REPORT

IAMP TWO:
Preliminary Environmental Information Report

Chapter H: Waste

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INTRODUCTION

1.1 Background

This chapter of the Preliminary Environment Information Report (PEIR) has been prepared by Golder Associates (UK) Ltd (Golder). It considers the effect of the construction, operation and maintenance of the Proposed Development on waste management.

1.2 Scope

This waste management chapter assesses the potential effects of the Proposed Development on the environment with respect to both hazardous and non-hazardous waste generated during the construction and operational phases of the Proposed Development. The assessment also includes the demolition of properties currently within the DCO Application Boundary to allow for the construction phase to begin.

1.2.1 Waste generated during the demolition of existing properties within the DCO Application Boundary includes general building materials for example, brick, stone, glass, wood, tiles and small volumes of asbestos.

1.2.2 Waste generated during the construction phase of the Proposed Development includes earth excavation, packaging waste from material and equipment deliveries and any waste resulting from the construction process.

1.2.3 Waste generated during the operation phase of the Proposed Development includes that created by site staff and visitors and any waste materials generated during the operation and maintenance, for example waste connected to the packaging of deliveries.

1.2.4 As the majority of waste arisings from the initial demolition, construction and operational phases of the Proposed Development will be sent off-site to existing waste facilities, this chapter considers those existing facilities which are available to receive specific waste streams and the effect on these existing waste facilities across the North East England region. As per the scoping opinion, the assessment includes the details of, type and volume of waste generated during the proposed demolition works associated with the Proposed Development. In particular, hazardous waste, including asbestos (if any). The method of storage of the excavated materials is also outlined, as are the control processes for the appropriate storage of any contaminated material.

1.2.5 This assessment has taken into account Highways England’s Interim Advice Note (IAN) 153/11 (2011): “Guidance on Environmental Assessment of Materials Resources”1 developed under the Design Manual for Roads and Bridges (DMRB) Volume 11 and where possible the assessment has been aligned with the applicable guidance contained therein.

1.2.6 This assessment has also taken into account and addressed the comments received from PINS in the Scoping Opinion. In particular section 4.5 of the Scoping Opinion and details of how these comments have been addressed is provided in Appendix B1.

1.3 Study Area

The Study Area for the purposes of the waste management assessment comprises the Local Authorities in the North East England region with existing waste management facilities able to receive the waste streams expected to arise during the construction and operation of the Proposed Development. The Waste Study Area is defined on Drawing H1 and includes reference to the following Local Authorities:

- Stockton-on-Tees Borough Council;

1 http://www.standardsforhighways.co.uk/ha/standards/ians/pdfs/ian153.pdf
Redcar and Cleveland Borough Council;
Middlesbrough Borough Council;
Hartlepool Borough Council;
Darlington Borough Council;
Durham County Council;
Northumberland County Council;
Sunderland City Council;
South Tyneside Metropolitan Borough Council;
North Tyneside Council;
Newcastle-upon-Tyne City Council; and
Gateshead Metropolitan Borough Council.

The Waste Study Area is therefore two-fold: (i) the waste arisings within the DCO Application Boundary (namely waste generated from the Proposed Development); and (ii) the management of such waste at the sub-regional and regional level ("Study Area").

Chapter Structure

This chapter is divided into the following sections:

H1.0 – Introduction. This section includes details of the assessment scope, the Study Area and structure;

H2.0 – Legislative and Policy Context. This section provides a description of legislation, policy, standards and guidance relevant to waste management;

H3.0 – Assessment Methodology & Significance Criteria. This section describes how the assessment has been undertaken and includes any assumptions and limitations that have been made;

H4.0 – Baseline Conditions. This section details the sources of information used in understanding the existing situation regarding waste management in proximity to the Proposed Development;

H5.0 – Potential Effects. This section presents the potential effects as a result of Proposed Development;

H6.0 – Mitigation & Monitoring. This section presents details of any mitigation recommended to avoid, reduce or compensate for the potential effects identified in Section G5.0;

H7.0 – Residual Effects. This section presents the assessment of the residual effects taking into account any mitigation measures;

H8.0 – Summary and Conclusions;

H9.0 – Abbreviations; and

H10.0 – References.
**H2.0 POLICY CONTEXT**

**H2.1 Introduction**

**H2.1.1** This section considers the Proposed Development within the context of environmental elements of international, national and local planning policies relating to waste management. Reference to the following documents that form the development framework is included:

**H2.2 International Policy**

**H2.2.1** The following European policies are relevant for the assessment of waste management at the Proposed Development:

- EC Landfill Directive 1999/31/EC.

**H2.2.2** The European Union has instigated a range of Directives at a European level that seek to deal with the management of waste in a more sustainable manner allied with waste reduction measures. The key drivers to achieve these objectives are the Framework Directive for Waste and the Landfill Directive.

**EC Landfill Directive 1999/31/EC**

**H2.2.3** The 1999 Landfill Directive (1999 Directive) seeks to further the aims of the 1991 Directive in relation to the role of the landfill. It aims to prevent, or reduce as far as possible, the negative effects on the environment from landfelling waste.

- In order to achieve this, it seeks to:
  - End co-disposal of hazardous and non-hazardous waste in landfill;
  - Introduce rigorous technical requirements for landfills and waste;
  - Phase in the prohibition of landfilling specific wastes including liquid hazardous waste, other hazardous waste, whole tyres, and shredded tyres;
  - Oblige operators to pre-treat all hazardous waste and all other wastes; and
  - Introduce phased targets for the reduction of biodegradable waste being landfilled at 2010, 2013 and 2020.

**H2.3 National Policy**

**National Planning Policy Framework (2018)**

**H2.3.1** The National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, 2018) sets out the Government’s economic, environmental and social planning policies for England and how these are expected to be applied against a background of a presumption in favour of sustainable development, intended to be interpreted and applied locally to meet local aspirations. Paragraph 8 of the NPPF states that:

>“Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives):

a) **an economic objective** – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support
growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;

b) a social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities’ health, social and cultural well-being; and

c) an environmental objective – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.”

H2.3.2 With regards to waste, the NPPF explains in paragraph 4 that the Framework “should be read in conjunction with the Government’s…planning policy for waste” as defined in the national Waste Management Plan (2013) and National Planning Policy for Waste (2014).


H2.3.3 In England, the waste hierarchy is both a guide to sustainable waste management and a legal requirement, enshrined in law under the Waste (England and Wales) Regulations 2011, which effectively transposed the requirements of the Waste Framework Directive (WFD) into English law.

H2.3.4 The WFD requires member states to take appropriate measures to encourage the prevention or reduction of waste production and its harmfulness in the first instance, and secondly the recovery of waste by means of recycling, re-use or reclamation or any other process with a view to extracting secondary raw materials or the use of waste as a source of energy.

H2.3.5 Article 4 of the WFD sets out five steps for dealing with waste, ranked according to environmental impact – this is the ‘Waste Hierarchy’. Prevention, which offers the best outcomes for the environment is at the top of the priority order, followed by preparing for re-use, then recycling, other types of recovery and, last of all, disposal (e.g. landfill) in descending order of environmental preference.

H2.3.6 The ‘Waste Hierarchy’ is defined below in Figure H1.
**National Planning Policy for Waste (2014)**

**H2.3.7** The National Planning Policy for Waste (NPPW) sets out detailed waste planning policies and should be read in conjunction with the NPPF and Waste Management Plan for England.

