMENT

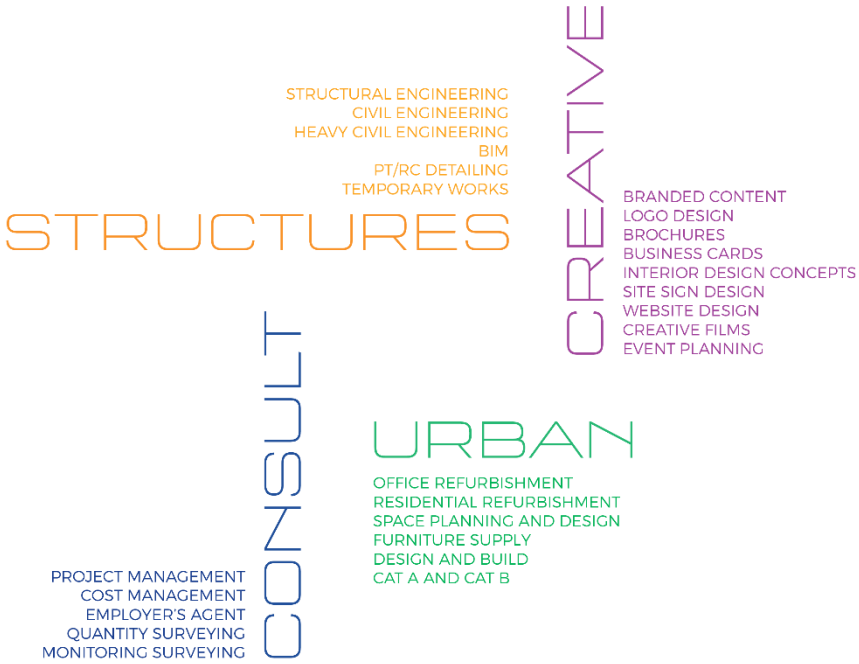
AVONDALE DRIVE ESTATE

HIGGINS PARTNERSHIP

NOVEMBER 2025

AVD-IES-XX-00-RP-C-1000

IESISSTRUCTURES



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CUT AND FILL ASSESSMENT

AVD-IES-XX-00-RP-C-1000

IESISSTRUCTURES

REPORT ISSUE

Revision	Date	Notes
P01	11/11/2025	First Issue

PREPARED BY

Isobel Oates November 2025

REVIEWED BY

Jakub Karolewski November 2025

DISCLAIMER

CONTENTS

1 BASIS OF ASSESSMENT

1.1 INTRODUCTION

The Avondale Drive Estate is situated in Hayes, between Avondale Drive and Hitherbroom Park, within an established residential neighbourhood. Its proximity to schools, parks, and extensive open fields with sports facilities renders it a suitable location for family housing. The approved redevelopment proposals include the demolition of three existing council tower blocks and the delivery of approximately 240 new homes, alongside a new pocket park, associated landscaping, and podium parking.

Iesis have been appointed by Higgins Partnerships to undertake a Cut and Fill Assessment for the proposed development at the Avondale Drive Estate. The Cut and Fill Assessment falls within the Circular Economy review for the development and is based on assumptions which are detailed further in the report.

1.2 DESIGN SOFTWARE

Site areas have been calculated using AutoCAD software. The volumetric analysis has been carried out based on these site areas and design depths. Calculations have been carried out manually using the site layout, drainage layout and foundation design approved as part of the Section 73 Application for Avondale Drive. The Masterplan showing the site layout can be found in Appendix A.

1.3 ACCURACY

This is an initial outline Cut and Fill strategy based on the planning design for the development and may be subject to change due to updates to layout and design amendments. The calculations within the assessment are not fully detailed, however the assessment will provide initial earthworks information and help to determine the future approach to groundworks once the layout and design are confirmed.

The calculations are based on average and estimated values, therefore SLR take no responsibility for the accuracy of this information. It is recommended that the detailed Cut and Fill calculations are undertaken after the detailed design of layout and levels are known.

1.4 PROPOSED LEVELS

Proposed finished floor levels for the development have been determined based on existing ground levels. The existing ground levels shown on the topographical survey average out to the finished floor levels of the proposed buildings and the levels proposed for the footpaths and landscaped areas between them. It has therefore been assumed that the proposed levels for the site are that of the existing ground levels, and no fill will be required across the development.

2 ASSUMPTIONS

2.1 BUILDINGS

There are two proposed buildings within the development. It is assumed that both buildings will have a floor slab thickness of 0.25m. As the finished floor levels across both buildings are assumed to be the same level as the existing ground, the amount of cut required for the buildings will be the volume of the floor slabs. The total area of both buildings has been taken from the Section 73 layout and has been calculated using AutoCAD to be 5648.248m²

2.2 FOUNDATIONS

Foundations have been designed using Revit software. The proposed foundations have been designed as a total volume of 2831m³. The volume schedule for the foundation design can be found in Appendix B.

2.3 HARD AND SOFT LANDSCAPING

Surrounding the proposed buildings are areas of hard and soft landscaping. For the purpose of this assessment, it has been assumed that as the landscaping levels are to be the same as the existing ground levels, the soft landscaping will require no cut or fill to achieve this. The hard landscaping has been assumed to be footpath construction, with a construction depth of approximately 0.18m. The area of hard landscaping within the site has been estimated as approximately 1472.333m² using the landscaping layout from the Section 73 Application.

2.4 DRAINAGE

The current drainage strategy for the site features four below ground attenuation tanks and below ground surface water and foul water pipe systems and manholes. The attenuation tanks are all proposed to be 0.52m in depth and to be areas of 248.149m², 544.718m², 129.600m² and 498.637m².

All surface water pipes have been assumed to be 225mm in diameter with a 150mm concrete surround, giving a cross-sectional area of 0.276m² for the required trench. The length of surface water pipes for the development is estimated to be 382.293m from the current drainage strategy. The strategy includes 14 inspection chambers of diameter 450mm and 5 inspection chambers of diameter 600mm, with approximate depth of 2m and each with a wall thickness of 150mm. There are 4 manholes of 1350mm proposed, with an approximate depth of 3m and a wall thickness of 150mm.

