Government Property Agency

AtkinsRéalis



MANCHESTER DIGITAL CAMPUS

Environmental Statement
Volume 2 - Chapter 15: Materials and Waste

NOVEMBER 2024

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This document has 32 pages including the cover.

Document history

Document title: Environmental Statement Volume 2, Chapter 15 – Materials and Waste

Document reference: MDCX-ATR-XX-XX-RP-Z-000012

Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
1.0	Planning submission issue	AE	RDG	GB	TC	25/10/2024

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Executive Summary

Materials and waste can impact resource consumption, waste generation, and the environmental footprint of a development. Proper management of these materials and waste ensures regulatory compliance, minimizes pollution, and reduces community impact. Additionally, efficient use of materials and waste can lead to cost savings and promote sustainability, making a development more environmentally beneficial and socially responsible.

The study areas for materials and waste applicable for the Proposed Development were determined to be:

- The development study area: comprising the Proposed Development's footprint
- The expansive study area: extending to the availability of construction materials and remaining landfill void

Identified receptors related to materials/minerals and waste included the regional and national sales of materials for the Proposed Development, regional landfill void capacity, and local allocated Mineral Safeguarding Area (MSA) and peat resources.

The Institute of Environmental Management and Assessment's (IEMA) Guide to Materials and Waste in Environmental Impact Assessment has been used to determine and evaluate the significance of effects.

Potential impacts identified could include:

- High volume, permanent use of materials (e.g., aggregate, asphalt, concrete, steel) over 60 years, with smaller quantities of plastic, wood, and glass.
- High volume, short-term use of landfill void capacity during construction, with key waste streams including soil, aggregate, concrete, and smaller quantities of metal, wood, vegetation, municipal waste, and septic tank waste.
- Low volume, long-term use of materials for operational maintenance activities, similar to construction materials but in much smaller volumes.
- Low volume, long-term use of landfill void capacity for waste generated during operation, including maintenance activities and day-to-day staff waste.

Mitigation measures will involve following the waste hierarchy during detailed design and construction which will lead to material use and waste generation prevention, reduction, reuse, recycling, and recovery. In particular, during construction this includes a commitment to use aggregates with minimum 30% recycled content and recycle or recovery of 70% of wastes that are managed offsite.

A Site Waste Management Plan (SWMP) will be prepared to monitor and manage waste, including staff training and regular updates and an Operational Waste Management Strategy (OWMS) will be prepared to outline waste management measures and estimate waste quantities.

In conclusion, the Proposed Development is not expected to result in any significant adverse impacts. By adhering to the waste hierarchy and implementing robust mitigation measures, including the utilisation of a SWMP and OWMS, waste generation and resource consumption can be minimised. These efforts will not only lead to cost savings but also enhance the overall environmental and social responsibility of the Manchester Digital Campus.

15. Materials and Waste

15.1. Introduction

15.1.1. This chapter of the Environmental Statement (ES) assesses the likely effects of the Proposed Development with respect to materials and waste. It outlines the assessment methodology, describes the existing baseline conditions, identifies potential impacts and provides an assessment of effects. The chapter also details the mitigation measures necessary to prevent, reduce, or offset any significant adverse effects, and discusses the likely residual effects after these measures have been implemented.

15.1.2. This chapter reports on two different types of cumulative effects: intra-project cumulative effects, which are the combined effects of individual topic impacts on a particular sensitive receptor; and inter-project cumulative effects, which consider the way in which the Proposed Development may give rise to impacts in combination with other developments the study area, termed Reasonably Foreseeable Future Projects (RFFPs). The outlined cumulative effects are then used to inform the overall assessment of cross-topic cumulative effects, which is reported in ES (Volume 2) Chapter 22: Cumulative Effects.

15.1.3. This chapter is supported by and has been informed by technical appendices contained within ES Volume 4 Appendix 15, which includes the following:

- ES (Volume 4) Appendix 15.1 – Site Waste Management Plan (SWMP)
- ES (Volume 4) Appendix 15.2 – Operational Waste Management Strategy (OWMS)

15.2. Competent expert evidence

15.2.1. This materials and waste assessment has been undertaken by:

- A Principal Waste Management Consultant (BSc (Hons) Geography) and Affiliate Member of the Chartered Institute of Waste Management with over 12 years of knowledge and experience in environmental and waste management. They have used their knowledge and professional judgement to undertake this assessment.
- An Associate Waste Management Consultant (BSc (Hons) Environmental Science) and a Fellow of the Chartered Institute of Waste Management with over 18 years of knowledge and experience in environmental and waste management. They have used their knowledge and professional judgement in reviewing this assessment.

15.3. Relevant legislation and guidance

15.3.1. Table 15-1 below summaries the legislation and regulations applicable to Materials and Waste.

Table 15-1 - Legislation and guidance for Materials and Waste

Legislation / regulation	Summary of requirements
National	
National Planning Policy Framework	The Framework was first published in 2012 and last updated in December 2023. It sets out the government's planning policies for England and how these are expected to be

Legislation / regulation	Summary of requirements
September 2023[1]	applied. The purpose of the framework is to contribute to the achievement of sustainable development. With three overarching objectives: ▪ to help build a strong, responsive and competitive economy; ▪ to support strong, vibrant and healthy communities; ▪ protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.
A Green Future: Our 25 Year Plan to Improve the Environment[2]	Published in 2018, this 25 year Environment Plan sets out government action to help the natural world regain and retain good health. It aims to champion sustainable development, lead in environmental science, innovate to achieve clean growth and increase resource efficiency to provide benefits to the environment and economy. The goals set out in the plan include to deliver clean air, clean water and using resources from nature more sustainably and efficiently.
Waste Management Plan for England 2021[3]	The Plan focuses on the importance of driving waste up the waste hierarchy with a focus on waste arisings and their management and states the importance of considering the Government's ambition of achieving a zero-waste economy. The Plan puts a strong emphasis on waste prevention through making products with fewer natural resources by setting out plans for preventing products and materials from becoming waste, including by greater reuse, repair and remanufacture supported by action to ensure better design to enable this to be done more easily.
Resources and Waste Strategy for England 2018[4]	Released late 2018 this strategy sets out key areas the government wants to focus on with support from the waste industry but also wider industry and the public. Strong focus was on sustainable production such as setting 30% limits for recycled content in plastic packaging, banning some plastics, increasing municipal recycling and reducing

[1] Ministry of Housing Communities and Local Government. National Planning Policy Framework. 2023. https://www.gov.uk/guidance/national-planning-policy-framework.