**H2.3.8** Paragraph 8 of the NPPW states that, when determining non-waste development, local planning authorities should ensure that:

- "The likely impact of proposed, non-waste related development on existing waste management facilities, and on sites and areas allocated for waste management, is acceptable and does not prejudice the implementation of the waste hierarchy and/or the efficient operation of such facilities;"

- "New, non-waste development makes sufficient provision for waste management and promotes good design to secure the integration of waste management facilities with the rest of the development and, in less developed areas, with the local landscape. This includes providing adequate storage facilities at residential premises, for example by ensuring that there is sufficient and discrete provision for bins, to facilitate a high quality, comprehensive and frequent household collection service;"

- "The handling of waste arising from the construction and operation of development maximises reuse/recovery opportunities, and minimises off-site disposal."

**H2.3.9** The NPPW also requires planning authorities to consider "the likely impact on the local environment and on amenity against the criteria set out in Appendix B, and the locational implications of any advice on health from the relevant public health bodies" when considering new waste applications. The criteria relates to:

- a. Protection of water quality and resources and flood risk management;
- b. Land instability;
c. Landscape and visual impacts;

d. Nature conservation;

e. Conserving the historic environment;

f. Traffic and access;

g. Air emissions, including dust;

h. Odours;

i. Vermin and birds;

j. Noise, light and vibration;

k. Litter; and

l. Potential land use conflict.

Site Waste Management Plans Regulations (2008)

The Site Waste Management Plans Regulations came into force on 6 April 2008 making Site Waste Management Plans (SWMP) compulsory for all construction projects in England costing over £300,000. Although the regulations were revoked in December 2013 in a government drive to cut red tape, they remain a useful guide to best practice on site waste management and the approach to compiling SWMPs. A SWMP records the amount and type of waste produced on a construction site and how it will be reused, recycled or disposed of.

H2.4 Local Planning Policy

The International Advanced Manufacturing Park Area Action Plan (IAMPAAP)

The IAMP Area Action Plan (AAP) 2017 - 2032 was adopted by both Sunderland City Council (SCC) and South Tyneside Council (STC) in November 2017. The AAP forms part of the SCC Local Plan and STC Local Plan and provides the site-specific policies for the delivery of IAMP. The AAP includes a specific objective regarding waste management:

- Objective 6: Support the efficient use of resources and minimise disposal of wastes to landfill.

Emerging Planning Policy

SCC submitted its Draft Core Strategy and Development Plan (CSDP) 2015 - 2033 to the Secretary of State for examination on 21 December 2018.

The policies within the Draft –CSDP that relate to waste management are as follows:

- Policy WM1 – Waste Management

  The policy sets out the principles of identifying appropriate locations for waste management facilities, delivery of waste management infrastructure in the most sustainable and effective way for the treatment of waste, and the avoidance of potential negative impacts.

- Policy WM2 – Waste Facilities

  The policy focuses on the key criteria and supporting information required as part of a proposal to determine planning applications, to be used to assess all types of built waste facility proposals.
Policy WM3 – Safeguarding Waste Facilities

- The policy identifies existing waste management sites that are strategically important and require safeguarding, unless capacity is reached, is no longer available or provision can be provided elsewhere.

Policy WM4 – Open Waste Facilities

- The policy defines specific criteria for proposals relating to open waste facilities (e.g. green waste, biological waste).

South Tyne & Wear Municipal Waste Management Strategy

H2.4.4 The joint municipal waste strategy of the South Tyne and Wear Municipal Waste Management Partnership (STWWMP) was published in October 2007 (reviewed in 2012) and brings together the waste management planning strategies of SCC, STC and Gateshead Council.

H2.4.5 The 20-year strategy (2007-2027) plans the route to reducing waste being sent to landfill across the Tyne and Wear region.

H2.4.6 The strategy covers municipal waste, which includes waste collected from households, recycling collections, waste taken to recycling banks, collections of bulky waste, street sweeping, collection of household clinical waste, commercial/trade waste collected by the local authorities, fly tipped waste and waste accepted at household recycling centres. The strategy does not consider industrial, commercial, construction or demolition wastes so does not provide specific requirements for IAMP TWO.
H3.0 ASSESSMENT METHODOLOGY & SIGNIFICANCE CRITERIA

H3.1 Data Assessed

H3.1.1 The following data has been reviewed under this assessment:

- Local Authority Collected Waste (LACW) is taken from the DEFRA reported data entered by local authorities onto WasteDataFlow;
- SCC’s ‘Waste Arisings and Capacity Requirements (updated January 2018)’ but originally provided by the WasteDataFlow Database produced by DEFRA;
- Estimates of expected volumes of waste generates for properties requiring demolition for IAMP TWO; and
- Data has been assessed cumulatively with existing and predicted waste arisings and has considered existing waste management infrastructure in the Study Area to determine if a significant effect is anticipated.

H3.2 Assessment Methodology

H3.2.1 This chapter assesses the potential amounts of waste and their types (including any hazardous waste arising during the proposed demolition works) that is generated from the construction and operation (including maintenance) of the Proposed Development. It will also assess the potential environmental impacts associated with the method of storage of any excavated materials, as well as the management of these waste streams. The assessment also outlines mitigation measures that will be adopted to minimise waste generation; facilitate reuse or recycling of waste on Site; and minimise potential exposure to any harmful material and nuisance during the collection, temporary storage and transportation of waste, including the use of appropriate control processes for any stored waste so as to avoid discharges of contaminated material.

H3.2.2 In assessing the nature and effects of the likely quantities of waste material generated as a result of the Proposed Development, the following assumptions have been made:

- Uncontaminated excavated material arising during construction will be considered for re-use on-site, with the contaminated material either treated on-site or removed off-site for treatment/disposal;
- Where materials are available and suitable for reuse, measures will be taken to incorporate this material within the construction process as detailed in the CEMP;
- Where figures are not available for the calculation of waste arisings, assumptions will be made based on previous similar major infrastructure projects;
- The waste quantities and waste type information provided currently is indicative of a defined plot size. Therefore, the assessment has considered development parameters under the Rochdale Envelope (worst-case scenario) principles and applied these across the whole of the developable land; and
- The plots within IAMP TWO will require all topsoil being removed to an average depth of 400 mm and transported off-site to an inert landfill.
### H3.3 Significance Criteria

**H3.3.1** There are no nationally agreed criteria for assessing the magnitude of impacts or significance of effects arising from waste management. However, this assessment has taken guidance from Highways England's Interim Advice Note (IAN) 153/11 (2011): “Guidance on Environmental Assessment of Materials Resources”\(^2\) developed by the Design Manual for Roads and Bridges, Volume 11. Where possible the method for assessing waste management has been aligned with this methodology.

**H3.3.2** Each project is evaluated according to its individual characteristics. The purpose of a waste management assessment is to characterise waste types and volumes and to identify the existing and potential methods employed for their management.

**H3.3.3** The significance criteria used to assess the effects of the Proposed Development has been based on the Design Manual for Roads and Bridges, Volume 11 where appropriate.

