EAST NORTHANTS RESOURCE MANAGEMENT FACILITY, STAMFORD ROAD, NORTHAMPTONSHIRE

PROPOSED DEVELOPMENT CONSENT ORDER APPLICATION FOR THE ALTERATION A CONSTRUCTION OF HAZARDOUS WASTE AND LOW LEVEL RADIOACTIVE WASTE FACILITIES

Preliminary Landscape and Visual Impact Assessment

October 2020

Project Reference: WS010005/LVIA/PEIR

DB Landscape Consultancy

Foreword

This report was produced by DB Landscape Consultancy Ltd. (DBLC) for Augean South Ltd. (hereafter referred to as the applicant) for the specific purpose of accompanying a proposed development consent order application for the alteration and construction of hazardous waste and low level radioactive waste facilities at the East Northants Resource Management Facility (ENRMF), Stamford Road, Northamptonshire.

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1 Executive Summary

Baseline Context and Proposed Development, including Mitigation Measure

1.1 The proposed development extends across the existing ENRMF site and land to the immediate west (i.e. the proposed western extension) which consists of gently sloping agricultural land with a hedgerow dividing the northern and southern areas. Collyweston Great Wood, designated Ancient and Semi Natural Woodland (ASNW), a National Nature Reserve (NNR) and Site of Special Scientific Interest (SSSI) is located to the immediate north of the existing site, and to the east of the northern part of the western extension. The Assarts woodland (part of Fineshade Wood) bounds the site to the west with open agricultural land to the south and southeast, characterising the wider landscape in these areas.

1.2 The site is not located within a designated landscape and lies within local Landscape Character Area (LCA) 11a: King's Cliffe Hills and Valleys, which typifies the agricultural nature of the proposed western extension but not the existing ENRMF site, which is largely disturbed and industrial in character.

1.3 Visibility of both the existing ENRMF site and the proposed western extension is relatively limited due to the good screening provided by the large woodland blocks to the immediate north and to the west, beyond the proposed western extension, combined with a lack of either residential properties or publicly accessible locations such as roads or PROW to the south or east. In liaison with Northamptonshire County Council, eleven representative viewpoints were selected, each one of which is presented on two A3 sheets at Appendix A (a single 'frame' view and a panoramic 'context' view). These show views from PRoW, and locations on roads in close proximity to properties, or other facilities/places of work.

1.4 In terms of the planning context, as well as policies within the National Planning Policy Framework (NPPF, February 2019), relevant policies from the Northamptonshire Minerals and Waste Local Plan (adopted July 2017) include Policy 18: Addressing the Impact of Proposed Minerals and Waste Development, Policy 20: Natural Assets and Resources, Policy 21: Landscape Character and Policy 24: Restoration and After-Use.

Two policies from the North Northamptonshire Joint Core Strategy 2011- 2031 (adopted July 2016) are also relevant, including Policy 3: Landscape Character and Policy 19: The Delivery of Green Infrastructure.

1.5 The proposed development has been separated into three distinct stages: the mineral extraction stage, incorporating establishment works such as soil stripping and stockpiling, the infilling stage incorporating the progressive construction of landfill cells and creation of the restoration landform and the 10 years post restoration stage, once the grassland areas, ponds, woodlands, scrub planting and hedgerows have developed and the site is being used by members of the public walking along the Footpath routes.

1.6 The scheme would permanently affect the landform of the proposed western extension area due to progressive extraction and subsequent infilling works and would result in changes to the approved restoration landform across the existing ENRMF site, in order to merge with the new landform to the west. In addition, the agricultural land and dividing hedgerow in the proposed western extension area would be lost although all soils stripped would remain on site and utilised in site restoration. Other mitigation would include an advance planted hedgerow with trees to visually reinforce the eastern side of the southern part of the proposed western extension and the use of best practice soil handling procedures.

1.7 Site restoration would result in a notable increase in areas of woodland blocks, scrubby planting and hedgerows with trees across the proposed western extension area whilst there would also be an overall net gain of hedgerows & trees across the existing ENRMF site, compared to the approved restoration scheme, which is the baseline situation for this area. In addition, there would be a net gain in neutral/calcareous grassland areas and also the length of new footpaths which would be extended to provide links with surrounding footpaths and also establish circular routes for users. In addition, a number of individual ponds would be incorporated into the restored landscape. The overall net gain in vegetation and other landscape features would result in significant biodiversity and nature conservation enhancements, and would provide mitigation for the permanent loss of agricultural land.

Potential Effects on Landscape Receptors (features and character)

1.8 There would be significant adverse effects on landscape topography across the proposed western extension area during the mineral extraction and progressive infilling stages, as the proposals would be a clear and permanent departure from the baseline situation. However, the restored site is considered to provide limited beneficial effects on topography, helping to integrate the land with the raised landform evident across the existing ENRMF site.

1.9 In addition, there would be significant adverse effects on the character of the northern part of the proposed western extension area during the working phases, due in part to its relative separation from the existing ENRMF site and the influence that operation has on the character of the adjacent, southern part of the proposed western extension area. The southern part of the area would also receive adverse effects on its character, but the greater influence of the adjacent existing ENRMF site would reduce the significance of the effects. Following restoration and 10 years of grassland, vegetation and footpath establishment/development, it is considered that the character of both the northern and southern parts of the proposed western extension would benefit from the changes to the landscape, predominantly the woodland blocks and scrubby planting which, along with the hedgerows with trees, would be helping to visually and physically link the mature woodlands surrounding the proposed western extension while the grasslands would provide more open areas, contributing more biodiversity value than agricultural land.

1.10 The individual ponds would also offer more nature conservation value than the baseline landscape and the presence of a net increase in proposed footpath length would make the land more valuable from a recreational perspective, allowing the public to enjoy the more varied topography, views from the upper slopes, woodland and glades amongst the grasslands, as well as improved links to existing footpaths further to the west. Overall effects on vegetation following site restoration would be significant and beneficial.

Potential Effects on Visual Amenity

Residents

1.11 It is considered that the only significant adverse visual effects would be experienced by residents (classed as highly sensitive) at Westhay Lodge at specific times during the temporary (though long term) landfilling works. This would be as the restoration landform is constructed in the southern part of the proposed western extension, and progressively rises up above the eastern boundary hedgerows. Views of these works would be in addition to any visible works within the existing ENRMF site and would extend visual disturbance for a longer duration than currently permitted. However, virtually all works in the northern and central part of the western extension area would be screened by the existing ENRMF landform, as would works along the western edge of the southern part of the western extension area, once the eastern edge has been raised to a sufficient level. Therefore, significant visual effects on residents at Westhay Lodge would be evident but would be limited in scale and total duration, as a proportion of the overall works associated with the landfilling stage of the Proposed Development.

1.12 Residents at Westhay Cottages along Stamford Road, opposite the eastern boundary of the existing ENRMF site, are not likely to experience notable differences in the emerging restoration landform at the eastern end of the site, as views are largely screened by the boundary hedgerow across the road from the windows. These residents would not be able to see any works in the proposed western extension area but the duration of works at the site would be extended, which would cause effects of minor significance.

1.13 The Proposed Development would have minor or negligible effects on the very few other residents that may be able to partially glimpse the construction works within the southern part of the proposed western extension, such as those at St Johns Wood Farm, approximately 2.35km to the southeast.

PRoW Users, Road Users and People at their Place of Work

1.14 While there are a number of PRoW within the surrounding landscape, only one approximately 52m long stretch along Footpath MX15, approximately 120m to the west, has good, clear and relatively close views of the existing ENRMF site. All other routes

that have partial glimpses of the existing site are either in excess of approximately 900m away or don't have any views at all due to a combination of intervening landform, vegetation and/or distance.

1.15 Due to this, there would be no significant effects on any PRoW users as a result of the Proposed Development, although the scheme would result in various minor visual disturbance to users of PRoW, largely within the undulating and open agricultural landscape to the southeast of the site.

1.16 The Proposed Development would result in a significant net increase in the length of new footpath routes to be created as part of the restoration works, which would be a notable benefit of the scheme.

1.17 The Proposed Development would cause no significant effects on visual amenity for road users or people at their place of work.

2 Introduction

Appointment and Scope of Work

2.1 DBLC has been appointed by the applicant to undertake a Landscape and Visual Impact Assessment (LVIA) report to accompany a development consent order application for the alteration and construction of hazardous waste and low level radioactive waste facilities at the East Northants Resource Management Facility (ENRMF), Stamford Road, Northamptonshire.

2.2 The scheme would extend the current resource management operations into land to the immediate west and is referred to as the Proposed Development in this report. The land on which the Proposed Development would be located is referred to as the Site, which includes both the existing ENRMF site and the proposed western extension area.

2.3 The red line application boundary around the Site extends over a total area of approximately 57.5 hectares (ha) as indicated on Figure 1: Landscape Context: Landscape Character Areas (Appendix A), and includes the existing ENRMF site. The existing ENRMF site is approximately 31.2ha and the proposed western extension covers an area of approximately 26.3ha. The approximate location of the centre of the proposed western extension area is at the following six figure grid reference: E: 500347, N: 300038.

2.4 The report has been prepared by David Brittain CMLI MIQ who has experience in preparing LVIAs in relation to proposed developments of this type.

Document Structure

2.5 The structure of this report has been split into the following sections:

- Executive Summary (Section 1)
- Introduction (Section 2)
- Methodology (Section 3)
- Landscape and Visual Context (Baseline), including Existing Landscape Character Assessments (Section 4)
- Planning Context: Landscape Designations and Policies (Section 5)

- Preliminary Project Description and Mitigation Measures (Section 6)
- Preliminary Assessment of Landscape and Visual Effects (Section 7)
- Preliminary Assessment of Cumulative Landscape and Visual Effects (Section 8)
- Appendices (Appendix A: Figures, Appendix B: Glossary)

2.6 The Methodology section is based on principles and recommendations included within the Guidelines for Landscape and Visual Impact Assessment (GLVIA3, Third Edition, 2013).

2.7 The Landscape and Visual Context section provides a description of the existing baseline characteristics that establish the character of the Site and surrounding landscape, as well as the visibility of the Site. The section includes consideration of existing landscape character assessments (LCAs) that are relevant to the Site and the locality.

2.8 The Planning Context section considers relevant landscape (and landscape related) designations and also national, county and district/parish level planning policies.

2.9 The Preliminary Project Description and Proposed Mitigation Measures section outlines the nature of the Proposed Development and the key sources of potential landscape and visual effects. The section also considers measures that have been included within the design of the Proposed Development in order to minimise/reduce potential effects identified as the design and planning of the scheme has progressed.

2.10 The Preliminary Assessment of Landscape and Visual Effects section analyses the Sensitivity of the landscape and visual receptors to the Proposed Development and considers the Magnitude of Effects that the Proposed Development would be likely to cause. An indicative Significance of Effects level is then established for the receptors, with explanation text added as necessary. A Significance level of Moderate - Major or Major is indicative of a *Significant* effect in the context of Environmental Impact Assessment.

2.11 The Preliminary Assessment of Cumulative Landscape and Visual Effects section identifies other relevant developments of a similar nature and/or scale as the Proposed Development within the study area. The section goes on to assess whether the effects

of the Proposed Development, in combination with the other development(s), would cause Significant additional adverse effects on landscape or visual receptors.

2.12 The Appendices to the LVIA include Figures 1 – 25 and a Glossary.

3 Methodology

Introduction

3.1 Guidance for the undertaking of this Landscape and Visual Impact Assessment has been sourced from the Guidelines for Landscape and Visual Impact Assessment[1].

3.2 Landscape effects are the predicted effects on the landscape features and landscape character, jointly referred to as the landscape 'receptors'. These effects could include direct, physical changes to the landscape features/elements but also includes aesthetic, perceptual and experiential aspects of a landscape which may contribute to the existing landscape character.

3.3 Visual effects are the predicted changes to a view and on the general visual amenity experienced by people (visual receptors). Typically, the various visual receptor groups may comprise residents, the users of Public Rights of Way (PRoW), users of recreational facilities, pedestrians and the users of a variety of forms of transport such as bicycles and horses or the drivers and passengers of vehicles, including trains.

3.4 LVIA can be undertaken as part of a formal Environmental Impact Assessment (EIA) which is underpinned by EU Directive 2011/92/EU, where the regulations in Annex IV point 4 require that a final judgement is made about whether or not each effect is likely to be 'Significant'. Alternatively, LVIA can be applied informally to non EIA projects as a contribution to the 'appraisal' of development proposals.

3.5 The general approach used establishes the 'Landscape and Visual Context' (i.e. Baseline) of the study area (Site and surrounds) against which the potential landscape and visual effects of the development proposals can be identified, described and assessed. The 3.0km radius study area selected is based on desk study and fieldwork. A Zone of Theoretical Visibility (ZTV) map is shown on Figure 1: Visual Context.

[1] GLVIA, third edition, published April 2013 by the Landscape Institute and Institute of Environmental Management and Assessment

Landscape and Visual Context (Baseline)

Introduction

3.6 Establishing the landscape baseline is a process of *"desk study and fieldwork to identify and record the character of the landscape and the elements, features and aesthetic and perceptual factors which contribute to it. The process should also deal with the value attached to the landscape".*

3.7 Landscape receptors are defined on page 36 of the GLVIA3 as including *"the constituent elements of the landscape, its specific aesthetic or perceptual qualities and the character of the landscape in different areas."*

3.8 Visual receptors are defined by the GLVIA3 as *"the people who will be affected by changes in views or visual amenity at different places"*. These can include individual or groups of residents, people working in the area, people passing through the area using various forms of transport, people visiting the area and people engaged in recreation or leisure pursuits in the area.

3.9 Similarly, the visual baseline should *"establish the area in which the development may be visible, the different groups of people who may experience views of the development, the viewpoints where they will be affected and the nature of the views at those points. Where possible it can also be useful to establish the approximate number of different groups of people who will be affected by the changes in views or visual amenity".*

3.10 The visual baseline is established by a combination of desk study, 'visibility mapping' using manual techniques as well as digital approaches such as production of a ZTV model and fieldwork. Representative viewpoints from where changes to the view may be experienced as a result of the proposed development are identified through this process and the nature of the viewpoint locations, the views themselves and the respective receptors summarised. Single frame images and panoramic context photographs from each viewpoint are taken and presented with this information.

3.11 The process is undertaken to determine the baseline against which the development proposals are to be compared and to establish the importance of the constituent parts of the landscape and factors affecting the potential visibility of the proposed development. This provides information against which the Sensitivity, Magnitude of Effects and subsequently the Significance of Effects can be assessed. From this, it is then possible to make a judgement in determining the planning application on whether or not the effects identified are of a high enough level to be considered 'Significant'.

Landscape Character Assessment

3.12 Existing landscape character assessment studies are considered as part of the baseline work, in order to gather information about the intrinsic character of the Site and its surrounds. Studies at a number of scales are referenced including the national level assessment of National Character Areas (NCA's) by Natural England and also County or District level landscape character studies.

3.13 Landscape character assessment is also undertaken on a more localised level if necessary and a description of the landscape characteristics can be provided in relation to the Site itself and immediate surrounds.

Landscape Designations and Policies

3.14 The baseline study also identifies national and local landscape designations, usually contained in the relevant Development Plan Documents. Whilst local designations are generally not supported in national planning policy, they can reflect the value of a particular landscape to the local population. Landscape related planning policies from relevant Development Plan Documents are also referred to and how the Proposed Development accords with them is considered in order to enable a critical comparison between the likely effects of the proposals and the aspirations/aims of the policies.