[2] HM Government. A Green Future: Our 25 Year Plan to Improve the Environment, 2018. https://assets.publishing.service.gov.uk/media/65fd713d65ca2f00117da89e/CD1.H_HM_Government_A_Green_Future_Our_25_Year_Plan_to_Improve_the_Environment.pdf

[3] Department for Environment Food & Rural Affairs. Waste Management Plan for England, 2021. Waste Management Plan for England 2021 - GOV.UK (www.gov.uk)

[4] Department for Environment Food and Rural Affairs. Our Waste, Our Resources: A Strategy for England, 2018. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/765914/resources-waste-strategy-dec-2018.pdf]

Legislation / regulation	Summary of requirements
	food waste across the supply chain and in homes, improving waste data and tackling waste crime.
The Environmental Protection Act 1990 (Section 34)[5]	The Environmental Protection Act 1990 (c. 43) as amended in 1996 and 1999 implements integrated pollution control for the disposal of waste to air, land and water, including solid waste disposal. As part of this, under Section 34, the Act imposes Duty of Care on anyone who produces, imports, keeps, stores, transports, treats or disposes of waste.
Clean Neighbourhoods and Environment Act 2005 (Chapter 16)[6]	Chapter 16 of the Clean Neighbourhoods and Environment Act 2005 (c. 16) prescribes the correct transportation, collection, disposal and management of waste and prohibits fly tipping.
Environment Act 2021[7]	The Environment Act 2021 makes provision for targets, plans and policies in relation to resource efficiency and waste. The Act will drive the UK to an increased Circular Economy, encouraging people to recycle more, simplifying household recycling, requiring businesses to use sustainable packaging and restricting the export of plastic waste to developing countries. The Act repeals the Environment Act 1995 section 93 to 95.
Waste Electrical and Electronic Equipment (WEEE) Regulations 2013[8]	The Regulations have a key objective to reduce the amount of WEEE that goes to landfill. This is to be achieved by making producers responsible for the collection, treatment and recovery of WEEE, including the associated costs.
The Waste (England and Wales) Regulations 2011[9]	The Regulations transpose the European Union (EU) Waste Framework Directive into English law and require organisations to manage waste in alignment with the waste hierarchy to prevent waste going to landfill.
The Hazardous Waste (England and Wales) Regulations 2005[10]	The Regulations, as amended in 2009 (SI 2009/507), 2015 (SI 2015/1360) and 2016 (SI 2016/336) applies to all wastes listed as hazardous in the European Waste Catalogue (2000/532/EC) and the CLP (Classification, Labelling and Packaging) Regulation (EC 1272/2008). Hazardous waste may be produced in the construction phase of the Proposed Development and must be disposed of in accordance with the Regulations.

[5] HM Government. The Environmental Protection Act 1990 https://www.legislation.gov.uk/ukpga/1990/43/data.pdf

[6] HM Government. Clean Neighbourhoods and Environment Act 2005 https://www.legislation.gov.uk/ukpga/2005/16/contents

[7] HM Government. Environment Act 2021 https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted

[8] Department for Environment Food & Rural Affairs. Waste Electrical and Electronic Equipment (WEEE) Regulations, 2013. https://www.legislation.gov.uk/uksi/2013/3113/contents/made

[9] Department for Environment Food & Rural Affairs. The Waste (England and Wales) Regulations 2011. https://www.legislation.gov.uk/uksi/2011/988/contents/made

[10] HM Government. Hazardous Waste (England and Wales) Regulations 2005. https://www.legislation.gov.uk/uksi/2005/894/made/data.pdf

Legislation / regulation	Summary of requirements
The Waste Batteries and Accumulators Regulations 2015[11]	The Regulations main requirements are that producers of batteries and accumulators must either take back waste batteries and accumulators or fund the collection and recycling of them.
The Environmental Permitting (England and Wales) Regulations 2016[12]	The Environmental Permitting Regulations 2016 put in place requirements to ensure that sites that produce certain materials and undertake certain activities (such as the storage, use or treatment of waste) have a permit or exemption from the regulator (i.e. the Environment Agency (EA)).
Regional	
Greater Manchester Joint Waste Development Plan, 2012 – Planning Policy Statement 10 (PPS10)[13]	The waste plan is intended to run through to 2027 and sets out a strategy that enables the provision of adequate waste management facilities, in appropriate locations, for all waste types. It notes that the area has largely been reliant on landfill for historic waste disposal but that this must change and that sites for different waste facilities must be found and protected. It sets out eight objectives including some to promote movement of waste up the waste hierarchy and assist in reducing greenhouse gas emissions. The future requirements for the area covered by the plan include provision of energy from waste facilities and hazardous and non-hazardous landfills. However, it does state that the capacity of the recycling and composting facilities is expected to be sufficient over the period the plan covers.
Greater Manchester Minerals Development Plan 2013[14]	The Minerals Plan identifies how Greater Manchester will deliver the spatial vision for minerals development to 2028. The Minerals Plan sets out policies to guide future minerals development and identifies Areas of Search and Mineral Safeguarding Areas in order to meet aggregate requirements and to protect minerals resources across Greater Manchester to 2028.
Local	

[11] Department for Environment Food & Rural Affairs. The Waste Batteries and Accumulators Regulations 2015. https://www.legislation.gov.uk/uksi/2015/1935/contents/made

[12] Department for Environment Food & Rural Affairs. The Environmental Permitting (England and Wales) Regulations 2016. http://www.legislation.gov.uk/uksi/2016/1154/contents

[13] Association of Greater Manchester Authorities. Greater Manchester Joint Waste Development Plan 2012. https://www.greatermanchester-ca.gov.uk/media/1994/greater_manchester_waste_plan_opt.pdf

[14] Greater Manchester Combined Authority. Greater Manchester Minerals Development Plan 2013 https://www.greatermanchester-ca.gov.uk/media/1995/the_minerals_plan_april_2013_final.pdf

Legislation / regulation	Summary of requirements
Manchester's Core Strategy 2012 – 2027[15]	Adopted by Manchester City Council in 2012 the Strategy describes Manchester in 2012 and outlines the Council's vision for Manchester in 2027 along with the planning policies which will be used to deliver that vision. With regards to waste, it requires all developers to submit a waste management plan to demonstrate how both construction and demolition waste will be minimised and recycled on site wherever possible and puts emphasis on adopting the waste hierarchy principles. With regards to minerals, it encourages the efficient use of minerals and promotes the use of secondary/recycled aggregates, wherever possible and through the Greater Manchester Joint Minerals Development Plan Document provides a co-ordinated sub-regional approach to minerals planning, to ensure that mineral resources are safeguarded.
Places for Everyone Joint Development Plan[16]	Places for Everyone is the long-term plan of nine Greater Manchester districts for jobs, new homes and sustainable growth. The plan sets out a strategic policy framework for the nine boroughs and helps these areas to meet their local housing and employment needs by identifying land and infrastructure to support growth. Relevant Policies include: ▪ **Policy JP-S6: Resource Efficiency**: the achievement of a circular economy and a zero-waste economy will play a key role in meeting Greater Manchester's ambition of becoming a leading green city region by 2038. Measures include the Development and implementation of the Zero Waste Strategy for Greater Manchester.