**H3.3.4** The significance of the beneficial or adverse effects resulting from the management of waste streams is largely controlled by the quality, location and capacity of local and regional waste management facilities and their ability to manage waste in an environmentally responsible way. However, an assessment of the likely effects that arise at these waste management facilities is outside the scope of this assessment. The Applicant and development partner, Henry Boot Developments Limited (HBDL), will need to ensure that waste carriers and receiving facilities hold the appropriate licences and employ environmental management procedures aligned to national guidelines and will employ a Waste Transfer Note system for all waste transported off site.

**H3.3.5** The significance of effects for the purposes of this EIA assessment has largely been determined by professional judgement, taking account of the predicted waste arisings and local waste management strategies and policies.

**H3.3.6** The significance of effect will be rated according to the following scale (Table H1):

<table>
<thead>
<tr>
<th>Significance</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major adverse effect</td>
<td>An effect which in isolation could have a material influence on the decision making process – this would be considered significant</td>
</tr>
<tr>
<td>Moderate adverse effect</td>
<td>An effect which on its own could influence decision making, particularly if combined with other similar effects – likely to be significant, judgement to be applied</td>
</tr>
<tr>
<td>Minor adverse effect</td>
<td>An effect which on its own is likely to have negligible influence on the decision making when combined with other effects could have a more material influence – less likely to be considered significant, a judgement needs to be applied</td>
</tr>
<tr>
<td>Negligible effect</td>
<td>No effects, not significant</td>
</tr>
</tbody>
</table>

**H3.3.7** For the purposes of this assessment and to assume the worst-case scenario, major and moderate significance of effects are considered ‘significant’.

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\(^2\) [http://www.standardsforhighways.co.uk/ha/standards/ians/pdfs/ian153.pdf](http://www.standardsforhighways.co.uk/ha/standards/ians/pdfs/ian153.pdf)
H3.4 Assumptions & Limitations

H3.4.1 In accordance with the Rochdale Envelope principles, a worst-case scenario was used for the impact assessment. The worst-case scenario used assumed that all of the land required for the development of the main infrastructure components (including roads, bridges and drainage) and the plots within IAMP TWO will be require all topsoil being removed to a depth of 400 mm and transported off-site to an inert landfill.

H3.4.2 There are no detailed waste quantities and waste type information currently. Therefore, the EIA has considered development parameters under the Rochdale Envelope (worst-case scenario) principles.

H3.4.3 Additionally, it was assumed that all waste generated from the buildings requiring demolition will be disposed off-site, and that small volumes of asbestos and controlled invasive species may be encountered. Opportunities to segregate and recycle waste streams from IAMP TWO during construction and operation were identified.

H3.5 Consultation

H3.5.1 Consultation has been undertaken as part of this assessment with the following:

- Consultation with SCC to discuss possible topsoil disposal locations in November 2018;
- Consultation with STC to discuss possible topsoil disposal locations in October 2018; and
H4.0 BASELINE CONDITIONS

H4.1 Overview

H4.1.1 This baseline has been generated on the knowledge that there are to be no retained structures within IAMP TWO, except for the main farmhouse at Elloscope Farm, which is to be retained. Currently the types and volumes of materials generated from the development has not been fully quantified and as such a worst-case approach has been adopted. The data presented within the chapter is the most recently available published data of waste arisings in the Study Area, at a regional level.

H4.2 North East England

H4.2.1 The following data shown in Table H2 on Local Authority Collected Waste (LACW) is taken from the DEFRA reported data entered by local authorities onto WasteDataFlow for each quarterly return for 2014/15. This dataset reflects the most recently published and comprehensive Local Authority Collected Waste data available prior to the Pollution Inventory questions changing in 2015/2016. More recent data has been published, but a fully consistent annual data set is currently unavailable; as such the 2014/2015 has been included for reference.

Table H2: Management of North East Local Authority Collected Waste, 2014/15 (tonnes)

<table>
<thead>
<tr>
<th>Authority</th>
<th>Landfilled</th>
<th>Incineration with EFW</th>
<th>Incineration without EFW</th>
<th>Recycled/Composted</th>
<th>Other$^4$</th>
<th>Total</th>
<th>Input to intermediate plants$^5$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stockton-on-Tees Borough Council</td>
<td>6,543</td>
<td>60,181</td>
<td>0</td>
<td>36,361</td>
<td>1,134</td>
<td>104,219</td>
<td>2,892</td>
</tr>
<tr>
<td>Redcar and Cleveland Borough Council</td>
<td>908</td>
<td>38,575</td>
<td>0</td>
<td>32,322</td>
<td>0</td>
<td>71,804</td>
<td>14,661</td>
</tr>
<tr>
<td>Middlesbrough Borough Council</td>
<td>3,548</td>
<td>34,781</td>
<td>0</td>
<td>29,559</td>
<td>0</td>
<td>67,888</td>
<td>5,280</td>
</tr>
<tr>
<td>Hartlepool Borough Council</td>
<td>3,461</td>
<td>25,590</td>
<td>0</td>
<td>17,934</td>
<td>0</td>
<td>46,985</td>
<td>0</td>
</tr>
<tr>
<td>Darlington Borough Council</td>
<td>18,054</td>
<td>5,548</td>
<td>6</td>
<td>21,076</td>
<td>9,572</td>
<td>54,255</td>
<td>34,022</td>
</tr>
<tr>
<td>Durham County Council</td>
<td>6,041</td>
<td>132,412</td>
<td>0</td>
<td>109,517</td>
<td>118</td>
<td>248,088</td>
<td>11,383</td>
</tr>
<tr>
<td>Northumberland County Council</td>
<td>8,430</td>
<td>88,254</td>
<td>0</td>
<td>66,611</td>
<td>-187</td>
<td>163,108</td>
<td>4,046</td>
</tr>
<tr>
<td>Sunderland City Council</td>
<td>5,486</td>
<td>85,701</td>
<td>2</td>
<td>42,815</td>
<td>294</td>
<td>134,297</td>
<td>41,330</td>
</tr>
</tbody>
</table>

$^3$ www.wastedataflow.org

$^4$ ‘Other’ includes waste treated/disposed through other unspecified treatment processes as well as process and moisture loss.

$^5$ Refers to input to MBT, Residual MRFs, RDF and other plants prior to treatment and disposal.
### Table H3: LACW arisings in 2015/2016 for Sunderland in tonnes

<table>
<thead>
<tr>
<th>Authority</th>
<th>Waste Breakdown</th>
<th>Arisings</th>
<th>Recycled, composted or Re-used</th>
<th>To Energy Recovery</th>
<th>To Landfill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunderland City Council</td>
<td>LACW</td>
<td>134,708</td>
<td>40,474</td>
<td>91,059</td>
<td>3,175</td>
</tr>
<tr>
<td>Household</td>
<td>123,239</td>
<td>36,171</td>
<td>84,105</td>
<td>2,963</td>
<td></td>
</tr>
</tbody>
</table>

H4.2.2 Waste information for SCC’s Local Authority Collected Waste is detailed in Table H3. Information is taken from SCC’s ‘Waste Arisings and Capacity Requirements (updated January 2018)’ but originally provided by the WasteDataFlow Database produced by DEFRA.

H4.2.3 The following waste arisings information is sourced from the Urban Mines report “Model of Waste Arisings and Waste Capacity for the North East of England Waste Planning Authorities, July 2012.”