Landscape Value

3.15 Establishing the value of the potentially affected landscape at the baseline stage will help inform later judgements about the significance of effects. GLVIA3 states the following:

"Value can apply to areas of landscape as a whole or to the individual elements, features and aesthetic or perceptual dimensions which contribute to the character of a landscape. Landscapes or their component parts may be valued at the community, local, national or international levels"

3.16 Existing national level landscape designations relating to the site and surrounds are identified if applicable (i.e. National Parks, Areas of Outstanding Natural Beauty) as well as other national level 'landscape related' designations (i.e. Listed Buildings, Registered Parks and Gardens). In addition, regional and/or locally based indicators of landscape value are established that may include Areas of Great Landscape Value (AGLV), Tree Preservation Orders or Conservation Areas. The presence of long distance footpaths or National Trails can also indicate landscape value in an area.

Landscape Quality

3.17 GLVIA 3 defines landscape quality as *"A measure of the physical state of the landscape. It may include the extent to which typical character is represented in individual areas, the intactness of the landscape and the condition of individual elements."*

Site Visibility Study

3.18 The visibility of the Site is considered through reference to Ordnance Survey plans, aerial imagery and/or fieldwork to help determine the visual baseline. The initial desktop consideration of the Site and surrounds covered an area of approximately 3.0km radius, which was verified during fieldwork. Close range views were judged to be within 300m of the Site, mid-range from 300m – 1.5km and long range views at a distance of over 1.5km.

3.19 Eleven viewpoints have been included in the assessment and consideration of these includes potential impacts on different visual receptor types such as residents, users of PRoW and road users, as necessary. Photographic images included as part of this section, (refer to Figures 4 to 25, Appendix A) were taken in winter 2020 using a Nikon D5300 digital Single Lens Reflex (SLR) camera with a fixed 35mm lens (which is broadly equivalent to a 52.5mm focal length in 35mm film format). Panoramic context views were stitched together using PT Gui Pro software.

Preliminary Assessment of Landscape and Visual Effects

Describing Landscape Effects

3.20 Once the baseline information has been gathered, this can be combined with understanding of the Proposed Development to identify and describe the potential effects on the 'landscape receptors' (i.e. local and wider level landscape character and key characteristics as defined in Landscape Character Assessments, individual features such as hedgerows or woodlands, PRoW and/or aesthetic/perceptual aspects). Effects on the receptors at different stages of the development are important to identify, as are the types of effects if relevant (i.e. direct/indirect, secondary, cumulative, short/medium/long term, temporary/permanent, beneficial/adverse).

3.21 GLVIA3 states that effects are likely to include:

- "Change *in and/or partial or complete loss of elements, features or aesthetic or perceptual aspects that contribute to the character and distinctiveness of the landscape;*
- *Addition of new elements or features that will influence the character and distinctiveness of the landscape; and*
- *Combined effects of these changes on overall character*"

Describing Visual Effects

3.22 As with landscape effects, once the baseline information has been gathered, this can be combined with understanding of the Proposed Development to identify and describe the potential effects on the visual receptors. Again, it is important to identify the visual effects at different stages of the development and the type of effect that would be experienced by the receptor/s.

3.23 GLVIA3 states the following issues regarding effects on views should be considered, (though there may be others):

- **"***The nature of the view of the development, for example a full or partial view or only a glimpse;*

- *The proportion of the development or particular features that would be visible (such as full, most, part, none);*
- *The distance of the viewpoint from the development and whether the viewer would focus on the development due to its scale and proximity or whether the development would be only a small, minor element in a panoramic view;*
- *Whether the view is stationary or transient or one of a sequence of views, as from a footpath or moving vehicle; and*
- *The nature of the changes, which must be judged individually for each project, but may include, for example, changes in the existing skyline profile, creation of a new visual focus in the view, introduction of new man-made objects, changes in visual simplicity or complexity, alteration of visual scale and change to the degree of visual enclosure".*

3.24 In addition, seasonal differences in effects arising from the varying degree of screening and/or filtering of views by vegetation at different times of the year need to be considered.

Assessing the Significance of Landscape and Visual Effects

Introduction

3.25 Separate judgements about the Sensitivity of the landscape and visual receptors and the Magnitude of Effects need to be combined to allow a final judgement to be made about the Significance of Landscape and Visual Effects and, from that, whether any particular effects are considered high/important enough to be 'Significant' or not, as required by the EIA Regulations.

3.26 The sub-section below outlines the methodology for assessing Sensitivity of both landscape and visual receptors while the subsequent sub-section considers assessment of Magnitude of Landscape and Visual Effects. The methodology for assessing the Significance of Landscape and Visual Effects is then presented.

Sensitivity of Landscape Receptors

3.27 As defined in GLVIA3, Sensitivity of landscape receptors is assessed by taking the following factors into account:

- "Susceptibility *… of the landscape to change – the ability of the landscape receptor (overall character, individual feature or particular aesthetic/perceptual aspect) to accommodate the proposed development without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies; and*
- *Value of the landscape receptor/s – established during the baseline study, covering the value of the Landscape Character Types or Areas based on review of designations or, in their absence, judgements based on criteria that can be used to establish landscape value. In addition, the value of individual contributors to landscape character such as key elements or features within the landscape, or notable aesthetic/perceptual qualities".*

3.28 It is important to note that sensitivity of the landscape resource should not be recorded as part of the baseline but should be considered as part of the assessment of effects. This is because landscape effects are particular to both the specific landscape in question and the specific nature of the Proposed Development. Table M1 below sets out and explains criteria used to assess Sensitivity of the landscape:

Table M1: Explanation of Rating Criteria for Sensitivity of the Landscape

Sensitivity Rating	Typical Criteria	
	Susceptibility of Landscape to Change	**Value of Landscape Receptors**
High	Overall Character: A landscape of particularly distinctive character or highly valued for its scenic quality or rarity. A landscape where the intrinsic character may be susceptible to slight changes Individual Elements or Features: Unique or rare landscape features are evident within the study area and if removed or altered the effect would be immediately noticeable. Aesthetic or Perceptual Aspects: The landscape, or parts of it, has a particularly notable or special quality, especially in terms of wildness and/or tranquillity	Designations Designated landscapes such as World Heritage Sites, National Parks, AONB's, AGLV's. Or undesignated but value perhaps expressed through existing landscape assessment, planning policy, non-official publications or through demonstrable use by the public Other Criteria Indicating Value High levels of tranquillity, remoteness/wildness, scenic beauty High local consensus on value of the landscape Acknowledged cultural associations related to the landscape Landscape or parts of it well used for conservation interests
Medium	Overall Character A landscape of reasonably valued characteristics of medium importance, scenic quality or rarity. A landscape that may be reasonably tolerant to moderate changes without adversely affecting its intrinsic character Individual Elements or Features: Reasonable quality landscape features are evident within the study area and if removed or altered the effect may be noticeable Aesthetic or Perceptual Aspects: The landscape has a reasonable aesthetic and perceptual quality, but is not especially wild and/or tranquil	Designations Landscapes which are not considered as having a particularly notable quality requiring designation or other form of expression but that nevertheless may be reasonably valued locally for recreation and amenity Other Criteria Indicating Value Moderate levels of tranquillity, remoteness/wildness, scenic beauty Possibly some local consensus on value of the landscape Possibly some cultural associations related to the landscape Landscape may be used for some conservation interests
Low	Overall Character A landscape of lower importance which is not particularly valued for its quality, scenic beauty or rarity or is degraded and is tolerant of change which would likely improve its character Individual Elements or Features: Few or no landscape features of particular note or quality are evident within the site and if removed or altered the effect is not likely to be noticed Aesthetic or Perceptual Aspects: The landscape does not have a particularly notable or special aesthetic quality and is not considered wild and/or tranquil	Designations Areas identified as having limited or no redeeming features or being degraded, possibly identified for improvement or even recovery through planning policy Other Criteria Indicating Value Low levels of tranquillity, remoteness/wildness, scenic beauty No or very small local consensus on value of the landscape No cultural associations related to the landscape Landscape not used for some conservation interests

Sensitivity of Visual Receptors

3.29 As defined in GLVIA3, Sensitivity of visual receptors (person or group of people likely to be affected at a specific viewpoint) is assessed by taking the following factors into account:

- "Susceptibility *of visual receptors to change – This is mainly a function of the occupation or activity of people experiencing the view at particular locations and the extent to which their attention or interest may therefore be focused on the views and the visual amenity they experience at particular locations. Visual receptors most susceptible to change are likely to include:*
- *Residents at home;*
- *People, whether residents or visitors, who are engaged in outdoor recreation, including the use of public rights of way, whose attention or interest is likely to be focused on the landscape and on particular views;*
- *Visitors to heritage assets, or to other attractions, where views of the surroundings are an important contributor to the experience;*
- *Communities where views contribute to the landscape setting enjoyed by residents in the area;*
- *Travellers on recognised scenic routes where awareness of views is likely to be particularly high*

Visual receptors likely to be less sensitive to change include:

- *Travellers on road, rail or other transport routes where the main reason for the journey is to get from A to B with relatively minor interest in the surrounding landscape;*
- *People engaged in outdoor sport or recreation which does not involve or depend upon appreciation of views of the landscape;*
- *People at their place of work whose attention may be focused on their work or activity, not on their surroundings, and where the setting is not important to the quality of working life (although this is not always the case); and*
- *Value attached to views – judgements should also be made about the value attached to the views experienced. This should take account of:*

- *Recognition of the value attached to particular views, for example in relation to heritage assets or through planning designations;*
- *Indicators of the value attached to views by visitors, for example through appearances in guidebooks or on tourist maps, provision of facilities for their enjoyments (i.e. car parks, interpretation boards etc.) and references to them in literature or art".*

3.30 Table M2 below sets out and explains criteria used to assess Sensitivity of visual receptors:

Table M2: Explanation of Rating Criteria for Sensitivity of Visual Receptors

Sensitivity Rating	Typical Criteria	
	Susceptibility of Visual Receptors to Change	**Value Attached to Views**
High	Residents where direct views from rooms/gardens can be gained; Communities where views contribute to the landscape setting enjoyed by residents in the area; and People using recognised National Trails or Long Distance Footpaths whose attention or interest is largely focused on the landscape and/or on particular views	Views within and towards designated landscapes such as World Heritage Sites, National Parks, AONB's or AGLV's. Or undesignated but value perhaps expressed through existing landscape assessment, planning policy, non-official publications or through demonstrable use by the public. Particularly good views identified by tourist literature, guidebooks, the presence of viewpoints/seating, car parks, interpretation boards. Particularly good or recognised views from National Trails or Long Distance Footpaths
Medium	Visitors to heritage assets, or to other attractions, where views of the surroundings are an important contributor to the experience; Travellers on recognised scenic routes where awareness of views is likely to be reasonably high; and Public Rights of Way with reasonable landscape interest used primarily for travelling between locations and general outdoor recreation	Views within landscapes which are not considered as having a particularly notable quality requiring designation or other form of expression but that nevertheless may be reasonably valued locally for recreation and amenity.
Low	People engaged in outdoor sport or recreation which does not involve or depend upon appreciation of views of the landscape; Travellers on road, rail or other transport routes where the main reason for the journey is to get from A to B with no or little interest in the surrounding landscape; and People at their place of work whose attention is focused on their work or activity, not on their surroundings, and where the setting is of little importance to the quality of working life.	Views within areas identified as degraded or having limited redeeming features. Areas where tolerance to change is reasonably or very high

Magnitude of Landscape Effects

3.31 As defined in GLVIA3, each effect on landscape receptors should be assessed in terms of the following factors, where relevant:

- Size *or scale* – *how these would affect change in the landscape that is likely to be experienced as a result of each effect. Judgements should take account of the following:*
- *The extent and proportion of existing landscape elements that would be lost and the contribution of that element to the character of the landscape;*
- *The degree to which aesthetic/perceptual aspects of the landscape are altered either by removal of existing components of the landscape or by addition of new ones;*
- *Whether the effect changes the key characteristics of the landscape, which are critical to its distinctive character.*
- *Geographical extent – distinct from size or scale of the effect, in general effects may have an influence at the following scales: site level, immediate setting of the site, landscape type/character area or on a larger (i.e. multi LCA) scale.*
- *Duration and reversibility of the landscape effects – duration can be judged on a scale ranging from short to medium to long term (for instance), and then whether the various effects identified are temporary or permanent. If temporary, are the effects partially or fully reversible? The timescales involved and reasons why they have been selected also need to be stated".*

3.32 Table M3 below sets out and explains criteria used to assess Magnitude of Landscape Effects:

Table M3: Explanation of Rating Criteria for Magnitude of Landscape Effects

Magnitude of Effects Rating	Typical Criteria			
	Size or Scale of the Landscape Effects	Geographical Extent of the Landscape Effects	Duration of the Landscape Effects	Reversibility of the Landscape Effects
Large	Total loss of or major alteration to key elements/ features/characteristics of the	Effects noticeable within site, immediate/wider surrounds	Long term (6+ years) or permanent	

	baseline, i.e. pre-development landscape and/ or introduction of elements considered to be totally uncharacteristic when set within the attributes of the receiving landscape	and possibly across the wider LCA area/multi LCA area		Effects long term or permanent and irreversible
Medium	Partial loss of or alteration to key elements/ features/characteristics of the baseline, i.e. pre-development landscape and/ or introduction of elements that may be prominent but may not be substantially uncharacteristic when set within the attributes of the receiving landscape	Effects noticeable within site, immediate/wider surrounds	Medium term (3 – 6 years)	Effects temporary (medium term) and partially reversible
Small	Minor loss of or alteration to key elements/ features/characteristics of the baseline, i.e. pre- development landscape and/ or introduction of elements that are not noticeably uncharacteristic with the surrounding landscape	Effects noticeable within the site only and possibly immediate surrounds to a small extent	Short term (6 months – 3 years)	Effects temporary (short term) and fully reversible
Negligible/No Change	Very minor/barely perceptible loss of or alteration to key elements/ features/characteristics of the baseline, i.e. pre- development landscape and/ or introduction of elements that are largely characteristic with the surrounding landscape	Effects noticeable within the site only, or distinct parts of it	Very short term (0 – 6 months)	Effects temporary (very short term) and fully reversible

Magnitude of Visual Effects

3.33 As defined in GLVIA3, each of the visual effects identified should be evaluated in terms of the following factors, where relevant:

- *<u>Size or scale</u> – judging the magnitude of the visual effects identified needs to take account of:*
- *The scale of the change in the view with respect to the loss or addition of features in the view and changes in its composition, including the proportion of the view occupied by the proposed development;*
- *The degree of contrast or integration of any new features or changes in the landscape with the existing or remaining landscape elements and characteristics in terms of form, scale and mass; line, height, colour and texture;*

- *The nature of the view of the proposed development, in terms of the relative amount of time over which it will be experienced and whether views will be full, partial or glimpses'.*
- *Geographical extent – this will vary with different viewpoints and is likely to reflect the angle of view in relation to the main activity of the receptor, the distance of the viewpoint from the proposed development and the extent of the area over which the changes would be visible.*
- *Duration and reversibility of visual effects – as with landscape effects, these are separate but linked criteria. Similar considerations apply to visual as well as landscape effects.*

3.34 Table M4 below sets out and explains criteria used to assess Magnitude of Visual Effects:

Table M4: Explanation of Rating Criteria for Magnitude of Visual Effects

Magnitude of Effects Rating	Typical Criteria			
	Size or Scale of the Visual Effects	**Geographical Extent of the Visual Effects**	**Duration of the Visual Effects**	**Reversibility of the Visual Effects**
Large	Where the proposals would be readily apparent due to loss of and/or addition of features to the existing view, which would be intrusive; Large proportion of the view occupied by the proposed development; High degree of contrast between the development and the existing landscape features/character	Direct angle of view for the visual receptor/s; Receptor close to the development (within 200m); Wide extent of area over which the changes would be visible	Long term (6+ years)	Effects long term ort permanent and irreversible
Medium	Where proposals would form a visible and recognisable new development but where it is not unduly intrusive within the overall view; Medium proportion of the view occupied by the proposed development; Medium degree of contrast between the development and the existing landscape features/character	Somewhat offset angle of view for the visual receptor/s; Receptor mid distant from the development (200m – 500m); Average extent of area over which the changes would be visible	Medium term (3 – 6 years)	Effects temporary (medium term) and partially reversible
Small	Where proposals constitute only a minor component of the wider view, which the casual observer could miss or where awareness does not overly affect the quality/amenity of the view;	Indirect angle of view for the visual receptor/s; Receptor far from the development (500m – 1km);	Short term (6 months – 3 years)	Effects temporary (short term) and fully reversible

	Low proportion of the view occupied by the proposed development; Low degree of contrast between the development and the existing landscape features/character	Small extent of area over which the changes would be visible		
Negligible/No Change	Where proposals constitute only a barely visible component of the wider view, which the casual observer is likely to miss or where awareness hardly affects the quality/amenity of the view; Very small proportion of the view occupied by the proposed development; Barely any contrast between the development and the existing landscape features/character	Indirect angle of view for the visual receptor/s; Receptor very far from the development (over 1km); Very small extent of area over which the changes would be visible	Very Short term (0 - 6 months)	Effects temporary (very short term) and fully reversible

Assessing Significance of Landscape and Visual Effects

3.35 As mentioned above, Significance of Landscape and Visual Effects is assessed by combining Sensitivity to the Proposed Development with Magnitude of Effects to allow a final judgement to be made regarding Significance and, from that, whether the level of a particular effect is 'Significant' or not, as required by the EIA Regulations.