15.4. Assessment methodology

Study area

15.4.1. The study areas that are applicable to the Proposed Development (as defined in the Institute of Environmental Management and Assessment's (IEMA) Guide to Materials and Waste in Environmental Impact Assessment (April 2020)[17], herein referred to as the 'IEMA Guidance') are:

- The development study area – this comprises the Proposed Development's footprint and any areas required for temporary access, site compounds, working platforms and other enabling activities; and

[15] Manchester City Council. Manchester Core Strategy 2012-2027 https://www.manchester.gov.uk/info/200074/planning/6573/core_strategy_2012-2027

[16] Manchester City Council. Places for Everyone Joint Development Plan 2024 Places for Everyone | Places for Everyone | Manchester City Council

[17] Institute of Environmental Management and Assessment. Materials and Waste in Environmental Impact Assessment - Guidance for a proportionate approach, 2020. https://www.iema.net/resources/reading-room/2020/03/30/materials-and-waste-in-environmental-impact-assessment

- The expansive study area – this extends to the availability of construction materials and remaining landfill void.

15.4.2. Based on professional judgement and the availability of data, the expansive study area has been chosen as:

- The Northwest of England region and – where necessary or especially where regional data are unavailable – the UK for materials;
- The Northwest of England region for hazardous waste; and
- Greater Manchester for non-hazardous and inert waste.

15.4.3. Receptors, with regards to minerals/materials and waste, are defined as:

- The regional (Northwest) and national sales of materials, which are to be used as part of the Proposed Development;
- Regional landfill void capacity; and
- Local Allocated Mineral Safeguarding Area (MSA) and peat resources.

Methodology

15.4.4. The following tasks will be carried out to assess the impact of materials and waste and from the Proposed Development:

- Review of relevant legislation, national, regional and local planning policies and guidance to identify material and waste objectives and targets;
- Establish the baseline for materials and waste;
- Review estimated quantities and types of materials needed for construction and wastes to be generated during construction, demolition and excavation (CD&E);
- Review the proposed occupancy to estimate the quantities and types of wastes to be generated during operation;
- Identify mitigation measures to prevent, reduce, re-use, recycle and/or recover materials and wastes from the Proposed Development; and
- Identify and assess the impacts of the Proposed Development by comparing the information from the above review stages, against the baseline data.

15.4.5. An assessment of the level of environmental effect from the use of materials and generation of waste will be made using the criteria in Table 15-2 and Table 15-3 below, which are set out in the IEMA guidance to: Materials and Waste in Environmental Impact Assessment.

Table 15-2 - Sensitivity Criteria

Sensitivity of receptor	Criteria (highest category applies where one or more criteria are met)
Very High	Materials are known to be insufficient in terms of production, supply and/or stock; and/or comprise no sustainable features and benefits compared to industry-standard materials. Inert and non-hazardous waste baseline landfill void capacity is expected to reduce very considerably (by >10%)/end during construction or operation; is already known to be unavailable; or would require new capacity or infrastructure to be put in place to meet forecast demand.

Sensitivity of receptor	Criteria (highest category applies where one or more criteria are met)
	Hazardous waste baseline landfill void capacity is expected to reduce very considerably (by >1%)/end during construction or operation; is already known to be unavailable; or would require new capacity or infrastructure to be put in place to meet forecast demand.
High	Materials are forecast (through trend analysis and other information) to suffer from known issues regarding supply and stock; and/or comprise little or no sustainable features and benefits compared to industry-standard materials. Inert and non-hazardous waste baseline landfill void capacity is expected to reduce considerably by 6-10% as a result of wastes forecast. Hazardous waste baseline landfill void capacity is expected to reduce considerably by 0.5-1% as a result of wastes forecast.
Medium	Materials are forecast (through trend analysis and other information) to suffer from some potential issues regarding supply and stock; and/or are available comprising some sustainable features and benefits compared to industry-standard materials. Inert and non-hazardous waste baseline landfill void capacity is expected to reduce by 1-5% as a result of wastes forecast. Hazardous waste baseline landfill void capacity is expected to reduce by 0.1- 0.5% as a result of wastes forecast.
Low	Materials are forecast (through trend analysis and other information) to be generally free from known issues regarding supply and stock; and/or are available comprising a high proportion of sustainable features and benefits compared to industry-standard materials. Inert and non-hazardous waste baseline landfill void capacity is expected to reduce by <1% as a result of wastes forecast. Hazardous waste baseline landfill void capacity is expected to reduce by <0.1% as a result of wastes forecast.
Negligible	Materials are forecast (through trend analysis and other information) to be free from known issues regarding supply and stock; and/or are available comprising a very high proportion of sustainable features and benefits compared to industry-standard materials*. Inert and non-hazardous waste baseline landfill void capacity is expected to remain unchanged or is expected to increase through a committed change in capacity. Hazardous waste baseline landfill void capacity is expected to remain unchanged or is expected to increase through a committed change in capacity.

* Subject to supporting evidence, sustainable features and benefits could include, for example, materials or products that: comprise reused, secondary or recycled content (including excavated and other arisings); support the drive to a circular economy; or in some other way reduce lifetime environmental impacts.

Sensitivity of receptor	Criteria (highest category applies where one or more criteria are met)

Table 15-3 - Magnitude Criteria

Impact severity	Criteria (highest category applies where one or more criteria are met)
Major	The consumption of one or more materials is >10% by volume of the regional baseline availability; and/or more than one allocated mineral site is substantially sterilised by the development rendering it inaccessible for future use. Inert and non-hazardous waste generated by the development will reduce regional landfill void capacity baseline by >10%. Hazardous waste generated by the development will reduce national landfill void capacity baseline by >1%.
Moderate	The consumption of one or more materials is between 6-10% by volume of the regional baseline availability; and/or one allocated mineral site is substantially sterilised by the development rendering it inaccessible for future use. Inert and non-hazardous waste generated by the development will reduce regional landfill void capacity baseline by 6-10%. Hazardous waste generated by the development will reduce national landfill void capacity baseline by <0.5-1%.
Minor	The consumption of one or more materials is between 1-5% by volume of the regional baseline availability; and/or the development has the potential to adversely and substantially impact access to one or more allocated mineral site (in their entirety), placing their future use at risk. Inert and non-hazardous waste generated by the development will reduce regional landfill void capacity baseline by 1-5%. Hazardous waste generated by the development will reduce national landfill void capacity baseline by <0.1-0.5%.
Negligible	The consumption of no individual material type is equal to or greater than 1% by volume of the regional baseline availability. Inert and non-hazardous waste generated by the development will reduce regional landfill void capacity baseline by <1%. Hazardous waste generated by the development will reduce national landfill void capacity baseline by <0.1%.
No change	The consumption of no materials is required. Zero Inert and non-hazardous waste generation and disposal from the development.