H4.2.4 The “Addendum to 2012 study: Waste Arisings and Waste Management Capacity Model, June 2018” was also reviewed, it follows the conclusions of the original report and identifies: “The conclusions of this Addendum support the conclusions of the original Urban Mines Report 2012 in that there is no significant need to identify new waste management sites in the Plan area for most reviewed waste types”. The report does highlight that post 2032 there does appear to be shortfalls in inert landfill capacity, but increased recycling could mitigate the requirement to obtain additional capacity.

H4.2.5 Table H4 shows the baseline municipal waste arisings projection for waste destinations in the North East of England between 2016 and 2030, based on a 50% recycling rate reached by 2020.
Table H4: Baseline Regional Municipal Waste Arisings Forecast 2016 – 2030 (LACW, tonnes x 1,000)

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<td>Recycl-</td>
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<td>488</td>
<td>501</td>
<td>515</td>
<td>527</td>
<td>541</td>
<td>545</td>
<td>548</td>
<td>551</td>
<td>555</td>
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<td>562</td>
<td>565</td>
<td>569</td>
<td>573</td>
<td>577</td>
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<tr>
<td>Compost-</td>
<td>219</td>
<td>226</td>
<td>234</td>
<td>243</td>
<td>250</td>
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<td>253</td>
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<tr>
<td>Landfill</td>
<td>116</td>
<td>105</td>
<td>90</td>
<td>76</td>
<td>56</td>
<td>61</td>
<td>65</td>
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<td>Recovery</td>
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<td>Other</td>
<td>5</td>
<td>10</td>
<td>16</td>
<td>21</td>
<td>27</td>
<td>26</td>
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<td>24</td>
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<td>23</td>
<td>22</td>
</tr>
<tr>
<td>Total Arisings</td>
<td>1,538</td>
<td>1,549</td>
<td>1,560</td>
<td>1,571</td>
<td>1,581</td>
<td>1,593</td>
<td>1,603</td>
<td>1,613</td>
<td>1,622</td>
<td>1,632</td>
<td>1,642</td>
<td>1,652</td>
<td>1,662</td>
<td>1,674</td>
<td>1,685</td>
</tr>
<tr>
<td>% Recycling</td>
<td>46%</td>
<td>47%</td>
<td>48%</td>
<td>49%</td>
<td>50%</td>
<td>50%</td>
<td>50%</td>
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</tbody>
</table>

H4.2.6 Table H5 shows the baseline commercial and industrial waste arisings for the North East of England over the period 2016 to 2030, based on a 50% recycling rate reached by 2020.

Table H5: Baseline Commercial and Industrial Waste Forecast 2016 – 2030 (C&I, tonnes x 1,000)

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<tbody>
<tr>
<td>Recycl-</td>
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<tr>
<td>ing</td>
<td>1,372</td>
<td>1,380</td>
<td>1,395</td>
<td>1,401</td>
<td>1,398</td>
<td>1,400</td>
<td>1,396</td>
<td>1,396</td>
<td>1,395</td>
<td>1,397</td>
<td>1,398</td>
<td>1,399</td>
<td>1,401</td>
<td>1,403</td>
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<tr>
<td>Compost-</td>
<td>406</td>
<td>412</td>
<td>420</td>
<td>427</td>
<td>430</td>
<td>431</td>
<td>431</td>
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<tr>
<td>Energy</td>
<td>889</td>
<td>884</td>
<td>884</td>
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<td>880</td>
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<td>Recovery</td>
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<td></td>
</tr>
<tr>
<td>Landfill</td>
<td>903</td>
<td>887</td>
<td>874</td>
<td>854</td>
<td>819</td>
<td>822</td>
<td>820</td>
<td>822</td>
<td>825</td>
<td>826</td>
<td>829</td>
<td>833</td>
<td>836</td>
<td>839</td>
<td>844</td>
</tr>
<tr>
<td>Treatment</td>
<td>76</td>
<td>81</td>
<td>86</td>
<td>91</td>
<td>95</td>
<td>94</td>
<td>93</td>
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<td>90</td>
<td>89</td>
<td>88</td>
<td>88</td>
<td>88</td>
</tr>
<tr>
<td>% Recycling</td>
<td>49%</td>
<td>49%</td>
<td>50%</td>
<td>50%</td>
<td>51%</td>
<td>51%</td>
<td>51%</td>
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<td>51%</td>
<td>51%</td>
<td>51%</td>
<td>51%</td>
<td>51%</td>
</tr>
</tbody>
</table>

H4.2.7 Table H6 shows the breakdown of commercial and industrial (C&I) waste by sector.
### Table H6: C&I waste arisings for North East England by Sector

<table>
<thead>
<tr>
<th>Sector Group</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food, drink and tobacco</td>
<td>6.2</td>
</tr>
<tr>
<td>Textiles/wood/paper/publishing</td>
<td>9.1</td>
</tr>
<tr>
<td>Power &amp; utilities</td>
<td>7.9</td>
</tr>
<tr>
<td>Chemical/non-metallic minerals manufacturing</td>
<td>15.6</td>
</tr>
<tr>
<td>Metal manufacturing</td>
<td>9.5</td>
</tr>
<tr>
<td>Machinery and equipment (other manufacturing)</td>
<td>4.8</td>
</tr>
<tr>
<td>Retail and wholesale</td>
<td>14.9</td>
</tr>
<tr>
<td>Hotels and catering</td>
<td>6.2</td>
</tr>
<tr>
<td>Public administration and social work</td>
<td>6.3</td>
</tr>
<tr>
<td>Education</td>
<td>4.3</td>
</tr>
<tr>
<td>Transport and storage</td>
<td>4.0</td>
</tr>
<tr>
<td>Other services</td>
<td>11.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

### H4.3 Conclusion

**H4.3.1** This section provides the baseline conditions for the Proposed Development. It identifies that throughout the North East England region void space should be available for the Proposed Development. The Addendum to the 2012 study: “Waste Arisings and Waste Management Capacity Model, June 2018” defines that there is no significant need to identify new waste management sites in the Plan area for most reviewed waste types.
H5.0 POTENTIAL EFFECTS

H5.1 Overview

H5.1.1 Waste activities arisings have been calculated for the demolition prior to construction, waste during construction and waste during operation. It is these activities that have been assessed to identify any possible effects from waste generated by the Proposed Development. IAMP TWO will be developed in phases and as such excavation and construction may happen concurrently with the main waste being excavated soils. Due to this the excavation and construction phases have been assessed together.

H5.2 Demolition prior to construction

H5.2.1 There are nine residential, recreational and agricultural properties in total (as detailed in Table H6 below) that will require demolition prior to the construction of IAMP TWO.

H5.2.2 The demolition of these buildings will begin from the inside of the building then moving to the outside in the following stages; identifying and removing any hazardous materials (e.g. asbestos), soft strip (e.g. removal of soft furnishings and non-structural elements), removal of the main frame and removal of foundations.

H5.2.3 The BRE (2006) document ‘Developing a Strategic Approach to Construction Waste – 20 Year Strategy’ was consulted. It identified that the average volume of waste material generated from the demolition of a typical 80 m² semi-detached house was 15.36 m³ or approximately 9.6 tonnes (equivalent to 19.2 m³ waste generated per 100 m² floor area). This calculation method was used to provide an estimate of the expected waste volumes for the residential and agricultural buildings to be removed via demolition at the Proposed Development. The waste generated was estimated based on floor size so provides a worst-case scenario for agricultural buildings due to the increased void space expected within these buildings.