All foul water pipes have been assumed to be 150mm in diameter with a 150mm concrete surround giving a cross sectional area of 0.203m² for the required trench. The length of foul water pipes for the development is estimated to be 390.066m from the current drainage strategy. The strategy includes 22 inspection chambers of diameter 450mm and approximate depth of 2m, each with a wall thickness of 150mm.

Refer to Appendix C for the Drainage Layout used to make the above assumptions.

3 CALCULATIONS

Buildings

floor slab thickness x area of buildings = Volume of floor slabs

0.25m x 5648.248m² = 1412.062m³

Foundations

2831m³

Hard Landscaping

construction depth x area of hard landscaping = Volume of hard landscaping

0.18m x 1472.333m² = 265.020m³

Attenuation Tanks

Depth of tank x area of tank = Volume of tank

0.52m x 248.149m² = 129.037m³

0.52m x 544.718m² = 283.253m³

0.52m x 129.600m² = 67.392m³

0.52m x 498.637m² = 259.291m³

Surface Water Drainage

length of surface water pipe x cross sectional area of trench = Volume of pipe system

382.293m x 0.276m² = 105.513m³

Cross sectional area of 450mm inspection chamber = π x 0.375² = 0.442m²

Cross sectional area of 600mm inspection chamber = π x 0.450² = 0.636m²

Cross sectional area of 1350mm manhole = π x 0.825² = 2.138m²

depth x cross sectional area x number of manholes = Volume of manholes

2m x 0.442m² x 14 = 12.376m³

2m x 0.636m² x 5 = 6.360m³

3m x 2.138m² 4 = 25.656m³

Foul Water Drainage

length of foul water pipe x cross sectional area of trench = Volume of pipe system

390.066m x 0.203m² = 79.183m³

Cross sectional area of 450mm inspection chamber = π x 0.375² = 0.442m²

depth x cross sectional area x number of manholes = Volume of manholes

2m x 0.442m² x 22 = 19.448m³

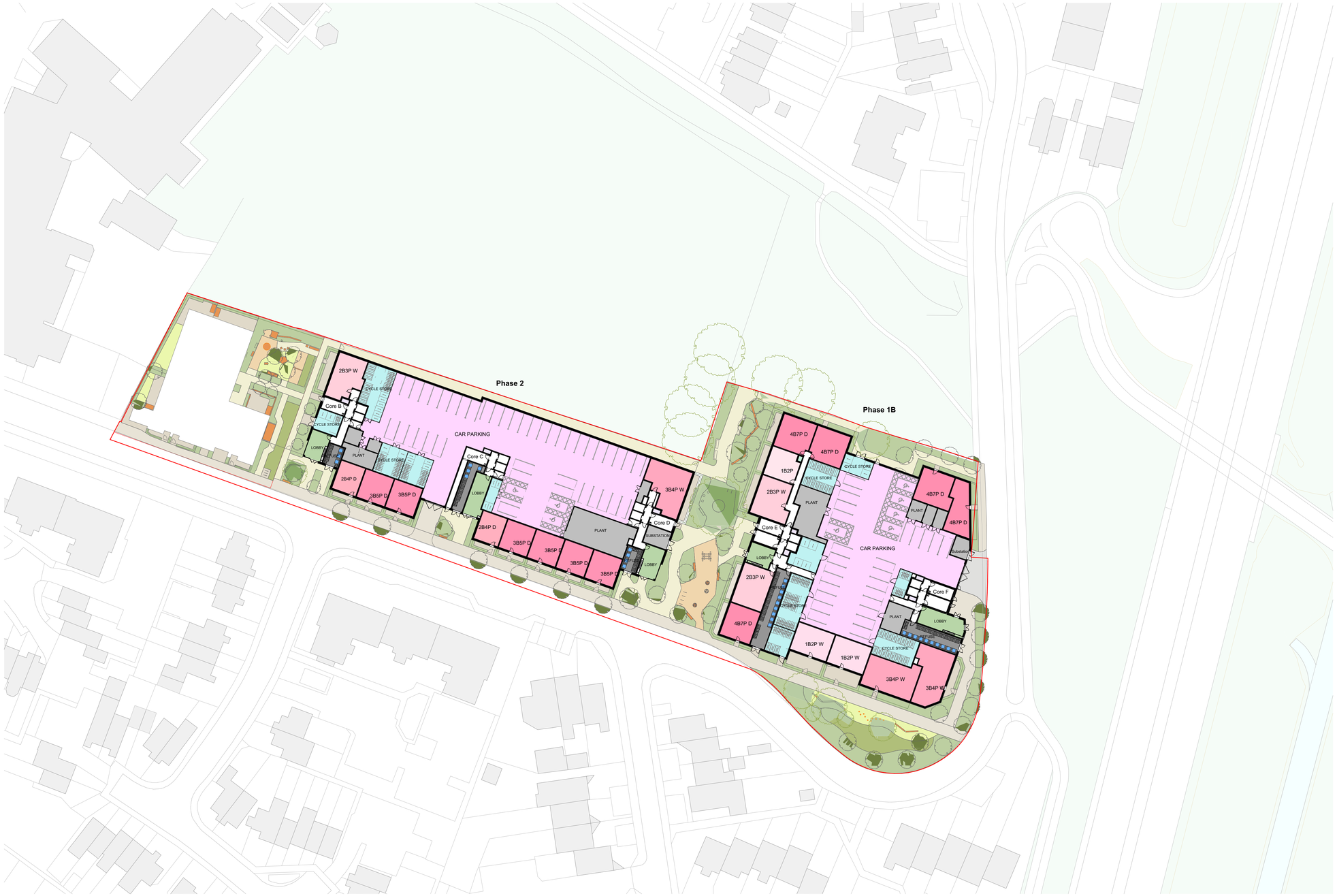
4 RESULTS AND CONCLUSIONS

Element of Works	*Volume (m³)*
Buildings	1412.062
Foundations	2831.000
Hard Landscaping	265.020
Attenuation Tanks	738.973
Surface Water Drainage	149.905
Foul Water Drainage	98.631
TOTAL	**5495.591m³**

The total volume of cut and fill has been estimated based on assumptions detailed in Section 2 and calculated manually as detailed in Section 3. As the development is proposed to be built to existing levels, there will be no fill required. In total, there is estimated to be 5495.591m³ of cut from this site.