Sensitivity of receptor	Criteria (highest category applies where one or more criteria are met)
	Zero Hazardous waste generation and disposal from development.

15.4.6. Table 15-4 provides definitions of effect thresholds which are set out in the IEMA guidance.

Table 15-4 - Effect Thresholds

		Impact magnitude				
		Major	**Moderate**	**Minor**	**Negligible**	**No change**
Receptor value	**Very High**	Very large	Very large or Large	Large or Moderate	Slight	Neutral
	High	Very large or Large	Large or Moderate	Moderate or Slight	Slight	Neutral
	Medium	Large or Moderate	Moderate	Slight	Slight or Neutral	Neutral
	Low	Moderate or Slight	Slight	Slight or Neutral	Slight or Neutral	Neutral
	Negligible	Slight	Slight or Neutral	Slight or Neutral	Neutral	Neutral

15.4.7. Environmental effects for both material and waste are combined to determine the Proposed Developments significance level as shown in Table 15-5 below. The effects associated with a Proposed Developments can then be defined as significant or not significant.

Table 15-5 - Significance Criteria for Waste and Materials

Effect	Waste	Materials
Neutral	Not significant	Not significant
Slight		
Moderate	Significant	Significant
Large		
Very large		

Assumptions and limitations

15.4.8. The assumptions applicable to the assessment methodology are outlined, as follows:

- All material and waste quantities will be converted into tonnes or cubic metres, from the design information provided, using conversion rates from Atkins Carbon Knowledgebase (for materials) or Waste and Resources Programme (WRAP) (for waste);
- All materials and wastes will be grouped according to main material types; and
- No hazardous waste is on site.

15.4.9. The following limitations may be applicable to the assessment:

- The materials used, and waste generated through construction of the Proposed Development will be estimated from the available design information. These quantities will be updated at the detailed design stage as the design and construction programme becomes more advanced. As such, a worst-case scenario will be used for this chapter.
- The materials and waste baselines presented in this chapter use the most recently published publicly available data. However, this is sometimes two to three years old, so does not reflect the exact current quantities.
- Indirect impacts, such as those from the off-site manufacture of products or extraction of minerals, are outside the scope of the assessment, as it is not possible at this stage to determine where products will be manufactured, or minerals extracted.
- Impacts associated with the transport of materials and waste will be considered in their respective chapters, including Air Quality, Noise and Vibration, Human Health and Climate.

15.4.10. It is not considered that these limitations and/or assumptions will affect the ability to undertake the assessment, nor the conclusions drawn from it.

15.5. Baseline conditions

15.5.1. The baseline has been established through a desk-based review of regional and national data, based on the IEMA Guidance, from the following publicly available sources (most up to date at the time of writing):

- EA, Remaining Landfill Capacity, 2019-2022[18];
- Greater Manchester County Council (GMCC), Greater Manchester Joint Waste Development Plan, 2012[19];
- GMCC, Greater Manchester Joint Minerals Development Plan, 2013[20];
- GMCC, Policies Map, 2023[21];
- Mineral Products Association (MPA), Profile of the UK Mineral Products Industry, 2023[22];
- MPA, Profile of the UK Mineral Products Industry Statistical Workbook, 2023[23];
- North West Aggregate Working Party, Annual Monitoring Report, 2021[24]; and
- World Steel in Figures, 2023[25].

Materials

15.5.2. As set out in the IEMA guidance, materials are defined as “substances used in each lifecycle stage of a development, with a particular focus on the construction, operation and maintenance, and decommissioning or ‘end of first life’ (deconstruction, demounting, demolition and disposal) phases”.

[18] Remaining Landfill Capacity - data.gov.uk

[19] Greater Manchester waste plan | Manchester City Council

[20] Greater Manchester Joint Minerals Development Plan Documents | Manchester City Council

[21] Local Development Framework Area Map Browser (arcgis.com)

[22] Profile_of_the_UK_Mineral_Products_Industry_2023.pdf (mineralproducts.org)

[23] Profile_of_the_UK_Mineral_Products_Industry_2023_Worksheet.xlsx (live.com)

[24] North West Aggregates Working Party - Annual Monitoring Report 2021 (warrington.gov.uk)

[25] World Steel in Figures 2023 - worldsteel.org

15.5.3. The regional and national breakdown of annual sales for materials are summarised in Table 15-6. Data for aggregate (recycled & secondary), crushed rock, sand and gravel for the North West are taken from the North West Aggregates Working Party Annual Monitoring Report 2021 (the most recent year data is available for). All other data is taken from the MPA, Profile of the UK Mineral Products Industry 2023 (the most recent year data is available for). Regional data is not reported for steel, annual sales in the UK are taken from World Steel in Figures 2023.

15.5.4. Materials identified in the table are based on the main construction materials it is estimated will be required for the Proposed Development's construction, based on experience.

15.5.5. Given that the number, type, and size of construction developments varies from year to year, the demand for materials also fluctuates. As such, this data should be considered representative.

Table 15-6 - Materials Baseline

Materials	Regional sales baseline (million tonnes per annum)	National sales baseline (million tonnes per annum)
Crushed rock	6.61	116.2
Sand and gravel	2.13	52.1
Recycled and secondary aggregate	0.99	74
Asphalt	2.09	21.8
Ready-mixed concrete*	3.3	35.4
Steel	Not Available	6.0

*cubic meters have been converted to tonnes using density of 2.4 tonnes/m3.

Waste

15.5.6. In line with the Waste Framework Directive and as set out in the IEMA guidance, waste is defined as "any substance or object which the holder discards or intends or is required to discard".

15.5.7. The EA Waste Data Interrogator is analysed by the EA to provide estimated landfill void capacity.

15.5.8. Table 15-7 and Table 15-8 below summarise this information in the Northwest region and Greater Manchester (for the most recent years for which data is available).