3.36 Table M5 below provides an indicative matrix to guide what Significance of Effects is likely to occur when ratings for Sensitivity and Magnitude of Effects are combined, although professional judgement supported by written explanation is also required to provide a rationale for the Significance level selected. Ratings in red (Major or Moderate – Major) are likely to be a material consideration in the decision-making process.

Table M5: Matrix to Indicate Significance of Landscape or Visual Effects

			Sensitivity to the Proposed Development		
			High	**Medium**	**Low**
Magnitude of Effects	**Adverse**	**Large**	Major	Moderate – Major	Moderate
		Medium	Moderate – Major	Moderate	Minor - Moderate
		Small	Moderate	Minor - Moderate	Minor

	Negligible/No Change		Negligible/ None	Negligible/ None	Negligible/ None
	Beneficial	**Large**	Major	Moderate – Major	Moderate
		Medium	Moderate – Major	Moderate	Minor - Moderate
		Small	Moderate	Minor - Moderate	Minor

3.37 Table M6 below sets out and explains what each Significance of Effects level indicates for both landscape and visual effects, although as stated above, further explanation is usually necessary in order to clarify why the particular rating has been selected. It is important to note that Significance of Effects can be adverse.

Table M6: Explanation of Rating Criteria for Significance of Landscape or Visual Effects

Significance of Effects Level	Landscape Effects	Visual Effects	Importance in Decision Making Process
Major Adverse	Changes that would result in a considerable and distinct deterioration of the existing landscape character and/or features	Changes which are considered to result in a considerable and distinct deterioration in the existing view	These effects are considered to be SIGNIFICANT. They are likely to be material in the decision-making process
	Changes that would result in a noticeable though not defining deterioration of the existing landscape character and/or features	Changes which are considered to result in a noticeable though not defining deterioration in the existing view	These effects may be reasonably important or notable but are not likely to be key decision-making factors. The cumulative effects of such factors may influence decision-making if they lead to an increase in the overall adverse effects on a particular receptor
Minor Adverse	Changes that would result in a slight deterioration of the existing landscape character and/or features	Changes which are considered to result in a slight deterioration in the existing view	These effects may be raised as local factors. They are unlikely to be of importance in the decision-making process
Negligible/None	No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error	No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error	These effects are not considered to be notable or important in the decision-making process
Major Beneficial	Changes that would result in a considerable and distinct improvement of the existing landscape character and features	Changes which are considered to result in a considerable and distinct improvement in the existing view	These effects are considered to be SIGNIFICANT. They are likely to be material in the decision-making process
	Changes that would result in a noticeable though not defining improvement of the existing landscape character and features	Changes which are considered to result in a noticeable though not defining improvement in the existing view	These effects may be reasonably important or notable, but are not likely to be key decision-making factors.
Minor Beneficial	Changes that would result in a slight improvement of the existing landscape character and features	Changes which are considered to result in a slight improvement in the existing view	These effects may be raised as local factors. They are unlikely to be of importance in the decision-making process

Methodology for Assessment of Cumulative Effects

3.38 It is proposed that the cumulative assessment section utilizes the same baseline 'Sensitivity' ratings for landscape character and visual receptors as included within the LVIA. However, in order to place a value on the Cumulative Magnitude of additional effects on landscape receptors or visual amenity caused by the Proposed Development in conjunction with the existing ENRMF site and other related developments within the

surrounding land (i.e. the cumulative changes), a new set of Cumulative Magnitude rating criteria is required, as in Table M7 below.

3.39 Table M8 further below sets out and explains what each Significance of Cumulative Effects rating indicates for landscape receptors and visual amenity. Significance of Cumulative Effects is rated by combining Sensitivity to the Proposed Development with Magnitude of Cumulative Effects, using the same indicative matrix included in the main LVIA Methodology. However, as stated above, further explanation is usually needed in order to clarify why the particular rating has been selected.

3.40 The essential purpose of these criteria ratings is to assess the Significance of cumulative/combined effects caused by the addition of the Proposed Development to the existing landscape. The purpose is not to assess the effects of the Proposed Development in isolation – that information has already been included elsewhere within the LVIA and is subtly different from this section.

Table M7: Matrix to Indicate Magnitude of Cumulative Landscape and Visual Effects

Cumulative Magnitude of Effects	Landscape Rating Criteria	Visual Rating Criteria
Large	Where the additional effects on landscape character caused by the Proposed Development in combination with the existing baseline would be very noticeable/dominant and on a reasonably large scale	Where the additional visual change caused by the Proposed Development in combination with the existing baseline would be apparent or very apparent and would affect the overall impression of the view
Medium	Where the additional effects on landscape character caused by the Proposed Development in combination with the existing baseline would be noticeable but not dominant	Where the additional visual change caused by the Proposed Development in combination with the existing baseline may be apparent but would not be unduly intrusive within the overall view
Small	Where the additional effects on landscape character caused by the Proposed Development in combination with the existing baseline would be relatively small and not immediately apparent	Where the additional visual change caused by the Proposed Development in combination with the existing baseline would only constitute a minor change to the view which the casual observer might miss altogether
Negligible/No Change	Where the additional effects on landscape character caused by the Proposed Development in combination with the existing baseline would be very small and barely perceptible	Where the additional visual change caused by the Proposed Development in combination with the existing baseline is likely to be missed altogether due to distance, topography or intervening elements

Table M8: Explanation of Significance of Cumulative Landscape and Visual Effects

Significance of Cumulative Effects	Landscape Rating Explanation	Visual Rating Explanation
Major	The combined effects on landscape character caused by the addition of the proposed development to the baseline situation would be at variance with many key characteristics of a highly valued and high quality landscape	The combined visual impact caused by the addition of the proposed development to the baseline situation would be immediately apparent and possibly dominates the view
Moderate - Major	The combined effects on landscape character caused by the addition of the proposed development to the baseline situation would be relatively large, with many long term effects on medium sensitivity landscape or smaller, short tern effects on highly sensitive landscape	The combined visual impact caused by the addition of the proposed development to the baseline situation would be somewhat apparent and has a negative impact on the view
Moderate	The combined effects on landscape character caused by the addition of the proposed development to the baseline situation would be reasonably noticeable. There would be some adverse changes to medium sensitivity landscape or small, temporary changes to highly sensitive landscape	The combined visual impact caused by the addition of the proposed development to the baseline situation may be apparent but would not adversely affect the view to any great extent
Minor - Moderate	The combined effects on landscape character caused by the addition of the proposed development to the baseline situation would be small	The combined visual impact caused by the addition of the proposed development to the baseline situation would be limited and may be missed by the casual observer
Minor/Negligible	The combined effects on landscape character caused by the addition of the proposed development to the baseline situation would be very small	The combined visual impact caused by the addition of the proposed development to the baseline situation is likely to be missed altogether and would be barely perceptible

4 Landscape and Visual Context (Baseline)

Introduction

4.1 The landscape and visual context (baseline) represents a summary of the existing landscape receptors (i.e. landscape features and landscape character) relevant to the site and surrounds and visual amenity, against which changes likely to be caused by the Proposed Development can be assessed. The study area extends to a radius of approximately 3.0 kilometres (km), as indicated on Figures 1 - 3.

4.2 Figure 1: Visual Context shows the location of eleven viewpoint locations, which have been discussed and agreed with the Northamptonshire County Council, and also includes a ZTV map which indicates from which areas it would be theoretically possible to obtain views of the Proposed Development. In addition, this drawing indicates areas from which the site is not visible taking into account intervening built development and vegetation and also local PRoW. Refer to Figure 1 for further technical information relating to the ZTV.

4.3 Figure 2: Landscape Character Areas show the national and local landscape character types (LCT) and/or the landscape character areas (LCA) relevant to the site and surrounds.

4.4 Figure 3: Landscape Context illustrates the location of a number of landscape and cultural heritage features within the landscape setting that are described below, and generally follow the standard OS map nomenclature, with added information as necessary. The combination of some or all of these landscape features contributes to the character and appearance of the site and surrounds.

Landscape Context

Description of the Site and Immediate Surrounds

4.5 The application boundary includes the existing ENRMF hazardous waste and low level radioactive waste (LLW) landfill site and the proposed western extension, as indicated on Figure 1. The existing facility has a long history of mineral and waste development and extends across an area of approximately 31.2ha. It is divided into eleven working phase areas of which Phases 1 and 2 are currently being capped. Landfilling operations

are completed in Phases 3, 4, 5 and the southern part of Phase 6, with Phases 3, 5 and the southern part of Phase 6 partially capped. Currently, landfilling operations are being carried out in the northern part of Phase 6 and in Phase 10, while Phase 7 is currently being constructed. In addition, material currently in Phases 8 & 9 will need to be moved in future to allow construction of landfill cells.

4.6 A waste treatment and recovery plant facility is located within Phase 11, at the north western corner of the site. This facility consists of various treatment infrastructure including buildings, conveyors, tanks and silos (the highest of these being approximately 15m) as well as stocking and circulation areas. Two lagoons are located to the west of the treatment plant area, beside the western boundary, and there is a further lagoon in the very north western corner of the site, with Collyweston Great Wood to the immediate north. The gas flare compound is located to the north west of the waste treatment and recovery facility.

4.7 An area along the north eastern boundary of the site has previously been restored to neutral/calcareous grassland and scrubland, for the benefit of nature conservation. This area is used as an ecological refuge area for Great Crested Newts.

4.8 The south eastern corner of the site includes the site access off Stamford Road, office/welfare buildings, car park, weighbridge and waste reception facilities, storage areas and maintenance building and other associated infrastructure, which is separated from the adjacent road by a strip of woodland vegetation.

4.9 The existing ENRMF site is generally undulating in profile, reflecting the progressive nature of the material placement operations. The existing ENRMF site is bounded to the north by a large block of mature woodland, Collyweston Great Wood, which is designated as Ancient Semi Natural Woodland (ASNW), is a National Nature Reserve (NNR) and is also a Site of Special Scientific Interest (SSSI). The site is bounded to the east by a hedgerow separating it from Stamford Road, beyond which is a commercial and agricultural facility associated with Westhay Farm, consisting of a number of utilitarian/agricultural storage buildings and areas of hardstanding for parking and circulation. In addition, there are four properties (Westhay Cottages) along the eastern

side of the road, which are located at the north western corner of the commercial facility, separated from it by a mature woodland strip. The existing ENRMF site is bounded to the south by a hedgerow with scrubby vegetation which runs alongside a farm access road and adjacent to the centre of the southern boundary are some agricultural storage barns. Beyond the farm access track are open agricultural fields extending over 2km to the south, towards the northern edge of the village of Kings Cliffe.

4.10 It should be noted that for the purposes of this preliminary LVIA report, the baseline situation for the restoration of the existing ENRMF site is shown on Drawing no. 1960/008A: Restoration Scheme, dated March 2011 (David Jarvis Associates). This drawing shows that the approved restoration landform extends up to a level of 93m Above Ordnance Datum (AOD) and that the southern part of the existing ENRMF site is restored to approximately 21.01ha 'species rich neutral grassland'. The northern part of the site is shown as being restored to approximately 5.62ha of 'woodland planting with glades and rides for maintenance', with a total of approximately 2.88ha of 'scrub' along with four new ponds along the southern boundary and one pond in the north western corner. A new footpath link extends from the site entrance in a westerly direction, up the side of and along the landform, and exits the site close to the north western corner, to link up with existing Footpath MX15 further west.

4.11 The proposed western extension area lies to the immediate west of the existing ENRMF site and extends across an area of approximately 26.3ha, consisting of agricultural fields currently used for crop production. The proposed western extension area is divided into two separate, large fields by a hedgerow across the approximate central part of the site, with one tree at its eastern end, which extends from south-southwest to north-northeast. The proposed western extension area is approximately 1.2km in length from north to south while the width of the area varies from approximately 95m at the northern end of the area to approximately 275m at the southern end.

4.12 The approximate central part of the proposed western extension area is bounded to the east by the existing site while the southern section is bounded to the east by a large agricultural field. The northern part of the area is bounded to the east by the aforementioned Collyweston Great Wood. This woodland extends to the north while

the northern part of the western boundary abuts a hedgerow beyond which are agricultural fields. The rest of the western boundary is formed by the eastern edge of part of Fineshade Woods known as The Assarts. To the south of the application boundary, the agricultural field extends further for approximately 50m – 102m (from west to east), beyond which lies a small woodland block, Little Wood.

Description of the Wider Surrounding Area

4.13 The site is set within a predominantly agricultural landscape which is mainly evident across land to the south and southeast, which consists of large scale productive fields bounded by well managed hedgerows and occasional trees, though these are not a characteristic feature of the landscape. There is a distinct lack of woodland cover across this wide expanse of agricultural land which, when combined with the very gently undulating landform, allows long distance views over the boundary hedgerows to the landscape beyond, framed by woodland in the far distance.

4.14 In contrast to the large agricultural area, land to the northeast, west and southwest of the site is characterised by large tracts of mature woodland vegetation with occasional glades, rides and other land uses in areas cleared of tree cover. Beyond the woodland to the north, further large areas of agricultural land is evident, again lacking any woodland blocks, extending to the village of Collyweston and beyond.

4.15 Further to the west, approximately 470m beyond the fields and woodland bounding the western edge of the site, Collyweston Quarry is set within a surrounding landscape of agricultural fields with boundary hedgerows. Thornhaugh Landfill Site, operated by the applicant, is located approximately 3.4km to the east of the existing site. Cross Leys Quarry, a non active quarry operation which is also a Regionally Important Geological Site, is located approximately 1.4km to the northeast of the site.