The calculations are based on average and estimated values, therefore SLR take no responsibility for the accuracy of this information. It is recommended that the detailed Cut and Fill calculations are undertaken after the detailed design of layout and levels are known.

5 APPENDIX A – MASTERPLAN



Legend

- RESIDENTIAL COMMUNAL
- CYCLE STORE
- REFUSE
- SERVICING AND PLANT
- CAR PARKING
- SR 1B2P FL
- SR 1B2P FL W
- SR 2B3P FL W
- SR 2B4P H
- SR 3B4P FL W
- SR 3B5P H
- SR 4B7P H
- SMOKE EXTRACT NATURAL
- Smoke Vent Natural

0m 10m 20m 30m 40m

Designed with reference to the surveys, information and reports listed: Xxxxxxxxxxxxx Xxxxxxxxxxxxx, Xxxxxxxxxxxx Xxxxxxxxxxx, Xxxxxxxxxxxx Xxxxxxxxxxx, Xxxxxxxxxxxx Xxxxxxxxxxx, Xxxxxxxxxxxx Xxxxxxxxxxx.

Rev	Date	Description
P6	20-08-25	Pre-App 6
P7	03-09-25	Issued for coordination
P8	09-09-25	Issued for coordination
P9	09-09-25	Issued for coordination - redline update
P10	12-09-25	S73 Design Freeze Issue