Table 15-7 - Hazardous Landfill void capacity (000's of m^3)

Landfill type	2020	2021	2022
Hazardous landfill void capacity (North West)	6,273	5,180	3,274

Table 15-8 - Inert and Non-Hazardous Landfill Void Capacity (000's of m^3)

Landfill type	2020	2021	2022
Inert and non-hazardous landfill void capacity (Greater Manchester)	9,040	8,518	8,639

Mineral Safeguarding Areas (MSA) and Peat Resources

15.5.9. The key safeguarded mineral resources in Greater Manchester are glaciofluvial sand and gravel, carboniferous millstone grit, brick clay with surface mined coal (shallow coal) and peat.

15.5.10. Greater Manchester Policies Map and GeoIndex show that the footprint of the Proposed Development does not overlap with any MSAs.

15.5.11. There are no Blanket Bogs, Lowland Fens, or Lowland Raised Bog areas within the footprint of the Proposed Development. Therefore, there are no areas that are/could give rise to peat reserves.

15.6. Potential impacts

Construction Phase

15.6.1. The Proposed Development may have the following impacts from construction:

- The high volume, permanent (over the 60-year building design life) use of materials. This is likely to consist of aggregate, asphalt, concrete and steel. Smaller quantities of materials may include plastic, wood, and glass, amongst others. The potential effect of materials use is the permanent (60 years) removal of these material assets from the market. However, it is not felt this would be significant based on the scale of the Proposed Development and general availability of the materials in the market;
- The high volume, short-term (during the construction phase), permanent use of landfill void capacity. Key waste streams are likely to be soil, aggregate and concrete. Smaller quantities of waste that would be generated include metal, wood, and vegetation, as well as municipal waste and septic tank waste from the workforce. However, it is not felt this would be significant based on the scale of the Proposed Development and availability of landfill capacity in the region; and
- The long-term sterilisation of mineral resources within an MSA. There is no impact envisaged as there are no MSA's or peat resource directly underneath the Proposed Development.

Operation Phase

15.6.2. The Proposed Development may have the following impacts during operation:

- The low volume, long-term, permanent use of materials that could be used in operation are the same as those in construction, although they would be under planned and un-planned maintenance activities, and at much smaller volumes.
- The low volume, long-term, permanent use of landfill void capacity from waste that could be generated in operation are the same as those in construction. Although they would be under planned and un-planned maintenance activities and at much smaller volumes, as well as waste generated day-to-day by staff, such as office and canteen type waste. Most of this waste could either be reused, recycled or processed via energy recovery from Waste to Energy facilities, with very little requiring disposal to landfill.

15.7. Assessment of effects

15.7.1. The section below summarises the assessment of the likely significant effects arising from construction in the form of:

- Depletion of natural resources.
- Sterilisation of MSA's.
- Generation/management of waste on site.
- Impacts on landfill void capacity.
- Alignment to policy and legislative framework for sustainable development/material resources and waste.

Construction phase

Embedded Mitigation

15.7.2. Although the impact of construction on materials and waste is unlikely to be significant, mitigation to minimise materials use and waste generation will still be adopted. The proposed approach to mitigation is set out below. These measures will not only reduce the environmental impacts of a development through reducing waste, but also offer cost benefits, as the cost of disposal may be reduced.

Mitigation measures should follow the waste hierarchy to prevent, reduce, reuse, recycle and recover, which is presented in Figure 15-1 below.



Figure 15-1 – Waste Hierarchy

15.7.3. There are several different measures that will be implemented as follows:

- Designing out material use and waste generation.
- On-site management of materials and waste.
- Treatment and disposal.

15.7.4. Decisions made during the design stage to reduce material use and waste generation are an example of primary (embedded) mitigation. Excessive material use and waste generation can be designed out early in the development process to ensure materials are:

- Reused/reclaimed, where practicable, to reduce waste generation; and/or
- Recycled, where practicable.

15.7.5. Project specific measures to reduce material use and waste generation will be developed and recorded as the design develops.

15.7.6. The Proposed Development will be committed to achieving high recycling and recovery rates (following actions to design out and reduce waste), as part of further embedded mitigation measures, such as a minimum of 70% of all non-hazardous CD&E waste leaving the Site to be recycled or recovered through disposal via Energy from Waste facilities.

15.7.7. In accordance with the national and regional guidelines for aggregate provision in England 2005-2020[26], it is advised that where possible the Proposed Development commits to sourcing aggregate with a minimum of 30% recycled content consisting of mainly recycled or secondary aggregates, to reduce the impacts on primary aggregate stocks.

15.7.8. The mitigation above will be supported through the preparation and maintenance of a robust framework to manage, avoid, minimise or mitigate impacts. Measures will include producing a Site Waste Management Plan (SWMP), see ES (Volume 4) Appendix 15.1, so that waste reduction generation and management can be recorded. As part of the SWMP, the Principal Contractor will monitor waste arisings and management practices so that waste generation and management can be logged and audited. As part of the SWMP, training will be provided to staff to understand how they should manage wastes and regular reminders and updates will be provided. An Outline Construction Environmental Management Plan (OCEMP), see ES (Volume 4) Appendix 6.1, will also be developed that will include relevant material and waste measures to be undertaken by the appointed contractor.

15.7.9. Waste that cannot be recycled or recovered, such as hazardous wastes, will be identified and kept separate from other construction wastes, to avoid cross contamination. It will then be removed from the Site by a contractor registered as a Waste Carrier and taken to a waste management facility (that holds an appropriate environmental permit or waste exemption) for appropriate management.

Construction Effects

Materials

15.7.10. The criteria in Table 15-2 and Table 15-3 have been followed to establish the environmental effects described below.

15.7.11. The current known key materials associated with the construction phase of the Proposed Development are presented in Table 15-9 below and have been calculated from the Bill of Quantities (BoQ) data. The estimated material quantities represent a worst-case before mitigation measures are implemented and are based largely on assumptions at this stage and are subject to change as the Proposed Development progresses.

Table 15-9 - Estimated Materials Required

Materials	Total Material resource use (tonnes)	% reduction of National primary materials
Concrete	189,406	0.4
Aggregate	55,471	< 0.01
Asphalt	685	<0.01
Steel	18,402	< 0.01

[26] The Empowerment Fund (publishing.service.gov.uk)

15.7.12. Before mitigation measures are implemented the material with the largest impact on primary materials is concrete with a 0.4% reduction of primary materials against the baseline. When assessed against criteria in Table 15-2 and Table 15-3 this amount of concrete use from the Proposed Development will have a low and moderate impact (respectively) on the regional baseline availability of this material.

