APPENDIX B PRE-DEMOLITION AUDIT

ABERFELDY VILLAGE (PHASE A)

PRE-DEMOLITION AUDIT

PROJECT NO. 4060/1100 DOC NO. D014

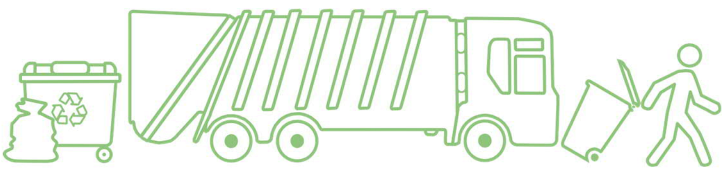
DATE: SEPTEMBER 2022

VERSION: 1.0

CLIENT: ABERFELDY VILLAGE LLP

Velocity Transport Planning Ltd

www.velocity-tp.com



VELOCITY Transport Planning

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Notes

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1 EXECUTIVE SUMMARY

This report aims to identify and quantify where the key materials and components are present within the existing buildings of Aberfeldy Village (Phase A) and to further identify the potential recycling or reuse strategy for them.

Recommendations made within this report are based on the findings of the pre-demolition audit conducted by Velocity Transport Planning, including a non-intrusive site survey on 12th September 2022.

The information in this report demonstrates the benefits of recycling and re-use of KDPs based on economic value, the number of units and viability of deconstruction.

The demolition proposals include four sites of residential, commercial and community use buildings, as well as one vacant plot.

In total it is estimated that 42,298.07 tonnes of material will be generated by the demolition process. It is not anticipated that there are any materials on site suitable for reclamation.

Inert materials and mixed metals were identified as the KDPs on site, which represent 97.79% of the total tonnage of material generated by the demolition process. These materials can achieve a recycling rate of 100%, through a combination of on-site segregation and subsequent processing.

2 PROJECT INTRODUCTION

2.1 INTRODUCTION

2.1.1 This Pre-Demolition Audit (PDA) has been undertaken for Aberfeldy Village LLP and contributes towards the Site Waste Management Plan and Circular Economy Statement for Phase A of the Aberfeldy Village development proposals. The purpose of the audit is to identify and quantify where the key materials and components are present within the existing buildings, and to further identify the potential recycling or reuse strategy for them.

2.1.2 This report identifies materials and components for potential reuse or recycling from structures and hard landscaped areas due for demolition once all furniture and loose items have been removed.

2.1.3 The information in this report will help to demonstrate the benefits of recycling and re-use of Key Demolition Products (KDPs) based on economic value, the number of units and viability of deconstruction.

2.1.4 The findings and values contained in this report represent the best estimate of the materials and components based on the information available for the structures within the scope of the project. Estimates were made using the following information (where available):

- Architectural Plans
- Site surveys; and
- Photographs.

2.2 COMPETENCY – PROJECT MANAGER

2.2.1 The project manager was Peter Hambling who is a Chartered Waste Manager working for the past 11 years within the resource and waste management industry. His background began in environmental compliance and his experience includes contract management, waste stream analysis, collection methodologies and infrastructure development. With experience working for a construction waste contractor, commercial waste contractor and within a local authority as well as development planning, he has comprehensive understanding of the subject matter.

2.3 PROJECT SCOPE

2.3.1 The scope of the project includes the buildings and hard landscaped areas due for demolition as part of Phase A of the Aberfeldy Village masterplan, located within the administrative boundary of the London Borough of Tower Hamlets (LBTH).

2.3.2 Figure 2-1 below shows the extent of Phase A of the Aberfeldy Village masterplan.

Figure 2-1 Aberfeldy Village Phase A

2.3.3 The buildings and hard landscaped areas due for demolition are as follows:

- Blairgowrie Court;
- Aberfeldy Street West;
- Aberfeldy Street East;
- Aberfeldy Neighbourhood Centre; and
- Lochnagar Street.

2.3.4 The audit will cover the following content:

- Identification and quantification of the key materials where present on the project
- Potential applications and any related issues for the re-use and recycling of the key materials in accordance with the waste hierarchy
- Identification of local re-processors or recyclers for recycling materials
- Identification of overall recycling rate for all key materials
- Identification of reuse targets where appropriate
- Identification of overall landfill diversion rate for all key materials

2.4 AUDIT METHODOLOGY

2.4.1 This audit is based on a non-intrusive survey methodology; a site visit was conducted on Monday 12th September 2022 by the project team with access granted by the building owner to vacant areas and tenanted areas with prior permission. A thorough inspection was made of the structures and external areas where possible, though inaccessible areas such as rooves were not included within the survey.

2.4.2 Site plans were available for some of the buildings, predominantly obtained through the publicly accessible planning records as well as other sources. Where details of construction methodology were not included on the plans, appropriate assumptions have been made to facilitate the audit results, based on industry knowledge.

2.4.3 The scope of the audit does not include any loose items or furniture but does include fittings such as kitchens and bathrooms where they were encountered during the site visit.

2.4.4 Where information is not available to inform the audit results, suitable assumptions have been made using relevant published material and prior knowledge based on industry experience.

2.4.5 Hazardous wastes such as Asbestos Containing Materials (ACM) including fibrous insulation or floor tiles are not included within the audit findings. It is recommended that a dedicated asbestos survey is commissioned, and all materials removed by an appropriately licenced contractor prior to demolition works.

2.4.6 Following the site visit and desktop study, the information was analysed to identify the principal material types present within the buildings. These materials were consolidated and established as the Key Demolition Products (KDPs) with total quantities provided in addition to recommendations for their reuse, recycling, or disposal. These recommendations are based on assumptions regarding material conditions and should be considered indicative, subject to refinement by the appointed demolition contractor.

2.5 KEY DEFINITIONS

2.5.1 To inform the audit process and results, key definitions were established.

2.5.2 Reclamation is reuse of a material or product in the same form. An example of reclamation is the removal of carpet tiles from an office for reuse in another location.

2.5.3 Recycling is reprocessing of a material of product for an alternative use. An example of recycling is crushing of house bricks (on- or off-site) for use within secondary aggregate materials.

2.5.4 Closed loop recycling is the process by which a product is used, recycled, and then made into a new product again without losing any of its material properties. An example of materials suitable for closed loop recycling are aluminium cans, which can be reprocessed multiple times in to the same product.

2.5.5 Open loop recycling is where the recycled materials are converted into both new raw materials and waste product. Typically, materials recycled through open-loop recycling go on to be used for purposes different from their former purpose. This means that the input into the recycling process is converted to a new raw material, which can be used as an input into another manufacturing process. An example of open loop recycling is plastic water bottles that are reprocessed to provide material for sleeping bags or fleece jackets.

3 DEMOLITION PROPOSALS

3.1 PROPOSALS

3.1.1 The demolition proposals include four sites of residential, commercial and community use buildings, as well as one vacant plot.

3.1.2 The buildings are planned for demolition as they are no longer fit for purpose and do not meet current standards.

3.1.3 The development proposals comparatively represent significant improvements in terms of energy efficiency, future climate adaptation and overall quality for residents.

3.1.4 Deconstructing the existing structures to reclaim components or materials (rather than traditional demolition) is considered unfeasible due to the small site footprint and proximity to a number of sensitive neighbouring uses.

3.1.5 Further, the existing buildings are constructed in a manner that does not facilitate repurposing specific elements or reclamation of materials, with demolition considered the only viable option.

3.1.6 The new development proposals will represent a move towards methods of construction that incorporate circular economy principles.

3.1.7 The following sections will provide a summary of existing structures and hard landscaping for each site planned for demolition.

3.2 BLAIRGOWRIE COURT

3.2.1 Blairgowrie Court is located on Blair Street, adjacent to the earlier phases of the Aberfeldy Village development.

3.2.2 It is a residential building ranging between three and six storeys constructed in the early 2000s. The layout internally is uniform with 30no. identical 2-bedroom dwellings, one central core and an external access deck.

3.2.3 Access was granted to vacant units and common areas within the building to conduct the survey.

3.2.4 Figure 3-1 and Figure 3-2 below show the building exterior.

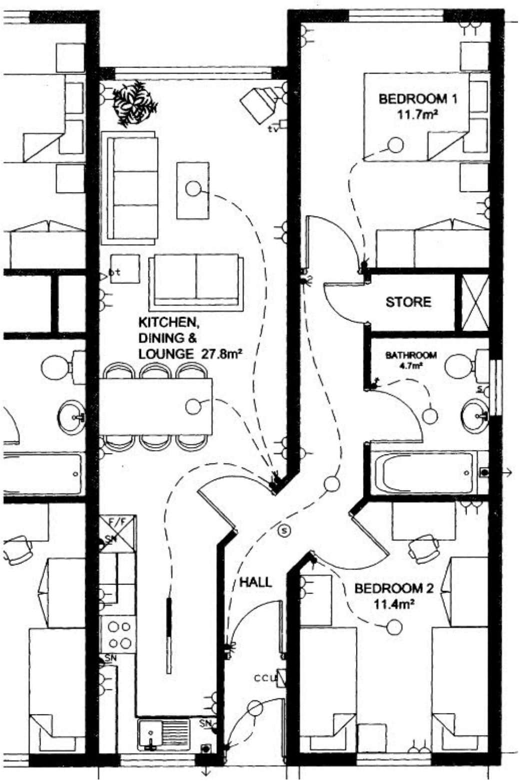
Figure 3-1 Building Exterior - Frontage

Figure 3-2 Building Exterior - Rear

3.2.5 The building is currently vacant, with all fixtures and fittings removed from kitchens and bathrooms.

3.2.6 Figure 3-3 below shows the typical floorplan for each of the residential units.

Figure 3-3 Example Floorplan



3.3 ABERFELDY STREET (WEST & EAST)

3.3.1 Two of the buildings proposed for demolition are on either side of Aberfeldy Street, with commercial uses at ground level and residential units above of assumed standard construction type.

