PINS document reference 5.4.2.1

APPENDIX ES2.1

SCOPING REPORT DATED 1 JULY 2020

Augean SOUTH LTD

EIA SCOPING REPORT

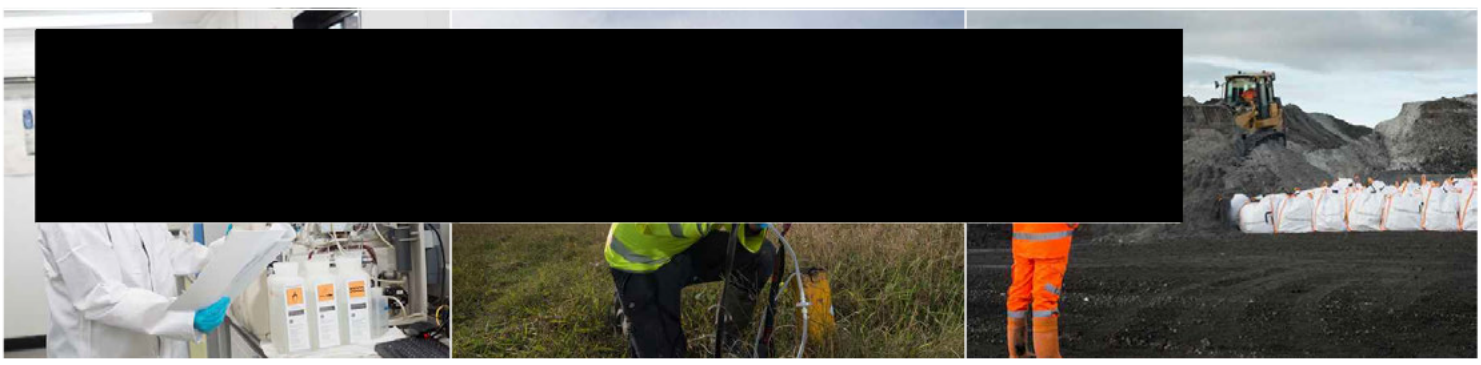
PROPOSALS FOR THE APPROACH TO AND SCOPE OF AN ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL STATEMENT TO ACCOMPANY THE PROPOSED DEVELOPMENT CONSENT ORDER APPLICATION FOR THE ALTERATION AND CONSTRUCTION OF HAZARDOUS WASTE AND LOW LEVEL RADIOACTIVE WASTE FACILITIES AT THE EAST NORTHANTS RESOURCE MANAGEMENT FACILITY, STAMFORD ROAD, NORTHAMPTONSHIRE

PINS project reference: WS010005

Report Reference: AU/KCW/LZH/1724/01/SCF
July 2020

MJCA
Technical advisers on environmental issues

Baddesley Colliery Offices, Main Road, Baxterley, Atherstone,
Warwickshire, CV9 2LE.
Telephone : 01827 717891, Fax : 01827 718507



CONTENTS

TABLES

FIGURES

APPENDICES

Appendix D Proposed contents of the Environmental Statement

Executive Summary

ES1. Augean South Ltd is the operator of the East Northants Resource Management Facility and is proposing to submit an application for a Development Consent Order for an extension in the area and timescales for the operation of the site including an extension to the west of the existing site and increasing the throughput of the waste treatment and recovery facility.

ES2. Augean is a leader in the specialist waste management sector. The company delivers a broad range of services across many nationally critical areas for the safe and sustainable management of waste. The company specialises in the management of the UK's more difficult to manage wastes including hazardous waste and low level radioactive waste.

ES3. The existing ENRMF site comprises an active hazardous waste and low level radioactive waste landfill site including completed and partially restored landfill areas together with a waste treatment and recovery facility.

ES4. The proposed development comprises a western extension to the site. The proposal includes the construction of new landfill void to the west of the currently consented hazardous waste and low level radioactive waste landfill area and the alteration of the restoration profile and the timescale for completion of the existing landfill site in order to integrate the final landscape of the existing site with the western extension. The application includes an increase in the consented throughput of waste to the waste treatment and recovery facility and an increase in the total waste input rate to the site. In order to construct the western extension void it will be necessary to win and work minerals including the extraction of soils, overburden and clay. The soils and some clay will be retained on site for use in site restoration and the construction of the low permeability engineered liner and capping layers. The remaining materials will be exported off site. The application includes the alteration of the operational period of the current site activities and the western extension to approximately 2046.

ES5. An Environmental Impact Assessment of the likely significant environmental effects associated with the proposed development will be undertaken and reported in an Environmental Statement. The application for a Development Consent Order will be accompanied by the Environmental Statement.