4.16 The topography of the surrounding landscape, within the 3.0km radius study area, is varied, with land to the north fairly consistent at between approximately 80m – 90m AOD while land to the east is gently undulating, between levels of approximately 70m – 78m AOD. Land to the southeast is slightly more varied with a land sloping down to approximately 60m AOD to the east of Stamford Road, to form a relatively localised dip

in the landscape. Land further east, heading towards Bedford Purlieus National Nature Reserve (NNR) woodland, slightly falls to levels of between 65m – 60m AOD.

4.17 To the south, land is again gently undulating, sloping downwards to a level of approximately 60m AOD before slowly heading upwards again towards the eastern side of Westhay Wood, at approximately 85m AOD. Land to the east of this woodland slopes downwards towards Stamford Road where it heads north from Kings Cliffe, at an elevation of approximately 50 – 55m AOD.

4.18 Land to the west is steady at approximately 90m AOD until the western side of Fineshade Wood (The Assarts) where it starts to drop down towards the A43 and Duddington, where elevations range between approximately 40m – 55m AOD.

4.19 The main settlements within the area include the village of Duddington, approximately 1.1km to the west northwest of the application boundary, the village of Kings Cliffe approximately 2.0km to the south southeast and the village of Collyweston approximately 1.6km to the north northwest. The closest town is Stamford, approximately 6.8km to the north-northeast with the City of Peterborough approximately 16km to the east. There is no intervisibility between the site and any of these settlements due to distance, landform and/or intervening vegetation.

4.20 The pattern of PRoW routes is varied, with land to the west containing a number of routes associated with rising land to the east of Duddington and also routes through Fineshade Wood (The Assarts), including the Jurassic Way which extends from the A43 in a roughly north-northwest to south-south easterly direction towards the north western corner of Kings Cliffe, almost entirely through woodland.

4.21 No PRoWs cross the application area. A number of other PRoWs lie within the surrounding landscape, including the following of most relevance to this assessment:

- The Jurassic Way, MX16, which extends from the A43, to the south of Duddington, in a south easterly direction through North Spinney and Westhay Wood, towards the north western side of Kings Cliffe;

- Footpath MX15 which extends through The Assarts woodland to the west of the Site, approximately 100m from the application boundary at its closest point;
- Bridleway NE8 which extends from Stamford Road at a point approximately 870m to the southeast of the Site, in a south easterly direction and then southwards to join the Roman Road between Kings Cliffe and Wansford; and
- Footpath NE20 which extends from a point close to the start of the aforementioned Bridleway NE8 off the Roman Road, in a north easterly direction towards Bedford Purlieus NNR woodland.

4.22 Refer to Figures 4 to 25 (Appendix A) and section 6 below for further consideration of visibility and potential visual effects on users of a number of these footpaths.

4.23 The main roads in the surrounding area include the A43 linking Collyweston with Duddington and onwards in a south westerly direction, to the west of the Site, and also the A47 to the north, linking Duddington with Wansford. As mentioned above, Stamford Road runs from north to south past the existing entrance to the operation on the eastern boundary of the site.

4.24 There are no notable water features within the study area except for Willow Brook which runs from west to east within land to the immediate south of Kings Cliffe.

Existing Landscape Character Assessments

Introduction

4.25 The combined elements of a landscape set one area apart from those adjacent to it and make its character distinctive to the people who both live in or visit the area. Recognition of this character variation requires an understanding of these influences that give different areas a unique 'sense of place'. This section reviews existing landscape character assessments that relate to the Site and its locality.

4.26 Landscape Character Assessment (LCA) is a process of characterising a landscape and of informing decision makers when considering effects on landscape character. The Guidelines for Landscape and Visual Impact Assessment (GLVIA3) states that LCA is *"The process of identifying and describing variation in the character of the landscape, and*

using this information to assist in managing change in the landscape. It seeks to identify and explain the unique combination of elements and features that make landscape distinctive."

4.27 Figure 2 (Appendix A) illustrates the Site location together with relevant national and local landscape character areas. See below for further explanation.

National Level Landscape Character Assessment

4.28 At the national level landscape character assessment has been defined by Natural England's own assessment work which has divided areas of England into areas with similar landscape character called National Character Areas (NCAs). The site lies within NCA 92: Rockingham Forest[2]. This character area does not describe the site and its setting in detail. However, it provides the landscape context for the site and identifies elements of regional importance. The key characteristics of this NCA are summarised as:

- *"Principally broad undulating plateau and ridge which falls away from a prominent steep northern scarp towards the Welland Valley;*
- *The area is well wooded with large commercial conifer and broadleaved plantations, and ancient semi-natural woodlands. Large woodlands – such as Wakerley Great Wood, Geddington Chase and Fermyn Woods – form a prominent feature on the skylines*
- *Ancient woodlands of national importance for nature conservation contain a diverse range of species; many are designated as National Nature Reserves (NNRs) and Sites of Special Scientific Interest (SSSI), such as Bedford Purlieus, Collyweston Great Wood and Easton Hornstocks;*
- *A patchwork of large- to medium-sized fields, of mixed arable and some pastoral land use, displays the rectilinear pattern of 18th- and 19th-century enclosures set within a more sinuous pattern of older enclosures, winding lanes and watercourses. Fields are commonly bounded by well-managed hedgerows with*

[2] National Character Area profile 92: Rockingham Forest, Natural England, 2014

characteristic mature trees or drystone walls which become more common in the Soke of Peterborough;

- *Remnant unimproved grasslands occur throughout the area. Areas of former grazing land exist within the woodlands, with low-lying grassland on the broader flood plain of the River Nene;*
- *The settlement pattern is small nucleated villages with a few isolated farmsteads and houses, the former often in sheltered streamside locations; and*
- *Retains a largely rural and tranquil character, particularly in the heart of the Rockingham Forest. There is a sharp transition between the countryside and the main urban areas of Peterborough, Kettering and Corby, which remain the focus for future development growth".*

4.29 Under the Statements of Environmental Opportunity (SEO) section of the assessment, the following is relevant to the Proposed Development:

"SEO 1: Extend the area and connectivity of broadleaved woodland, individual trees and hedgerows in the core Rockingham Forest area, seeking to enhance historic landscape character and biodiversity and increasing the potential for timber, biomass, access and recreation, while helping to regulate the impacts of climate change and maintaining and improving water and soil quality".

For example, by:

- *Supporting the planting of new broadleaved woodlands that are well integrated with the surrounding landscape and do not impact negatively upon the integrity of other sites of biological, geological or historical interest. New woodlands should connect existing ancient woodland and historic parkland sites and provide both biodiversity and recreational opportunities; and*
- *Looking for opportunities to extend and enhance the public rights of way network and to create other areas of permissive access".*

"SEO2: Maintain and enhance the quality of natural sites of interest across the area, and particularly within the farmed landscape, seeking to realise opportunities to strengthen ecological networks and increase the quantity and quality of semi-natural habitat mosaics and geodiversity sites, providing additional benefits to recreation and so enhancing visitors' experiences and understanding as well as the local economy.

For example, by:

- *Supporting the establishment of new networks which incorporate isolated wildlife sites and establishing a variety of new habitats – such as lowland grasslands..;*
- *Seeking opportunities to enhance the farmed landscape by creating more semi-natural habitats (such as grasslands, scrub, field margins and hedgerows), including provision of habitats for pollinators and species that could assist in the control of crop pest species and establishing ecological networks, especially utilising riverine and woodland corridors. This will help to protect soils, improve water quality and enhance biodiversity; and*
- *Recognising that landscape and biodiversity in the NCA are key attractions for visitors and are important for recreation and creating a sense of place that has intrinsic and societal value and can be interpreted to enhance recreational experience".*

Regional/County Level Landscape Character Assessment:

Northamptonshire Current Landscape Character Assessment[3]

Northamptonshire Current Landscape Character Strategy and Guidelines[4]

4.30 These two documents are intended to be read in conjunction with one another. The Current Landscape Character Assessment document provides a detailed review and

[3] Northamptonshire Current Landscape Character Assessment, River Nene Regional Park assisted by Northamptonshire County Council, 2005

[4] Northamptonshire Current Landscape Character Strategy and Guidelines, River Nene Regional Park assisted by Northamptonshire County Council, 2006

description of the current character of the Northamptonshire landscape. The Current Landscape Character Strategy and Guidelines document goes into more detail regarding landscape strategies, guidelines and land management.

4.31 The studies both split Northamptonshire into 19 Landscape Character Types (LCTs). The site falls within LCT 11: Wooded Limestone Hills and Valleys and within that LCT, the site is located in Landscape Character Area (LCA) 11a: King's Cliffe Hills and Valleys. Relevant key characteristics of this LCA include the following:

- *"A series of broad valleys and broad low hills, dipping gradually to the east define a gently rolling landform with a generally enclosed character. Limited long distance views due to screening landform and woodland blocks, particularly in the valley bottoms or where woodland cover is more extensive. Intermittent wider views from the crest and upper slopes of the low hills across breaks between the woodland cover;*
- *Predominance of arable land with areas of improved pasture and calcareous grassland frequent along watercourses. A rable fields frequently large in scale, whilst grazed pastures and calcareous grassland are generally smaller. Fields a mixture of regular and sub regular shapes enclosed mainly by low to medium height well-trimmed hedgerow with infrequent hedgerow trees. This mosaic of enclosure patterns and the changing colour and textures of the cropping pattern add to the diversity of the agricultural landscape, enhanced and framed by the simpler and more uniform outlines of the enclosing woodlands;*
- *Limited limestone walls evident across the landscape. Their presence is indicative of the underlying limestone geology and a harmonious relationship between the built and natural elements;*
- *Significant woodland cover of varying composition with large areas designated ancient woodland, particularly in the northern and eastern areas where they make an important contribution to the biodiversity resource. The woodland provides a strong sense of enclosure. A number of the woodlands are accessible to the public such as…Fineshade Woods within the Westhay Wood complex and are a valuable recreation resource;*

- *Communication routes principally confined to minor roads connecting small settlements and individual dwellings…;*
- *Contained within the woodlands, the open land is predominantly under arable cultivation although pastoral land is also evident particularly in the valley bottoms and surrounding the villages. The area also supports some areas of biodiverse rich calcareous grassland; and*
- *The field pattern, cropping regimes and network of hedgerows and walls contribute texture and colour within the simple tree cover".*

4.32 The Landscape Strategy sub-section states the following of relevance:

"New development, change and land management practices should be controlled or encouraged to conserve the small scale and enclosed character of the peaceful and secluded rural landscape of the Wooded Limestone and Hills and Valleys. The woodland resource, and the enclosure it provides, is of particular importance and it should therefore be conserved and enhanced to ensure that the resource is not diminished. Opportunities to extend the woodlands should also be encouraged, including management of the ancient woodland to ensure their continuity and also the promotion of wider public access of woodlands where possible.
The peaceful rural character of this landscape is an inherent part of its character so the introduction of elements that would devalue and disturb this quality should be resisted. New development should therefore be limited to visually contained locations and where the tranquillity would not be diminished".

4.33 The Landscape Guidelines sub-section states the following of relevance:

- *"Conserve and enhance the mosaic of land uses across the hills and valleys, field patterns and boundary features;*
- *Conserve areas of calcareous grassland and where appropriate introduce management regimes to restore and create further areas of calcareous grassland. Seek opportunities to coordinate restoration and creation in order to maximize connectivity of like habitat; and*

- *Conserve the significant woodland blocks and encourage the reconfiguration of coniferous plantations to follow landform more sympathetically, replanting wherever possible with deciduous species.*

Summary of Landscape Receptors

4.34 This section of the LVIA summarises the existing landscape receptors that have been identified by the baseline study and that may be affected by the Proposed Development. Landscape receptors can be divided into two separate types: landscape features (or fabric) and landscape character. These have been considered below in further detail.

Landscape Features:

4.35 Key landscape features within or very close to the site that are likely to be directly affected by the Proposed Development include the following:

- The topography of the proposed extension area would be permanently affected by the soil stripping and mineral extraction works and then the subsequent infilling with imported waste;
- A total of approximately 26ha of agricultural land within the proposed extension area, consisting of approximately 6ha of grade 3a soil and approximately 20ha of grade 3b soil;
- Approximately 97m of hedgerow, including one tree at its eastern end, separating the northern part of the proposed extension area from the southern part; and
- Approximately 5,900m^2 of scrubby woodland, including a large oak tree in poor condition, in the central area of the proposed western extension area.

Landscape Character:

4.36 The site comprises two adjoining areas which are fundamentally different in terms of their existing character. The existing landfill operation is a typically disturbed and degraded landscape of this type, with various areas consisting of operational facilities (offices and other built development, access roads and car parks, plant structures and associated infrastructure), backfilled but as yet unrestored land, partially filled landfill

cells, landfill cells being engineered/prepared for infilling works, areas with stockpiles and other material, and access/circulation routes.

4.37 One area of the site along the north eastern side of the operation has been previously restored to neutral/calcareous grassland and scrubby planting, so the character of this area is slightly different to the rest of the site, and is closer in nature to the woodland areas to the north.

4.38 In contrast to this, the character of the proposed western extension area is broadly rural and agricultural in nature, with the open fields flanked by mature woodland and other fields being entirely characteristic of a number of other farmed areas of land within the surrounding landscape. The northern part of the area does have a more enclosed character due to the established woodland and mature hedgerows partially flanking the field on three sides, whereas the southern part of the extension area is more open in character due to the lack of woodland to the east and southeast.

4.39 The central and southern parts of the proposed western extension area are flanked to the east by the existing ENRMF site, which influences the character of the land in this area to some extent, mainly due to the higher elevation of the evolving site landform and the degraded, industrial and active nature of the landfill operation.

4.40 The proposed western extension area is generally typical of the key characteristics identified in the national and local character assessment relevant to the locality. The western extension area is located within a predominantly arable landscape with well managed hedgerows with infrequent hedgerow trees and also significant woodland cover providing a strong sense of enclosure.

Visual Context

Identification of Visual Receptor Groups

4.41 The range of visual receptors usually considered in LVIA reports include residents, people visiting the area for amenity/recreation purposes, road users (including pedestrians, cyclists, horse riders and people in vehicles), and people at work. These categories of visual receptor are summarised below:

- *Settlements/Residents:* It is generally held and embodied in recognised standard visual impact assessment methodology that residents will have a high level of sensitivity to changes in their landscape and visual environment. The most important views are likely to be those available from their own homes as they will be consistently present;
- *Amenity/Recreation:* This visual receptor group embraces a broad category with often different objectives. It includes those people who are primarily concerned with the enjoyment of the outdoor environment for recreational pursuits and includes recreational walkers, cyclists and horse riders (i.e. users of PRoW) plus people sightseeing by car or generally enjoying the outdoors. These receptors have a higher sensitivity to changes in the view;
- *Road Users:* This category of visual receptor overlaps to a degree with the other two general categories in that it embraces residents and amenity/recreational users, including those who come to visit the area or pass through it. Sensitivity ranges from a medium level to a lower level depending on the type of road users and their purpose in driving through the landscape; and
- *People at Work:* This category includes those people who work within the local surroundings, including the outdoor environment and would therefore generally have less sensitivity to visual disruption.

Zone of Theoretical Visibility (ZTV)

4.42 Figure 1 illustrates the 3.0km study area radius within the surrounding landscape and also indicates the ZTV map of the Proposed Development. The ZTV was modelled using 3D photogrammetric digital surface model (DSM) data on a 2m grid resolution. A ZTV is a computer generated, initial assessment tool to identify the possible (or theoretical) visibility of any part of a proposed development.

4.43 Target points were taken across the surface of the proposed landform and target eye level was set at 1.6m. DSM data includes the underlying landform and also vertical elements including woodland, buildings and other landscape features. However, the ZTV does not take account of distance in reducing the significance of a proposed

development in the view and is not entirely accurate or comprehensive. It is therefore considered to be only an indication of the likely visibility of the Proposed Development.