3.3.2 For the purpose of the audit, the buildings have been termed as follows:

- Aberfeldy Street West (No. 25-55); and
- Aberfeldy Street East (No. 36-50).

3.3.3 Both buildings are 3 storeys and understood to be constructed between the 1950-60s with central stair cores and external access decks. Within each block the residential units were uniform in their composition as 3-bedroom maisonettes with an external terrace.

3.3.4 The residential element of each building is currently vacant, with all fixtures and fittings removed from kitchens and bathrooms. The commercial parts remain occupied, with an anticipated transfer to alternative premises within the Aberfeldy Village masterplan prior to demolition works.

3.3.5 It is expected that all commercial equipment would be removed and transferred to the new business premises for reuse.

3.3.6 Access was granted to vacant residential units as well as common areas. Access was possible to the ground floor commercial units with tenant permission.

3.3.7 Figure 3-4 shows a plan view of Aberfeldy Street.

Figure 3-4 Aberfeldy Street Plan View

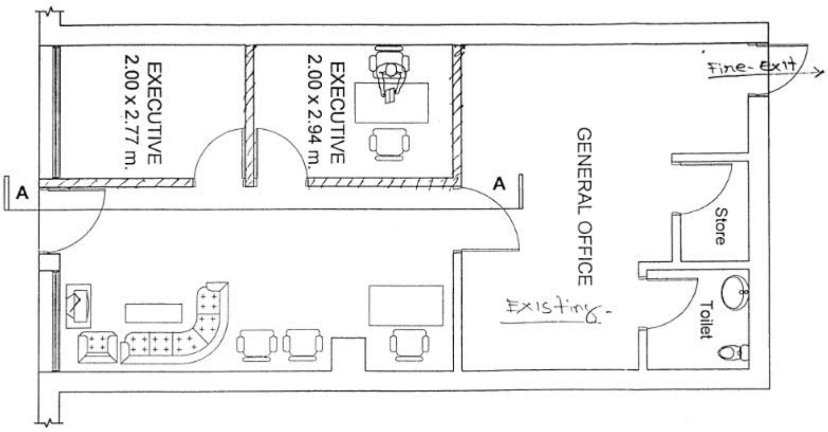
3.3.8 Figure 3-5 and Figure 3-6 below show the building exterior of Aberfeldy Street West.

Figure 3-5 Building Exterior – Frontage

Figure 3-6 Building Exterior - Rear

3.3.9 Figure 3-7 below shows the typical floorplan for one of the sixteen commercial units at ground floor level in Aberfeldy Street West.

Figure 3-7 Example Floorplan - Commercial



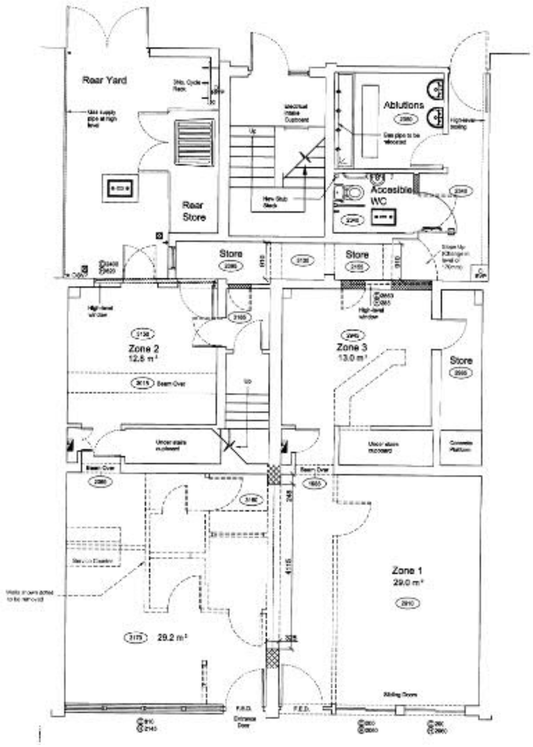
3.3.10 Figure 3-8 and Figure 3-9 below show the building exterior of Aberfeldy Street East.

Figure 3-8 Building Exterior – Frontage

Figure 3-9 Building Exterior - Rear

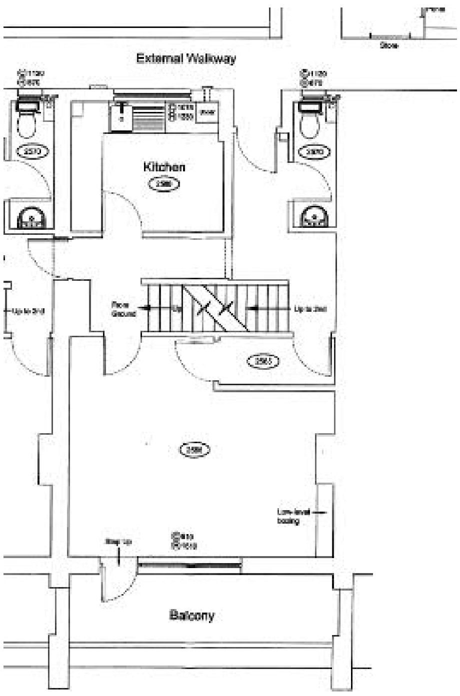
3.3.11 Figure 3-10 below shows the typical floorplan for two of the eight commercial units at ground floor level in Aberfeldy Street East.

Figure 3-10 Example Floorplan – Ground Floor



3.3.12 Figure 3-11 below shows a floorplan for one of the residential units in Aberfeldy Street East.

Figure 3-11 Example Floorplan - Residential First Floor Level



3.4 ABERFELDY NEIGHBOURHOOD CENTRE

3.4.1 The Aberfeldy Neighbourhood Centre on the corner of Aberfeldy Street and Dee Street.

3.4.2 It is a one storey building currently in use as community centre (including a nursery, computer suite and small café) of standard construction, built in the early 2000s.

3.4.3 To the rear is a MUGA that is available for public hire.

3.4.4 Access was granted to common areas within the building to conduct the survey.

3.4.5 Figure 3-12 below shows the exterior frontage of the building from Aberfeldy Street.

Figure 3-12 Building Exterior – Aberfeldy Street Frontage

Figure 3-13 Neighbourhood Centre MUGA

3.5 LOCHNAGAR STREET

3.5.1 The site located at Lochnagar Street is currently a vacant plot with overgrown vegetation.

3.5.2 It was not possible to access the site during the survey.

3.5.3 Figure 3-14 below shows the Lochnagar Street site viewed from Bromley Hall Road.

Figure 3-14 Lochnagar Street

4 PRE-DEMOLITION AUDIT RESULTS

4.1 OVERALL VOLUMES OF WASTE PRODUCED FROM DEMOLITION

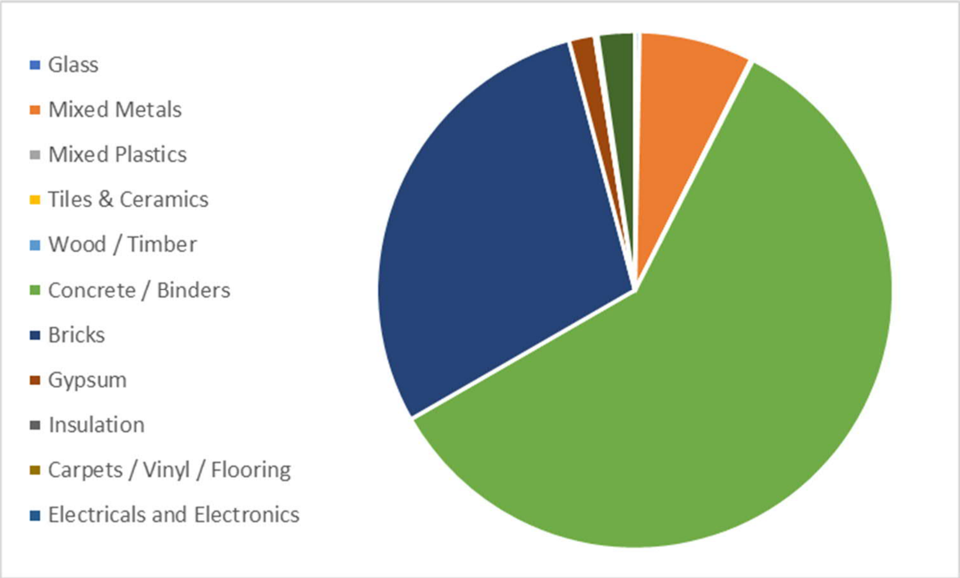
4.1.1 Table 4-1 below shows the estimated weight of materials generated by the demolition process.