H5.2.4 Table H7 shows the nine residential, recreational and agricultural properties to be demolished as part of Proposed Development and the expected materials to be generated from their demolition.

Table H7: Properties requiring demolition for the Proposed Development and estimated volumes of material to be generated

<table>
<thead>
<tr>
<th>Property to be Demolished</th>
<th>Floorsize (m²) – estimated, including outbuildings</th>
<th>Wall Material of Main Residence(s)</th>
<th>Roof Material of Main Residence</th>
<th>No. out-buildings</th>
<th>Outbuilding materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usworth Cottages, No. 1, Washington Road</td>
<td>100</td>
<td>Brick (rendered)</td>
<td>Tile</td>
<td>1</td>
<td>Wood, felt roof</td>
</tr>
<tr>
<td>Usworth Cottages, No. 2, Washington Road</td>
<td>145</td>
<td>Brick (rendered)</td>
<td>Tile</td>
<td>2</td>
<td>1 x block or brick garage with tiled roof, 1 x wooden summerhouse</td>
</tr>
<tr>
<td>Usworth Cottages, No. 3, Washington Road</td>
<td>140</td>
<td>Brick (rendered)</td>
<td>Tile</td>
<td>4</td>
<td>3 x block/brick workshop, 1 x polytunnels</td>
</tr>
<tr>
<td>Usworth Cottages, No. 4, Washington Road</td>
<td>80</td>
<td>Brick (rendered)</td>
<td>Tile</td>
<td>0</td>
<td>N/A</td>
</tr>
<tr>
<td>Property to be Demolished</td>
<td>Floorsize (m²) – estimated, including outbuildings</td>
<td>Wall Material of Main Residence(s)</td>
<td>Roof Material of Main Residence</td>
<td>No. outbuildings</td>
<td>Outbuilding materials</td>
</tr>
<tr>
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</tr>
<tr>
<td>Usworth Cottages, No. 5, Washington Road</td>
<td>120</td>
<td>Brick (rendered)</td>
<td>Tile</td>
<td>2</td>
<td>1 x wooden summerhouse, 1 x sectional concrete garage</td>
</tr>
<tr>
<td>The Chalet, Washington Road</td>
<td>170</td>
<td>Prefabricated mobile home</td>
<td>N/A</td>
<td>2</td>
<td>2 x block/possible concrete sectional</td>
</tr>
<tr>
<td>RAF Air Cadets (2 buildings), Washington Road</td>
<td>256</td>
<td>Brick (may contain asbestos)</td>
<td>Tile</td>
<td>0</td>
<td>N/A</td>
</tr>
<tr>
<td>Make-Me-Rich Farm, including adjacent Wood View Lodge</td>
<td>400</td>
<td>Stone</td>
<td>Tile / Slate</td>
<td>2</td>
<td>2 x stone/tilde</td>
</tr>
<tr>
<td>Elliscope Farm (outbuildings only)</td>
<td>1,670</td>
<td>N/A</td>
<td>N/A</td>
<td>5</td>
<td>5 x block sectional concrete, asbestos</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,081</strong></td>
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</tbody>
</table>

**H5.2.5** It is anticipated that in the worst-case scenario and based on the BRE calculation method, 592 m³ (or approximately 369 tonnes) of mixed demolition waste would be generated from the demolition of buildings.

**H5.2.6** Where possible, materials will be sorted and segregated to allow waste to be minimised at the point of demolition. If possible, waste will be re-used, recycled or recovered prior to disposal options being explored.

**H5.2.7** **Hazardous materials** – Given the age of the buildings (built prior to 2000) to be demolished at IAMP TWO there may be small volumes of hazardous materials present. If hazardous materials (e.g. asbestos) are identified prior to or during the demolition process, an approved contractor will be sub-contracted to safely remove the materials and dispose of them in line with legislative requirements and managed by the CEMP. It is also possible that controlled invasive species (e.g. Japanese knotweed and Himalayan balsam) may be present at the residential properties requiring demolition. Surveys indicate that non-native invasive species are present within IAMP TWO as detailed in the Ecology and Biodiversity chapter of this PEIR (Chapter K). A specialist invasive species contractor will be appointed to survey for, remove, and dispose of such waste in accordance with legislative requirements.

**H5.2.8** In terms of waste management methods used, it is anticipated that:

**H5.2.9** **Re-use** – Some materials (hardcore) may be retained on site for re-use, as appropriate.
Recycled – Hardcore material will be where possible sent to an appropriate contractor for recycling or reclamation. Any scrap metal likely to arise will be sent for recycling off site. Good practice is to segregate metals on site by type. Waste Electrical and Electronic Equipment (WEEE) should be consigned to an appropriate recycling facility or a specialist WEEE recycler.

There is potential to recycle plastics if they are properly segregated to avoid contamination. Uncontaminated timber/wood can be shredded and used for the manufacture of fibre and chip boards.

Disposal – Waste that cannot be re-used or recycled or that is hazardous is likely to be disposed of to landfill. These wastes will be dealt with by licensed operators and disposed of in secure sites.

During Construction

Once the existing buildings have been demolished the ground surface will require excavation to formation levels. The amount of waste arisings from the excavation of the site has been estimated at 362,800 m³ of earth (topsoil), based upon the following worst-case scenario calculation:

- The total area for IAMP TWO (Northern Employment Area, Southern Employment Area, The Hub and new road/bridge construction) where material will require excavation encompasses an area of approximately 907,000 m² or 90.7 ha;
- Assuming 400 mm depth of topsoil (0.4 m) across this entire area provides a total topsoil volume of 362,800 m³; and
- Based upon an average weight of 1 m³ of moderately damp soil (as freshly dug) being equal to 1.6 tonnes, the estimated total weight of topsoil to be removed is 580,480 tonnes.

It should be noted that this figure is indicative based on average depth of soils derived from the results of the site investigations undertaken at IAMP TWO; the actual quantities will be confirmed once excavation activities commence. It is also assumed (worst-case scenario) that all material will need to be removed and transported off-site requiring significant HGV movements, whereas in practice some of the topsoil volume may be re-used (e.g. in forming landscaping bunds), depending on requirements following the topsoil strip and suitability of the material. Where possible the development design will be considered to ensure construction wastes are minimised.

Excavated materials will arise as a result of earth moving activities associated with the construction of hardstanding proposed as part of the Proposed Development. Removal of 400 mm of topsoil across the entirety of IAMP TWO has been assumed. In the worst-case scenario, it has been assumed that all excavated materials will be removed off-site for disposal at local inert landfill facilities as appropriate.

Excavated materials will be temporarily stock piled prior to either re-use or disposal. Where possible, stockpiling will follow the guidance detailed within the ‘Construction Code of Practice for the Sustainable Use of Soils on Construction Sites’ issued by DEFRA, September 2009.

Construction waste – General construction waste will arise during the construction of the Proposed Development. This will be sent to local inert landfill facility or will be re-used or recycled wherever possible, as described below.