ES6. In this document the main elements of the proposed development are set out in general terms with accompanying plans, together with the details of the proposed scope of the Environmental Impact Assessment which it is intended to carry out. The methods to be used to assess impacts and to determine the significance of an effect are presented. The opinions of PINS and the statutory consultees are sought on the proposed scope of and approach to the assessments that will be undertaken as part of the Environmental Impact Assessment as presented in this EIA scoping report.

1. Introduction

1.1 Augean South Ltd (Augean) operates the East Northants Resource Management Facility (ENRMF) in Northamptonshire (Figure 1). The existing ENRMF site lies approximately 1.7km east south east of Duddington village and approximately 2.6km north of Kings Cliffe village in the East Northamptonshire district of Northamptonshire (Figure 2). The existing ENRMF site comprises an active hazardous waste and low level radioactive waste (LLW) landfill site including completed and partially restored landfill areas together with a waste treatment and recovery facility.

1.2 Augean is a leader in the specialist waste management sector. The company delivers a broad range of services across many nationally critical areas for the safe and sustainable management of waste. The company specialises in the management of the UK's more difficult to manage wastes including low level radioactive waste. The company seeks to apply the waste hierarchy to enable recycling, recovery and reuse wherever possible for these more challenging waste types. Where waste must be disposed of Augean treats the waste where practicable to reduce the polluting potential before landfill disposal.

1.3 The site formerly was known as Slipe Clay Pit and has a long history of mineral and waste development. In more recent years following acquisition of the site by Augean, planning permission was granted for a hazardous waste landfill and associated operations including a gas flare and a surface water pumping station in the north west of the site and a waste treatment and recovery facility.

1.4 The East Northamptonshire Resource Management Facility was granted a Development Consent Order SI 2013 No. 1752 (the ENRMF DCO) in July 2013. Works No.1 of the Authorised Project is defined in Schedule 1 of the ENRMF DCO and includes a hazardous waste landfill facility for the disposal at a direct input rate of up to 150,000 tonnes per annum of hazardous waste and low level radioactive waste. Works No. 2 of the Authorised Project is defined in Schedule 1 to the ENRMF DCO and includes a soil treatment facility with a consented capacity of 150,000 tonnes per annum (tpa) of contaminated materials comprising predominantly hazardous wastes. The ENRMF DCO specifies the completion and restoration of the site by 31 December 2026.

1.5 The East Northamptonshire Resource Management Facility (Amendment) Order 2018 SI 2018 No. 742 was granted on 20 June 2018. The amendment order increased the consented capacity of the soil treatment facility to 200,000tpa. In March 2019 a non-material amendment was granted by Northamptonshire County Council to allow a change in the phasing of the landfill site and to allow the working of Phase 10 in advance of Phase 7. The landfill phases are shown on Figure 3.

1.6 Hazardous waste is classified as such based on the concentrations of specified contaminants present in the waste material. The types of hazardous waste typically accepted by Augean at ENRMF include contaminated soils, contaminated dredging materials from the clearance of watercourses and harbours, treatment residues such as filter cakes, manufacturing residues and air pollution control residues used for scrubbing stack emissions at industrial facilities.

1.7 LLW comprises generally low level radioactive waste which can have a radioactive content up to 4,000 becquerels per gram (Bq/g) of alpha activity or 12,000 Bq/g of beta or gamma activity[1]. The waste which is and will continue to be disposed of at ENRMF will be limited to that at the lower activity end of the range of wastes classified as LLW comprising waste which has a level of radioactivity of up to 200Bq/g. The LLW wastes typically comprise construction waste from decommissioning nuclear power stations, wastes from the oil industry, manufacturing, residues from treatment and wastes from research facilities and hospitals.

1.8 The proposed development comprises the construction of new landfill void to the west of the currently consented hazardous waste and LLW landfill area (the western extension) and the alteration of the restoration profile and the timescale for completion of the existing landfill site in order to integrate the final landscape of the existing site with the western extension. The application includes an increase in the consented throughput of waste to the waste treatment and recovery facility and an increase in the total input rate to the site. In order to construct the western extension void it will be necessary to win and work minerals including the extraction of soils, overburden and clay. The soils and some clay will be retained on site for use in site restoration and the construction of the low permeability engineered liner and capping layers. The remaining materials will be exported off site. The application includes the

[1] The activity concentration of a radionuclide (Bq/g) is called the specific activity.

alteration of the operational period of the current site activities and the western extension to approximately 2046. This is currently a preliminary estimate and will be confirmed following completion of the detailed site design work.