General Visibility of the Site

4.44 The general visibility of the site is considered below, as follows;

4.45 The assessment encompasses the eleven representative viewpoints. The existing views from each of these viewpoints are considered in further detail on Figures 4 -25 (Appendix A). In addition, Figure 1 includes magenta arrows which indicate general areas from which there are no or extremely restricted views of the site due to a range of factors, primarily intervening vegetation, distance and/or landform.

Views from the North

4.46 There are no views towards the site from the north due to a combination of extensive mature woodland (Collyweston Great Wood) and an absence of any residential properties or publicly accessible locations within land to the north.

Views from the East

4.47 The eastern boundary of the existing landfill operation is marked by an approximate 2 – 3m high hedgerow which effectively screens the site all year round from Stamford Road, Westhay Cottages and Westhay Farm. In addition, the landform of the existing site prevents any views of the proposed extension area from the Cottages and from the road in this location. The approximately 660m long stretch of Stamford Road between Westhay Lodge and Westhay Farm drops down to a lower elevation and, when combined with the roadside hedgerow, severely restricts views towards the site, including the existing landfill operation.

4.48 Further to the east and southeast, there is a notable lack of any residential properties or PRoW within the agricultural land, with views from Cross Leys Farm and St John's Wood Farm approximately 1.6km and 2.3km away from the site boundary respectively. Footpath NE20 is also approximately 1.8km from the site boundary at its closest point.

Therefore views from these locations are restricted by distance and, in places, intervening landform and/or vegetation.

4.49 *Views from the South*

4.50 There are partial views towards the existing landfill operation from a section of Stamford Road in the vicinity of Westhay Lodge, approximately 750m from the site boundary. This would also suggest that partial views are available from the Lodge itself and the garden, although a strip of conifers to the northwest of the Lodge combined with agricultural buildings between the conifers and the Lodge act as visual screens to severely restrict views from both the road and the property towards the proposed extension area.

4.51 There are no other properties or PRoW within land due south of the site, which comprises agricultural fields extending across undulating land towards the northern edge of the village of Kings Cliffe, approximately 2.1km from the site boundary. There are no views of the site from any properties within Kings Cliffe due to a combination of rising landform to the north of the village and a belt of woodland vegetation extending in an almost unbroken strip along the northern edge of the settlement.

Views from the West

4.52 There are only very limited views of the site from the west due to a combination of mature woodland bounding the site along most of its western boundary and landform, which slopes downwards towards Duddington, entirely screening the site from views from this settlement. Footpath MX15 extends through The Assarts woodland but is too far within the woodland to allow views through to the site except for along one stretch, approximately 52m long, where an existing gap in the woodland allows views eastwards towards the western end of the existing ENRMF site.

4.53 Views towards the site from footpaths to the west of Collyweston Quarry are also very restricted due to distance and intervening vegetation, as well as soil bunds around the quarry in places.

Representative Viewpoint Photographs and Descriptions

4.54 To help define the existing visual baseline, it is accepted practice to select a number of representative viewpoints, which are determined by professional judgement, reference to the ZTV, and a site visit. Figure 1 includes eleven viewpoints representing views for residents, amenity/recreational users (including PRoW users) and road users. The number of viewpoints and their locations were agreed with Northamptonshire County Council as part of the initial discussions.

4.55 All viewpoint photographs were taken in February 2020 with the weather being clear and bright. The photographs were taken in winter to allow for the highest level of visual permeability through woody, leafless vegetation. The view from each viewpoint location is shown as a single frame image and a context panoramic photograph, set up on individual A3 sheets, in accordance with the latest guidance note from the Landscape Institute: Visual Representation of Development Proposals[5]. Refer to Figures 4 to 25 (Appendix A) for further information.

[5] Landscape Institute Technical Guidance Note 06/19: Visual Representation of Development Proposals, September 2019.

5 Planning Context

Landscape Designations and Policies

National Level Landscape Designations

5.1 The site is not located within a National Park or Area of Outstanding Natural Beauty (AONB).

Local Level Landscape Designations

5.2 The site is not located within an area locally designated for its landscape value or quality.

National Level Nature Conservation Designations

5.3 As shown on Figure 3, a small number of woodlands within the 1.5km radius study area are classified as Ancient and Semi Natural Woodlands (ASNW) or Ancient Replanted Woodland (ARW) including the following:

- ASNW – Collyweston Great Wood, to the immediate east of the western extension area;
- ASNW – Little Wood, approx. 360m to the northwest of the western extension area; and
- ARW – Westhay Wood, approx. 380m to the southwest of the western extension area.

5.4 Collyweston Great Wood is also a Site of Special Scientific Interest (SSSI) and a National Nature Reserve (NNR). There are no Special Protection Areas (SPA), Special Areas of Conservation (SAC) or RAMSAR sites within the 3.0km radius study area.

5.5 Note: while not strictly relevant to consideration of potential effects of the Proposed Development on landscape and visual receptors, these areas are included in this LVIA report and on Figure 3 for added information.

Historical and Cultural Related Designations with Relevance to Landscape

5.6 As shown on Figure 3, there are a number of Listed Buildings (LB) within Duddington to the west of the Site (all Grade II Listed, with no views of the Site) and also within Kings

Cliffe to the south of the Site. The most important of these LB within Kings Cliffe is the Grade I Listed Church of All Saints and the Grade II* Listed Hall Farmhouse, which are both approximately 2.4km from the Site boundary. Neither of these LBs have intervisibility with the Site.

5.7 There are no Registered Parks & Gardens or Scheduled Monuments within the 3.0km study area.

National and Local Level Landscape Policies and Guidance

5.8 The following national and local level planning policies/guidelines have been identified as relevant to the Proposed Development. Table 10 in Section 7 below addresses how the Proposed Development accords with these policies/guidelines.

Revised National Planning Policy Framework (NPPF)[6]

5.9 On a national scale the revised NPPF is the document of most relevance to planning applications for most developments. In relation to potential landscape and visual effects, relevant policies included within the revised NPPF are as follows:

- Section 11: Making Effective Use of Land - Policy 118;
- Section 12: Achieving Well-designed Places - Policies 127 & 128;
- Section 15: Conserving and Enhancing the Natural Environment – Policies 170 & 180; and
- Section 17: Facilitating the Sustainable Use of Minerals – Policies 204 & 205

Local Level Landscape Policies and Guidance

Northamptonshire Minerals and Waste Local Plan[7]

5.10 Relevant policies relating to the Site and potential landscape and visual effects include the following:

Policy 18: Addressing the Impact of Proposed Minerals and Waste Development

[6] National Planning Policy Framework (NPPF), Adopted February 2019
[7] Northamptonshire Minerals and Waste Local Plan, Northamptonshire County Council, adopted July 2017

"Proposals for minerals and waste development must demonstrate that the following matters have been considered and addressed:

- *Protecting Northamptonshire's natural resources and key environmental designations (including heritage assets)"*

Policy 20: Natural Assets and Resources

"Minerals and waste development should seek to achieve a net gain in natural assets and resources, through:

- *Protecting* and enhancing international and national designated sites;
- *Contributing towards Northamptonshire Biodiversity Action Plan targets for habitats and species.*

Proposals for minerals and waste developments will be required to undertake assessment (where appropriate) in order to:

- *Identify mitigation measures and/or requirement for compensation (where necessary) to avoid, reduce and manage potentially adverse impacts".*

Policy 21: Landscape Character

"Minerals and waste development should seek to reflect Northamptonshire's landscape character. Development should mitigate potentially adverse impacts on the local character and distinctiveness of Northamptonshire's landscape where necessary during the development, operational life, restoration, aftercare and after-use. Opportunities for enhancement should be maximised through restoration, aftercare and after-use.

Proposals for minerals and waste development will be required to undertake a landscape impact assessment (where appropriate) based on the landscape character assessment in order to identify:

- *The presence of landscape values (including their nature, extent and level of importance) and determine any potential impacts,*
- *Any necessary measures to mitigate potentially adverse impacts, and*

- *Opportunities to protect and enhance particular features that create a specific aspect of local distinctiveness or character".*

Policy 23: Layout and Design Quality

"The layout and overall appearance of waste management facilities, and where appropriate minerals development, will be required to demonstrate that the development:

- *Supports local identity and relates well to neighbouring sites and buildings;*
- *Is set in the context of the area in which it is to be sited in a manner that enhances the overall townscape, landscape or streetscape (as appropriate),*
- *Incorporates specific elements of visual interest"*

Policy 24: Restoration and After-Use

"All minerals and waste related development of a temporary nature must ensure that the site is progressively restored to an acceptable condition and stable landform.

The after-use of a site will be determined in relation to its land use context, the surrounding environmental character and any specific local requirements, but on the basis that it:

- *Enhances biodiversity, the local environment and amenity, and*
- *Benefits the local community and / or economy.*

The restoration of minerals and waste sites should meet the following requirements (where appropriate):

- *Sites previously comprising high-grade agricultural land or good-quality forestry use should be restored to the original land use and coupled with a secondary after-use objective;*
- *Precedence should be given to the establishment of Biodiversity Action Plan habitat, strategic biodiversity networks, promotion of geodiversity and enhancement of the historic environment and heritage assets where the specific conditions occur that favour such after-use objectives;*

- *Sites connecting or adjacent to identified habitat areas and green infrastructure networks should be restored in a manner which promotes habitat enhancement (in line with Biodiversity Action Plan targets) and green infrastructure plans;*
- *Sites located near to areas identified as lacking recreational facilities should be restored in a manner that promotes such opportunities;*
- *Sites located within river corridors should be restored to support water catchment conservation and incorporate flood attenuation measures, and*
- *In specific instances, and where fully in accordance with policies in other local plans in Northamptonshire, sites may be restored in a manner that promotes economic opportunities".*

Sites for mineral extraction in river valleys should not be restored to a predominantly open water based form. Restoration of mineral sites elsewhere in the county to a lower level form will be acceptable if it is able to retain the integrity of the local landscape character and minimises overall traffic movements associated with extraction and restoration of the site".

North Northamptonshire Joint Core Strategy 2011 - 2031[8]

5.11 This document (which is also relevant to East Northamptonshire, the District in which the Site is located) replaces the first Core Spatial Strategy which was issued in 2008 and covered the period up to 2021.

5.12 Relevant policies include the following:

Policy 3: Landscape Character

"Development should be located and designed in a way that is sensitive to its landscape setting, retaining and, where possible, enhancing the distinctive qualities of the landscape character area which it would affect. Development should:

[8] North Northamptonshire Joint Core Strategy 2011 – 2031, prepared by the Joint Planning Unit reporting to the North Northamptonshire Joint Committee , adopted July 2016

- *Conserve and, where possible, enhance the character and qualities of the local landscape through appropriate design and management;*
- *Make provision for the retention and, where possible, enhancement of features of landscape importance;*
- *Safeguard and, where possible, enhance important views and vistas including sky lines within the development layout;*
- *Protect the landscape setting and contribute to maintaining the individual and distinct character, and separate identities of settlements by preventing coalescence;*
- *Provide appropriate landscape mitigation and/or suitable off-site enhancements; and*
- *Preserve tranquility within the Kings Cliffe Hills and Valleys Landscape Character Area (as shown on the policy map) and other areas identified in Part 2 Local Plans by minimising light and noise pollution and minimising the visual and traffic impacts of development".*

Policy 19: The Delivery of Green Infrastructure

"The special mixed urban and rural character of North Northamptonshire will be maintained and enhanced by:

a) Managing development and investment to secure a net gain in green infrastructure through:

- *Providing, where opportunities exist, new wildlife habitats, facilities and routes to enhance assets and the linkages between them".*

Trees and Landscape Supplementary Planning Document[9]

5.13 This SPD document provides guidance on landscape design and tree protection as part of site development.

[9] Trees and Landscape Supplementary Planning Document (SPD), developed jointly by East Northamptonshire Council and the Borough Council of Wellingborough, adopted February 2013

5.14 While mainly aimed at other types of proposed development, including residential housing schemes, new parks and public green space provision, the design of the urban environment etc. the SPD does include various design notes and guidelines which are broadly applicable for any proposed development scheme, including reference to a landscape management plan.

5.15 Where applicable, the principles and guidelines contained within the SPD would be applied throughout the Proposed Development.

6 Preliminary Project Description and Mitigation Measures

Summary of Proposed Development

6.1 A full description of the Proposed Development is contained within the Preliminary Environmental Information Report.

6.2 For the purpose of this assessment, the Proposed Development has been divided into three separate stages as follows:

- Mineral extraction and landfill cell construction stage;
- Progressive infilling stage: and
- 10 Years post restoration stage

The site including the proposed western extension area will provide landfill void which will result in the operation of the landfill for a period of up to 20 years from commencement.

Mineral Extraction and Landfill Construction Stage

6.3 These temporary, though long term works would involve a number of operations which are likely to have effects on landscape receptors (features and character) and visual amenity. The works would include the following:

- Progressive soil/overburden stripping and stockpile construction works involving movement of mobile plant machinery and other activity;
- Removal of c. 138m of existing hedgerow and c. 0.6ha of trees and scrubby vegetation (as detailed in the ecological impact assessment report);
- Diversion of overhead power cables; potential diversion of underground water pipes;
- Progressive extraction of mineral in accordance with the phased design plans. The phasing of the western extension area has yet to finalised. This would involve the use of 360 degree excavators and dumper trucks which would dig material and transport it for use on site, stockpiling on site or removal from site for use elsewhere; and
- Continued operation of the waste treatment and recovery facility.

Progressive Infilling Stage

6.4 These temporary, though long term, infilling works would dovetail with the mineral extraction works, once each landfill cell has been constructed in the existing ENRMF site and the western extension area. The works would involve the following operations which are likely to have effects on landscape receptors (features and character) and visual amenity:

- Regular movements of HGVs containing hazardous waste and LLW to and from the site;
- Movement and activity of the HGVs within the site in order to place the hazardous waste and LLW where required;
- Movement and activity of plant machinery to move, spread out and compact the placed material in order to progressively construct the restoration landform;
- Various other works on site including construction of temporary stockpiles, access/circulation routes, drainage features and so on; and
- Continued operation of the waste treatment and recovery facility

'10 Years Post Restoration' Stage (Permanent)

6.5 This stage represents the Proposed Development a number of years after it has been restored and aftercare has taken place, in order to demonstrate the intended appearance of the Site at that point. Refer to Drawing No. ENORTH028: Final Restoration Plan and Drawing No. ENORTH029: Restoration Cross Sections A-A' to C-C'. The main landscape changes at this stage would be as follows:

- The landform of the proposed western extension area would be significantly altered, as shown on the Final Restoration Plan, when compared to the baseline topography;
- Land use across the proposed landform (including the existing ENRMF site) would be neutral/calcareous grassland with ponds, a number of woodland blocks and scrubby areas, linked with native hedgerows including trees. There would be

an overall net gain in habitat creation and biodiversity, when compared to the existing baseline (which includes restoration of the existing ENRMF site);

- The restored site would include new public footpath routes which would link with existing footpaths to the west (Footpaths MX13 and MX15) and provide circular routes across the site; and
- The restored site would include the retained or diverted routes of the underground water pipes and the retained gas pipeline which would be managed for nature conservation enhancement.

Preliminary Mitigation Measures

6.1 The Proposed Development would result in a number of unavoidable effects on landscape and visual receptors, as considered above although opportunities to reduce or compensate for unavoidable impacts have been taken into account during the process of planning and designing the Proposed Development.