Hazardous materials – Initial ground investigations undertaken within IAMP TWO did not encounter any significant concentrations of contaminated soils. However, pieces of concrete containing asbestos were found during the archaeological evaluation in the field to the north of NELSAM (see Chapter J). An approved contractor will be appointed to safely remove the materials and dispose of them in accordance with legislative requirements. Controlled invasive species (Japanese knotweed and Himalayan balsam) have been identified by the ecological surveys conducted within the Proposed
Development (see Chapter K for details). Himalayan balsam has been identified along the banks of the River Don and Usworth Burn. Japanese knotweed has been identified on the approach to Elloscope Farm, north of the River Don. An approved contractor will be appointed to remove and dispose of such material in line with legislative requirements.

H5.3.7 In terms of waste management methods used, it is anticipated that:

H5.3.8 **Re-use** – Some excavated material (soils) may be retained on-site for re-use, as appropriate.

H5.3.9 Plastic sheeting is proposed to be re-used as weather protection; pallets are proposed to be re-used on Site in moving materials around and polypropylene bags are also proposed to be used for storing waste. Packaging is proposed to be returned to suppliers for re-use, where possible.

H5.3.10 **Recycling** – Any scrap metal likely to arise during construction of the Proposed Development is proposed to be sent for recycling off-site. Good practice is to segregate metals on-site by type. WEEE should be consigned to an appropriate recycling facility or a specialist WEEE recycler.

H5.3.11 There is potential to recycle plastics if they are properly segregated to avoid contamination. Cardboard can also be recycled, as can uncontaminated timber/wood which can be shredded and used for the manufacture of fibre and chip boards.

H5.3.12 **Disposal** – Waste that cannot be re-used or recycled or that is hazardous is likely to be disposed of to landfill. This will include a small amount of waste oil. These wastes will be dealt with by licensed operators and disposed of in secure sites.

H5.3.13 The majority of waste arisings from the excavation and construction phase of Proposed Development will, in the worst-case scenario, be disposed of to landfill, resulting in the potential effects during this phase being of **moderate adverse significance**. This assessment reflects the significant amount of available landfill void space in the North East region and the effect of landfilled waste filling a proportion of that existing void space.

**H5.4 During Operation**

H5.4.1 Waste generated during the operation phase of IAMP TWO will be that associated with organisations based within the manufacturing units, including those working under a facility maintenance regime and organisations based in offices.

H5.4.2 Waste storage facilities will be made available in all locations where waste is generated and collection from these facilities to central waste storage units will be undertaken regularly. A policy of separation at source is proposed, separating all waste into the main waste streams to allow these to be moved off-site to an appropriate facility. As far as possible, waste streams such as packaging and containers will be returned to suppliers.

H5.4.3 The operator of each plot will be required to regularly audit their waste management facilities and procedures on-site and to ensure waste is recorded, handled and managed appropriately in line with The Waste (England and Wales) Regulations 2011. These will be detailed in a plot specific Site Waste Management Plans (SWMPs), to be secured via a Requirement.

H5.4.4 Likely waste streams generated on-site during the operational phase of the Proposed Development will include:

- Waste oils;
- Hydraulic fluids and hoses;
- Fluorescent tubes and light bulbs;
- Paint cans, including spray cans;
- Food and beverage waste and containers;
- General office waste (e.g. paper, cardboard);
- Batteries; and
- Packaging waste.

**H5.4.5** All waste generated as a result of the operation of the Proposed Development is proposed to be managed under the SWMP, which will be produced in accordance with good practice (refer to Appendix H1 for the outline SWMP, which defines the content of the SWMP).

**H5.4.6** Based upon the type of waste likely to be generated and the expected numbers of operational staff to be employed at the Proposed Development, the potential significance of the effects of waste generated during the operational phase will be **minor adverse to negligible**.
H6.0 MITIGATION & MONITORING

H6.1 Site Waste Management Plan

H6.1.1 As a Requirement, the construction contractor to be appointed by the Applicant will be required to produce a detailed SWMP (see Appendix H1 for the outline SWMP with recommended structure and content for the detailed SWMP), which will provide details of the types and volumes of demolition, excavation, and construction waste arisings from the Proposed Development.

H6.1.2 The SWMP will identify the re-use, recycling or landfill of waste arisings, which will be affected by factors such as potential hazards presented by the waste, the benefits of re-use, volumes of waste types and whether local markets exist to receive these waste streams.

H6.2 Demolition prior to construction

H6.2.1 All works will be undertaken in line with the Waste Hierarchy (refer to Section H2.3.5 and Figure H1). Waste will be separated at source where possible. Good site management practices are proposed to be adhered to reduce the potential for any negative environmental effects.

H6.2.2 In order to minimise the volume of waste generated during the construction of IAMP TWO, the appointed construction contractor will prepare a detailed construction phase SWMP. Further details are available below and in Appendix H1.

H6.3 During Construction

H6.3.1 The proposed mitigation measures focus on promoting sustainable waste management in line with the Waste Hierarchy (refer to Section H2.3.5 and Figure H1). They also focus on integrating good site management practices to ensure resource efficiency and reduce potential for any other negative environmental effects like odour and litter.

H6.3.2 In order to minimise the volume of waste generated during the construction of the Proposed Development, the appointed construction contractor will be required to prepare a detailed SWMP. The detailed construction phase SWMP will cover the following elements, where applicable to each phase of construction:

Good Practice

- An approved person nominated to be responsible for good site practice. Their responsibilities to include arranging collection and effective disposal to an appropriate facility (including efficient recording of transfer notes) of all waste generated at the Proposed Development;

- A system for recording and monitoring the amount of waste generated, recycled and disposed of (including the disposal site location); and

- The implementation of training for relevant personnel in proper waste management handling procedures.

Reduction of Waste

- Site practices to be put in place to minimise the potential for damage or contamination of construction materials (for example designated areas for storage);

- Work activities to be planned effectively in order to minimise over-ordering of construction materials;

- The potential for using prefabricated panels in construction, where feasible, in order to reduce waste generation on-site and any associated transportation impacts;
The use of purchasing power to minimise materials packaging and ensure that packaging is recyclable where feasible; and

Any unused materials to be returned to suppliers (where possible) or used on another project.

Re-use/Recycling

- Cut and fill management to be employed during construction, in order to maximise re-use of the inert materials on-site;

- Waste will be monitored, sorted and stored in as many categories as appropriate to enhance re-use or recycling of materials (avoid cross contamination) and ensure their proper disposal;

- The potential for on-site processing of waste and re-use of materials to generate secondary aggregate will be investigated and any licenses necessary for such activities will be obtained;

- Where structural and durability issues are not compromised, materials will be specified from recycled sources;

- All suppliers will be requested to take back unwanted packaging for recycling or re-use; and

- Where inert demolition and construction materials cannot be re-used on-site, potential off-site users will be identified and a plan developed for delivery of materials.

Disposal

- The management of the disposal of site waste will be carefully controlled using the following measures:

  - General site waste will be stored in enclosed bins or compaction units separate from demolition and construction waste. A reputable and appropriately licenced collector will be required to be employed by the appointed construction contractor to remove general refuse from the Proposed Development, separately from the demolition and construction wastes, to minimise potential odour and litter impacts;

  - Any excavated soils removed for disposal to a landfill to undergo Waste Acceptance Criteria (WAC) testing in order to correctly classify the material in terms of waste disposal and locate a suitable landfill site;

  - Any materials that are hazardous, including controlled invasive species, to be removed and managed by appropriately licensed contractors; and

  - Where construction and demolition waste cannot be re-used or recycled on- or off-site a reputable and appropriately licenced collector will be required to be employed by the appointed construction contractor to remove this waste to landfill.