Table 4-1 Summary of Demolition Waste Generated

Material	Tonnes	% By Weight
Glass	122.40	0.29
Mixed Metals	3,017.32	7.13
Mixed Plastics	13.20	0.03
Tiles & Ceramics	16.90	0.04
Wood / Timber	23.84	0.06
Concrete / Binders	25,018.45	59.15
Bricks	12,342.52	29.18
Gypsum	681.39	1.61
Insulation	6.21	0.01
Carpets / Vinyl / Flooring	40.90	0.10
Electricals and Electronics	31.69	0.07
Asphalt	983.25	2.32
Mixed	-	0.00
Total	42,298.07	

4.1.2 Figure 4-1 below shows the percentage of each waste stream by weight, as per Table 4-1

Figure 4-1 Waste Streams by Weight



5 KEY DEMOLITION PRODUCTS

5.1 IDENTIFICATION OF KEY DEMOLITION PRODUCTS

5.1.1 This section of the report discusses the KDPs that have been identified for the sites following analysis of the audit findings. The KDPs present on site represent an estimated 97.79% of all waste occurring on site.

5.1.2 The two KDPs identified are as follows:

- Inert Materials; and
- Metals.

5.2 BEST PRACTICE METHODOLOGIES

5.2.1 There are some general methods of good practice to be considered during any demolition project looking to maximise the reuse and recycling of materials. These measures include the following:

- Agree targets for reclamation and recycling as part of the demolition management plan;
- During the strip-out/demolition phase, details of the actual materials arising and the waste management methods used should be recorded to compare actual with forecast and to assess performance against the targets set.
- Following completion of the project, any barriers to achieving the targets should be reviewed to ensure that in future projects these barriers can be overcome.
- Early promotion of available materials for reclamation through appropriate channels, particularly community projects;
- Contact local architectural salvage contractors to discuss if there are items they would be interested in reclaiming;
- Provide space on site for reclaimed materials in addition to segregated containers per waste stream;
- Use resources such as SalvoWeb[1] that provide a directory of business dealing with salvaged items;
- Provide separate containers per waste stream on site to maximise recycling rates;
- Ensure demolition operatives are appropriately trained to recognise materials and understand how to segregate them correctly;
- Where it is not possible to recycle materials due to their composition, seek a commercial waste contractor who diverts waste from landfill and sends residual waste for energy recovery.

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[1] https://www.salvoweb.com/

5.3 INERT MATERIALS

5.3.1 The predominant KDP on site has been identified as inert materials, representing 90.65% of the total material on site. The inert materials are a group of materials that are handled and processed in the same manner during demolition and subsequent processing.

5.3.2 The inert materials generated by the demolition process are located within the following elements on site:

- Structural building frame;
- Internal walls;
- External walls; and
- Areas of hard landscaping.

5.3.3 Figure 5-1 below shows example of inert materials present on site.

Figure 5-1 KDP Example - Inert

5.3.4 Table 5-1 below summarises the quantities of these materials on site generated by the demolition process, categorised by European Waste Catalogue (EWC) code.

Table 5-1 Quantity of Inert Materials

Material	EWC Code	Tonnage	Recommended Processing (%)	
			Reclamation	Recycling
Bricks	17 01 02	12,343	0	100
Tiles and Ceramics	17 01 03	16.9	0	100
Concrete / Hardcore	17 01 07	25,018	0	100
Asphalt	17 03 02	983	0	100
Total		38,361	0	100

RECOMMENDATIONS

5.3.5 Inert materials are the predominant KDP generated by the demolition process on site. The potential for reclamation of inert materials is relatively low due to their use, composition, and material qualities.

5.3.6 It is possible to reclaim bricks for reuse within another structure, though for this to be feasible the bricks are required to be of high quality to justify the resource and space required to recover them on site.

5.3.7 It is expected that all of the inert materials generated by the demolition process will be recycled to form secondary aggregate either on- or off-site.

5.3.8 Inert materials are processed using a crusher which reduces their fraction size.

5.3.9 Figure 5-2 shows an example crusher being loaded with inert materials.

Figure 5-2 Example Crusher

5.3.10 Crushed materials could be used for engineered fill on- or off-site, and at is expected that the material would be processed in accordance with prevailing guidance to ensure the secondary aggregate meets all requirements with regard to material properties.

5.3.11 The most efficient method of processing the materials would be to phase the demolition to allow space for on-site crushing, though this may not be possible due to the small footprint of the sites and the proximity to neighbouring residential properties.

5.3.12 Crushing the inert materials on site would reduce the number of vehicle movements associated with the demolition process. If the material is being used on-site as engineered fill, the requirement for imported material is decreased, and if it is being transferred for use off-site the volume of the material is reduced when loaded.

5.3.13 On-site crushing would be subject to the demolition contractor obtaining a permit from the relevant authority, to ensure operations would not adversely impact the environment with noise or dust generated.

5.3.14 If it is not possible to crush the inert materials on site, they would be transferred an appropriately licenced nearby facility for processing and subsequent use.

5.3.15 It is anticipated that crushed inert material would be transported in 32-tonne tipper lorries.

5.3.16 Figure 5-3 below shows a 32-tonne tipper lorry being loaded with crushed concrete.

Figure 5-3 Example 32-Tonne Tipper Lorry

5.3.17 The landfill diversion rate for the inert materials on site would be anticipated to be 100%.

5.4 METALS (FERROUS/NON-FERROUS)

5.4.1 The second KDP on site has been identified as metals, with use across all structures for a number of purposes.

5.4.2 The metal generated by the demolition process are located within the following elements on site:

- Structural building frame;
- Mechanical and Electrical Plant (MEP);
- Balconies;
- Doors and windows;
- Walls;
- Lifts and stairs;
- Roof; and
- Pipes and ducting.

5.4.3 Figure 5-4 below shows examples of metals present on site.

Figure 5-4 KDP Example - Metal

5.4.4 Table 5-2 below summarises the quantities of metals on site generated by the demolition process, including the EWC code.

Table 5-2 Quantity of Metals

Material	EWC Code	Tonnage	Recommended Processing (%)	
			Reclamation	Recycling
Mixed Metals	17 04 07	3,017	0	100

RECOMMENDATIONS

5.4.5 Metal is the second most prevalent material expected to be generated by the demolition process. A number of metal types are to be found within the structures and external areas.

5.4.6 Reuse of structural metal (such as rebar within reinforced concrete) is not possible due to the manner in which it is extracted.

5.4.7 Whilst there is a small potential that some of the metals with the external areas such as fencing could be reused , this is considered unlikely due to logistical constraints. Reuse of these elements would likely require designated locations to transfer directly to at the time of demolition.

5.4.8 It is recommended that segregated containers for metal generated by the demolition process are used to ensure that all waste metal is captured.

5.4.9 Scrap metal is usually stored in skips or roll-on roll-off containers on site for before transfer to an appropriately licenced facility.

5.4.10 An example 40yd^3 container is shown in Figure 5-5 below.

Figure 5-5 Example 40yd³ Roll-On Roll-Off Container

5.4.11 Scrap metal has a value by weight and will generate a rebate based on the quality of the material.

5.4.12 The landfill diversion rate for the metals on site would be anticipated to be 100%.

5.5 LOCAL LICENCED WASTE CARRIERS

5.5.1 Table 5-3 below details a selection of licenced waste carriers local to the site that could be contracted to facilitate removal of waste materials.

Table 5-3 Local Waste Carriers

Waste Contractor	Waste Carrier Licence	Address	Contact	Distance (Miles)
O'Donovan Waste Disposal	CBDU116673	82 Markfield Road N15 4QF	02088019561	7
GBN Leyton	CBDU90075	GBN Services, Estate Way, Church Road, E10 7JN	0203 887 5345	5
GBN Canning Town	CBDU90075	GBN Services Ltd, Canning Town Depot, 11a Cody Road Business Centre, South Crescent, Canning Town E16 4TL	020 7987 2220	2
Bywaters	CBDU100793	Bywaters (Leyton) Twelvetrees Crescent E3 3JG	07721 647392	1.5
Norris Greenwich	CBDU89511	Station Approach, Orpington, BR5 2NB	01689806420	12
Powerday PLC	CBDU123332	32 Stephenson Street Canning Town London E16 4SA	02089604646	1.6

6 SUMMARY AND CONCLUSIONS

6.1 SUMMARY

6.1.1 The purpose of the audit is to identify and quantify where the key materials and components are present within the existing buildings, and to further identify the potential recycling or reuse strategy for them.

6.1.2 This report identifies materials and components for potential reuse or recycling from structures and hard landscaped areas due for demolition once all furniture and loose items have been removed.

6.1.3 This report helps to demonstrate the benefits of recycling and re-use of identified KDPs based on economic value, the number of units and viability of deconstruction.

6.1.4 The scope of the project includes the buildings and hard landscaped areas due for demolition as part of Phase A of the Aberfeldy Village masterplan, located within the administrative boundary of the London Borough of Tower Hamlets.