15.7.13. When assessing this result against criteria in Table 15-4 the effect would be slight which is shown to be not significant against significance criteria in Table 15-5.

MSA and Peat Resources

15.7.14. The Proposed Development will not have any effects on MSA or peat resources as it is not located within an MSA or areas that could give rise to peat resources.

Waste

15.7.15. The criteria in Table 15-2 and Table 15-3 have been followed to establish the environmental effects described below.

15.7.16. Estimated waste quantities associated with the construction phase of the Proposed Development are presented in Table 15-10 below. These waste quantities have been calculated from the BoQ data and represent a worst case. They are based largely on assumptions at this stage and are subject to change as the project develops/progresses.

Table 15-10 - Estimated Waste Generation

Waste type	Estimated waste (m^3)	Regional Inert & Non-hazardous waste Baseline (m^3)	% change
Concrete	400	8,639,000	0.0046
Asphalt	88	8,639,000	0.0010
Aggregate	12,041	8,639,000	0.1394
Excavated Soil	42,822	8,639,000	0.50
Wood	12	8,639,000	0.0001
Mixed CD&E	2,725	8,639,000	0.0315

15.7.17. Before mitigation measures are implemented the waste type with the highest percentage change by volume on landfill capacity is excavated soil. The amount of excavated soil waste estimated to require disposal to landfill represents a 0.50% reduction of the current regional landfill void capacity baseline. When assessed against criteria in Table 15-2 and Table 15-3 this is estimated to have a low and negligible impact (respectively) on the regional inert and non-hazardous landfill void capacity baseline.

15.7.18. When assessing this result against criteria in Table 15-4 the effect would be slight or neutral which is shown to be not significant, against significance criteria in Table 15-5.

Operation phase

Embedded Mitigation

15.7.19. Although the impact of operation phase on materials and waste is unlikely to be significant, mitigation to minimise materials use and waste generation will still be adopted. The proposed approach to mitigation is set out below. These measures will not only reduce the environmental impacts of the Proposed Development through reducing waste, but also offer cost benefits, as the cost of disposal is reduced.

15.7.20. Any replacement materials that are to be used within the operation phase of the Proposed Development should be obtained from a source that consists of recycled content and/or reuse materials from elsewhere within or outside the Proposed Development, to reduce waste production and reduce impacts on material stocks.

15.7.21. Mitigation measures should follow the waste hierarchy to prevent, reduce, reuse, recycle and recover, which is presented in Figure 15-1.

15.7.22. The mitigation above will be supported through the preparation of a robust framework to manage, avoid, minimise or mitigate impacts. Measures will include producing an OWMS to outline appropriate waste management measures to be implemented and estimate waste quantities to be managed during the operation of the Proposed Development, see ES (Volume 4) Appendix 15.2. As part of the OWMS, appropriate waste storage arrangements and waste collection arrangements will be outlined to ensure that waste is appropriately stored, managed and collected.

Operation Effects

Materials

15.7.23. It is considered that operational activities are those which occur throughout the lifetime of the Proposed Development. It is considered that materials which could be used in the operational phase are the same as those in construction, however, they would be due to planned and un-planned maintenance activities and at much smaller volumes. Therefore, using professional judgement it is estimated that negligible material asset use is likely to take place during the operational phase and is assessed to have no potential for significant residual adverse environmental effects with respect to materials.

Waste

15.7.24. Similarly, it is considered that the operation phase of the Proposed Development will not generate large quantities of waste relative to regional landfill capacity.

15.7.25. Within the Proposed Development there will be the generation of recycling, food waste and mixed general waste. This waste will need to be appropriately managed, the details of waste management required will be described within a supporting Operational Waste Management Strategy (OWMS), see ES (Volume 4) Appendix 15.2. This OWMS will outline appropriate waste management measures to be implemented and estimate waste quantities that will need to be managed during the operation phase of the Proposed Development. As part of the OWMS, appropriate waste storage arrangements and waste collection arrangements will be outlined to ensure that waste is appropriately stored, managed and collected.

15.7.26. Therefore, using professional judgement it is estimated that negligible waste generation is likely to take place during the operation phase and is assessed to have no potential for significant residual adverse environmental effects with respect to waste.

15.8. Additional mitigation and enhancement measures

15.8.1. There will be no additional mitigation measures introduced during the construction and operational stages which relate materials and waste impacts given no significant effects have been identified.

15.8.2. Embedded mitigation for the adverse impacts during the construction and operation phase, have been outlined in Section 15.7.

15.9. Residual effects

15.9.1. This section will provide an assessment of the effects of material use and waste generation of the Proposed Development post mitigation measures described above using the criteria in Table 15-2 and Table 15-3. The summary of residual effects can be found in Table 15-13.

Construction

Materials

15.9.2. The current known key materials associated with the construction phase of the Proposed Development are presented in Table 15-11 below and have been calculated from the Bill of Quantities (BoQ) data.

Table 15-11 - Estimated Materials required post mitigation

Materials	Total Material resource use (tonnes)	% reduction of primary materials required post mitigation
Concrete	189,406	0.4
Aggregate	32,406	<0.01
Asphalt	685	<0.01
Steel	18,402	<0.01

15.9.3. During demolition works some waste will be crushed and used on site reducing the amount of aggregate needed. In addition to this, a commitment expected from the Principal Contractor (PC) to source aggregate with a minimum of 30% recycled content (as set out in the mitigation section) would reduce the total volume of primary aggregate used from 55,471 tonnes to 32,406 tonnes.

15.9.4. After mitigation measures are implemented the material with the largest impact on primary materials is concrete with a 0.4% reduction of primary materials against the baseline. When assessed against criteria in Table 15-2 and Table 15-3 this amount of concrete use from the Proposed Development will have a low and moderate impact (respectively) on the regional baseline availability of this material.

15.9.5. Therefore, when assessing against the Effect Thresholds in Table 15-4 the effect would be slight which is shown to be not significant, against significance criteria in Table 15-5.

Waste

15.9.6. It is expected that 70% of waste generated from the construction phase will be diverted from landfill (as set out in the mitigation section). The remaining amount of waste that may require disposal to landfill post mitigation measures is shown in Table 15-12 below including the % change on landfill capacity.