Dwn	Ckd
ed	YW
BC	YW
YW	YW
YW	YW
YW	YW

Drawn JR
Checked YW
Date 24/11/22
Scale @ A1 1 : 500

Avondale Drive

Site Plan Ground Level GA

Project	Origin	Zone	Level	Type	Role	Number
AVD -	PRP -	ZZ -	00 -	DR -	A -	10050

Revision **P10 - PRELIMINARY**
Status **S2 - For Comments**

PRP

6 APPENDIX B – FOUNDATION VOLUME SCHEDULES

PHASE 1B CONCRETE PAD VOLUME SCHEDULE

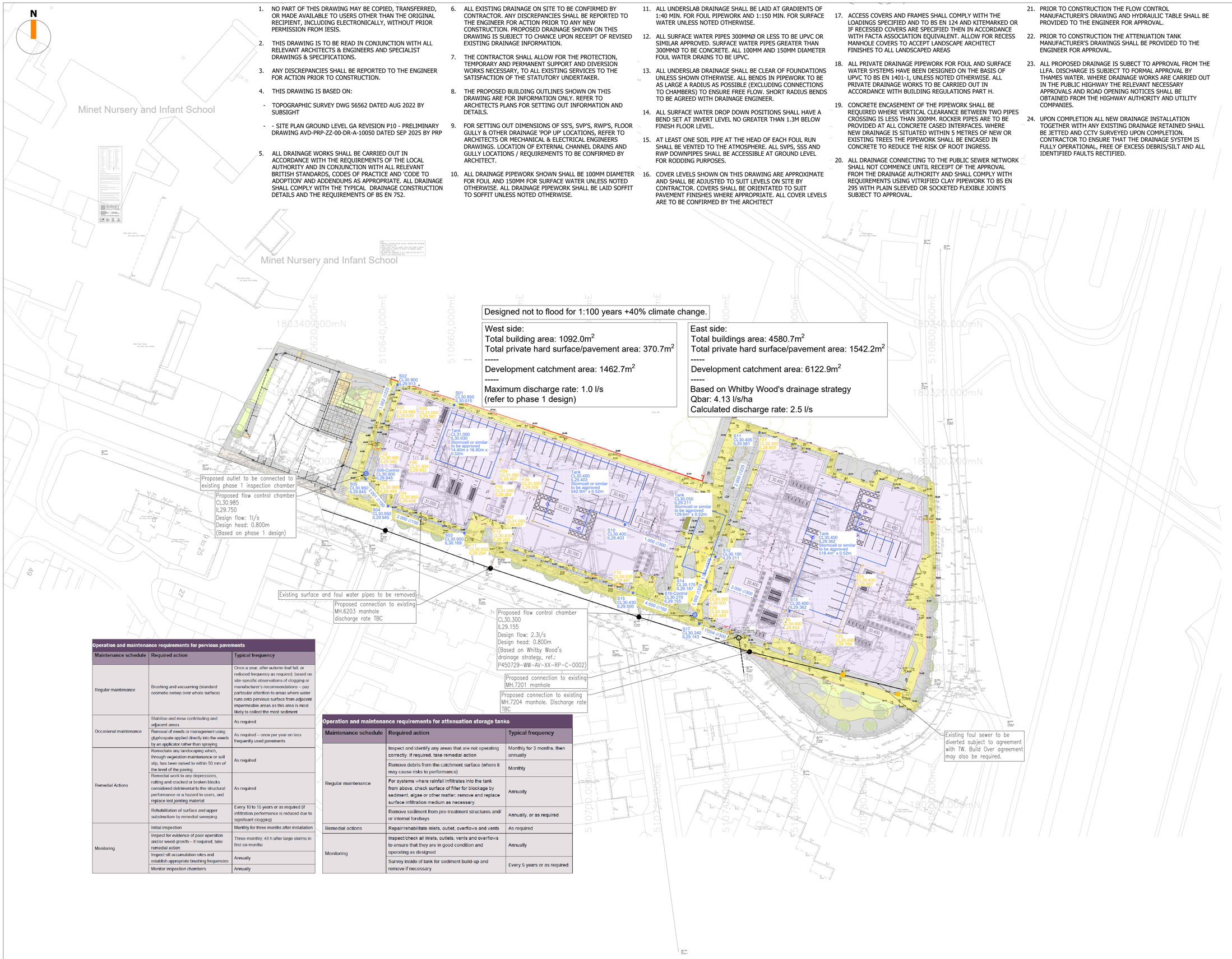
PHASE of PROJECT	REF.	Size(mm)	Count	Volume
1B	P1	1900 x 1900 WIDE x 1300mm DEEP	1	4.69 m^3
1B	P2	2700 x 2700 WIDE x 1400mm DEEP	4	40.82 m^3
1B	P3	2300 x 2300 WIDE x 1300mm DEEP	2	13.75 m^3
1B	P4	2600 x 2600 WIDE x 1300mm DEEP	7	61.52 m^3
1B	P5	2100 x2100 WIDE x 1300mm DEEP	4	22.93 m^3
1B	P6	2800 x 2800 WIDE x 1400mm DEEP	6	65.86 m^3
1B	P7	3700 x 3700 WIDE x 1900mm DEEP	2	52.02 m^3
1B	P8	3000 x 3000 WIDE x 1500mm DEEP	7	94.50 m^3
1B	P9	3600 x 3600 WIDE x 1800mm DEEP	3	69.98 m^3
1B	P10	1400 x 1400 WIDE x 1300mm DEEP	2	5.10 m^3
1B	P11	1700 x 1700 WIDE x 1300mm DEEP	3	11.27 m^3
1B	P12	1600 x 1600 WIDE x 1300mm DEEP	3	9.98 m^3
1B	P13	2900 x 2900 WIDE x 1500mm DEEP	9	113.54 m^3
1B	P14	2500 x 2500 WIDE x 1300mm DEEP	5	40.63 m^3
1B	P15	3800 x 3800 WIDE x 1900mm DEEP	3	82.31 m^3
1B	P16	3100 x 3100 WIDE x 1600mm DEEP	2	30.75 m^3
1B	P17	3200 x 3200 WIDE x 1600mm DEEP	5	81.92 m^3
1B	P18	2400 x 2400 WIDE x 1300mm DEEP	7	52.42 m^3
1B	P19	2000 x 2000 WIDE x 1300mm DEEP	4	20.80 m^3
1B	P20	1300 x 1300 WIDE x 1300mm DEEP	1	2.20 m^3
1B	P21	3300 x 3300 WIDE x 1700mm DEEP	2	37.03 m^3
1B	P22	2200 x 2200 WIDE x 1300mm DEEP	1	6.29 m^3
1B	P23	3400 x 3400 WIDE x 1700mm DEEP	3	58.96 m^3
1B	P24	3900 x 3900 WIDE x 2000mm DEEP	1	30.42 m^3
1B	P25	3500 x 3500 WIDE x 1800mm DEEP	3	66.15 m^3
1B	P26	4000 x 4000 WIDE x 2000mm DEEP	2	64.00 m^3
1B	P27	4100 x 4100 WIDE x 2100mm DEEP	1	35.30 m^3
1B	P28	4300 x 4300 WIDE x 2200mm DEEP	1	40.68 m^3
1B	P29	1800 x 1800 WIDE x 1300mm DEEP	1	4.21 m^3
1B	P30	5720 x 5890 WIDE x 1500mm DEEP	1	50.54 m^3
1B	P31	6679 x 4377 WIDE x 1500mm DEEP	1	43.85 m^3
1B	P32	7762 x 4252 WIDE x 1500mm DEEP	1	49.48 m^3
1B	P33	8508 x 3386 WIDE x 1500mm DEEP	1	43.21 m^3
1B	P34	3850x 3000 WIDE x 1900mm DEEP	1	21.95 m^3
1B	P35	6642 x 4388 WIDE x 1500mm DEEP	1	43.72 m^3
1B	P36	3000x 2400 WIDE x 1300mm DEEP	1	9.36 m^3
1B	P37	3350x 2825 WIDE x 1500mm DEEP	1	14.20 m^3
1B	P38	4135 x 3573 WIDE x 1500mm DEEP	1	22.16 m^3
1B	P39	7298(x2225) x 3788(x2030)mm WIDE x 1500mm DEEP	1	0.00 m^3
1B	P40	1500 x 1500 WIDE x 1300mm DEEP	5	14.63 m^3
1B	P69	2800 x 2800 WIDE x 1300mm DEEP	1	10.19 m^3
1B	P70	2700 x 2700 WIDE x 1300mm DEEP	1	9.48 m^3
1B	P71	2850 x 2850 WIDE x 1400mm DEEP	1	11.37 m^3
1B	P72	2200 x 2200 WIDE x 1400mm DEEP	1	6.78 m^3
1B	P73	2400 x 2400 WIDE x 1500mm DEEP	1	8.64 m^3
1B	P74	3100 x 3100 WIDE x 1700mm DEEP	1	16.34 m^3
Grand total: 116				**1595.90 m^3**

PHASE 2 CONCRETE PAD VOLUME SCHEDULE

PHASE of PROJECT	REF.	Size(mm)	Count	Volume
2	P8	3000 x 3000 WIDE x 1500mm DEEP	11	148.50 m^3
2	P14	2500 x 2500 WIDE x 1300mm DEEP	9	73.13 m^3
2	P19	2000 x 2000 WIDE x 1300mm DEEP	8	41.60 m^3
2	P25	3500 x 3500 WIDE x 1800mm DEEP	4	88.20 m^3
2	P26	4000 x 4000 WIDE x 2000mm DEEP	3	96.00 m^3
2	P40	1500 x 1500 WIDE x 1300mm DEEP	1	2.93 m^3
2	P43	2750 x 2750 WIDE x 1400mm DEEP	13	137.64 m^3
2	P44	1750 x 1750 WIDE x 1300mm DEEP	10	39.81 m^3
2	P45	3250 x 3250 WIDE x 1700mm DEEP	3	53.87 m^3
2	P46	3750 x 3750 WIDE x 1900mm DEEP	1	26.72 m^3
2	P47	4500 x 4500 WIDE x 2300mm DEEP	2	93.15 m^3
2	P49	5733 x 4330 WIDE x 2200mm DEEP	1	54.61 m^3
2	P51	5475 x 4630 WIDE x 1750mm DEEP	1	44.36 m^3
2	P53	5195(x2195) x 4963(x1463)mm WIDE x 2200mm DEEP	1	0.00 m^3
2	P55	7765 x 4500 WIDE x 2600mm DEEP	1	90.85 m^3
2	P56	5860 x 3500 WIDE x 2000mm DEEP	1	41.02 m^3
2	P57	9215 x 5845mm WIDE x 2300mm DEEP	1	0.00 m^3
2	P58	5118 x 4143 WIDE x 2300mm DEEP	1	48.77 m^3
2	P60	7840(x2750) x 7613(x1600)mm WIDE x 3300mm DEEP	1	0.00 m^3
2	P61	5843(x2218) x 5260(x2250)mm WIDE x 2200mm DEEP	1	0.00 m^3
2	P62	6972 x 3750 WIDE x 2400mm DEEP	1	62.75 m^3
2	P63	5320 x 3783 WIDE x 2300mm DEEP	1	46.29 m^3
2	P64	7465(x2835) x 5227(x37500)mm WIDE x 2400mm DEEP	1	0.00 m^3
2	P65	5785(x2623) x 7505(x4005)mm WIDE x 2000mm DEEP	1	0.00 m^3
2	P66	2250 x 2250 WIDE x 1300mm DEEP	7	46.07 m^3
2	P67	10175(x3250) x 7215(x5518)mm WIDE x 2250mm DEEP	1	0.00 m^3
2	P75	5320(x2320) x 5105(x3250)mm WIDE x 3000mm DEEP	1	0.00 m^3
2	P76	7250(x5500) x 5500(x2400)mm WIDE x 2800mm DEEP	1	0.00 m^3
Grand total: 88				**1236.26 m^3**

