BOOKERS, 41-49 BATTERSEA PARK ROAD, LONDON

BREEAM UK NEW CONSTRUCTION 2018 WST 01 PRE-DEMOLITION AUDIT REPORT

FOR

WATKIN JONES GROUP



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Content

EXECUTIVE SUMMARY	. 4	
I. PROJECT INTRODUCTION	. 6	
2. PROJECT SCOPE	. 6	
3. PRE-DEMOLITION AUDIT METHODOLOGY	. 9	
1. AUDIT RESULTS	10	
1.1 KEY DEMOLITION PRODUCTS	12	
4.1.1 CONCRETE	12	
4.1.2 Brick	13	
4.1.3 METALS	14	
4.1.4 GYPSUM	15	
4.1.5 INSULATION	16	
4.1.6 Additional Material Types	17	
5. NOTES ON REUSE	20	
5. RECOMMENDATIONS FOR DEMOLITION MATERIALS	21	
6.1 Targets	21	
APPENDIX A23		
DISCLAIMER25		

Executive Summary

The aim of this report is to contribute to the sustainable management of materials arising from the demolition of the Bookers warehouse located at 41-49 Battersea Park Road, London, SW8. Demolition is in two phases: Phase 1 BMW Garage (complete), Phase 2 Booker Warehouse, to commence Autumn 2022. This report is for the Booker Warehouse only. The recommendations in the report are based on plans provided to ADW Developments by Watkin Jones Group. The report has been prepared by Toby Balson and Katherine Adams on behalf of ADW Developments. See Appendix A for details of the report authors.

A non-invasive visual survey of the buildings was carried out on 17 March 2022. Access to all areas was provided.

The estimated Key Demolition Products (KDP) by weight are Concrete (83%), Brick (10%), Metals (6%), Gypsum (0.2%), and Insulation (0.2%), with smaller amounts of Timber, Ceramic, Plastics and Carpet. Miscellaneous items and WEEE are also present although these have not all been quantified.

It is recommended that a target of 95% diversion of waste from landfill (by weight) should be set. This is mostly through recycling. There may be some opportunity for reuse of some of the steel sections and sheets.

Key Demolition Products	Weight (tonnes)	Volume (m ³)	European Waste Catalogue number
Concrete	3,371	1,615	17 01 01
Brick	401	236	17 01 02
Metals	253	33	17 04 05
Gypsum	8	11	17 08 02
Insulation	7	142	17 06 04
Timber	5	9	17 02 01
Ceramic	3	1	17 01 03
Plastics	2	3	17 02 03
Carpet	0.3	0.3	20 01 11
Glass	0	0	17 02 02
WEEE *	-	-	16 02 14
Grand Total	4,050	2,049	

Key Demolition Products (KDP)

* Not all quantified

Key Demolition Products (KDP) by percentage weight



1. Project Introduction

At the request of Watkin Jones Group, a pre-demolition audit of the building at 41-49 Battersea Park Road has been undertaken. This audit addresses the potential for reusing and recycling components and materials from the building and aims to:

- provide an understanding of the materials likely to arise from the demolition in order to help with the development of a Resource Management Plan
- maximise the management of material removed from the building in line with the waste hierarchy i.e. maximise reuse and recycling and minimise waste to landfill
- provide evidence for any external assessment such as BREEAM
- input into the Circular Economy Statement for the Greater London Authority

The pre-demolition audit covers the entire building to be demolished, as described in section 2 below.

No detailed plans were available for the Booker Warehouse.

2. Project scope

Our understanding is that the existing building on site will be completely demolished; the building is pictured below.



No detailed plans of the Booker Warehouse were provided, however site plans were available. The figure below shows the extent of the warehouse.



The figure below shows the extent of the new scheme.



Elevations are also shown below of the existing building.



The building is not suitable for reuse and or retrofit. These are for the following reasons:

- The existing building is a brick and block warehouse with a metal roof. The proposed development is
 for entirely different uses (i.e. residential, student accommodation and commercial business use).
 There is therefore no option of refurbishment as it is complete change of use and technically is not
 suited to the new uses of the site.
- The existing warehouse cannot be repurposed to suit the proposed use classes of the new development. The existing building (warehouse) would not be technically fit for purpose or as a habitable space, even through repurposing for the new uses.
- It is unlikely structurally, the building could be adapted i.e. Vertically; more over due to its position on site it is difficult to also extend horizontally.

3. Pre-Demolition Audit Methodology

A non-invasive visual survey of the building was carried out on 17 March 2022. Access to all areas was provided.