Table 15-12 - Estimated Construction Waste post mitigation

Waste type	Baseline capacity (m^3)	Estimated waste (m^3)	Estimated waste requiring disposal to landfill post mitigation (m^3)	% Change from baseline
Concrete	8,639,000	400	120	0.00139
Asphalt	8,639,000	88	26	0.00031
Aggregate	8,639,000	12,041	3,612	0.04181
Excavated Soil	8,639,000	42,822	12,847	0.14871
Wood	8,639,000	12	4	0.00004
Mixed CD&E	8,639,000	2,725	818	0.00946

15.9.7. After mitigation measures are implemented, the waste type with the highest percentage change by volume on landfill capacity is excavated soil. The amount of excavated soil waste estimated to require disposal to landfill represents a 0.149% reduction of the current regional landfill void capacity baseline. When assessed against criteria in Table 15-2 and Table 15-3 this is estimated to have a low and negligible impact on the regional inert and non-hazardous landfill void capacity baseline.

15.9.8. Therefore, when assessing against the Effect Thresholds in Table 15-4 the effects would be slight or neutral which is shown to be not significant, against the criteria in Table 15-5.

15.9.9. No other waste type generated by the Proposed Development will reduce inert and non-hazardous waste baseline landfill void capacity by <1%. Therefore, when assessing against criteria in Table 15-2, Table 15-3, Table 15-4 and Table 15-5 the Proposed Development in relation to waste is defined as not significant.

Operation

Materials

15.9.10. It is considered that materials that could be used in the operational phase are the same as those in construction, however, they would be due to planned and un-planned maintenance activities and at much smaller volumes. Therefore, post mitigation and based on professional judgement, it is estimated that negligible material use is likely to take place during the operational phase and is assessed to have no potential for significant residual adverse environmental effects with respect to materials.

Waste

15.9.11. It is considered that waste generation in the operation phase of the Proposed Development will not result in large quantities of waste relative to regional landfill capacity. Therefore, post mitigation and based on professional judgement, it is estimated that negligible waste generation is likely to take place during the operation phase and is assessed to have no potential for significant residual adverse effects with respect to waste.

15.10. Cumulative effects

15.10.1. This section considers the cumulative effects of the Proposed Development (intra-project cumulative effects) and the Proposed Development interacting with other RFFPs (inter-project cumulative effects) from the perspective of impacts within the scope of the materials and waste topic.

Cumulative effects assessment

15.10.2. The further consideration of cross-topic intra-project and inter-project cumulative effects is reported in Chapter 22: Cumulative Effects.

Intra-project in-combination cumulative effects assessment (single project impacts) within topic

15.10.3. The focus of the intra-project CEA is understanding how receptors may experience a number of different types of impacts from the Proposed Development at the same time. Within the topic assessments, the materials and waste assessment methodology explores the impacts on the materials market and waste infrastructure. There is only a single source of impact from the Proposed Development relating to these receptors, thus the potential for intra-project effects within the topic has been scoped out.

15.10.4. On the basis of the above, there are no intra-project cumulative effects from the assessment of materials and waste to report in this section.

Inter-project cumulative effects assessment (different project impacts) within topic

15.10.5. To complete the cumulative effects assessment inter-project 'within topic' element, the materials and waste assessment has been completed with reference to the shortlist list of RFFPs that has been developed for the Proposed Development. The list is based on a review of all developments known to the planning system using the methodology described in ES (Volume 2) Chapter 22: Cumulative Effects.

15.10.6. The RFFP shortlist has been screened to identify projects that are considered to have a realistic prospect of interacting with the Proposed Development from the perspective of materials and waste. This focuses on the requirements for construction materials, such as aggregate, concrete, asphalt and steel and the use of waste infrastructure to manage and/or dispose of large quantities of construction waste, in particular soil from excavations/site clearance.

15.10.7. The sift from the shortlist of RFFPs to identify RFFPs that should be scoped into the inter-project CEA for materials and waste was compiled based on professional judgement, focusing on the following characteristics:

- RFFPs that would be at a comparable scale to the Proposed Development.
- RFFPs that would be of a comparable construction type to the Proposed Development.
- RFFPs that may potentially require the same types or quantities of materials as the Proposed Development.
- RFFPs that could generate the same types or quantities of waste as the Proposed Development, either in construction or operation.

15.10.8. The following seven RFFPs have been shortlisted:

- **128191/FO/2020** - Development comprising of five office buildings with flexible ground floor use at land between Ashton Canal and Pollard Street.
- **126608/FO/2020** - Development of 66 residential units between Store Street and Ashton Canal.
- **135662/FO/2022** - Development of 154 Bedroom Hotel with ancillary café / bar / restaurant and gym adjacent to Great Ancoats Street and south of Laystall Street.
- **135675/FO/2022** - Development of two apartment buildings comprising 267 dwellings at Tariff Street.
- **137346/FO/2023** - Mixed use development comprising commercial floorspace and 256 residential units adjacent to Poland Street and between Naval Street and Jersey Street.
- **122598/FO/2019** - Mixed use development comprising 94 residential units consisting of townhouses and apartments as well as commercial floorspace at New Islington Marina.
- **128911/FO/2020** - Mixed use development consisting of office space and 89 residential units at Laystall Street.

Potential inter-project impacts

Construction

15.10.9. For the purposes of the CEA, a set of assumptions has been made regarding the likely progression of each RFFP through construction, relative to the Proposed Development. These assumptions are provided in Chapter 22: Cumulative Effects.

15.10.10. The assumptions indicate that each of the seven RFFPs has the potential for some elements of construction to be concurrent with the construction of the Proposed Development. It is considered that due to their proximity to the Proposed Development, each RFFP has the potential to contribute to construction additive cumulative impacts on materials and waste.

15.10.11. There is insufficient data in the public domain relating to the RFFPs to undertake a quantitative cumulative assessment. From a qualitative perspective, the RFFPs identified above may experience the following cumulative impacts during the construction phase:

- Difficulty sourcing material types and quantities needed.
- Difficulty being able to find waste management facilities and/or landfill with the capacity to manage or dispose of their waste.

15.10.12. Mitigation measures will be implemented as part of the construction of the Proposed Development as outlined in Section 15.8. The other developments themselves will also be subject to the National Planning Policy Framework (NPPF), meaning that they will require mitigation and control measures to be adopted during their construction through management plans to reduce impacts to the environment including excessive material use and/or excessive waste generation.

15.10.13. On the basis of the above assumptions, it is not expected that the combined impact of these potential additive cumulative effects will be greater than those effects predicted for materials and waste as outlined in this chapter. Therefore, negligible to minor adverse additive cumulative effects on materials and waste are anticipated, which are classified as negligible and not significant. No additional mitigation is required.

Operation

15.10.14. For the purposes of the CEA, a set of assumptions has been made regarding the likely progression of each RFFP through to operation, relative to the Proposed Development. These assumptions are provided in Chapter 22: Cumulative Effects.