7 APPENDIX C – DRAINAGE LAYOUT

1. NO PART OF THIS DRAWING MAY BE COPIED, TRANSFERRED, OR MADE AVAILABLE TO USERS OTHER THAN THE ORIGINAL RECIPIENT, INCLUDING ELECTRONICALLY, WITHOUT PRIOR PERMISSION FROM IESIS.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS & ENGINEERS AND SPECIALIST DRAWINGS & SPECIFICATIONS.
3. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER FOR ACTION PRIOR TO CONSTRUCTION.
4. THIS DRAWING IS BASED ON:
   - TOPOGRAPHIC SURVEY DWG 56562 DATED AUG 2022 BY SUBSIGHT
   - - SITE PLAN GROUND LEVEL GA REVISION P10 - PRELIMINARY DRAWING AVD-PRP-ZZ-00-DR-A-10050 DATED SEP 2025 BY PRP
5. ALL DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY AND IN CONJUNCTION WITH ALL RELEVANT BRITISH STANDARDS, CODES OF PRACTICE AND 'CODE TO ADOPTION' AND ADDENDUMS AS APPROPRIATE. ALL DRAINAGE SHALL COMPLY WITH THE TYPICAL DRAINAGE CONSTRUCTION DETAILS AND THE REQUIREMENTS OF BS EN 752.
6. ALL EXISTING DRAINAGE ON SITE TO BE CONFIRMED BY CONTRACTOR. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER FOR ACTION PRIOR TO ANY NEW CONSTRUCTION. PROPOSED DRAINAGE SHOWN ON THIS DRAWING IS SUBJECT TO CHANCE UPON RECEIPT OF REVISED EXISTING DRAINAGE INFORMATION.
7. THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT AND DIVERSION WORKS NECESSARY, TO ALL EXISTING SERVICES TO THE SATISFACTION OF THE STATUTORY UNDERTAKER.
8. THE PROPOSED BUILDING OUTLINES SHOWN ON THIS DRAWING ARE FOR INFORMATION ONLY. REFER TO ARCHITECTS PLANS FOR SETTING OUT INFORMATION AND DETAILS.
9. FOR SETTING OUT DIMENSIONS OF SS'S, SVP'S, RWP'S, FLOOR GULLY & OTHER DRAINAGE 'POP UP' LOCATIONS, REFER TO ARCHITECTS OR MECHANICAL & ELECTRICAL ENGINEERS DRAWINGS. LOCATION OF EXTERNAL CHANNEL DRAINS AND GULLY LOCATIONS / REQUIREMENTS TO BE CONFIRMED BY ARCHITECT.
10. ALL DRAINAGE PIPEWORK SHOWN SHALL BE 100MM DIAMETER FOR FOUL AND 150MM FOR SURFACE WATER UNLESS NOTED OTHERWISE. ALL DRAINAGE PIPEWORK SHALL BE LAID SOFFIT TO SOFFIT UNLESS NOTED OTHERWISE.
11. ALL UNDERSLAB DRAINAGE SHALL BE LAID AT GRADIENTS OF 1:40 MIN. FOR FOUL PIPEWORK AND 1:150 MIN. FOR SURFACE WATER UNLESS NOTED OTHERWISE.
12. ALL SURFACE WATER PIPES 300MMØ OR LESS TO BE UPVC OR SIMILAR APPROVED. SURFACE WATER PIPES GREATER THAN 300MMØ TO BE CONCRETE. ALL 100MM AND 150MM DIAMETER FOUL WATER DRAINS TO BE UPVC.
13. ALL UNDERSLAB DRAINAGE SHALL BE CLEAR OF FOUNDATIONS UNLESS SHOWN OTHERWISE. ALL BENDS IN PIPEWORK TO BE AS LARGE A RADIUS AS POSSIBLE (EXCLUDING CONNECTIONS TO CHAMBERS) TO ENSURE FREE FLOW. SHORT RADIUS BENDS TO BE AGREED WITH DRAINAGE ENGINEER.
14. ALL SURFACE WATER DROP DOWN POSITIONS SHALL HAVE A BEND SET AT INVERT LEVEL NO GREATER THAN 1.3M BELOW FINISH FLOOR LEVEL.
15. AT LEAST ONE SOIL PIPE AT THE HEAD OF EACH FOUL RUN SHALL BE VENTED TO THE ATMOSPHERE. ALL SVPS, SSS AND RWP DOWNPIPES SHALL BE ACCESSIBLE AT GROUND LEVEL FOR RODDING PURPOSES.
16. COVER LEVELS SHOWN ON THIS DRAWING ARE APPROXIMATE AND SHALL BE ADJUSTED TO SUIT LEVELS ON SITE BY CONTRACTOR. COVERS SHALL BE ORIENTATED TO SUIT PAVEMENT FINISHES WHERE APPROPRIATE. ALL COVER LEVELS ARE TO BE CONFIRMED BY THE ARCHITECT
17. ACCESS COVERS AND FRAMES SHALL COMPLY WITH THE LOADINGS SPECIFIED AND TO BS EN 124 AND KITEMARKED OR IF RECESSED COVERS ARE SPECIFIED THEN IN ACCORDANCE WITH FACTA ASSOCIATION EQUIVALENT. ALLOW FOR RECESS MANHOLE COVERS TO ACCEPT LANDSCAPE ARCHITECT FINISHES TO ALL LANDSCAPED AREAS
18. ALL PRIVATE DRAINAGE PIPEWORK FOR FOUL AND SURFACE WATER SYSTEMS HAVE BEEN DESIGNED ON THE BASIS OF UPVC TO BS EN 1401-1, UNLESS NOTED OTHERWISE. ALL PRIVATE DRAINAGE WORKS TO BE CARRIED OUT IN ACCORDANCE WITH BUILDING REGULATIONS PART H.
19. CONCRETE ENCASEMENT OF THE PIPEWORK SHALL BE REQUIRED WHERE VERTICAL CLEARANCE BETWEEN TWO PIPES CROSSING IS LESS THAN 300MM. ROCKER PIPES ARE TO BE PROVIDED AT ALL CONCRETE CASED INTERFACES. WHERE NEW DRAINAGE IS SITUATED WITHIN 5 METRES OF NEW OR EXISTING TREES THE PIPEWORK SHALL BE ENCASED IN CONCRETE TO REDUCE THE RISK OF ROOT INGRESS.
20. ALL DRAINAGE CONNECTING TO THE PUBLIC SEWER NETWORK SHALL NOT COMMENCE UNTIL RECEIPT OF THE APPROVAL FROM THE DRAINAGE AUTHORITY AND SHALL COMPLY WITH REQUIREMENTS USING VITRIFIED CLAY PIPEWORK TO BS EN 295 WITH PLAIN SLEEVED OR SOCKETED FLEXIBLE JOINTS SUBJECT TO APPROVAL.
21. PRIOR TO CONSTRUCTION THE FLOW CONTROL MANUFACTURER'S DRAWING AND HYDRAULIC TABLE SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL.
22. PRIOR TO CONSTRUCTION THE ATTENUATION TANK MANUFACTURER'S DRAWINGS SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL.
23. ALL PROPOSED DRAINAGE IS SUBECT TO APPROVAL FROM THE LLFA. DISCHARGE IS SUBJECT TO FORMAL APPROVAL BY THAMES WATER. WHERE DRAINAGE WORKS ARE CARRIED OUT IN THE PUBLIC HIGHWAY THE RELEVANT NECESSARY APPROVALS AND ROAD OPENING NOTICES SHALL BE OBTAINED FROM THE HIGHWAY AUTHORITY AND UTILITY COMPANIES.
24. UPON COMPLETION ALL NEW DRAINAGE INSTALLATION TOGETHER WITH ANY EXISTING DRAINAGE RETAINED SHALL BE JETTED AND CCTV SURVEYED UPON COMPLETION. CONTRACTOR TO ENSURE THAT THE DRAINAGE SYSTEM IS FULLY OPERATIONAL, FREE OF EXCESS DEBRIS/SILT AND ALL IDENTIFIED FAULTS RECTIFIED.