The building was analysed in accordance with the gathered information, and the volume (m³) figures calculated for each construction material have been converted into tonnages using standard density figures for each material assessed.

Please note that as the survey was non-invasive, certain aspects have been assumed based on typical practice, including but not limited to e.g. presence of insulation within wall partitions, the nature and dimensions of hidden structural elements, etc. MEP has been noted where visible, e.g. lighting.

Waste Electrical and Electronic Equipment (WEEE) falls outside the direct scope of this analysis and as such these items have not been quantified with weights and volumes; however their presence has been noted and reuse options have been suggested.

It has been assumed that all shelving/racking and commercial equipment (refrigeration/cash registers etc) on site will be removed by Bookers for reuse elsewhere.

Note: The findings and values contained in this report represent the best estimate of the materials and components within the units by means of using drawings and photographs of the areas. We did not receive a complete inventory of the types of materials and construction used, and where necessary construction details have been inferred. Material conversion rates used to calculate volume (m³) into tonnages have been undertaken using standard density factors.

4. Audit Results

A number of Key Demolition Products (KDP) that presented the greatest potential for recycling were identified. An estimate of the overall volume and tonnage of waste likely to be generated during the partial demolition are shown in Table 1 and in Chart 1 and 2.

The estimated Key Demolition Products (KDP) by weight are Concrete (83%), Brick (10%), Metals (6%), Gypsum (0.2%), and Insulation (0.2%), with smaller amounts of Timber, Ceramic, Plastics and Carpet. Miscellaneous items and WEEE are also present although these have not all been quantified.

The largest KDPs by volume are Concrete (79%), Brick (12%), Insulation (7%), Metals (2%), and Gypsum (1%), with smaller amounts of Timber, Plastics, Ceramic and Carpet.

Key Demolition Products	Weight (tonnes)	Volume (m ³)	European Waste Catalogue number
Concrete	3,371	1,615	17 01 01
Brick	401	236	17 01 02
Metals	253	33	17 04 05
Gypsum	8	11	17 08 02
Insulation	7	142	17 06 04
Timber	5	9	17 02 01
Ceramic	3	1	17 01 03
Plastics	2	3	17 02 03
Carpet	0.3	0.3	20 01 11
Glass	0	0	17 02 02
WEEE *	-	-	16 02 14
Grand Total	4,050	2,049	

Table 1: Summary of Key Demolition Products

*Not all quantified.



Chart 1: Summary of Key Demolition Products (KDP) by percentage weight

Chart 2: Summary of Key Demolition Products (KDP) by percentage volume



Miscellaneous items and Waste Electrical and Electronic Equipment (WEEE) have been considered separately. The Key Demolition Products (KDP) are now described.

4.1 Key Demolition Products

4.1.1 Concrete

Concrete accounts for an estimated 3,371 tonnes or 83% of total waste arisings by weight; sources can be seen in Table 2.

As it is a major waste source, it is recommended reuse and recycling plans for concrete are carefully considered. The major element is the concrete floor slab, assumed to be standard reinforced concrete. Other sources include blockwork walls, and mortars used for brickwork and blockwork; as it will not be possible to fully separate the mortar these will need to be disposed of along with those materials.

It is recommended that the concrete should be segregated either onsite or at a waste facility and crushed to produce recycled concrete aggregate (RCA)¹ in accordance with the WRAP Quality Protocol for aggregates² from inert waste. If sufficient space is available on site, consideration should be given to potentially reprocessing on site, to avoid transit and other costs.

There may an opportunity to use some of the RCA in the new construction. RCA can be used in:

- 1. Bitumen bound materials: e.g. base course or binder course mixtures.
- 2. Concrete: RCA can potentially be used to replace 20% of the coarse aggregate in concrete up to Grade 50.
- 3. Pipe bedding: suitably graded recycled concrete aggregate is used in pipe bedding.
- 4. Hydraulically bound mixtures (HBM) for subbase and base: RCA can be used in the construction of car parks, estate/minor roads and hard standing.
- 5. Unbound mixtures for subbase: suitably graded recycled concrete aggregate is used as subbase.
- 6. Capping: recycled concrete aggregate is suitable for capping applications.