6.1.5 The two KDPs on site identified are as follows:

- Inert Materials; and
- Metals.

6.1.6 The two KDPs present on site represent an estimated 97.79% of all waste occurring on site.

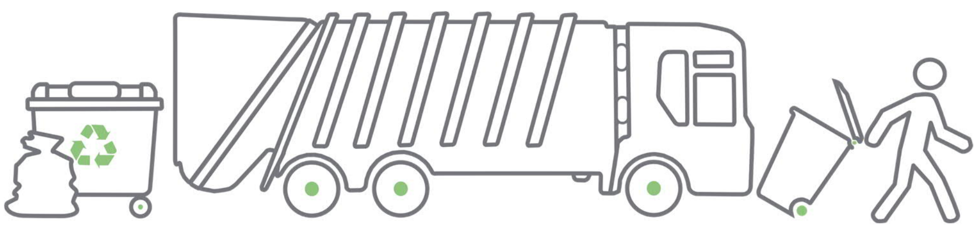
6.1.7 The landfill diversion rate for the KDPs on site would be anticipated to be 100%.

6.1.8 There are a number of waste carriers within the local area licenced to carry waste materials from site.

6.2 CONCLUSION

6.2.1 This Pre-Demolition Audit has taken into account the need to lessen the overall impact of waste generation through the reclamation and recycling of materials from the demolition phase of the Aberfeldy Village Development (Phase A).

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



VELOCITY
Transport Planning

APPENDIX C LEAN DESIGN ASSESSMENT

LEAN DESIGN STATEMENT

MEINHARDT UK

Aberfeldy Village Phase A

Doc Ref.: 2812-S-DN-002

MEINHARDT

Framing Options

CONCRETE FRAME
In-situ with flat slabs

STEEL FRAME
With profile concrete deck

MODULAR UNITS
With precast concrete slabs

CONCRETE WITH TIMBER INCLUDED
With CLT timber deck with Glulam beams for alternate floor levels.

During the planning stage different structural framing option were considered. These included traditional concrete Frame, traditional steel frame, modular construction and concrete frame with timber alternate levels.

Framing Appraisal

The following design considerations formed the decision to proceed with an reinforced concrete slab.

Design Considerations	Reinforced Concrete Frame/Flat Slab Design
Floor depth	Efficient slab depth - 250mm thick typical slabs
Embodied Carbon	Reduced using min 20% cement replacement and 40% recycled steel
Acoustics	Good natural acoustic damping qualities
Thermal mass	Good natural thermal massing qualities
Services integration	Thin structural floor depth with flat soffit simplifies service integration
Fire protection	Good natural resistance to fire
Future Maintenance	Low maintenance requirements

Embodied Carbon

The column spacings are efficiently located at approximately 7.0m centres throughout the builings:-

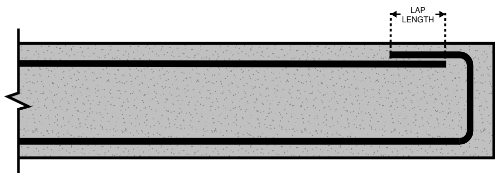
- Relatively thin slabs and subsequently low concrete volumes
- Uniform section sizes to limit form work types

- Optimising the steel reinforcement can further reduce the carbon in concrete. Low reinforcement volumes in the slab together with Cement Replacement can achieve a figure of 140kg/m^3

Embodied Carbon per Cubic Meter (kg)					
		Rebar Rate			
		1% (75 kg/m^3)	2% (150 kg/m^3)	3% (230 kg/m^3)	4% (330 kg/m^3)
Strength	C28/35	467	615	772	967
	C32/40	498	645	801	996
	C35/45 *	523	670	826	1020
	C40/50	549	695	850	1045

* No Cement Replacement

- The reinforcement can be efficiently detailed to avoid laps & wastage



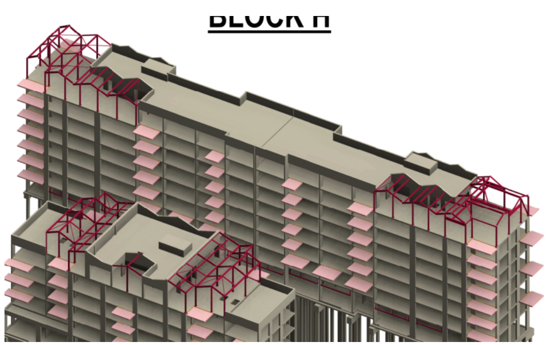
- The Cement Replacement such as GGBS or PFA will significantly reduce the embodied carbon in the concrete frame. Substitutions of up to 25-40% can be used in the superstructure and large values of up to 75% can be utilised in the foundations where curing times are generally less critical

Material Efficiency

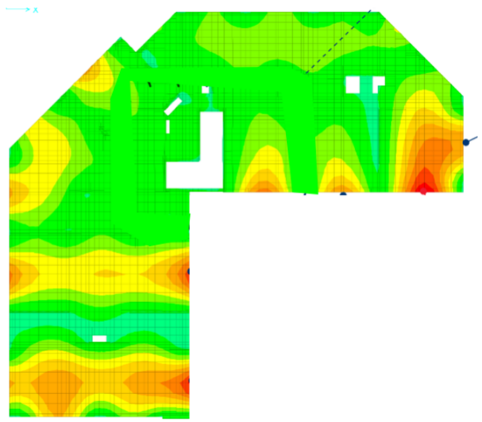
Early in the Stage 3 structural design process undertaken to support the development of the Phase A detailed planning application for Aberfeldy Village, floor slabs were modelled using finite element software.

By undertaking this early stage analysis, Meinhardt have been able to ensure that the typical proposed slab thickness (250 mm thick) is efficient in terms of steel reinforcement quantities required. Material usage has also been minimised by :-

- Avoiding transfer structures wherever possible, with transfers limited to location where the most efficient arrangement can be accommodated. On plot F concrete volumes were reduced by changing from a transfer slab to discrete transfer beam arrangement.
- Using light weight steel roof structures where possible or timber frames for low rise structures
- Doing more of the detailed analysis upfront
- Using discrete piled foundations rather than massive concrete rafts



Lightweight steel roof structures incorporated on block H



Example slab analysis (Plot F)– Long term deflection 3D contour plot (critical design criteria)

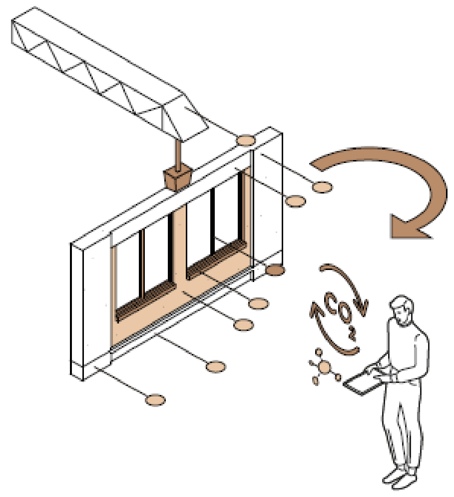
MORRIS+COMPANY

Material Assessment
Aberfeldy Village Phase A
A303-4.33-008
Date: Sep 2023

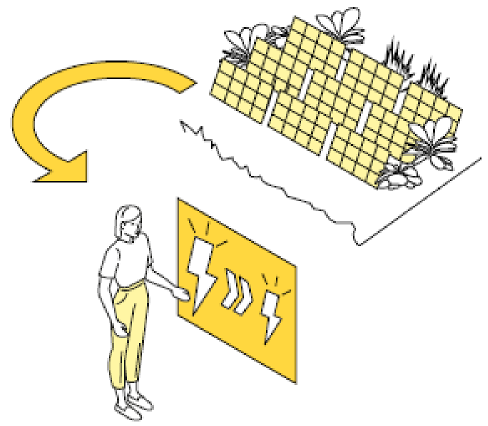
To optimise the use of materials in building design, procurement, construction, maintenance and end of life, the design team throughout the early development of Aberfeldy Village have implemented several strategies to optimise the design of the building.

This process has been developed in consideration of material efficiency, with the intent to reduce the overall material volume of the proposal whilst seeking solutions to improve the lifecycle and lifespan of the building.