H6.4 During Operation

H6.4.1 The plot specific SWMPs will cover the management of all waste generated during the operational phase of IAMP TWO at the individual plots once occupied. All waste materials are proposed to be separated and stored appropriately, collected and moved off-site to an appropriate recycling or disposal facility. Ideally this would be a facility with capacity nearest to IAMP TWO. The occupiers of IAMP TWO will be required to regularly audit their waste management from generation to delivery at the appropriate off-site facilities to ensure compliance with the plot specific operational phase SWMP, including subsequent amendments of each SWMP as it evolves to take account of current best practice over the lifespan of the Proposed Development.
H7.0 RESIDUAL EFFECTS

H7.1 Demolition prior to construction

H7.1.1 The effects of the waste arisings from the demolition activities prior to construction of the Proposed Development on the environment are judged to be of minor adverse significance (refer Table H1), with the implementation of the SWMP. This is because the expected type of waste arising (predominantly hardcore) is largely non-hazardous and is expected to be disposed of to landfill (least likely) or where possible re-used off-site (most likely). Any hazardous waste arisings, including asbestos and controlled invasive species, will be handled and disposed of in an appropriate manner.

H7.2 During Construction

H7.2.1 The direct effects of the waste arisings from excavation and construction on the environment are judged to be of minor adverse significance (refer Table H1), with the implementation of the SWMP. This is because the expected type of waste arising (earth) is largely inert and is expected to be disposed of to landfill (least likely) or re-used off-site (most likely). Any hazardous waste arisings, including waste oils and epoxy packaging, will be handled and disposed of in an appropriate manner. Traffic relating to the disposal of waste has been assessed in Chapter L: Access and Transport.

H7.2.2 Previous ground investigations at IAMP TWO have not encountered any significant concentrations of contaminated soils (refer to Chapter J). If contamination is encountered during the construction of the Proposed Development it will need to be reported to the relevant Local Authority (STC or SCC) and may require remediation and/or collection by a specialised hazardous waste operator and subsequent disposal at a licensed facility as detailed in the Construction Environment Management Plan (CEMP).

H7.2.3 The assessment of potential effects during construction is shown in Table H8.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Comments</th>
<th>Nature of Impacts</th>
<th>Anticipated Effect Significance</th>
<th>Mitigation</th>
<th>Residual Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excavation and construction waste arisings</td>
<td>Excavation materials will be generated from earth moving activities. Estimated volume of 362,800 m$^3$ of earth is anticipated to be generated as a result of site excavation and construction, requiring transportation and disposal/re-use off-site.</td>
<td>Temporary</td>
<td>Moderate to minor</td>
<td>Implementation of the SWMP to ensure the minimisation of waste and maximise the amount re-used on site. Hazardous waste will be handled and disposed of in an appropriate manner should it occur.</td>
<td>Minor</td>
</tr>
</tbody>
</table>

H7.3 During Operations

H7.3.1 There are no additional requirements over and above those indicted in the mitigation and monitoring requirements during operation and maintenance of the Proposed Development as shown in Section H6.2. There is no additional mitigation or monitoring recommended to further reduce the effects significance, which remain minor adverse to negligible.
H8.0 SUMMARY & CONCLUSIONS

H8.1.1 Proposed Development will require the demolition of a total of eight existing residential and agricultural properties, levelling and grading of the existing landform, including the removal of approximately 400 mm of topsoil, construction of new buildings to house the proposed manufacturing facilities, construction of ancillary buildings and infrastructure, and landscaping. This assessment has focused on the likely quantities and types of materials arising from these activities and how they should be managed.

H8.1.2 The worst-case scenario – namely, that the majority of the waste arisings generated by Proposed Development will be sent for disposal to local landfill facilities or to suitable off-site locations for re-use/recycling, with void space being available within the North East England region, if required. Any hazardous waste arisings or controlled invasive species will be dealt with by a specialised hazardous waste operator.

H8.1.3 No significant residual environmental effects are envisaged.
H9.0 ABBREVIATIONS & DEFINITIONS

AAP – Area Action Plan
C&D – Construction and Demolition
C&I Waste – Commercial and Industrial Waste
CEMP – Construction Environment Management Plan
CSDP – Core Strategy and Development Plan
EfW – Energy from Waste
EIA – Environmental Impact Assessment
HBDL – Henry Boot Developments Limited
IAN – Interim Advice Note
LACW – Local Authority Collected Waste
MBT – Mechanical Biological Treatment
MRF – Materials Recovery Facility
NPPF – National Planning Policy Framework
NPPW – National Planning Policy for Waste
PEIR – Preliminary Environmental Information Report
RDF – Refuse Derived Fuel
SCC – Sunderland City Council
STC – South Tyneside Council
STWWMP – South Tyne and Wear Municipal Waste Management Partnership
SWMP – Site Waste Management Plan
WAC – Waste Acceptance Criteria
WEEE – Waste Electrical and Electronic Equipment
H10.0 REFERENCES


Outline Waste Management Plan
1.0 LEGISLATIVE REQUIREMENTS – CONVENTIONAL WASTE

1.1 Waste Framework Directive (WFD)

The Waste Framework Directive (2008/98/EC) consolidates a number of separate waste Directives and amendments. It establishes the basis for the management of wastes across the EU. It defines certain terms, such as “waste”, “recovery” and “disposal”, to ensure that a uniform approach is taken across the EU.

1.2 The Waste (England and Wales) Regulations 2011 SI 2011 No. 988

The Waste (England and Wales) Regulations 2011 (as amended) implement the Waste Framework Directive in England and Wales. It is a legal requirement for waste producers/holders to follow the waste hierarchy when making decisions about waste management options. Waste holders must choose the highest possible hierarchical option for their wastes. Lower hierarchical options cannot be justified by cost alone, but require environmental justification over available higher options.

1.3 Environmental Protection Act 1990: Duty of Care

The waste duty of care is a legal requirement implemented by Section 34 of the Environmental Protection Act 1990, to ensure that producers and holders handle their waste safely and in compliance with the appropriate regulations. One of the fundamental aspects of the duty of care requires the holder of waste to make sure that anyone else dealing with their waste has the necessary authorisation to do so. If the holder does not do this and their waste is subsequently found to have been illegally disposed, the holder could be held responsible and may face prosecution.

1.4 Control of Substances Hazardous to Health (COSHH) Regulations 2002 (as amended)

Only substances that have been assessed and approved under COSHH will be used on the site. All COSHH substances will be stored in segregated areas, in accordance with COSHH Regulations.

All hazardous material deliveries will be supervised and all such materials will only be received in suitably labelled containers.

All incidents will be reported immediately to IAMP LLP’s nominated Environmental Management Coordinator through the project’s Emergency Procedures.

1.5 Site Waste Management Plans Regulations (2008)

The regulations of 2008 placed the responsibility for the production of the SWMP with the developer, who had to produce the plan before a project was started. For construction or demolition projects in the UK, valued at over £300,000, the owner had a legal duty to complete a Site Waste Management Plan (SWMP). If the project was valued at over £500,000, the requirements become more detailed. However, in 2013 the UK government repealed the SWMP Regulations. In the absence of a suitable alternative, the production of a SWMP in alignment with the repealed Regulations is still considered to be best industry practice in developing a methodology to promote the reuse of materials and recycling throughout the construction and operational phase of a project, although it is no longer a statutory requirement.