Item	Tonnes	Volume
Concrete floor slab	2,345.68	977.37
Block walls	652.79	466.28
Concrete columns	222.39	92.66
Mortar and grout	143.96	75.77
Concrete steps	5.85	2.44
Total	3,371	1,615

Table 2: sources of concrete

Local waste management companies that could manage the concrete waste include:

- Brewsters Waste Management, www.brewsterswaste.co.uk, 020 7474 3535 •
- Ohara Bros http://oharabros.co.uk/services/aggregates-recycling, 020 8424 2220 •
- RTS Waste, www.rtswaste.co.uk, 020 7232 1711 •
- Days Group, http://www.daygroup.co.uk/, 0845 065 4655

¹ Recycled concrete aggregate is aggregate resulting from the processing of inorganic material previously used in construction and principally comprising crushed concrete [BS 8500-1: 2002].

² https://www.gov.uk/government/publications/quality-protocol-production-of-aggregates-from-inert-waste Copyright © 2011-2022 ADW Developments. All rights reserved 12

4.1.2 Brick

Brick accounts for an estimated 401 tonnes of KDP, 10% of total waste arisings by weight. The sources are shown in Table 3 below.

Item	Tonnes	Volume
External walls	395.45	232.62
Internal walls	5.64	3.32
Total	401	236

Table 3: sources of brick

Due to the age of the structure, it is likely that the walls have been constructed with cement mortar which will make reclaiming the bricks for reuse challenging. Nevertheless, due to current supply challenges and the volume of material present, this option should be investigated via commissioning a mortar test to determine composition.

If the bricks cannot be separated, it is recommended that the brick waste is segregated either onsite or at a waste facility and crushed to produce recycled aggregate (RA). This should, if possible, be kept separate from the concrete waste as it is of lower value. Waste management options are similar to concrete, depending on the level of contamination with other materials including pipe bedding, drainage, granular fill, general fill and capping and for sub base.

Finished recycled aggregates should not contain more than 1% (by weight of clay, soil, metals, wood, plastic, rubber and gypsum plaster, in line with the limits set within the aggregates standard. The Quality Protocol for inert materials should be followed.

Local reclamation companies that can be contacted with regard to reclaiming the bricks and the value in doing so include:

- London Reclaimed Brick Merchants, <u>www.lrbm.com</u>, 020 8452 1111
- Salvo, <u>www.salvoweb.com/</u>

Local waste management companies that could manage the waste (which are the same as the concrete) include:

- Brewsters Waste Management, <u>www.brewsterswaste.co.uk</u>, 020 7474 3535
- Ohara Bros <u>http://oharabros.co.uk/services/aggregates-recycling</u>, 020 8424 2220
- RTS Waste, <u>www.rtswaste.co.uk</u>, 020 7232 1711
- Days Group, http://www.daygroup.co.uk/, 0845 065 4655

Alternatively, licensed waste management contractors should be able to reprocess the brick waste into aggregates.

4.1.3 Metal

Metal accounts for an estimated 37 tonnes of KDP, 2% of total waste arisings by weight. Sources are shown in Table 4 below.

Item	Tonnes	Volume
Steel rebar	134.19	17.26
Roof framing elements	52.43	6.74
Roof inner and outer skins	31.60	4.51
Corrugated metal sheets - walls	17.86	2.55
Pipework - gas and sprinkler systems	8.93	1.28
Secondary steelwork - external areas	2.25	0.29
Roller shutters	2.25	0.29
Perimeter flashing	1.75	0.22
Doors and frames	1.07	0.16
Wall/ceiling framing elements	0.40	0.06
Window grilles	0.15	0.02
Doors and frames (aluminium)	0.10	0.04
Miscellaneous internal fixtures	0.05	0.01
Total	253	33

Table 4: sources of metal

Reuse potential is relatively low although it may be possible to reuse some of the metal wall cladding, roof frame, sheeting and roofing and roller shutters. Many of the other items are likely to be unsuitable for reuse, but will be recycled. Note, demolition contractors will price their contracts dependent on the value they obtain for scrap metal.

For reuse, companies such as Cleveland Steel and Tubes maybe interesting in purchasing steel for reuse: <u>https://cleveland-steel.com/</u> and for example: <u>https://rsjcentre.com/homepage/about-us;</u> <u>https://www.a1steelbuildings.co.uk/used-steel-buildings-for-sale</u>

Recycling options include:

- Capital Metal Recycling, <u>http://capitalmetalrecycling.co.uk/</u>, 0208 964 2120
- London Scrap Metal Recycling, <u>http://www.londonscrapmetalrecycling.com</u>, 0208 809 1019
- EMR has a number of yards in London; for example: <u>https://uk.emrlocal.com/yards/emr-wandsworth-scrap-metal</u>, <u>020 7622 4498</u>

4.1.4 Gypsum

Gypsum accounts for approximately 8 tonnes, around 0.2% of total waste arisings by weight; sources are shown in Table 5 below.