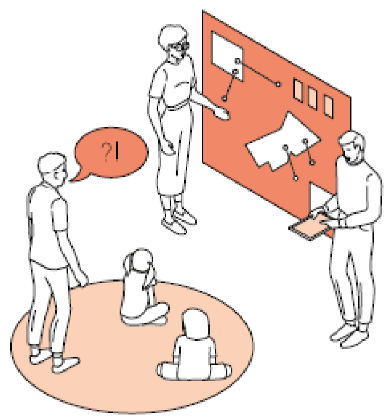
Building Element		**Objectives** Primary aspirations and targets for each respective element	**Design Strategies** Measures considered and incorporated in the proposed design
1.0	**Building Arrangement + Layout**		
1.01	General	Optimise building arrangement to mitigate unnecessary material usage	Where viable, the overall building arrangement has been articulated to seek efficiencies in circulation and area. This to optimise the practical use of the building but also to minimise waste and advocate a rigorously engineered arrangement.
1.02	Flexible Use	Suitably incorporate flexible use into the building arrangement	The ground floors of the building have been designed with inherent flexibility, allowing multiple uses across the space and elements (walls / windows etc) to be utilised in multiple ways and configurations, creating an efficient arrangement whilst reducing extra constructional demand in comparison with more onerous traditional, independent room allowance.
1.03	Cores	Consider the layout of the core to deliver material and spatial efficiencies	A single, centralised concrete core is proposed across the buildings. Whilst a practical solution for circulation, this also allows efficient structural and servicing solutions facilitated from the centre of the plan. Alongside this, a degree of ongoing flexibility has been coordinated within the service provision of the core, to future-proof the building and allow adaptability for future use and operators.
1.04	Basement and ground works	Optimise building arrangement to mitigate unnecessary sub surface accommodation and ground works	The ground floors of the building have utilised the existing site levels to minimise excavation, whilst not pursuing any basements.
2.0	**External Walls**		
2.01	General	Develop a façade design suited to the aesthetic and environmental demands of the building whilst in consideration of material use and delivery.	In principle 2 different systems of façade have been proposed; Lower Mixed-Use Floors: Precast masonry panels Upper Office Floors: Brickwork with metalwork balconies Visually, this has allowed the building to be developed as an expression of its parts; a separation between the upper levels of residential use and predominantly mixed-use



+ Low embodied carbon and rationalised design



+ Fabric first approach and low operational carbon



+ Social Value of materials to existing local character

			emphasis to the ground. Materially, efficiencies have been sought and for the design to respond rationally in context of each proposed system.
2.02	Façade – brickwork		The residential façade design has been developed as a rigorous repetition of parts, with a minimal number of elements in the aspiration for efficiency. This specifically in consideration of the balcony system, which has been designed for pre-fabricated, off site manufacture. Size / formats have been limited, with repetitive detailing for material efficiency. The façade modules and brick setting out have been regulated to allow an economy of scale whist optimising structural solutions and spans to optimise sub-structure support. The use of pre-fabricated elements will help to ensure quality in construction and finish, whilst also benefitting the installation programme.
2.03	Façade – pre-cast masonry panels to mixed use ground floors		To the lower ground floors, a more earthly, natural material palette is proposed, achieved through precast masonry panels. These will be durable and long lasting, that can suitably weather and age over time. Benefits will be brought through offsite fabrication, with further discussions on the material specification allowing strategies for sustainable methods to be explored. Setting out of joints and panels have strived to allow repetition in moulds and reduce waste.
3.0	**Masterplan**		
3.01	General reuse and repurpose of materials	Utilise the wider masterplan design and delivery to benefit material use across the site	As part of the wider masterplan of Aberfeldy, strategies are being advocated to maximise the reuse of existing structures and materials. This alongside the ambition to minimise the generation and environmental impacts of waste through maximising the opportunities for reuse and recovery. This will be crucial in the demolition and enabling works.
3.02	Shared access and servicing		Material efficiencies are being sought across the buildings through a shared strategy of design and delivery. This includes elements such as proposed lighting design, access roads, public realm etc
4.0	Construction Waste		
4.01	Contractor		Discussions with any prospective contractors will encourage and advocate targets to reduce operational waste and exceed best practice expectations. This includes consideration on site-wide waste management and transportation strategies, whilst considering methodologies for material circularity.

+ Plot F, H and i façade extracts

APPENDIX D SITE WASTE MANAGEMENT PLAN

ABERFELDY VILLAGE (PHASE A)

OUTLINE SITE WASTE MANAGEMENT PLAN

PROJECT NO. 4060/1100   DOC NO. D013

DATE: SEPTEMBER 2022

VERSION: 1.0

CLIENT: ABERFELDY VILLAGE LLP

Velocity Transport Planning Ltd

www.velocity-tp.com

DOCUMENT CONTROL SHEET

Document Reference

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Document Title	Outline Site Waste Management Plan
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Document Review

	Name	Date completed
Prepared By	Peter Hambling	30/09/2022
Reviewed By	Tom Mabelson	30/09/2022
Authorised By	Tom Mabelson	30/09/2022

Notes

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1 INTRODUCTION

1.1 INTRODUCTION

1.1.1 Velocity Transport Planning has been commissioned by Aberfeldy Village LLP (hereafter to referred as 'the Applicant') to prepare an Outline Site Waste Management Plan (SWMP) for the detailed application of Aberfeldy Village Phase A (hereafter referred to as the 'Proposed Development') which is part of a hybrid planning application that includes a wider masterplan area.

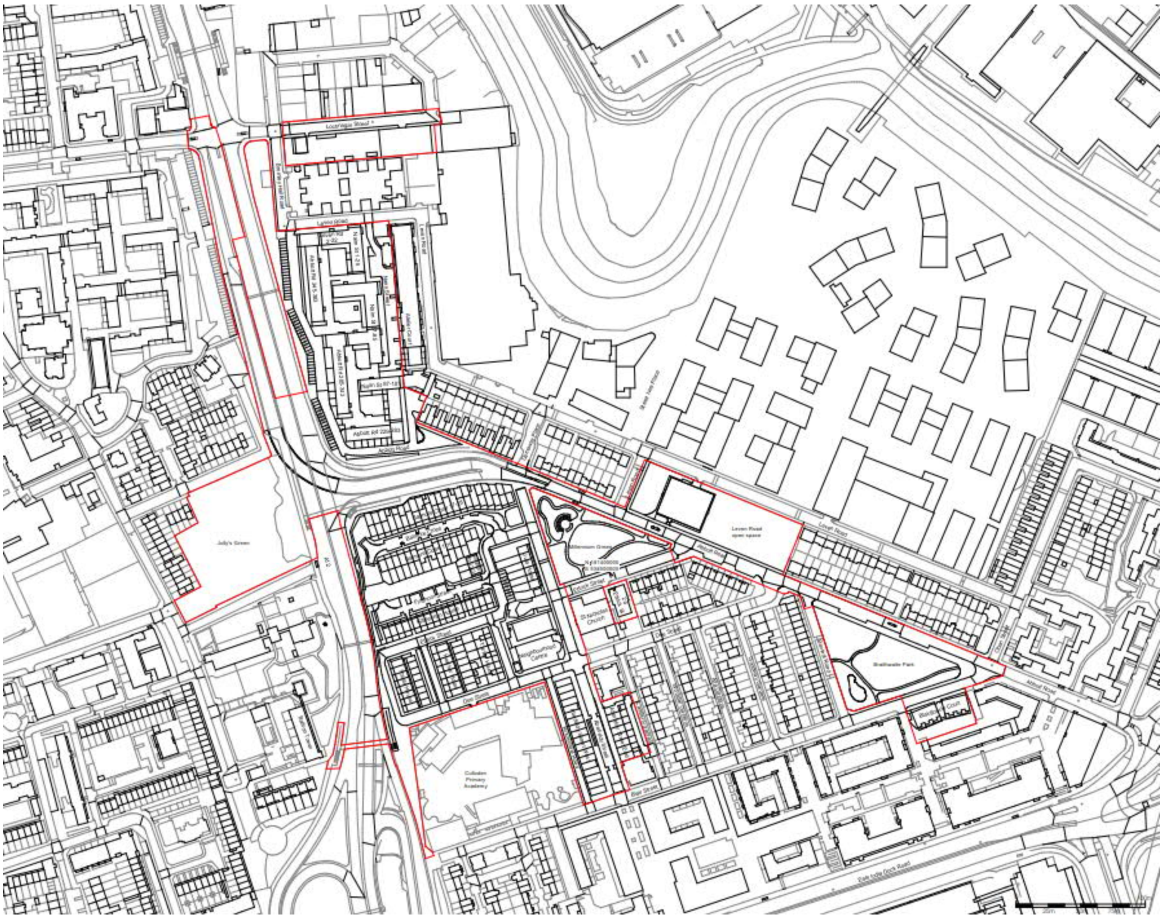
1.1.2 This Outline SWMP details how overarching waste management processes and practices will be undertaken during the demolition, site preparation, and construction phases of the Proposed Development.

1.2 SITE LOCATION

1.2.1 The Proposed Development is located in Poplar, within the administrative boundary of the London Borough of Tower Hamlets (LBTH).

1.2.2 The site location and extent of the hybrid planning application are shown in Figure 1-1 below.

Figure 1-1 Site Location



1.3 EXISTING SITES

1.3.1 The existing sites within the Proposed Development include four sites of residential, commercial and community use buildings, as well as one vacant plot.