Operation and maintenance requirements for pervious pavements

Maintenance schedule	Required action	Typical frequency
Regular maintenance	Brushing and vacuuming (standard cosmetic sweep over whole surface)	Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations – pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this area is most likely to collect the most sediment
Occasional maintenance	Stabilise and mow contributing and adjacent areas	As required
	Removal of weeds or management using glyphosate applied directly into the weeds by an applicator rather than spraying	As required – once per year on less frequently used pavements
Remedial Actions	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50 mm of the level of the paving	As required
	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material	As required
	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 to 15 years or as required (if infiltration performance is reduced due to significant clogging)
Monitoring	Initial inspection	Monthly for three months after installation
	Inspect for evidence of poor operation and/or weed growth – if required, take remedial action	Three-monthly, 48 h after large storms in first six months
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers	Annually

Operation and maintenance requirements for attenuation storage tanks

Maintenance schedule	Required action	Typical frequency
Regular maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action	Monthly for 3 months, then annually
	Remove debris from the catchment surface (where it may cause risks to performance)	Monthly
	For systems where rainfall infiltrates into the tank from above, check surface of filter for blockage by sediment, algae or other matter; remove and replace surface infiltration medium as necessary.	Annually
	Remove sediment from pre-treatment structures and/ or internal forebays	Annually, or as required
Remedial actions	Repair/rehabilitate inlets, outlet, overflows and vents	As required
Monitoring	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed	Annually
	Survey inside of tank for sediment build-up and remove if necessary	Every 5 years or as required

NOTES:

HEALTH & SAFETY: THE WORKS SHALL BE CARRIED OUT BY SPECIALIST COMPETENT AND EXPERIENCED CONTRACTORS. ALL OPERATIVES SHALL HAVE RECEIVED FULL AND APPROPRIATE TRAINING WITH APPROPRIATE QUALIFICATIONS FOR THE OPERATIONS THEY ARE REQUIRED TO UNDERTAKE. ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT HEALTH & SAFETY REGULATIONS.

ATTENUATION VOLUME HAS BEEN CALCULATED BASED ON REQUIRED STORAGE FOR A 1 IN 100YR EVENT + 40% CLIMATE CHANGE

TOTAL DISCHARGE FROM SITE TO PUBLIC SEWER NETWORK TO BE RESTRICTED TO 5l/s/ha BASED ON THAMES WATER REQUIREMENT

KEY:

LEGEND:

- Existing surface water drainage
- Existing foul water drainage
- Proposed surface water flow control chamber
- Surface water drain
- Surface water inspection chamber
- Foul water drain
- Foul water access point
- Foul water inspection chamber
- Surface water impermeable area hard surface/pavement
- Surface water impermeable area building
- Proposed channel drain
- Proposed gully (YG)

REV	DATE	DRAWN/CHK	REVISION INFO
P02	16.09.25	GH/JAK	LAYOUT UPDATED.
P01	13.08.25	PB/JAK	PRELIMINARY ISSUE.