Item	Tonnes	Volume
Plasterboard - walls	4.84	6.46
Plasterboard - ceilings	2.09	2.78
Wet plaster	0.52	0.62
Plasterboard ceiling tiles	0.07	0.09
Total	8	10

Table 5: sources of gypsum

Potential for reuse is low, however the plasterboard ceiling tiles from the meeting room area are in good condition and could be reused in a similar project elsewhere. If the plasterboard wall/ceiling sheets are relatively free from contamination they may be suitable for recycling. Some of the recycling routes can include being used in the plasterboard manufacturing process (check with the waste/recycling company for their recycling routes). Otherwise gypsum waste maybe used in cement manufacture or spread on land It should be segregated on site, if possible. If it is sent to disposal, then it should be landfilled in a monocell (i.e. landfilled separately from the other waste).

Local waste management options include:

- Powerday https://www.powerday.co.uk/; 020 3858 0504
- Plasterboard Recycling Solutions <u>http://www.plasterboardrecyclingsolutions.co.uk/</u>; 0780 118 6380
- Country Style Recycling <u>https://www.countrystylerecycling.co.uk/our-services/plasterboard-recycling/</u>; 0344 880 7700 (based in Maidstone)

4.1.5 Insulation

Insulation accounts for an estimated 7 tonnes of KDP, approximately 0.2% of total waste arisings by weight note however that this represents 7% of the overall waste volume in m³. The sources are shown in Table 6 below. Note that the presence and type of insulation has been assumed within the external wall structure.

Item	Tonnes	Volume
Mineral wool insulation	7.05	141.03
Mineral fibre ceiling tiles	0.32	0.70
Total	7	142

Table 6: sources of insulation

Insulation is usually disposed of to landfill via a licensed waste management contractor or alternatively Rockwood offer a recycling scheme: <u>https://www.rockwool.co.uk/about/sustainability/recycling/</u>. Although none were seen during the survey, care should be taken to ensure foam-based insulation that may contain ozone-depleting substances is removed and handled carefully.

Approximately 50% of the mineral fibre ceiling tiles are likely to be suitable for reuse (in a similar project) and should be segregated on site. As noted in section 4.1.4 some of the ceiling tiles are plasterboard and should be dealt with separately. Rockfon can recycle mineral wool ceiling tiles, though only their own tiles: https://www.rockfon.co.uk/sustainability/our-lifecycle-approach/recycling/

4.1.6 Additional Material Types

Additional materials likely to arise from the refurbishment are summarised below:

• Timber

Around 4 tonnes of timber is present, approximately 0.1% of the total by weight. This mainly occurs as studwork framing for the partition walls, and as doors. Depending on condition, it is likely that some of the doors will be suitable for reuse, if they are removed carefully and have warranties if they are fire doors. Where reclamation is not possible the timber should be segregated on site if space permits, or offsite and sent to a licensed waste management contractor for recycling. Suitable reuse organisations include:

- Community Wood Recycling, <u>www.communitywoodrecycling.org.uk</u>
- SALVO, www.salvo.co.uk, lists details of architectural salvage and can list demolition projects
- Solo Wood Recycling; <u>www.solowoodrecycling.co.uk</u>

• Ceramics

Approximately 3 tonnes of ceramic waste is expected to arise from the demolition, approximately 0.1% of the total by weight. This mainly occurs as tiling and sanitary fixtures from bathroom areas. These items are unlikely to be suitable for reuse due to age and/or condition. Ceramics should be separated on site, along with the bricks, if space permits, or offsite, crushed and used as Recycled Aggregates (RA). There is also potential to use the tiles as feedstock for Terrazzo products.

• Plastics

Approximately 2 tonnes of plastic waste is present, mainly due to the polycarbonate rooflights although vinyl and resin flooring is also present, along with hygienic wall coverings in the Butchery areas. It is likely that further concealed plastic items are present across the building. The plastic is unlikely to be suitable for recycling and should be sent for energy recovery. The resin flooring may have to be treated with the concrete due to its fixing

• Carpet

Less than one tonne of carpet tiles are present across the building. Approximately 50% are estimated to be in good condition and could be removed for reuse. The remainder could be sent for recycling or disposed to landfill/waste to energy. Companies that offer this service include:

- Carpet Tile Recycling; <u>http://www.carpettilerecycling.co.uk</u>; 01115 940 4454 (these need to be stacked on a pallet)
- Envirocycle; <u>http://envirocyclelondon.com/recycle-office-carpet-tiles/</u>; 07549448123 (these will also offer a removal service)
- Used Carpet Tiles, offer a pick up service; <u>https://www.usedcarpettiles.com/</u>; T: 0800 014 8591

Some manufacturers also offer a reuse/recycling service:

- Interface works with ReEntry Partners (social enterprise) <u>https://www.interface.com/EU/en-</u> <u>GB/campaign/reentry/reentry-en_GB</u>
- Millken; <u>https://floors.milliken.com/floors/sustainability/end-of-life</u>; t: 01942 612777
- Potential recycling routes can also be searched at: <u>https://carpetrecyclinguk.com/find-a-recycler/</u>

Glass

Less than one tonne of glass is present, due to the various windows and glazed doors. The aluminium framed windows and doors are outdated and unsuitable for reuse. Any glass unsuitable for reuse could be crushed alongside the brickwork and used as Recycled Aggregate as described in the brick section above. Glass recyclers are:

- RTS Waste (<u>www.rtswaste.co.uk</u> T: 020 7232 1711). Note they may require the glass to be removed and stacked as panels.
- URM Group (<u>https://www.urmgroup.co.uk/</u> E: info@urmgroup.co.uk
- May Glass Recycling (http://www.mayglassrecycling.co.uk/); may only take new glass
- Viridor <u>https://www.viridor.co.uk/siteassets/document-repository/brochures/glass-recycling-ukviridor-low-res.pdf</u>.

Unquantified materials

• WEEE:

A mixture of Waste Electrical and Electronic Equipment is present across the building. Sources are shown in Table 7 below.

Item	Quantity	Reusable	
Strip lights - LED	254	У	
Destratification fans	20	У	
Suspended ceiling lights - fluorescent	10	n	
Suspended ceiling lights - LED	10	У	
Flood lights - halogen	8	n	
Air conditioning external units	4	possibly	
Hand dryers	3	n	
CCTV camera	3	Ν	
Industrial space heaters	2	Y	
Walk in fridge/freezers	2	Y	
Domestic fridges	1	N	
The reusability column is provided for indicative guidance only; these items should be suitable for reuse, provided all required performance characteristics can be verified and no insurance/warranty clauses are breached.			

Table 7: sources of WEEE

A large amount of LED lighting is present which is in good condition and should be considered for reuse. Some manufacturers are now offering circular lighting services whereby lights can be taken back and remanufactured; for example: <u>https://www.whitecroftlighting.com/whitecroft-vitality/</u>. Fluorescent lighting can be dealt with by Recolight, <u>https://www.recolight.co.uk/</u>. Florescent lights are considered hazardous waste and should be treated as such.

A range of other equipment is also present, including industrial heaters, destratification fans, walk-in fridges and air conditioning units which may be suitable for reuse elsewhere.

Any waste electrical and electronic equipment should be separated on site and sent to a specialist recycling facility, such as the following: <u>www.wasteserviceslondon.co.uk/weee_recycling.htm</u>; <u>www.pureplanetrecycling.co.uk/weee-recycling-london</u>. There maybe some reuse of WEEE (domestic) at https://environcom.co.uk/reuse/

5. Notes on reuse

Experts advise that a long lead-in time and maximum exposure are required to enable the reuse of products and components. The best chances for reuse, with the best environmental and economic benefits, are as near to site as possible:

- Used by the same client locally
- Sold or given away locally

The following recommendations may assist in maximising the reclamation potential of KDPs identified:

- Consult the client on the findings of this report and consider any options for closed-loop re-use in this project itself, or a similar project.
- Consider setting aside storage on site for segregation of salvage items.
- Advertise specific salvage items for free on <u>www.salvo.co.uk</u> or low value materials or use companies such as GlobeChain; <u>Reyooz: <u>http://www.reyooz.com/about/clients</u> and <u>Collecteco:</u> <u>https://www.collecteco.co.uk/</u> Salvo also operate a demolition/refurbishment alert service on their website which serves to bring forthcoming demolition products to the attention of potential buyers or users.
 </u>
- Contact local architectural salvage merchants about specific items. Salvo publish a directory on their website (<u>https://www.salvoweb.com/</u>). Ensure that salvaged items are removed and stored in such a way that all components remain together, e.g. hinges and fixings with doors, etc.