1.3.2 Figure 1-2 below shows the extent of Phase A of the Aberfeldy Village masterplan.

Figure 1-2 Aberfeldy Village Phase A

1.3.3 The buildings and hard landscaped areas due for demolition are as follows:

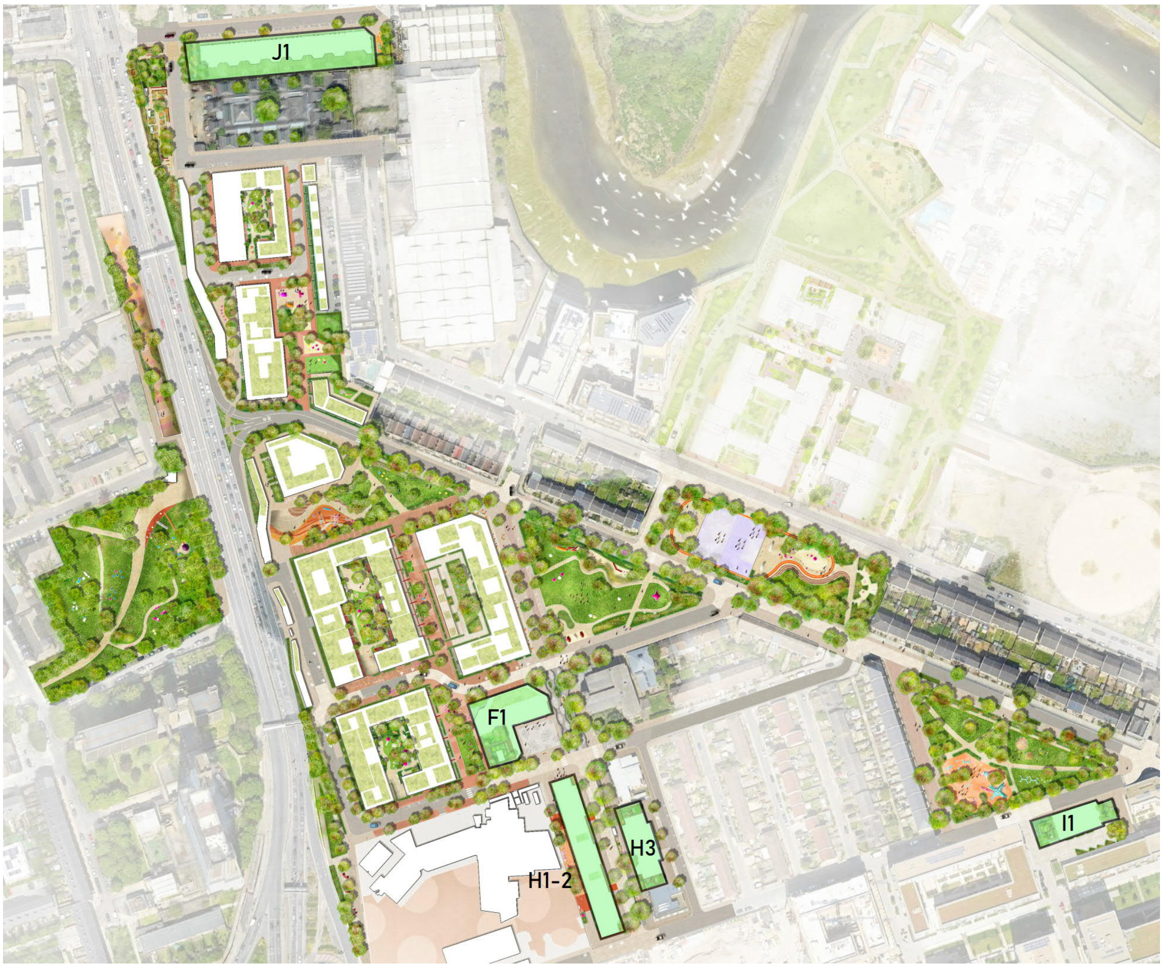
- Blairgowrie Court;
- Aberfeldy Street West;
- Aberfeldy Street East;
- Aberfeldy Neighbourhood Centre; and
- Lochnagar Street.

1.4 PROPOSED DEVELOPMENT

1.4.1 The Proposed Development includes five plots of predominantly residential buildings, with commercial and community uses at ground level.

1.4.2 Figure 1-3 below shows the locations of Phase A within the masterplan.

Figure 1-3 Proposed Development Phase A



1.5 DOCUMENT STRUCTURE

1.5.1 This report is set out in the following sections:

- Section 2: Demolition and Excavation Waste;
- Section 3: Construction Waste; and
- Section 4: Summary and Conclusion.

2 DEMOLITION AND EXCAVATION WASTE

2.1 INTRODUCTION

2.1.1 This section outlines the estimated waste anticipated to be generated by the existing structures on the site of the Proposed Development during the demolition and excavation phases.

2.1.2 All estimates should be considered indicative and will require updating by the relevant contractors upon appointment on site.

2.2 ESTIMATION OF DEMOLITION AND EXCAVATION WASTE

DEMOLITION WASTE

2.2.1 The following section has been informed by the Pre-Demolition Audit completed in September 2022 by Velocity Transport Planning.

2.2.2 Table 2-1 below shows the estimated weight of materials generated by the demolition process.

Table 2-1 Summary of Demolition Waste Generated

Material	Tonnes	% By Weight
Glass	122.40	0.29
Mixed Metals	3,017.32	7.13
Mixed Plastics	13.20	0.03
Tiles & Ceramics	16.90	0.04
Wood / Timber	23.84	0.06
Concrete / Binders	25,018.45	59.15
Bricks	12,342.52	29.18
Gypsum	681.39	1.61
Insulation	6.21	0.01
Carpets / Vinyl / Flooring	40.90	0.10
Electricals and Electronics	31.69	0.07
Asphalt	983.25	2.32
Mixed	-	0.00
Total	42,298.07	

2.2.3 Two Key Demolition Products (KDPs) were identified by the Pre-Demolition Audit, as follows:

- Inert Materials; and
- Metals.

2.2.4 The predominant KDP on site has been identified as inert materials, which are a group of materials that are handled and processed in the same manner during demolition and subsequent processing.

2.2.5 The inert materials generated by the demolition process are located within the following elements on site:

- Structural building frame;
- Internal walls;

- External walls; and
- Areas of hard landscaping.

2.2.6 Table 2-2 below summarises the details of the inert materials present on site, including tonnage and reclamation or recycling rate.

Table 2-2 Inert Demolition Waste

Material	EWC Code	Tonnage	Recommended Processing (%)	
			Reclamation	Recycling
Bricks	17 01 02	12,343	0	100
Tiles and Ceramics	17 01 03	16.9	0	100
Concrete / Hardcore	17 01 07	25,018	0	100
Asphalt	17 03 02	983	0	100
Total		38,361	0	100

2.2.7 The second KDP on site has been identified as metals, with use across all structures for a number of purposes.

2.2.8 The metal generated by the demolition process are located within the following elements on site:

- Structural building frame;
- Mechanical and Electrical Plant (MEP);
- Balconies;
- Doors and windows;
- Walls;
- Lifts and stairs;
- Roof; and
- Pipes and ducting.

2.2.9 Table 2-3 below summarises the details of the secondary KDP on site, including tonnage and reclamation or recycling rate.

Table 2-3 Mixed Metals Demolition Waste

Material	EWC Code	Tonnage	Recommended Processing (%)	
			Reclamation	Recycling
Mixed Metals	17 04 07	3,017	0	100

EXCAVATION WASTE

2.2.10 Following demolition of the existing structures, and removal of the hard landscaping, excavation will be required to facilitate the structural requirements of the Proposed Development.

2.2.11 The Proposed Developed includes no basement levels; the excavation works, and the quantity of material removed is associated only with the foundations.

CAPPING LAYER

2.2.12 It is assumed the capping layer will be removed during the demolition works.

MADE GROUND

2.2.13 Following the removal of the concrete/tarmac hardstanding areas the existing site levels will need to be levelled and further reduced preparation for the foundation works.

2.2.14 It is assumed that this depth will be approximately 100mm across the total area of the building footprints (approximately 6,170m^2) which equates to circa 617m^3 of made ground.

2.2.15 Applying an industry standard bulking factor of 1.2 to this volume equates to approximately 740m^3 of excavated material.

PILE ARISINGS AND FOUNDATIONS

2.2.16 The proposed structural plans identify that the foundations comprise a ground floor suspended slab supported on pile caps for each block.

2.2.17 Table 2-4 below summarises the volume of concrete required for the structural proposals for each plot, including the pile caps, ground beams, piles, and slabs.

Table 2-4 Structural Proposals

Plot	Volume (m^3)
F	3,548
H	5,749
I	2,784
J	2,851
Total	14,932

2.2.18 Applying an industry standard bulking factor of 1.2 to the total volume equates to approximately 17,918m^3 excavated material.

2.2.19 It is anticipated that this volume of material will decrease as the structural proposals are refined during the later design stages.

2.3 MANAGEMENT OF DEMOLITION AND EXCAVATION WASTE

2.3.1 Waste arising from site clearance, primary infrastructure and earthworks is expected to comprise rubble, concrete, road planings from existing hard-standings, gravel, and clay material.

2.3.2 It is proposed that the excavated concrete and tarmac from the capping layer is crushed on site for reuse as secondary aggregate. It should be noted that any potential re-use of materials should be undertaken under a Materials Management Plan in line with the CL:AIRE Code of Practice.

2.3.3 Any clean excavated material that cannot be reused on-site will be removed by licensed waste carriers and sent for reuse at another local development site, recycled into secondary aggregate or sent for disposal at appropriately licensed facilities (these are expected to be inert waste landfill sites).