2.0 SITE WASTE MANAGEMENT PLAN

The preparation and submission to Sunderland City Council of an SWMP in advance of site works is proposed to be a Requirement for IAMP TWO. It will detail the proposals for the management of excavated waste in the process of earthworks and other waste generated during the construction phase of the project, and the management of conventional waste during the operation of IAMP TWO.

A SWMP is started before any construction activity begins. The SWMP includes an estimate of the types of waste that will be produced on the project, and the quantity of each type of waste. Once construction works begin, each time waste is removed from the site its type and quantity are recorded. Reports can then be created to make sure waste is dealt with in the most effective and profitable way possible, in line with the waste hierarchy.
The plan should then be passed to the Principal Contractor, who must update it as work progresses and ensure that workers on the site are aware of the plan and co-operate with it. This will include providing suitable site induction, information and training. Contractors will in turn need to engage their employees and sub-contractors to ensure that any waste management objectives in the SWMP are understood and achieved.

The following describes the contents of the SWMP, covering both extracted and conventional waste streams.

### 2.1 Conventional Waste

Best practice is for a SWMP to be produced during the detailed design stage of IAMP TWO in order to build into the design decisions regarding construction methods and materials. In this way, sustainability will be prioritised at the earliest stage of IAMP TWO’s development, reducing the volume of waste generated and lifting waste as high up the hierarchy as practicable.

The detailed SWMP will cover the following aspects of waste management:

1. Development site details:
   - Client details; site and project details; and Principle and Sub-contractor details.
2. A description of each waste type expected to be generated in the course of IAMP TWO;
3. Estimates of the quantity of each waste type expected to be produced;
4. Details of any third parties who will handle waste;
5. A record of all decisions taken to promote waste up the hierarchy concerning the design, construction method and materials employed;
6. Identification of the actions proposed for each different waste type, covering reduce, reuse, recycling and disposal of waste;
7. Details of site waste management and minimisation procedures, including:
   - Methods of segregation of all on-site arisings and necessary on-site temporary storage;
   - Method of on-site identification of reusable materials and how these will either be reused as part of IAMP TWO or removed off-site for storage and re-sale;
   - Method of removal of recyclable materials from site for processing in a licenced facility; and
   - Method of off-site disposal of waste arisings at a licenced facility, dust suppression techniques (on-site and during transportation), and details of transport routes designed to avoid residential areas and other sensitive locations (e.g. schools, health facilities).
8. Declaration from the Client, Principle and main Sub-contractors, that all waste from the site is dealt with in accordance with the Waste Duty of Care in section 34 of the Environmental Protection Act 1990(a) and the Environmental Protection (Duty of Care) Regulations 1991(b).

The SWMP will be continuously updated, monitored against actual waste management on site and audited following completion of the construction phase of IAMP TWO.

### 2.2 Specific Waste Stream Management

The measures identified below are expected to maximise waste managed at the highest waste hierarchical option and reduce the amount of waste sent off-site. Current understanding shows that the capacity exists within regional waste management and recycling facilities to be able to receive each of the waste streams identified from IAMP TWO.

### 2.3 Contractor Waste

Waste generated by contractors working on the site resulting from office work, duties undertaken within the site compound and while taking refreshment will have a composition similar to municipal waste. The majority of this waste will be mixed recyclables. Source separation of all dry recyclables will be managed through the provision
2.4 Packaging Waste

Equipment and construction materials are usually delivered packed (e.g. wrapped/protected by plastic, secured on pallets, boxed in cardboard etc.). Packaging waste will be removed from the site and recycled as non-hazardous. To manage the impacts of packaging, suppliers will be required to take back any packaging associated with their products. This would assist the suppliers in fulfilling their own obligations under The Producer Responsibility Obligations (Packaging Waste) Regulations 2007 SI 2007 No. 871 (as amended). Packaging materials that cannot be returned will be kept for on-site use (e.g. use of pallets for storage). Any residual packing that cannot be used on site will be segregated into distinct dry recyclable waste streams and sent for recycling off-site. No waste packaging would be landfilled.

2.5 Waste Oil and Empty Drums

The operation and maintenance of plant equipment is likely to produce small quantities of waste oil and empty drums. These are classified as hazardous waste. Empty fuel or oil drums will be retained for re-use on site. Those that cannot be retained will be sent to a drum reconditioning facility to enable the containers to be prepared for re-use. Damaged drums will be sent for recycling. There is a widespread market in the UK for recycling of waste oil and so it is not anticipated that any drums would be sent for landfill.

2.6 Spillage Waste

The operation of construction plant equipment and the potential for storage of fuel and liquids on site during construction could lead to spillages. Absorbent would be used to clean up any spillages of contaminating material (e.g. oil) and contaminated absorbent is assumed to be classified as hazardous waste.

The use of an active maintenance regime on plant and equipment would reduce the potential for machinery to cause leaks. Valves, stopcocks and pipes will be regularly checked for leakages. Fuelling activities will be carried out in bunded areas or off-site.

The storage of fuels and liquids will be in accordance with the Control of Pollution (Oil Storage) (England) Regulations 2001 and the appropriate pollution prevention control guidelines to protect the environment from both storage and spillages of hazardous substances.

Using these guidelines would reduce the potential for leakages, therefore reducing the volume of absorbent required to clean up spillages. It is unlikely that contaminated absorbent would be commercially viable for recycling or recovery of oil, depending on the level of oil in the material. Therefore, it is anticipated that this material would require disposal off-site, for treatment and/or landfill.

2.7 Miscellaneous Hazardous Waste

The construction activities are likely to generate small quantities of miscellaneous hazardous wastes, such as sealants, adhesives, resins, solvents, lead acid batteries and other part-used chemical products. These would be hazardous waste when discarded.

Hazardous materials will be stored securely, away from non-hazardous or incompatible materials. Small items of hazardous waste will be prevented from being disposed of in general waste skips to avoid contamination. Frequent collection of hazardous material will ensure that the total volume on site at any one time is reduced to a minimum.

2.8 Green Waste

Biodegradable waste generated from site clearance will be effectively managed by employing specialist tree clearance contractors who would, where appropriate, use wood for biofuel, chip small branches, with the residual vegetation waste being sent for recycling at a local/regional composting facility. The vegetation will be removed from site progressively, rather than being stockpiled in bulk. This will avoid on-site biodegradation of the material, which could lead to odours. This will also ensure that the amount of vegetation stored on site pending off-site recycling is kept to a minimum. None of this material is anticipated to require landfill disposal.
2.9 **Excess and Out of Specification Waste**

Excess construction materials can arise where material is ordered in bulk to lower costs, but then some material remains unused. These would become waste if discarded. Out-of-specification construction materials or damaged materials, which do not comply with technical requirements, are waste when discarded. There is likely to be a range of types of excess material, out of specification material, or damaged material comprising inert (e.g. concrete, bricks) and non-hazardous material (e.g. wood, metal). Timely procurement and purchase of the required amount of material will ensure that the right amount of material is delivered at the time it is needed, preventing excess waste. Perishable materials will be stored so that they are protected from the local climate. All damaged or off-specification material will be returned to the supplier where possible, reducing the amount of wastage.