STATUS: PRELIMINARY

CLIENT: HIGGINS PARTNERSHIPS

PROJECT: AVONDALE DRIVE PHASE 2,3,5

DRAWING TITLE: BELOW GROUND DRAINAGE GENERAL ARRANGEMENT

JOB NUMBER:	SCALE AT A1:	REV. STATUS:
SE2508	1:500	P2

DRAWING NUMBER: AVD-IES-A1-00-DR-D-3000 REVISION: S2

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Appendix 6 – Circular Economy Workshop

5779-Avondale-Phase1b-2

18/09/2025 meeting

Attendance: Nick Foyle (Higgins), Herna Kana (Higgins), Victoria Allen (Higgins), Lucy Tindall (PRP), Bethan Crouch (PRP), Elisa Dima (PRP), Bradley Lobetta (Watkins Payne), Anna Fleming (Watkins Payne), Jamie Daniel (Watkins Payne), Sameera Issa (Watkins Payne), John Simmonds (Iesis)

Circular Economy Design Principles by Building Layer

The Circular Economy Commitments table should consider where the Applicant seeks to go beyond standard practice. If there are multiple phases / buildings / areas with different measures / strategies, please specify these separately within the table below.

	Building Layer							
	Site (Architect)	**Substructure (Structural Engineer)**	**Superstructure (Structural Engineer)**	**Shell/Skin (e.g. Façade) (Architect)**	**Services (MEP Engineer)**	**Space (Architect)**	**Stuff (Architect)**	**Construction Stuff (Structural Engineer)**
Designing out waste Ensuring that waste reduction is planned in from project inception to completion, including consideration of standardised components, modular build, and reuse of secondary products and materials	A Pre-Redevelopment and Pre-Demolition Audit will be produced to assess which materials could be reused/recycled on-site. Operational Waste Management Strategy will be prepared to reduce waste to landfill.	In order to decrease the carbon impact of the substructure, the client and design team are exploring the below options: - increasing the GGBS content of pad foundations core structure and/or the foundations from the currently specified with 25% GGBS to ≥30% GGBS, subject to cost analysis and design development The substructure could be retained over a long period with potential for multiple reuses during its lifespan. At the end of life concrete and reinforcement steel are 100% recyclable. Concrete can infintely be recycled to aggregate to provide resource for new buildings or infrastructure. Steel reinforcement can be 100% recycled into other steel products.	Material use has been optimised. Where thicker floor slabs are required, such as the podium, this has been localised to required areas only. In order to decrease the carbon impact/output of the superstrucutre, the client and design team are exploring the below options: - increasing the GGBS content of the above from the currently specified with 25% GGBS to ≥30% GGBS, subject to cost analysis and design development - increasing the building's thermal mass by exposing concrete. The concrete structures requires low maintenance, and is resilient to impacts of weather and fire. The thermal mass of the concrete structure will contribute to reducing energy consumption for heating and cooling. Carbonation of exposed concrete will result in absorbtion of CO2 over the lifecycle of the structure. Concrete and steel can infinitely be recycled to aggregate to provide	Use of BIM in the design and detailing of the building allows greater precision in the material specifications. Efficient structural design – regular column and slab arrangements on upper floors – minimises concrete. Looked to minimise the transfer slabs at ground to first floor.	Each apartment or duplex is connected to the central plant to provide heating/cooling and domestic hot water services(DHWS). The heating / cooling is provided by a duct mounted coil in the supply duct servicing the habitable rooms. This system is design to provide 50% of the heating and 100% of the beneficial cooling This philosophy reduces the operational energy losses associated with the heating distribution mains sized at 100% and also reduces the potential of overheating to the common circulation spaces due to providing cooling in the summer months. The heating/cooling system and DHWS enter each apartment / duplex directly without a heat interface unit / plate heat exchanger which reduces the amount of plant needed. Each apartment or duplex is provide with it's own MVHR unit.	Space is maximised by the efficient design, stacking floors and structure.	Standard utility and bathroom design used throughout.	See substructure and superstructure section
Designing for longevity Designing to avoid a premature end of life for all components through considering maintenance and durability.	In order to prolong the shelf life of materials a maintenance strategy will be developed for the building to include: Paving, drainage, Lighting, Furniture Careful maintenance and regular inspection will ensure the components reach or exceed their shelf-life.	The substructure is designed to have a minimum life service of 60 years to ensure longevity, including the pads, core caps, capping beams and ground floor slab.	The superstructure is designed to have a minimum life service of 60 years, to include core structure, columns and beams, and upper floor slabs. Maintenance strategy will be developed for the structural components including steel and reinforced concrete elements to ensure prolonged design life.	The use of low maintenance, robust materials that require minimal maintenance will be maximised in the design to extend the development's lifetime and reduce the need for maintenance and replacement during the development's lifespan.	Each apartment or duplex is connected to the central plant to provide heating/cooling and domestic hot water services(DHWS). The heating / cooling is provided by a duct mounted coil in the supply duct servicing the habitable rooms. This system is design to provide 50% of the heating and 100% of the beneficial cooling This philosophy reduces the operational energy losses associated with the heating distribution mains sized at 100% and also reduces the potential of overheating to the common circulation spaces due to providing cooling in the summer months. The heating/cooling system and DHWS enter each apartment / duplex directly without a heat interface unit / plate heat exchanger which reduces the amount of plant needed. Each apartment or duplex is provide with it's own MVHR unit.	Space in the buildings has been maximised with stacking floor plates from level 2 upwards while ensuring the ground floor needs are met. The car park spaces could be repurposed if car use was reduced in the future.	In order to prolong the shelf life of materials a maintenance strategy will be developed for the building to include: Services Air Source Heat Pumps, PV panels, Extract fans, Pipework, Lifts, Valves, Switches, Sockets etc. Careful maintenance and regular inspection will ensure the components reach or exceed their shelf-life.	See substructure and superstructure section
Designing for adaptability or flexibility Adaptability: A building that has been designed with thought of how it might be easily altered to prolong its life, for instance by alteration, addition, or contraction, to suit new uses or patterns of use. Flexibility: A building that has been designed to allow easy rearrangement of its internal fit-out and arrangement to suit the changing needs of occupants.	It is not foreseeable that the residential elements of the design will need to change use/function within the design life of the building. Changes to student accommodation / co-living would require different structural requirements and therefore has not been accommodated for within the design.	The substructure has been designed for codified loadings appropriate to the current spatial utilisation and has an inherent capacity that can be assessed for any change of use. The concrete foundations therefore have the potential for multiple reuses during its lifespan.	The structural grid allows reconfiguration of the entire layout without affecting the structural framework, to suit the changing needs of the users throughout the building's life cycle. The nature of the flat slab allows for flexibility of internal space as all internal partitions are typically non load bearing. Variable load control will allow the building to respond to changes in load	All services can be renewed. Doors and Windows can be replaced. Floor and wall finishes can be renewed. Sanitaryware can be replaced. All removed components will be recycled.	All of the plant and equipment is specified for the environment in which it is located. The utility cupboards within the apartments will provide adequate maintenance space.	The layout of cores and columns will be designed to allow for future flexibility of the floorplate. Where possible, the residential unit layouts will be designed to allow for flexibility to add internal walls to separate kitchen, dining and living areas.	All removed components will be recycled.	See substructure and superstructure section
Designing for disassembly Designed to allow the building and its components to be taken apart with minimal damage to facilitate reuse or recycling. If designed well, it should be possible to replace any component.	Due to the residential use type of the development, it will be designed for ongoing use / longevity on the site, however, elements of the building will be designed for future component and material reuse and mechanical fixings will be prioritised. The components within the building are designed with a max. 60 years lifespan. After a component has reached the end of its lifespan it can be retrofitted or recycled should it be necessary to demolish the building. All services can be renewed. Doors and Windows can be replaced. Concrete can be recycled as hardcore. Bricks can be cleaned and re-used as reclaimed versions. Steel can be recycled.	The substructure is not designed to be disassembled. Should it be necessary to demolish the building the concrete can be crushed and recycled as hardcore or aggregate. Steel renforcement can be recycled	The superstructure is not designed to be disassembled.	The components within the building are designed with a max. 60 years lifespan. After a component has reached the end of its lifespan it can be retrofitted or recycled should it be necessary to demolish the building. All services can be renewed. Doors and Windows can be replaced. Concrete can be recycled as hardcore. Bricks can be cleaned and re-used as reclaimed versions. Steel can be recycled.	By their nature residential apartment layouts and the associated building services installations are bespoke for their purpose. However. the services has been designed in a way that it is easy to isolate each apartment so that only the apartments that require any future modifications are isolated to allow their services installations to be modified or replaced.	The components within the building are designed with a max. 60 years lifespan. After a component has reached the end of its lifespan it can be retrofitted or recycled should it be necessary to demolish the building. All services can be renewed. Doors and Windows can be replaced. Concrete can be recycled as hardcore. Bricks can be cleaned and re-used as reclaimed versions. Steel can be recycled.	The components within the building are designed with a max. 60 years lifespan. After a component has reached the end of its lifespan it can be retrofitted or recycled should it be necessary to demolish the building. All services can be renewed. Doors and Windows can be replaced. Concrete can be recycled as hardcore. Bricks can be cleaned and re-used as reclaimed versions. Steel can be recycled.	See substructure and superstructure section