6.2 The following mitigation measures are proposed:

- Soils to be stripped to full depth and stored on site in separate stockpiles no higher than 3m (topsoil) or 5m (subsoil and overburden). MAFF (now DEFRA) Best Practice Guidelines for soil stripping and bund construction can be downloaded from the following location: https://webarchive.nationalarchives.gov.uk/20090317221756/http://www.defra.gov.uk/farm/environment/land-use/soilguid/index.htm;
- A hedgerow with trees would be advance planted along the south eastern boundary of the western extension area to demarcate the edge of the site and provide visual screening;
- The site would be restored in a progressive manner, in order to minimise the adverse effects on landscape receptors and visual amenity. The intended timescales for extraction, infilling and final restoration works for the site is a period of up to 20 years; and
- Mitigation for the permanent removal of approximately 26ha agricultural land (though only c. 6ha of Best and Most Versatile Grade 3a land) would be provided

by the creation of areas of neutral/calcareous grassland (guided by the properties of the available soil resources) along with the establishment of new woodland blocks, scrubby areas, new ponds and new footpath routes, linking with existing footpath routes (MX13 and MX15) to the west of the site.

7 Preliminary Assessment of Landscape and Visual Effects

Introduction

7.1 In this section of the preliminary LVIA, the Sensitivity to the Proposed Development and Magnitude of Effects are assessed for landscape receptors (landscape features and landscape character) and visual receptors at all identified stages before a separate sub-section considers how the two values combine to indicate a rating for Significance of Effects. Depending on the Significance rating given, an effect is either considered likely to be 'Significant' or 'Not Significant', in accordance with the requirements of Annex IV, point 4 of EU Directive 2011/92/E. This Directive is available at: http://ec.europa.eu/environment/eia/pdf/EIA_Directive_informal.pdf.

7.2 The preliminary LVIA has been undertaken using the Methodology described in Appendix B which is based on GLVIA3. It is noted that the assessment has identified activities that are considered to be 'worst case' and estimated the approximate time during the Proposed Development when these activities would be undertaken.

Preliminary Assessment of Landscape Effects

Introduction

7.3 Adverse or beneficial effects on the landscape receptors (i.e. landscape features and landscape character) can take place during all stages of the Proposed Development and have been described and assessed below.

Sensitivity of the Landscape Receptors to the Proposed Development

7.4 The Methodology set out in Appendix B summarises how Sensitivity of the landscape receptors is assessed in accordance with recommendations included within GLVIA3 and Table M1 that follows it gives an explanation of Sensitivity rating criteria. Table 1 below evaluates a number of factors to arrive at an overall Sensitivity rating for the identified landscape receptors. (Note: ratings are adverse unless stated as being beneficial).

Magnitude of Landscape Effects

7.5 The Methodology at Appendix B summarises how the Magnitude of Landscape Effects is assessed and Table M2 that follows it gives an explanation of Magnitude rating criteria. Table 1 below evaluates a number of factors to arrive at overall Magnitude ratings for the three identified stages of the Proposed Development.

Significance of Landscape Effects

7.6 When Sensitivity and Magnitude of Effects ratings are considered together, a Significant of Effects rating is obtained, which utilises the 'Significance of Effects Matrix' (see matrix Table M5 below, in Appendix B, Methodology). While the matrix rating is only indicative, further written explanation is necessary as to why a particular Significance of Effects rating has been selected and this information is included in Table 1 to add clarity.

7.7 Effects of Moderate – Major or Major Significance are highlighted in **bold** and are considered Significant.

Table 1: Sensitivity of Landscape Receptors to the Proposed Development, Magnitude of Landscape Effects and Significance of Landscape Effects (Note: Magnitude and Significance ratings are Adverse unless stated)

		Mineral Extraction Stage		Infilling Stage		10 Years Post Restoration Stage	
Landscape Receptors	**Exist Situation & Sensitivity to the Prop Development**	**Magnitude of Effects**	**Significance of Effects**	**Magnitude of Effects**	**Significance of Effects**	**Magnitude of Effects**	**Significance of Effects**
Topography – Existing ENRMF site	The existing ENRMF site is largely disturbed and of an industrial character across its whole extent, except for the restored calcareous grassland area along part of the northern slope. The topography has been gradually altering for a number of years as material is placed, raising levels across the land. *Sensitivity: Low*	Material in Phases 8 & 9 will need to be excavated and moved in future to allow construction of the landfill cells, although this is a permitted activity and would have limited effects on the evolving landform *Magnitude: Negligible*	*Significance: Negligible*	The proposals would result in the restoration landform being constructed to a design which is c. 6m higher than the approved restoration landform. However, due to operational necessity, the site has been as high as the proposed landform in places for a number of years without causing notable adverse effects. The proposals would also delay final restoration of the existing site which would have a very limited effect on landform *Magnitude: Small*	*Significance: Minor*	The topography of the final restoration landform would be 6m higher at its highest level than the approved restoration landform, although the large scale of the overall landform and the presence of the woodland blocks and hedgerows extending the eye higher, as would be the case with the approved restoration scheme, would mean that the effects would be limited. *Magnitude: Small*	*Significance: Minor*
Topography – Western Extension area	The western extension area is very gently sloping from the northern and southern ends towards the middle. Existing landfill site to the immediate east of the southern part of the extension area influences Sensitivity of the topography to the Proposed Development *Sensitivity: Low – Medium*	The landform of the proposed extension area would fundamentally change due to the extraction works. *Magnitude: Large*	***Significance: Moderate - Major***	The landform would progressively rise as waste is placed in the void, to create the restoration landform. This would permanently alter the topography across the western extension, although retention of the gas pipe and water pipes (potentially) would mean that smaller, distinct landforms would be created in the area between the pipe routes and the Site boundary. *Magnitude: Large*	***Significance: Moderate - Major***	The restoration landform would be immediately noticeable as being significantly different to the existing landform and would be irreversible. However, the restoration landform would be in character with the existing ENRMF landform and would provide the higher physical backdrop for the creation of the restored landscape, which would tie in with the restored ENRMF landform. *Magnitude: Small (Beneficial)*	*Significance: Minor (Beneficial)*

		Mineral Extraction Stage		Infilling Stage		10 Years Post Restoration Stage	
Landscape Receptors	**Exist Situation & Sensitivity to the Prop Development**	**Magnitude of Effects**	**Significance of Effects**	**Magnitude of Effects**	**Significance of Effects**	**Magnitude of Effects**	**Significance of Effects**
ALC Grade 3a soil	The northernmost part of the western extension area is considered to be Best and Most Versatile (BMV) land *Sensitivity: Medium*	The soil would be stripped and stockpiled for use in restoration, so it would be retained on site. *Magnitude: Small*	*Significance: Minor - Moderate*	The soil would be stripped and stockpiled for use in restoration, so it would be retained on site. *Magnitude: Small*	*Significance; Minor - Moderate*	The soil would be used in restoration works, and due to its chemical properties (calcareous) it would be suitable to develop neutral/calcareous grassland with a wildflower component. *Magnitude: Small (Beneficial)*	*Significance: Minor – Moderate (Beneficial)*
ALC Grade 3b soil	The lower part of the northern area and the southern part of the western extension area are rated as Grade 3b, which is not BMV land. *Sensitivity: Low*	The soil would be stripped and stockpiled for use in restoration, so it would be retained on site. *Magnitude: Small*	*Significance: Minor*	The soil would be stripped and stockpiled for use in restoration, so it would be retained on site. *Magnitude: Small*	*Significance: Minor*	The soil would be used in restoration works, and due to its chemical properties (calcareous) it would be suitable to develop neutral/calcareous grassland with a wildflower component. *Magnitude: Small (Beneficial)*	*Significance: Minor (Beneficial)*
Hedgerow, including one tree at its eastern end	c. 97m of hedgerow & one tree across the central part of the western extension area would be removed. These features are unremarkable and of low landscape value *Sensitivity: Low*	The loss would be permanent but the hedgerow/tree do not contribute in a unique or special way to character *Mag: Small - Medium*	*Significance: Minor - Moderate*	The loss would be permanent but the hedgerow/tree do not contribute in a unique or special way to character *Magnitude: Small - Medium*	*Significance: Minor - Moderate*	Site restoration would result in a net gain in hedgerows and hedgerow trees which is a significant benefit compared to the baseline. *Magnitude: Large (Beneficial)*	***Significance: Moderate - Major (Beneficial)***
Woodland and scrubby vegetation, including one large mature oak tree	This area of vegetation is in close proximity to the swallow hole. The value of this vegetation is relatively low – the large tree is in poor condition and the rest of the scrub is unremarkable *Sensitivity: Low*	The loss of the vegetation would be permanent but collectively it does not contribute in a unique or special way to landscape character *Magnitude: Small - Medium*	*Significance: Minor - Moderate*	This area of vegetation is in close proximity to the swallow hole. The value of this vegetation is relatively low – the large tree is in poor condition and the rest of the scrub is unremarkable *Magnitude: Small - Medium*	The loss of the vegetation would be permanent but collectively it does not contribute in a unique or special way to landscape character *Significance: Minor – Moderate*	Site restoration would result in a small net gain in woodland and scrub compared to the baseline. However, the more diverse spacing of the woodland and scrubby blocks across the whole site (not concentrated in one area on the ENRMF site) would be desirable for enhancing biodiversity and connections. *Magnitude: Minor (Beneficial)*	*Significance: Minor - Moderate (Beneficial)*

		Mineral Extraction Stage		Infilling Stage		10 Years Post Restoration Stage	
Landscape Receptors	**Exist Situation & Sensitivity to the Prop Development**	**Magnitude of Effects**	**Significance of Effects**	**Magnitude of Effects**	**Significance of Effects**	**Magnitude of Effects**	**Significance of Effects**
Landscape Character – Existing ENRMF site	The site is currently an active landfill operation with most of the land in a disturbed state, so the character is typified by its industrial nature. The Proposed Development would be broadly identical to the current operations. *Sensitivity: Low*	Not applicable, as no mineral would be extracted from the exiting ENRMF site. *Magnitude: No Change*	*Significance: None*	These works would be almost identical to the current infilling works, but the proposals would extend the duration of working. The effects of this on character would be very limited. *Magnitude: Negligible*	*Significance: Negligible*	The proposed restoration landform would be higher than the approved landform but the land uses would be broadly similar: woodland blocks, scrubby planting, grassland areas and hedgerows. However, the proposed restoration scheme increases the area of tree cover, hedge length and public right of way provision, so would slightly benefit landscape character. *Magnitude: Small (Beneficial)*	*Significance: Minor (Beneficial)*
Landscape Character – Western extension (northern area, bounded by the dividing hedgerow)	This part of the western extension area comprises mainly arable land which is abundant in the area, does not contribute in a special or irreplaceable way to local landscape character and is not aesthetically notable. The well enclosed character of this area is defined by the surrounding tall, mature woodland. This severely limits views out of the area towards the surrounding rural landscape and also limits intervisibility between the existing ENRMF site, reducing the influence the operation has on the character of the area. The area is reasonably tranquil. *Sensitivity: Low - Medium*	The character of this area would fundamentally alter due to the extraction works, involving activity on the site, plant machinery movements and related works. However, these would be generally local scale effects due to very good boundary screening and progressive nature of the extraction operations. These works would also be temporary in duration. *Magnitude: Medium – Large*	***Significance: Moderate - Major***	Landfilling operations would be uncharacteristic of the existing baseline and would clearly and permanently alter the character of the landscape in this area. While the nearby ENRMF site does reduce magnitude by a small mount, the limited influence the existing works has on the character of this part of the extension means that significance of effects would be higher. *Magnitude: Medium – Large*	***Significance: Moderate - Major***	The restoration scheme would introduce a different, more varied character to this area. The raised landform would be immediately obvious and the woodland/scrubby blocks of vegetation together with hedgerows with trees would introduce vertical features into the landscape whilst visually linking the adjacent woodland areas. Character would alter from enclosed agricultural land to grassland with extensive woodland/scrub blocks linked by hedgerows & footpath routes. The character would be significantly different to the baseline but is considered to be appropriate for the locality and beneficial for nature conservation and biodiversity. *Magnitude: Medium - Large (Beneficial)*	*Significance: Moderate (Beneficial)*

		Mineral Extraction Stage		Infilling Stage		10 Years Post Restoration Stage	
Landscape Receptors	**Existing Situation & Sensitivity to the Proposed Development**	**Magnitude of Effects**	**Significance of Effects**	**Magnitude of Effects**	**Significance of Effects**	**Magnitude of Effects**	**Significance of Effects**
Landscape Character – Western extension (southern area, bounded by the dividing hedgerow)	The southern part of the western extension area is also mainly arable land, which is unremarkable in the wider context. The character is slightly more open as there is no boundary woodland to the east or southeast of the southern part of this area, although The Assarts woodland and the existing ENRMF site enclose the northern part of this area (up to the dividing hedgerow) to a greater extent. The influence of the existing ENRMF site on landscape character is more noticeable in this part of the western extension area due to its proximity and direct intervisibility. *Sensitivity: Low*	The character of the extension area would alter due to the extraction works. However, the resulting disturbed land would not be significantly uncharacteristic when set within the context of the adjacent ENRMF site, which is typified by disturbed land, material tipping works and related activity. Long term and irreversible effects would be evident. *Magnitude: Medium – Large*	*Significance: Moderate*	Landfilling operations would be uncharacteristic of the existing baseline although the influence of the adjacent waste management site, which is characterised by landfilling operations and other material movements, means that the magnitude of the works on local landscape character, especially the southern part of the extension area, would be reduced. *Magnitude: Medium – Large*	*Significance: Moderate*	The restoration scheme would effectively merge this part of the western extension with the existing ENRMF site. As with the northern area, the raised landform would be immediately obvious and the woodland/scrubby blocks of vegetation together with hedgerows with trees would introduce vertical features into the landscape whilst visually linking the existing woodland areas. Character would alter from agricultural land adjacent to a resource management site to grassland with woodland/ scrub blocks linked by hedgerows featuring footpath routes. The character would be significantly different to the baseline but is considered to be appropriate for the locality and beneficial for nature conservation and biodiversity. *Magnitude: Medium - Large (Beneficial)*	*Significance: Minor - Moderate (Beneficial)*
Landscape Character – LCA 11a: Kings Cliffe Hills and Valleys (From Northamptonshire Current Landscape Character Strategy and Guidelines, Published 2006) – Continued below…	This study identifies that arable land is typical of the local area although long distance views are screened by undulating landform and woodland blocks. The study also states that 'biodiverse rich' calcareous grassland areas are supported but…	The works would be restricted to causing effects on local landscape character, with limited effects on the wider character of LCA 11a. *Significance: Small*	*Significance: Minor*	The works would be restricted to causing effects on local landscape character, with limited effects on the wider character of LCA 11a. *Significance: Small*	*Significance: Minor*	The restored Site would be increasingly typical of the local surrounding area as the woodland blocks and scrubby areas of vegetation would develop and would both visually and physically link the and would have integrated into the landscape by this time, with the proposed planting….	*Significance: Minor (Beneficial)*

		Mineral Extraction Stage (c. ? months)		Infilling Stage (c. ?? years)		10 Years Post Restoration Stage	
Landscape Receptors	**Existing Situation & Sensitivity to the Proposed Development**	**Magnitude of Effects**	**Significance of Effects**	**Magnitude of Effects**	**Significance of Effects**	**Magnitude of Effects**	**Significance of Effects**
Landscape Character – LCA 11a: Kings Cliffe Hills and Valleys (From Northamptonshire Current Landscape Character Strategy and Guidelines, Published 2006) – Continued from above…	…..implies that these are relatively infrequent. The site is largely 'contained within woodlands' which is also a characteristic feature of arable land within the LCA area. The site however does not make a unique or special contribution to the character of the wider LCA area *Sensitivity: Low*	See above	See above	See above	See above	…..scheme helping to benefit nature conservation and wider landscape character. *Magnitude: Small (Beneficial)*	See above
Public Rights of Way	There are no PRoW within the existing ENRMF site or the western extension area. The restoration scheme for the existing ENRMF includes a PRoW link approximately 978m in length, extending along the restored landform from Stamford Road in the east to a link with existing Footpath MX15 to the west. *Sensitivity: Low*	*Magnitude: No Change*	*Significance: None*	The infilling works would extend the duration of working across the existing ENRMF site, which in turn would delay the establishment of the approved PRoW routes. *Magnitude: Small*	*Significance: Minor*	There would be a net benefit of PRoW routes across the restored Site as a result of the Proposed Development. There would also be two additional links westwards through to existing PRoW, which would improve the local PRoW network compared to the baseline. *Magnitude: Large (Beneficial)*	**Significance: Moderate - Major (Beneficial)**

Summary of Preliminary Assessment of Landscape Effects

Introduction

7.8 This sub-section uses information presented above to summarise the preliminary assessment of landscape effects on a range of variables, as follows:

Extension in time of the existing ENRMF site

7.9 The approved working and restoration scheme for the ENRMF site requires it to be restored by 2026. The Proposed Development would extend this to 2046, so an increase of 20 years. This is not considered to cause Significant adverse effects on landscape features or character, although some effects would be evident due to the delay in restoration of this area, prolonging the duration of time that the site is noticeably uncharacteristic of the surrounding landscape. This would be a temporary adverse effect and mitigation would be provided by way of the enhanced restoration proposals for the existing ENRMF site combined with the proposed western extension.