2.3.4 For the purpose of this exercise, it is assumed that all made ground will be unsuitable for reuse on site and will be removed from site. This can be reviewed in more detail once sufficient on-site investigation and associated material testing has been conducted. All loads removed on site would be transferred to appropriately licenced facilities for reuse or recycling.

2.3.5 Any contaminated material found that requires removal from the site will be collected by suitable waste carriers and sent for disposal at appropriately licensed waste facilities.

2.3.6 Table 2-5 below details the estimated number of vehicles required to remove the material generated during the site clearance and excavation phases.

Table 2-5 Excavation Material Generation and Vehicle Movements

On-Site Activity	Reused On-Site	Material Removed from Site	Volume of Material (m^3)	Number of Vehicle Loads Required **
Levelling of site and removal of made ground	No *	Yes	740	74
Pile Cap / Pile Arisings	No *	Yes	17,918	1,792
		Total	18,658	1,866

** Until chemical and physical properties are established through appropriate testing methods, it is assumed all excavated material is unsuitable for reuse on site.*

*** Assumes 10m^3 volume HGVs*

3 CONSTRUCTION WASTE

3.1 CONSIDERATE CONSTRUCTORS SCHEME

3.1.1 It is expected that the Principal Contractor(s), once appointed, will register their site with the 'Considerate Constructors Scheme'. This is a national initiative, set up by the construction industry. Sites that register with the Scheme sign up and are monitored against a Code of Considerate Practice, designed to encourage best practice beyond statutory requirements.

3.1.2 The Scheme is concerned about any area of construction activity that may have a direct or indirect impact on the image of the industry as a whole. The main areas of concern fall into three categories: the environment, the workforce, and the general public. Waste management is a key area of focus and on-site considerations may include:

- How waste is avoided, reduced, reused, and/or recycled;
- Whether there is a Waste Management Plan/Strategy and how this is monitored; and
- The type of feedback received (if any) as to how much waste on-site is diverted from landfill.

3.1.3 It is expected that registered construction sites work in an environmentally conscious, sustainable manner.

3.2 SITE WASTE MANAGEMENT PLAN

3.2.1 As part of a drive to cut red tape, the Government revoked the requirement for Site Waste Management Plans (SWMPs) for construction projects costing over £300,000 as of 1 December 2013 and they are no longer statutory.

3.2.2 However, SWMPs remain good practice during construction and allow waste credits to be achieved under certification schemes such as BREEAM; one will be prepared by the Principal Contractor(s) once appointed, post planning consent.

3.3 ESTIMATED CONSTRUCTION WASTE

3.3.1 During each stage of the construction process there is the potential to generate waste from a variety of means, including the over-ordering or on-site damage of raw materials and construction process waste, such as material off-cuts, packaging, and chemical residues.

3.3.2 Opportunities for minimising construction waste are discussed in this section, considering issues such as reducing waste through selection of more sustainable raw materials and the implementation of effective on-site waste management practices.

3.3.3 The Greater London Authority (GLA) has produced data based on all Circular Economy Statements submitted up to and including January 2022 in the calculation of construction waste arisings at the design of a new development. The construction waste arisings metric measures tonnes of waste/m^2 of floor area.

3.3.4 Table 3-1 shows the relevant metric for the Proposed Development, chosen as the median value for the range.

Table 3-1 Environmental Performance Indicators

Project Type	Tonnes/m² GIA
Residential / Commercial / Community	0.093
Source: GLA London Plan Guidance: Circular Economy Statements (Issued March 2022)	

3.3.5 Table 3-2 shows the estimated construction waste arisings for all elements of the Proposed Development, based on indicative GIA and applicable GLA metric.

Table 3-2 Estimated Construction Waste Arisings

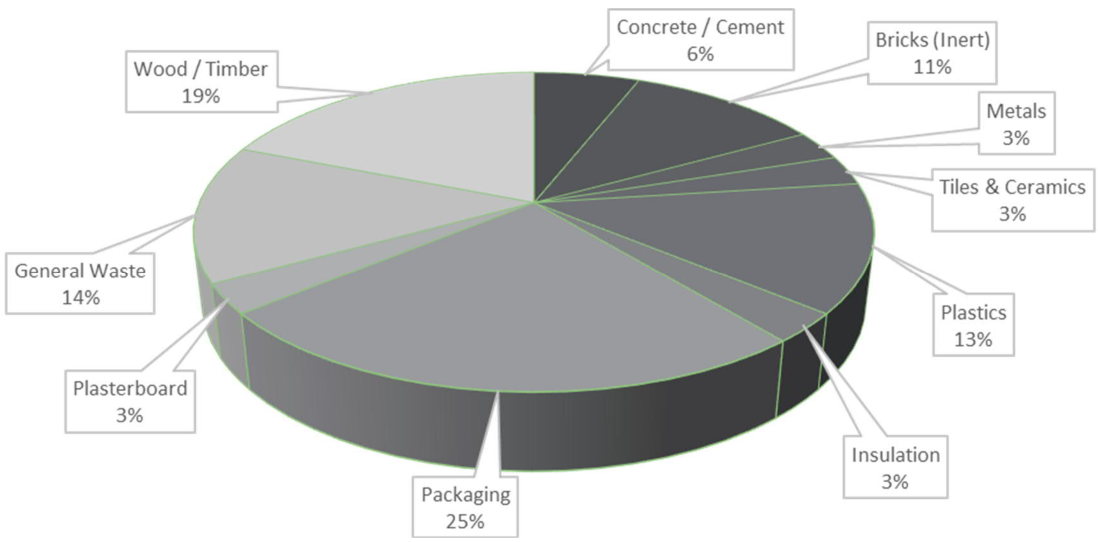
Use	GIA (m^2)	Construction Waste Arisings (Tonnes per m^2)	Construction Waste (Tonnes)
Residential	19,663.99	0.093	1,829
Non-Residential	1,489.7		139
Total	21,153.69	-	1,967

3.3.6 It is estimated that approximately 1,967 tonnes of waste may arise from the construction phase of the Proposed Development.

3.3.7 It should be noted that the estimated total figure also does not include waste from infrastructure development, such as utilities and pavements, which will add to the total construction waste volume. This is due to the fact that infrastructure development cannot be easily calculated using benchmarking data; and the BRE have no applicable information on this area of construction.

3.3.8 Figure 3-1 illustrates the estimated composition of construction waste arisings for the Proposed Development, based on data from UK construction projects of a similar nature.

Figure 3-1 Estimated Construction Waste Composition (Source: SmartWaste)



3.3.9 Table 3-3 shows the typical recovery rate of construction materials.

Table 3-3 Recovery Rate of Construction Materials

Material	Standard recovery * %	Good practice recovery * (quick win) %	Best practice recovery * %
Timber	57	90	95
Metals	95	100	100
Plasterboard	30	90	95
Packaging	60	85	95
Ceramics	75	85	100
Concrete	75	95	100
Inert	75	95	100
Plastics	60	80	95
Miscellaneous	12	50	95
Electrical equipment	Limited information	70 **	95
Furniture	0-15	25	50
Insulation	12	50	95
Cement	Limited information	75	95
Liquids and oils	100	100	100
Hazardous	50	Limited information ***	Limited information ***

** Proposed waste management actions 'reuse' and 'recycling' are forms of waste recovery.*

*** This is a required recovery target for the type of waste electrical and electronic equipment (WEEE) likely to be produced from construction sites, e.g. Lighting (the WEEE regulations).*

**** This cannot be 100% as most hazardous waste streams (e.g. Asbestos) must be landfilled.*

3.3.10 Table 3-4 shows the type and volume of waste generated during construction based on the percentages provided in Figure 3-1.

3.3.11 The *Best Practice Recovery* values in Table 3-3 were used to determine the percentage recovered from the construction materials.

Table 3-4 Type and Volume of Waste to be Generated During Construction

Material	Estimated Quantity (Tonnes)		
	Total	Recovered	Disposal
Concrete / Cement	118	118	-
Bricks (Inert)	216	216	-
Metals	59	59	-
Tiles & Ceramics	59	59	-
Plastics	256	243	13
Insulation	59	56	3
Packaging	492	467	25
Plasterboard	59	56	3
Miscellaneous	275	262	13
Wood/Timber	374	355	19
Total	1,967	1,891	76

3.3.12 It is assumed that where it is not possible to reuse or recycle construction waste, contractors will use disposal routes that divert material from landfill, such as Energy from Waste (EfW), Refuse Derived Fuel (RDF) or Solid Recovered Fuel (SRF).

3.3.13 It should be noted that typical hazardous materials from construction sites that fall within the Hazardous Waste Regulations include:

- Treated wood, glass, plastic (alone or in mixture) containing dangerous substances;
- Bituminous mixture containing coal tar and other dangerous substances;
- Metals containing oil, coal tar and other dangerous substances;
- Cables containing oil, coal tar and other dangerous substance;
- Rubble or hardcore containing dangerous substances;
- Soil, stones and dredging spoil containing dangerous substances;
- Gypsum materials such as plasterboard containing hazardous materials;
- Unused or unset cement;
- Paints and varnishes containing organic solvents or other dangerous substances;
- Paint or varnish remover;
- Adhesives and sealants containing organic solvent or other dangerous substances; and
- Empty packaging contaminated with residues of dangerous substances e.g. paint cans.