Using systems, elements or materials that can be re-used and recycled The use of a product in its original form with minimal reprocessing. Preparation for reuse involves checking, cleaning or repairing materials so that they can be used again for their original purpose. Materials can be reused as a whole; redeployed as modules; or reused as a kit of parts on one or more different sites.	The components within the building are designed with a max. 60 years lifespan. After a component has reached the end of its lifespan it can be retrofitted or recycled should it be necessary to demolish the building. All services can be renewed. Doors and Windows can be replaced. Concrete can be recycled as hardcore. Bricks can be cleaned and re-used as reclaimed versions. Steel can be recycled. Standardised white goods are to be provided for private residential units. To allow for easy replacement, guidance will be provided to building occupants regarding replacing white goods provided within the dwellings. Other elements of the building such as windows and services will also be designed for replaceability. A sustainable procurement policy will be prepared for the Proposed Development	The substructure could be retained over a long period with potential for multiple reuses during its lifespan. At the end of life concrete and reinforcement steel are 100% recyclable.	The supestructure could be retained over a long period with potential for multiple reuses during its lifespan.Non precast concrete elements and reinforcement steel are 100% recyclable..	The Project Team will aim to design the development to allow for layer independence, so elements of the building with different life spans are designed to be independent, accessible and removable. The components within the building are designed with a max. 60 years lifespan. After a component has reached the end of its lifespan it can be retrofitted or recycled should it be necessary to demolish the building. All services can be renewed. Doors and Windows can be replaced. Concrete can be recycled as hardcore. Bricks can be cleaned and re-used as reclaimed versions. Steel can be recycled.	Services installations consist of components and interconnecting wiring, pipework or ductwork. The majority of the materials used in the manufacture of these components can be recycled. By there nature the materials generally need an element of processing to allow them to be recycled.	The components within the building are designed with a max. 60 years lifespan. After a component has reached the end of its lifespan it can be retrofitted or recycled should it be necessary to demolish the building. All services can be renewed. Doors and Windows can be replaced. Concrete can be recycled as hardcore. Bricks can be cleaned and re-used as reclaimed versions. Steel can be recycled.	The Project Team will aim to design the development to allow for layer independence, so elements of the building with different life spans are designed to be independent, accessible and removable. For example, a plant replacement strategy will be developed to ensure that there is a process in place to allow all major plant to be replaced without damaging other components of the development. Standard utility and bathroom design used throughout. Standardised white goods are to be provided for private residential units. To allow for easy replacement, guidance will be provided to building occupants regarding replacing white goods provided within the dwellings. Other elements of the building such as windows and services will also be designed for replaceability.	See substructure and superstructure section