Construction of the New Void, Including Mineral Extraction, Material Stockpiling and Landfill Cell Construction

7.10 In relation to the proposed western extension area, these works would cause Significant adverse effects on the topography of the area, which would fundamentally alter due to extraction operations and the resultant lowering of the land surface. In addition, the Proposed Development at this stage would cause Significant effects on the landscape character of the northern part of the area, although due to the influence of the existing, adjacent ENRMF site, effects on the character of the southern part of the area would be of lower significance.

7.11 Effects on the wider LCA 11a: Kings Cliffe Hills and Valleys area would be limited, not considered Significant.

7.12 The works would cause adverse effects of Minor to Minor - Moderate significance on the soils to be stripped from the area, largely because these would all be retained on site in stockpiles, for later use in restoration. Effects on existing vegetation features including the hedgerow across the middle of the area and the scrubby woodland in the

central eastern part of the area, which are considered unremarkable and of limited value, would also be of a Minor – Moderate significance. There would be no effects on PRoW due to these works.

Operation of the Landfill to 2046

7.13 Operation of the landfill within the western extension area up to 2046 would have Significant adverse effects on the landscape character of the northern part of the area, due to the baseline situation, where the influence of the existing ENRMF site is relatively limited when compared to its greater influence on the southern part of the area. Effects therefore on the character of the southern part of the area would be reduced, and is not considered Significant, partly due to the unremarkable nature of the area (not a designated landscape, doesn't contribute in a special or notable way to wider landscape character, influenced by adjacent landfill operation)

Operation of the Waste Treatment and Recovery Facility up to 2046

7.14 This facility is located in the north western corner of the existing ENRMF site, and includes two silos which extend up to 15m in height, with the elevation of the top of the structures at approximately 99.5m AOD. The Proposed Development would extend the operation of the facility by approximately 20 years (as stated above at point 7.9) but it is not considered that this would result in Significant adverse effects on landscape features or character.

7.15 While the facility is uncharacteristic of the surrounding agricultural land and woodland blocks, it is characteristic of the existing ENRMF site in which it is located, the retention of which for an additional 20 years would not cause Significant effects on landscape receptors.

Removal of the Waste Treatment and Recovery Facility by 2046

7.16 In accordance with the approved planning permission, this facility is due to be removed by 2026 as part of the existing ENRMF site restoration works. This would clearly be beneficial to landscape receptors as it means that final restoration works would be able to take place across the footprint of the facility at that time. If the facility is retained

until 2046 and then removed, the effects would still be beneficial on landscape features at that time, although the delay would reduce the significance of this.

Restoration

7.17 When compared to the baseline (which is the approved restoration scheme for the existing ENRMF site and the current proposed western extension area), the Proposed Development would result in significant overall net gains in the length of hedgerows with trees (approximately 1,990m) and footpath routes (approximately 2,035m) plus notable net benefits by way of proposed hedgerows with no trees (approximately 510m) and neutral/calcareous grassland (22.59ha).

7.18 Overall net gains in woodland and scrubby planting areas would be almost negligible (approximately 0.1ha) but the more scattered and random distribution of this vegetation across the restored site (as opposed to just across the existing ENRMF site) is considered to offer notable benefits to biodiversity and would enable eventual linkage between Fineshade Woods (The Assarts woodland) to the west of the proposed western extension and Collyweston Great Wood to the east of this area.

7.19 The loss of approximately 26.3ha of agricultural land across the proposed western extension area would be mitigated by the overall significant net gains in neutral/calcareous grassland, woodland/scrubby planting/hedgerows with trees and new footpath routes/links, along with the retention of the ALC grade 3a and 3b soils on site for use in restoration.

Preliminary Assessment of Visual Effects

Introduction

7.20 As a result of initial desk study and subsequent confirmation during fieldwork, eleven representative viewpoints were selected at locations surrounding the Site**,** as shown on Figure 1: Visual Context. Landform and intervening vegetation are the elements that control visibility of the Site from the surrounding study area, which extends to a radius of approximately 3.0km from the centre of the Site.

7.21 Figures 4 to 25 include a single frame image (A3 sheet) and a panoramic context view (A3 sheet) representing the view towards the Site from each viewpoint. Table 2 below considers the Sensitivity of visual receptors to the Proposed Development, Magnitude of Visual Effects and Significance of Visual Effects at the three identified stages of the Proposed Development.

7.22 As with Landscape Effects, the matrix in Table M5 of the Methodology has been used to combine ratings for Sensitivity and Magnitude to arrive at an indicative rating for Significance of Visual Effects. In addition to this, further written explanation has been added where necessary. Effects of Moderate – Major or Major are highlighted in **bold** and are considered Significant. All ratings are adverse unless stated.

Table 2: Sensitivity of visual receptors to the Proposed Development, Magnitude of Visual Effects and Significance of Visual Effects

Viewpoint ref, name and distance from Site	Type of Visual Receptor Affected	Visual Receptor Sensitivity	Magnitude of Visual Effects (Adverse unless stated)			Significance of Visual Effects (Adverse unless stated)			Explanation/Rationale
			Extraction Stage	Infilling Stage	Rest Stage	Extraction Stage	Infilling Stage	Rest Stage	
Viewpoint 1: Jurassic Way, Close to The Royal Oak Pub and Restaurant (c. 1.3km from site)	PRoW uses, pub users, road users	PRoW users: High Pub users: Medium Road Users: Low	No Change	No Change	No Change	No Change	No Change	No Change	There would be no views from this location or from any other location within Duddington due to distance, landform and intervening elements
Viewpoint 2: Footpath MX18 to west of Collyweston Quarry (c. 750m from site)	PRoW users	Medium	No Change	Small	Small (Beneficial)	No Change	Minor - Moderate	Minor (Beneficial)	The Site itself is not visible due to distance and intervening vegetation although as the land is raised due to the infilling operations, there is likely to be glimpses of plant activity in the distance, through the intervening tree belt, from some sections of the footpath, in the vicinity of the viewpoint. However, these would be seasonal and would likely be missed by most users due to distance. The restored landform and woodland would again be glimpsed through/above the intervening vegetation, which would be in character with the surrounding established woodland, though visual effects would be limited.
Viewpoint 3: Footpath MX15 to west of site (c. 120m from site)	PRoW users	Medium	Medium	Medium	Small - Medium (Beneficial)	Moderate	Moderate	Minor - Moderate (Beneficial)	For most of the length of Footpath MX15, the Site is not visible due to intervening vegetation. For a c. 52m section of the footpath in this location, the existing waste recycling and recovery operation is visible to the east, which influences the view currently and which would influence views of the western extension area, reducing magnitude. Key factors to consider are that the proposals would bring the operational activity closer to the footpath and that the duration of visual disturbance would be extended when compared to the existing baseline. However, it is considered there would be no Significant visual effects. The restored Site would improve the view slightly compared to the baseline.

Viewpoint ref, name and distance from Site	Type of Visual Receptor Affected	Visual Receptor Sensitivity	Magnitude of Visual Effects (Adverse unless stated)			Significance of Visual Effects (Adverse unless stated)			Explanation/Rationale
			Extraction Stage	Infilling Stage	Rest Stage	Extraction Stage	Infilling Stage	10 yrs post Rest Stage	
Viewpoint 4: Footpath MX13 to southwest of site (c. 210m from site)	PRoW users	Medium	Negligible - Small	Negligible - Small	Negligible - Small (beneficial)	Minor	Minor	Minor (Beneficial)	Only a very small part of the southern section of the western extension area is visible through a gap between two blocks of woodland. This view also includes the existing waste management operations in the far distance, which influences the current view. While the extraction and infilling works would be partially visible in this view, they would only be glimpsed by PRoW users for a very short time, with the vast majority of the proposed works out of view due to intervening vegetation. The restored site would again be glimpsed by path users and would be characteristic of the surroundings.
Viewpoint 5: Stanford Road near to Westhay Lodge (c. 770m from site)	Residents (Westhay Lodge) and Road Users	Residents (High) Road Users (Low)	Small (Residents) Negligible (Road users)	Medium (Residents) Negligible (Road users)	Small (beneficial) Negligible beneficial (road users)	Residents: Moderate Road Users: Negligible	**Residents: Moderate - Major** Road Users: Negligible	Residents: Minor (beneficial) Road Users: Negligible (beneficial)	Views of the site from most locations along Stamford Road are very limited due to a combination of distance, intervening landform and vegetation. Better views are available for a short stretch of road in the vicinity of Westhay Lodge, although the transient nature of road users reduces the magnitude. There are partial views of the southern side of the existing ENRMF site from areas within the grounds of Westhay Lodge and from first floor windows, although due to a triangular shaped block of coniferous trees approximately 90m to the northwest of the property, views of the central part of the site are screened. Therefore, some operations within the existing ENRMF site would be visible for a longer duration, although infrastructure within the waste treatment and recovery plant (including 15m high silos) would not be visible. Operations within the northern and central parts of the western extension area would likely not be visible at all, or only glimpsed, from the Lodge or its grounds due to intervening landform (i.e. the existing ENRMF site) along with distance and vegetation. However, operations within the southern part of the western extension area would be partially visible: soil stripping & mineral extraction would cause less visual disturbance but the landfilling works would become increasingly visible as the restoration landform is constructed, rising above the boundary hedges. Views of this, combined with the additional duration of working, would cause significant visual effects although this would be restricted to only when the eastern side of the landform in the southernmost part of the western extension area is being built. For all other works, effects would be reduced and while noticeable, would not be significant. The restored site, with vegetation cover on the slopes, would increasingly visually integrate with the mature woodland in the background.

Viewpoint ref, name and distance from Site	Type of Visual Receptor Affected	Visual Receptor Sensitivity	Magnitude of Visual Effects (Adverse unless stated)			Significance of Visual Effects (Adverse unless stated)			Explanation/Rationale
			Extraction Stage	Infilling Stage	10 yrs post Rest Stage	Extraction Stage	Infilling Stage	10 yrs post Rest Stage	
Viewpoint 6: Bridleway NE8 to SE of site (c. 1.05km from site)	PRoW users	Medium	No Change	No Change	No Change	No Change	No Change	No Change	There are no views of the Site from this location due to distance, landform and intervening vegetation. There would be no views of any part of the Proposed Development.
Viewpoint 7: Agricultural; track (Willow Lane) to north of Kings Cliffe (not a PRoW) (c. 1.5km from site)	Track users and people at work in adjacent scrap yard	Low	No Change	No Change	No Change	No Change	No Change	No Change	There are no views of the Site from this location due to distance, landform and intervening vegetation. In addition, there are no views of the Site from any properties within Kings Cliffe, again due to a combination of distance, landform and intervening vegetation. There would be no views of any part of the Proposed Development.
Viewpoint 8: Bridleway NE25 NE of Kings Cliffe (c. 2.2km from site)	PRoW users	Medium	No Change	No Change	No Change	No Change	No Change	No Change	There are no views of the site from this location due to distance, landform and intervening vegetation. There would be no views of any part of the Proposed Development.
Viewpoint 9: Footpath NE8 NE of Kings Cliffe (c. 2.2km from site)	PRoW users	Medium	Negligible	Negligible	Negligible (Beneficial)	Negligible	Negligible	Negligible (Beneficial)	The upper sections of the existing ENRMF site are partially visible in the far distance, although due to distance and the relatively wide panorama, the site does not occupy a large proportion of the view. The western extension area itself is not visible although the upper parts of the proposed landform may be able to be glimpsed once material placement has reached a high enough level, although the effects of this on PRoW users in this location would be very limited, or missed altogether.

Viewpoint ref, name and distance from Site	Type of Visual Receptor Affected	Visual Receptor Sensitivity	Magnitude of Visual Effects (Adverse unless stated)			Significance of Visual Effects (Adverse unless stated)			Explanation/Rationale
			Extraction Stage	Infilling Stage	10 yrs post Rest Stage	Infilling Stage	Extraction Stage	10 yrs post Rest Stage	
Viewpoint 10: Footpath NE20 NE of Kings Cliffe (c. 1.8km from site)	PRoW users	Medium	No Change	No Change	No Change	No Change	No Change	No Change	Neither the existing ENRMF site nor the western extension area are visible from this location or from other points along the footpath. It is considered that the Proposed Development, at all stages, would cause no effects on visual amenity for path users.
Viewpoint 11: Footpath NE20 on western edge of Bedford Purlieus Woodland. (c. 2.05km from site)	PRoW users	Medium	No Change	Small	Small (beneficial)	No Change	Minor (Beneficial)	Minor (Beneficial)	This viewpoint is over 2km from the existing ENRMF site, the top of which is visible in the far distance, although the adverse effects on the wider view are very limited. Due mainly to distance and intervening vegetation, the proposed extraction works in the western extension area would not be visible although the proposed landform, as it is constructed and rises in height, may be able to be glimpsed in the distance. The effects of this on visual amenity would however be very small, and would likely be missed by footpath users. The upper parts of the restored landform of the western extension would be visible in the view but would just be an extension to the current site once it is restored and vegetated in places.

Summary of Preliminary Assessment of Visual Effects

Introduction

7.23 This sub-section uses information presented above to summarise the preliminary assessment of visual effects on a range of variables, as follows:

Extension in time of the existing ENRMF site

7.24 As stated above, the Proposed Development would extend the duration of working at the existing ENRMF site by 20 years. Residents at Westhay Lodge (represented by Viewpoint 5) have partial views of the southern side of the easternmost and the westernmost parts of the existing site, with the triangular block of coniferous trees to the northwest of the property screening the vast majority of the central part of the site. Sensitivity of the residents to the view(s) is reduced as they are accustomed to the presence of the evolving landform to the northwest and the associated disturbed land and plant activity. The works would not introduce additional visual disturbance into the views, although the existing levels of disturbance would be extended, which would result in effects of a Minor – Moderate significance level.