3.3.14 Hazardous waste materials will be stored in secure bunded compounds in appropriate containers which are clearly labelled to identify their hazardous properties and are accompanied by the appropriate assessment sheets.

3.3.15 Any fuels, oils and chemicals that are used will be stored in appropriate containers within secure bunded compounds in accordance with good site practice and regulatory guidelines and located away from sensitive receptors.

SUSTAINABLE SELECTION OF CONSTRUCTION MATERIALS

3.3.16 A sustainable materials selection strategy will be prepared prior to the construction of the Proposed Development. Measures will be taken, such as face-to-face ‘toolbox talks’ and provision of clear operational instructions, to ensure that contractors are committed to the operation of good practice measures on-site with emphasis on continual improvement and identifying appropriate opportunities to reduce waste, promote recycling and use recyclable materials. The ordering of appropriate, minimum amounts of building materials will be part of the materials selection strategy. Prefabricated materials will also be used wherever possible, for example CLT will be used in the construction of the three storey townhouses.

SETTING TARGETS FOR REDUCING CONSTRUCTION WASTE

3.3.17 Appropriate targets and objectives will be set in relation to the minimisation, reuse, and recycling of any waste materials during earth works and construction. This will ensure that a clear action plan is generated for the management of specified types and quantities of materials identified for each of the construction stages. These targets will be agreed at the inaugural meeting between the Principal Contractors, the contractors and LBTH.

3.3.18 To ensure that the system of waste prevention, minimisation, reuse and recycling is effective, consideration will be given to the setting of on-site waste targets and a suitable programme of monitoring at regular intervals to focus upon:

- Quantifying raw material wastage;

- Quantifying the generation of each waste stream;
- Any improvements in current working practices;
- Methods by which the waste streams are being handled and stored; and
- The available waste disposal routes used, e.g. landfills, waste transfer stations.

3.3.19 The Principal Contractors will be responsible for the setting and review of waste targets from the outset of the development process to ensure that high standards are maintained with the emphasis being on continual improvement. Specific waste quantification and monitoring will assist in determining the success of waste management initiatives employed on each construction site and progress against these targets should be relayed back to the appropriate stakeholders.

ACHIEVING REDUCTIONS IN CONSTRUCTION WASTE - PROMOTION OF BEST PRACTICE

3.3.20 As part of the encouragement of on-site best practice, there will also be a need to ensure that suppliers of raw materials to the Proposed Development are committed to reducing any surplus packaging associated with the supply of any raw materials. This includes the reduction of plastics (i.e. shrink wrap and bubble wrap), cardboard and wooden pallets. This may involve improved procurement and consultation with selected suppliers regarding commitments to waste minimisation, recycling, and the emphasis on continual improvement in environmental performance.

3.3.21 Table 3-5 below summarises the most important mitigation measures to minimise the potential waste of on-site materials during construction. It is important to note, however, that not all construction materials will be provided by local suppliers.

Table 3-5 Measures to Reduce Waste of On-Site Construction Materials

Ordering	Delivery
Avoid: • Over-ordering (order 'just in time') • Ordering standard lengths rather than lengths required • Ordering for delivery at the wrong time (update programme regularly)	Avoid: • Damage during unloading • Delivery to inappropriate areas of the site • Accepting incorrect deliveries, specification or quantity
Storage	**Handling**
Avoid: • Damage to materials from incorrect storage • Loss, theft or vandalism through secure storage and on-site security	Avoid: • Damage or spillage through incorrect or repetitive handling

3.3.22 Where practicable, waste streams that have the potential to be reused on-site or transported off-site for recycling will need to be segregated. Although every effort will be made to retain all suitable materials on-site, it is possible that some of these materials cannot be reused or recycled during the construction process. In these situations, the Site Managers will work to identify a nearby Transfer Station or suitably licensed facility in order for material to be redistributed as fill on other suitable sites. This represents the most sustainable alternative to landfill disposal.

CONSTRUCTION MATERIALS AND WASTE STORAGE

3.3.23 Emphasis will be placed on the provision of appropriate storage conditions for raw materials and key waste streams relating to each development. This will include the segregation of material for reuse or recycling on-site. Where this is not practicable, materials will be segregated for off-site recycling.

3.3.24 The location of the waste storage areas will be clearly labelled, identifying the materials that can be received. Provisions that will be made include:

- Temporary offices and work compounds on-site will retain all details relating to the waste strategy for the site, health and safety and monitoring and reporting details;
- Storage areas for raw materials and assembly areas for construction components will be located away from sensitive receptors;
- Clearly identified containers for segregated waste streams for reuse and recycling; and
- Dedicated skips will be provided for any construction waste that requires off-site disposal.

3.3.25 In addition, the provision of effective and secure storage areas for construction materials is important to ensure that potential loss of material from damage, vandalism or theft is avoided. These measures will be supported by ensuring well-timed deliveries to the site, providing on-site security, and installing temporary site security fencing.

3.3.26 Implementation of good practice measures in terms of on-site storage and security practices will assist in reducing unnecessary wastage of material and ensure that high standards are maintained throughout the development process.

MANAGING TRANSPORT AND TRAFFIC IMPACTS FROM CONSTRUCTION

3.3.27 The logistics associated with construction waste are affected by a wide range of factors. The quantity and types of waste materials generated will fluctuate during the construction phases and the resulting number of waste collections will be dictated by a range of variables, including the amount of storage space for waste, the capacity of waste containers used, the materials segregated for recycling and whether any on-site processes are used for reducing the volume of waste (compactors / balers / shredders etc.).

3.3.28 The Principal Contractors will be expected to provide construction waste logistics forecasts, which will be discussed with waste contractors and LBTH following appointment of relevant parties.

3.3.29 The impact of traffic associated with the movement of construction and waste materials on surrounding neighbourhoods and the local road network will be minimised by a combination of factors. These include reducing the need to import / export materials; and minimising off-site removal of waste to landfill. Dedicated haulage routes will be agreed with LBTH to minimise disturbance to local communities.

4 SUMMARY & CONCLUSION

4.1 SUMMARY

SITE PREPARATION AND EARTHWORKS

4.1.1 Waste arising from site clearance, primary infrastructure and earthworks is expected to comprise topsoil, rubble, concrete, and road planings from existing hard-standings, gravel, and clay material.

4.1.2 Any clean excavated material that cannot be reused on-site will be removed by licensed waste carriers and sent for reuse at another local development site, recycled into secondary aggregate or sent for disposal at appropriately licensed facilities.

4.1.3 Any contaminated material found that requires removal from the site will be collected by suitable waste carriers and sent for disposal at appropriately licensed waste facilities.

CONSTRUCTION WASTE

4.1.4 During each stage of the construction process there is the potential to generate waste from a variety of means, including the over-ordering or on-site damage of raw materials and construction process waste, such as material off-cuts, packaging, and chemical residues.

4.1.5 Construction waste has been estimated using data provided by the GLA within their Circular Economy guidance. The construction waste arisings metric measures tonnes of waste/m^2 of floor area.

4.1.6 Where it is not possible to reuse or recycle construction waste, contractors will be expected to seek disposal routes that divert material from landfill, such as Energy from Waste (EfW), as Refuse Derived Fuel (RDF) or Solid Recovered Fuel (SRF).

4.1.7 Hazardous waste materials will be stored in secure bunded compounds in appropriate containers which are clearly labelled to identify their hazardous properties and are accompanied by the appropriate assessment sheets.

4.1.8 Any fuels, oils and chemicals that are used will be stored in appropriate containers within secure bunded compounds in accordance with good site practice and regulatory guidelines and located away from sensitive receptors.

4.1.9 Appropriate targets and objectives will be set in relation to the minimisation, reuse, and recycling of any waste materials during earth works and construction. This will ensure that a clear action plan is generated for the management of specified types and quantities of materials identified for each of the construction stages. These targets will be agreed at the inaugural meeting between the Principal Contractors, the contractors and LBTH.

4.1.10 The Principal Contractors will be responsible for the setting and review of waste targets from the outset of the development process to ensure that high standards are maintained with the emphasis being on continual improvement. Specific waste quantification and monitoring will assist in determining the success of waste management initiatives employed on each construction site and progress against these targets should be relayed back to the appropriate stakeholders.

4.1.11 Emphasis will be placed on the provision of appropriate storage conditions for raw materials and key waste streams relating to each development. This will include the segregation of material for reuse or recycling on-site. Where this is not practicable, materials will be segregated for off-site recycling.

4.1.12 The Principal Contractors will be expected to provide construction waste logistics forecasts, which will be discussed with waste contractors and LBTH following appointment of relevant parties.

4.1.13 The impact of traffic associated with the movement of construction and waste materials on surrounding neighbourhoods and the local road network will be minimised by a combination of factors. These include reducing the need to import / export materials; and minimising off-site removal of waste to landfill. Dedicated haulage routes will be agreed with LBTH to minimise disturbance to local communities.

CONCLUSION

4.1.14 This Outline SWMP has considered the need to lessen the overall impact of waste generation through recycling of materials from the construction phase of the Proposed Development.

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

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