Reuse potential for this project is low, due to the nature and age of materials present within the building, however depending on condition, the following items may be suitable for reuse:

- Bricks, if separation from mortar is possible
- Elements of the steel frame
- Some of the corrugated metal sheeting
- Roller shutters
- Timber doors
- Mineral fibre ceiling tiles
- Plasterboard ceiling tiles
- Carpet tiles
- LED lighting
- Destratification fans
- Industrial space heaters
- Air conditioning units
- Walk in fridge/freezers

6. Recommendations for Demolition Materials

It is highly recommended that to maximise reuse and recycling the following materials are segregated on site, or if space does not permit at a waste facility:

- Plasterboard
- Ceramics
- Concrete
- Brick
- Metals
- Timber
- Carpet tiles
- WEEE

6.1 Targets

Reuse of materials

Reuse, rather than recycling, of items should always be prioritised.

It is believed that approximately 20 tonnes of material could potentially be reused, representing around 0.5% of the total waste arisings by weight.

Because the overall percentage is very low, a specific reuse target is not considered appropriate for this project.

Recycling of materials - diversion from landfill

It is recommended that an overall recycling target is set prior to the project commencing based on the recommendations of this report in conjunction with the selected contractor(s). An estimate of the total percentage of waste materials that can be recycled is 99% by weight.

A total diversion from landfill target of **99% by weight** is recommended.

Note that 90% by weight, or 80% by volume is required to achieve the relevant BREEAM credits; a more ambitious target representing an exemplary level would be 95% diverted from landfill.

7. Embodied carbon of materials

The embodied carbon of materials present is shown in Table 8. Note, these are based on conversion factors which are shown in Appendix B.

Materials	Tonnes	tCO2e
Concrete	3,371	337
Brick	401	84
Metals	253	392
Gypsum	8	0
Insulation	7	9
Timber	5	2
Ceramic	3	2
Plastics	2	6
Carpet	0	1
Glass	0	0
Total		834

Table 8: Embodied Carbon of materials present

The potential of reuse of items is minimal, therefore there is little savings in the amount of embodied carbon through reusing materials on site. However, if the majority of the brick and concrete can be kept on site that (1,851m³ and 3,772 tonnes), this would save 145 skips (20 yards) of materials. The remaining materials will account for roughly, 6 skips (20 yards) for metals and for the remainder materials, approximately 13 skips (20 yards).

Appendix A

Report Authors

Toby Balson

Toby has over 16 years' experience in energy consultancy, building design and construction resource efficiency. His career began at BRE where he worked closely with the Energy Saving Trust and other clients developing sustainable construction training and guidance, including designing for material efficiency and reuse, as well as work on embodied carbon within buildings. He subsequently worked as Environmental Officer at the University of Cambridge, leading development of sustainable construction standards to be applied to their £0.5 billion build programme and leading implementation of ISO 14001 across the university, including minimisation of waste and options for reuse and recycling of different waste streams. He has extensive site survey experience having delivered multiple audits as part of ESOS, as well as energy performance contracting, post-occupancy-evaluation and pre-demolition audits across the UK.

Katherine Adams

Katherine has worked in the area of construction resource efficiency for 17 years, mostly at BRE, where she has been instrumental in shaping the construction industry to achieve high levels of diversion of waste from landfill and reducing waste. She has much experience of pre-demolition audits, having undertaken and reviewed many for various clients, which has involved the development of a robust methodology. She has been responsible for developing waste reporting, including the online system Smartwaste. She enjoys working closely with many elements of the industry, at both a sector and project level. She has recently finished a PhD at Loughborough University looking how circular economy can be embedded in the building sector and continues to assist BRE and other organisations such as ASBP.

Appendix B: Sources of Embodied Carbon Figures

The embodied carbon figures have been taken from the freely available ICE Inventory of Carbon and Energy V3 -10th November 2019. This can be downloaded at: <u>https://circularecology.com/embodied-carbon-footprint-database.html</u>. It should be noted that as the original material is not known in detail (in terms of its composition, source etc), then the figures used for CO₂e must be treated with some caution.

Material	Conv factor	Reference item
Bricks	0.21	General (Common Brick)
Carpet tiles	13.00	Carpet tiles, nylon (Polyamide)
Ceramic	0.70	General
Concrete	0.10	General
Glass	1.60	General
Mineral wool insulation	1.28	Mineral wool
Plastics	3.19	Vinyl
PU insulation	4.26	Polyurethane rigid foam
Softwood	0.30	Timber, softwood, no carbon storage
Steel	1.55	Steel, Section

Bookers, 41-49 Battersea Park Road, London

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