7.25 Similarly, visual disturbance for users of Footpath MX15 to the west of the site (represented by Viewpoint 3) would be extended, although this view would also encompass works within the southern part of the proposed western extension area. Again, while this would be an adverse effect on visual amenity for footpath users, it would be fleeting, oblique to the direction of travel, similar in nature/scale to the existing 'disturbed' view and would be of limited significance.

7.26 The extended duration of works within the existing ENRMF site would have no or negligible effects on the vast majority of visual receptors with partial views or glimpses of the site from the surrounding area, including those at a number of the representative viewpoints. Due to distance, landform and/or intervening elements, the limited or very limited scale of visual disturbance at present is such that an extension of this would not cause visual effects of notable significance. This would apply to PRoW users at viewpoints 2, 4, 9 & 11.

Construction of the New Void, Including Mineral Extraction, Material Stockpiling and Landfill Cell Construction

7.27 Residents at Westhay Lodge would receive visual effects of Moderate significance, as soil stripping and other related activity would be partially visible above the hedgerow(s) along the eastern boundary of the southern part of the proposed western extension. However, views of works beneath ground level, including extraction and cell construction would be restricted in some areas due to distance and angle of view, which reduces significance of effects. In addition, these works in the northern part of the area would largely all be curtailed by intervening landform and vegetation, as well as distance.

7.28 Users of Footpath MX15, represented by Viewpoint 3, would experience partial views eastwards towards these works in the southern part of the proposed western extension, in conjunction with views of the waste treatment and recovery facility and the western end of the existing ENRMF site. Due to the influence of this existing visual disruption, the significance of the Proposed Development would be reduced and is not considered significant.

7.29 Due to the good screening provided by the surrounding woodlands and existing ENRMF site landform coupled with distance and the lack of publicly accessible locations within approximately 700m of the site, there would be limited visual effects of a Negligible – Minor significance on all other visual receptors as a result of these works, including those represented by Viewpoints 2, 4, 9 & 11.

Operation of the Landfill to 2046

7.30 As the worked out void is infilled and the restoration landform is subsequently constructed by placement of material, the visibility of the Proposed Development would increase, with residents of Westhay Lodge receiving visual effects of Moderate – Major Significance (i.e. classed as Significant). However, this would only be the case in relation to the landfill works in the southern part of the proposed western extension. These would be visible above the hedgerows along the eastern boundary of the area and would extend the duration of landfilling works beyond that already permitted, by

approximately 20 years. Works in the northern and central parts of the area would not be as visible and works along the western side of the landfill would also be screened to some extent, once the eastern side of the landform had been raised to a sufficient level. In addition, these works would be temporary (though long term) in nature.

7.31 The Proposed Development would bring visual disturbance closer to users of Footpath MX15 (Viewpoint 3), especially when the restoration landform is being constructed in the southern part of the proposed western extension area, although construction in the northern part of the area would not be visible. Views for footpath users along an approximate 52m length of this route would be temporarily affected by the works, although the reduced sensitivity due to the visual influence of the existing ENRMF site means that effects would not be Significant.

7.32 Users of Footpath MX18 (Viewpoint 2) would likely be able to view the restoration landform in the far distance, through intervening tree vegetation, within the northern part of the proposed western extension area. While adverse in nature, the effects would not be Significant due to the influence of distance, intervening elements, direction of travel and the temporary nature of the constriction (landfilling) works.

7.33 The visual effects of this work would remain very limited for all other visual receptors within the surrounding area, including those represented by a number of viewpoint locations, due to distance, landform and intervening elements. Therefore, users of Footpath NE20 (Viewpoints 10 & 11) and Bridleways NE8 and NE25 (Viewpoints 6, 8 & 9) would have no views of the evolving landform in the northern part of the proposed western extension but may be able to glimpse parts of the landform when it is within the southern part of the area. Significance of effects would be Negligible to Minor.

Operation of the Waste Treatment and Recovery Facility up to 2046

7.34 This facility is very well located in the north western part of the existing ENRMF site as it is very well screened, mainly by established woodland and landform (the existing ENRMF site) from all publicly accessible locations except for users of an approximate 52m length of Footpath MX15, to the west of the site. Users of this stretch of footpath

are currently able to view infrastructure at the western end of this facility, (as shown on Figures 8 & 9, Appendix A) including two silos which are approximately 15m in height.

7.35 The Proposed Development would result in this facility being part of the view for a longer duration, although it would eventually be screened by the restoration landform within the southern part of the proposed western extension area, as it is progressively constructed. The extended duration of the presence of the facility in the view would be an adverse consequence of the Proposed Development, although due to the existing influence of the facility on the view, the effects would be of a Minor level, and not Significant.

Removal of the Waste Treatment and Recovery Facility by 2046

7.36 Removal of this facility by 2046 would extend its presence within the existing ENRMF site by 20 years, which has been dealt with above, at points 7.35 and 7.36. Removal of the infrastructure would be the last operation to be undertaken at the site, with the cleared area raised by material placement to achieve the final restoration contours.

7.37 Only uses of Footpath MX15 would receive views of this work, which would include movements of a variety of plant machinery including 360 degree excavators, dump trucks, dozers, cranes and other vehicles and equipment. The works would be temporary and would be noticeable in the far distance for footpath users, although effects would be limited and not significant when compared to the baseline. There would be no or very limited visual effects due to these works on all other visual receptors within the surrounding area.

Restoration

7.38 The restored site would be visible from various locations within the surrounding area, including a number of the representative viewpoints. The Proposed Development would create a larger restoration landform than currently permitted across the existing ENRMF site, although the restoration principles to be applied would be very similar. The views would comprise woodland blocks, scrubby planting areas and hedgerows with trees, all of which would extend across grassland slopes rising up to a level of 99m AOD.

7.39 This would be similar to the views that would be available of the site if the approved restoration scheme were to be implemented, for many visual receptors to the east and southeast of the site.

7.40 Views of the restored site for residents at Westhay Lodge would occupy a larger proportion of the view to the northwest than would be the case with the approved restoration scheme for the existing ENRMF site. However, it is considered that the restored western extension area, specifically the southern part of this area, would visually integrate well with woodland within Fineshade Woods (The Assarts), to the rear of the restored landform. The proposed vegetation, once sufficiently developed, would be seen in conjunction with the woodland further to the northwest, in the same way as the proposed woodland and scrubby planting on the restored ENRMF site landform will be seen once the restoration works have been completed.

8 Preliminary Assessment of Cumulative Effects

Introduction

8.1 The cumulative effects of the Proposed Development upon landscape resources and visual amenity have been considered below in line with the GLVIA3. Cumulative impacts are defined on page 120 of GLVIA3 as those that:

"result from additional changes to the landscape or visual amenity caused by the proposed development in conjunction with other developments (associated with or separate to it), or actions that occurred in the past, present or are likely to occur in the foreseeable future."

8.2 A Proposed Development can either cause cumulative landscape effects or cumulative visual effects, or both of these. GLVIA3 states that the emphasis in Environmental Impact Assessment (EIA) is on *likely significant* effects rather than cataloguing every conceivable effect that might occur. That guidance has been followed in this section.

8.3 Cumulative landscape effects include changes to landscape elements, character and qualities of the landscape as a result of two or more proposed developments or related activities. Cumulative visual effects are concerned with changes in the appearance of available views as a result of two or more proposed developments or related activities. Cumulative visual effects may occur as follows:

- *Simultaneously* - where a number of mineral workings or related activities may be viewed from a single fixed viewpoint simultaneously, within the viewer's field of view without moving;
- *Successively* - where a number of mineral workings or related activities may be viewed from a single viewpoint successively by turning around at a viewpoint; and
- *Sequentially* - where a number of mineral workings or related activities may be viewed sequentially or repeatedly from a range of locations when travelling along a route.

Extent of Other Mineral Extraction and/or Resource Management Operations and Proposed Development in the Surrounding Area (Existing Baseline)

8.4 In order to establish a baseline against which the *additional* effects of the Proposed Development can be assessed, existing or proposed developments of a similar nature or scale to the Proposed Development, ideally within the study area, need to be identified.

8.5 As shown on Figure 2: The Site Location and Designation Sites in the Vicinity of ENRMF, included within the PEIR, the following sites are located within a radius of 3.5km:

- Collyweston Quarry, approximately 470m to the west of the Site;
- Cross Leys Quarry (Non Active) is a Regionally Important Geological Site located approximately 1.4km to the northeast of the Site;
- Thornhaugh Landfill Site (operated by the applicant), approximately 3.4km to the east of the Site; and
- Cooks Hole Quarry (owned by the applicant), approximately 3.4km to the east of the Site.

8.6 There are no other similar developments proposed within the study area.

Preliminary Assessment of Cumulative Landscape Effects

8.7 There would be no significant cumulative effects on landscape features as a result of the Proposed Development during the working stages. Neither of the two other sites operated or owned by the applicant will affect agricultural land during the proposed scheme duration and any vegetation loss would be minor and of negligible cumulative significance. It is considered that any effects on agricultural land or vegetation at the other two sites listed above would be of a minor nature as these operations are either well established (Collyweston Quarry) or not active (Cross Leys Quarry).

8.8 As a result of the restoration proposals, there would be minor beneficial cumulative effects on landscape features due to the significant net benefit of vegetation to be established across the Site along with the approved features that will be created as other quarry and landfill sites are restored.

8.9 There would be no significant cumulative effects on landscape character as a result of the Proposed Development. While the character of the western extension area would alter in a notable way, it would largely affect the local area without having evident adverse effects on the wider landscape due in part to the well screened nature of the land.

8.10 While the Proposed Development would therefore increase the total area of land affected by mineral extraction and/or infilling activity within the study area, this would not result in significant cumulative effects on the overall character of the wider landscape during the working stages. It is considered that cumulative effects on character would instead be of minor significance, especially when taking into account the progressive nature of site working and restoration schemes.

8.11 Following restoration, the cumulative effects on landscape character caused by the Proposed Development would be generally positive but would not be significant in the context of the wider landscape within the study area. The defining characteristic of the area would remain as open agricultural land with woodland blocks and few built

Preliminary Assessment of Cumulative Visual Effects

8.12 It is considered that there is only one location from which the Proposed Development may able to be glimpsed along with other quarry and/or infill operations. Viewpoint 2 is located on Footpath MX18 to the northwest of Collyweston Quarry and footpath users are able to view sections of soil bunds and the upper section of faces associated with the quarry at present, as indicated on Figure's 6 and 7.

8.13 The Proposed Development is likely to be glimpsed through tall intervening tree belt vegetation as the landform is constructed, although visibility would reduce to virtually nothing in spring and summer months due to leaves on the trees. When seen in combination with the Collyweston Quarry bunds and faces, this would cause cumulative visual effects of minor significance, and may well be missed altogether by users.

8.14 The restored northern end of the western extension would be visible through the intervening tall trees alongside views of the Collyweston Quarry bunds and faces, which

may at that time be fully or partially restored as well. Therefore at that point, cumulative visual effects would again be minor and would generally be beneficial in nature.

8.15 There would be no other cumulative visual effects involving the Proposed Development in conjunction with other, similar operations within the study area. Footpath and/or road users may experience sequential views of the Proposed Development along with other developments as they travel along routes that take them within visible proximity of the operations, but the distance and time between the visual experiences would be such that there would be no or negligible cumulative visual effects occurring.

Appendix A: Figures

Figure 1: Visual Context and ZTV

Figure 2: Landscape Character Areas

Figure 3: Landscape Context

Figure 4: Viewpoint 1 – Single Frame View

Figure 5: Viewpoint 1 – Panoramic Context View

Figure 6: Viewpoint 2 – Single Frame View

Figure 7: Viewpoint 2 – Panoramic Context View

Figure 8: Viewpoint 3 – Single Frame View

Figure 9: Viewpoint 3 – Panoramic Context View

Figure 10: Viewpoint 4 – Single Frame View

Figure 11: Viewpoint 4 – Panoramic Context View

Figure 12: Viewpoint 5 – Single Frame View

Figure 13: Viewpoint 5 – Panoramic Context View

Figure 14: Viewpoint 6 – Single Frame View

Figure 15: Viewpoint 6 – Panoramic Context View

Figure 16: Viewpoint 7 – Single Frame View

Figure 17: Viewpoint 7 – Panoramic Context View

Figure 18: Viewpoint 8 – Single Frame View

Figure 19: Viewpoint 8 – Panoramic Context View

Figure 20: Viewpoint 9 – Single Frame View

Figure 21: Viewpoint 9 – Panoramic Context View

Figure 22: Viewpoint 10 – Single Frame View

Figure 23: Viewpoint 10 – Panoramic Context View

Figure 24: Viewpoint 11 – Single Frame View

Figure 25: Viewpoint 11 – Panoramic Context View

Appendix B: Glossary

Aftercare	The steps necessary to manage the land following restoration so that the quality of the land is at a satisfactory standard for the planned afteruse.
Baseline studies	Work done to determine and describe the environmental conditions against which any future changes can be measured or predicted and assessed.
Biodiversity	Range of variation in living organisms including genetic variation and ecosystem variation.
Bund	A low bank or wall of material used to store soils or to provide a visual or acoustic screen.
Designated landscape	Areas of landscape identified as being of importance at international, national or local levels, either defined by statute or identified in development plans or other documents.
EIA	Environment Agency. The national environmental regulator.
Environmental Statement (ES)	The document that reports the findings of an Environmental Impact Assessment.
ha	Hectare. A unit of measure.
Landscape	An area, as perceived by people, the character of which is the result of the action and interaction of natural and/or human factors.
LVIA	(Landscape and Visual Impact Assessment) A tool used to identify and assess the likely significance of the effects of change resulting from development both on the landscape as an environmental resource in its own right and on people's views and visual amenity.

Landscape character	A distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different to another, rather than better or worse.
Landscape Character Areas (LCA's)	These are single unique areas which are the discrete geographical areas of a particular landscape type.
Landscape character assessment	The process of identifying and describing variation in the character of the landscape, and using this information to assist in managing change in the landscape. It seeks to identify and explain the unique combination of elements and features that make landscapes distinctive. The process results in the production of a Landscape Character Assessment.
Landscape effects	Effects on the landscape as a resource in its own right
Landscape receptors	Defined aspects of the landscape resource that have the potential to be affected by a proposal.
Landscape value	The relative value that is attached to different landscapes by society. A landscape may be valued by different stakeholders for a whole variety of reasons.
Magnitude (of effect)	A term that combines judgements about the size and scale of the effect, the extent of the area over which it occurs, whether it is reversible or irreversible and whether it is short or long term in duration.
NPPF	National Planning Policy Framework which provides the primary policy basis for planning decisions.
Sensitivity	A term applied to specific receptors, combining judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value related to that receptor.

Significance	A measure of the importance or gravity of the environmental effect, defined by significance criteria specific to the environmental topic
Site of Special Scientific Interest (SSSI)	Sites of national importance designated under the Wildlife and Countryside Act 1981. Sites may be designated to protect wildlife, geology or land forms.
Tranquillity	A state of calm and quietude associated with peace, considered to be a significant asset of landscape.
Visual amenity	The overall pleasantness of the views people enjoy of their surroundings, which provides an attractive visual setting or backdrop for the enjoyment of activities of the people living, working, recreating, visiting or travelling through an area.
Visual effects	Effects on specific views and on the general visual amenity experienced by people
Visual receptors	Individuals and/or defined groups of people who have the potential to be affected by a proposal.
ZTV	(Zone of Theoretical Visibility) A map, usually digitally produced, showing areas of land within which a development is theoretically visible. The map can be produced using either DTM (digital terrain model or 'bare ground) 3d data or DSM (digital surface model, which includes built development, woodland canopies etc. to varying levels of accuracy) 3d data, often with a 3d representation of the proposed development inserted into the model.