15.10.15. The assumptions indicate that each of the seven RFFPs has the potential for some elements of operation to be concurrent with the operation of the Proposed Development. It is considered that due to their proximity to the Proposed Development, each RFFP has the potential to contribute to operation additive cumulative impacts on materials and waste.

15.10.16. There is insufficient data in the public domain relating to the RFFPs to undertake a quantitative cumulative assessment. From a qualitative perspective, the RFFPs identified above may experience the following cumulative impacts during the operation phase:

- Difficulty sourcing material types and quantities needed if any repairs or maintenance is required.
- Difficulty being able to find waste management facilities and/or landfill with the capacity to manage or dispose of their waste.

15.10.17. Mitigation measures will be implemented as part of the operation of the Proposed Development as outlined in Section 15.8. The other developments themselves will also be subject to the NPPF, meaning that they will require mitigation and control measures to be adopted during their operation through management plans to reduce impacts to the environment including excessive material use and/or excessive waste generation.

15.10.18. On the basis of the above assumptions, it is not expected that the combined impact of these potential additive cumulative effects will be greater than those effects predicted for the materials and waste as outlined in this chapter. Therefore, negligible adverse additive cumulative effects on materials and waste are anticipated, which are classed as not significant.

15.11. Summary and conclusions

15.11.1. The chapter has summarised the quantities of material assets that would be required without mitigation and waste that could require management and disposal without mitigation.

15.11.2. Mitigation that follows the waste hierarchy is expected to be applied during detailed design and construction which will lead to material use and waste generation prevention, reduction, reuse, recycling, and recovery. In particular, during construction this includes a commitment to use aggregates with minimum 30% recycled content and recycle or recovery of 70% of wastes that are managed offsite.

15.11.3. Assessment following application of the mitigation measures demonstrates that during construction, the estimated amount of materials required by the Proposed Development was assessed to have no significant residual adverse environmental effects.

15.11.4. Assessment following application of the mitigation measures demonstrates that during construction, the estimated amount of waste generated by the Proposed Development was assessed to have no significant residual adverse environmental effects.

15.11.5. As discussed in Section 15.9 material use during the operation phase of the Proposed Development post mitigation measures have been assessed to have no potential for significant residual adverse environmental effects.

15.11.6. As discussed in Section 15.9 waste generation during the operation phase of the Proposed Development post mitigation measures have been assessed to have no potential for significant residual adverse environmental effects.

15.11.7. The cumulative effects assessment for materials and waste during both construction and operation phases has concluded that negligible adverse effects are anticipated for inter-project connections, therefore no additional mitigation is anticipated. It has been concluded that there are no intra-Scheme connections therefore no additional mitigation is anticipated.

Table 15-13 – Summary of residual effects

Resource / Receptor / affected group	Sensitivity of receptor	Activity or impact	Embedded design mitigation	Effect Magnitude Type Spatial extent Duration Likelihood	Significance of effect	Additional mitigation	Residual effect
Construction							
Materials	Low	Use of materials	Use of aggregate with 30% recycled content SWMP	Adverse Moderate Direct Local Temporary Likely	Not significant	N/A	Not significant
Waste	Low	Generation of waste	Recycling or recovery of 70% of waste SWMP	Adverse Negligible Direct Local Temporary Likely	Not significant	N/A	Not significant
Operation							
Materials	Low	Use of materials	OWMS	Adverse Negligible Direct Local Permanent Likely	Not significant	N/A	Not significant
Waste	Low	Generation of waste	OWMS	Adverse Negligible Direct Local Permanent	Not significant	N/A	Not significant

Resource / Receptor / affected group	Sensitivity of receptor	Activity or impact	Embedded design mitigation	Effect Magnitude Type Spatial extent Duration Likelihood	Significance of effect	Additional mitigation	Residual effect
				Likely			

15.12. Glossary and Acronyms

Table 15-14 – Glossary and acronyms

Term	Definition
BoQ	Bill of Quantities
CEA	Cumulative Effects Assessment
Construction materials	Physical substances from primary (virgin) and non-primary (i.e. reused, secondary, and recycled) sources that are used to deliver construction.
Construction, Demolition & Excavation (CD&E)	Arisings and waste from the demolition of buildings and structures, site preparation and clearance, remediation, excavation and construction activities.
Environmental effect	The consequence of an environmental impact. Effects may be classified as beneficial or adverse, and temporary or permanent.
Environmental impact	Any change caused in the natural environment by an action. Impacts may be classified as direct, indirect, secondary, cumulative, and short, medium or long term.
Environmental Impact Assessment (EIA)	The statutory process for assessing the impacts, and evaluating and reporting the likely significant environmental effects, of a Proposed Development.
Greater Manchester Policies Map and GeoIndex	Are two key resources used in urban planning and development to help manage land use, guide decision-making, and ensure sustainable development across Greater Manchester.
Hazardous waste	Defined in line with Article 3(2) of the Waste Framework Directive (Council Directive 2008/98/EC) as: ‘waste which displays one or more of the hazardous properties listed in Annex III of the Directive’.
IEMA	Institute of Environmental Management and Assessment.
Inert waste	Defined in the Landfill Directive (Council Directive 1999/31/EC): "inert waste" means waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.
Landfill capacity	The known, forecast or estimated remaining landfill void space, either individually, regionally or nationally; generally measured in cubic metres or tonnes.
Materials	Substances and objects which will be used during any lifecycle stage of a development.
Mineral Safeguarding Area (MSA)	As defined on page 69 of the National Planning Policy Framework: an area designated by Minerals Planning Authorities which covers known deposits of minerals which are desired to be kept safeguarded from unnecessary sterilisation by non-mineral development.
MPA	Minerals Protection Association
MSA	Mineral Safeguarding Area

Term	Definition
Non-hazardous waste	Waste that is classified neither as inert nor hazardous.
OWMS	Operational Waste Management Strategy
PC	Principal Contractor
Primary (embedded) mitigation	Modifications to the location or design of the development made during the pre-application phase that are an inherent part of development, and do not require additional action to be taken.
Primary materials	Physical substances from non-renewable sources, i.e. those that cannot or will not be replaced in short (non-geological) periods of time. Also referred to as 'virgin' materials.
Reuse	Any operation by which products or components that are not waste are used again for the same purpose for which they were conceived.
RFFPS	Reasonably Foreseeable Future Projects
SWMP	Site Waste Management Plan.
WEEE	Waste, Electrical and Electronic Equipment.
WRAP	Waste and Resources Action Programme

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