1.9 The proposed development comprises the construction and alteration of a hazardous waste facility in accordance with Section 14 (1)(p) and Section 30 of The Planning Act 2008 (as amended) hence is a Nationally Significant Infrastructure Project. The proposed development comprises the construction of a new hazardous waste facility for the disposal of hazardous waste by landfill with a capacity of more than 100,000 tonnes per year and the alteration of the existing waste treatment and recovery facility to increase the throughput from 200,000 tonnes per annum to 250,000 tonnes per annum. The application includes associated development such as the alteration of the restoration profile of the existing landfill area and will include an increase in the overall input rate to the site from 250,000 tonnes per annum to 300,000 tonnes per annum.

1.10 The current operations at ENRMF are the subject of Environmental Permits issued and regulated by the Environment Agency. Any extension to the waste management operations at the site will continue to be the subject of Environmental Permits. It will be necessary to apply to vary the Environmental Permits in respect of the existing hazardous waste and LLW landfill site to include the western extension. The Environmental Permit for the treatment facility will be varied in order to increase the waste throughput rate and to include any changes to the processing activities. The process of preparing the applications to vary the Environmental Permits for the landfill site and treatment facility will be commenced in parallel with the DCO application.

1.11 The proposed development falls under Paragraph 9 of Schedule 1 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017[2] hence it is mandatory to undertake an Environmental Impact Assessment (EIA). MJCA are commissioned by Augean to undertake an EIA for the proposed development at ENRMF. The purpose of this scoping document is to explain the background to the proposed development and to set out the proposed scope for the EIA. The objective of this scoping exercise is to agree the approach to and the scope

[2] The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

of the EIA and Environmental Statement (ES) which will accompany the application for a Development Consent Order (DCO).

1.12 The detailed design for the proposed development is being progressed. The design development process and the EIA process are iterative and will continue throughout the consultation period up to the submission of the DCO application. The final design together with the findings of the EIA will be reported in the ES. The ES will be prepared in accordance with The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 and will be submitted with the DCO Application in accordance with Regulation 5(2)(a) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009[3] (as amended).

[3] The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

2. The site location and description

2.1 The proposed application boundary lies approximately 1.1km east south east of Duddington village and approximately 2km north north west of Kings Cliffe village at its closest points. The proposed application boundary is centred on NGR TL 004 999 (Figure 4). The application boundary covers an area of approximately 57.5 hectares and includes the existing ENRMF site. The existing ENRMF site is approximately 31.2 hectares and the proposed western extension covers an area of approximately 26.3 hectares. The land within the application boundary is either owned by Augean or Augean have an option agreement in place for the land. The setting is generally rural with the majority of the land surrounding the site comprising open farmland or woodland as shown on the aerial photograph at Figure 5.

2.2 As explained in Section 1, the existing ENRMF site comprises an active hazardous waste and low level radioactive waste (LLW) landfill site including restored and partially restored landfill areas together with the waste treatment and recovery facility and stockpiles. A gas management and surface water management compound including a flare stack are located in the north western corner of the current site. Site infrastructure including the site access, weighbridge and waste reception facilities, car parking areas, site offices, welfare facilities, storage areas, laboratories and wheel and vehicle body washing facilities are in place at the site (Figure 3). The site infrastructure will be retained and adapted as associated development and ancillary activities to the main site activities.

2.3 The existing highway access to the ENRMF site is from Stamford Road which is a minor road that runs adjacent to the eastern boundary of the site from the A47 to the north. Waste delivery and collection vehicles using the site access are not permitted to travel to the south on Stamford Road towards the village of Kings Cliffe. The access road enters the reception area adjacent to and south east of the landfill. Consented improvements to widen the site access are being implemented currently and will be in place during 2020. The existing highway access to ENRMF will continue to be used for the proposed development.

2.4 The current landfill comprises 11 phases of landfilling (Figure 3). Landfilling operations are complete in Phases 1 and 2 which are currently being capped. Landfilling operations are completed in Phases 3, 4, 5 and the southern part of Phase 6. Phases 3, 5 and the southern part of 6 are partially capped. Currently landfilling

operations are being carried out in the northern part of Phase 6 and in Phase 10. Phase 7 is currently being constructed.

2.5 The waste treatment and recovery facility currently is located in the north western corner of the site in the area which will ultimately be landfilled as Phase 11 of the site. The waste treatment and recovery facility is currently due to be removed from the site prior to the development of the final phases of landfilling. The waste treatment and recovery facility comprises a concrete pad area which currently includes storage, a soil washing plant, an immobilisation unit, a laboratory/office, a surface water collection lagoon, a weighbridge and an area for bioremediation. The plant comprises modular units including silos, material feed hoppers, transfer conveyors and closed mixing vessels as well as storage areas for wastes awaiting treatment and treated wastes awaiting removal.

2.6 The western extension currently comprises 2 areas of arable land with grassy margins. A hedgerow forms the boundary between the two areas. There is an area of young scrubby woodland in the south eastern corner of the northern area. The topography of the western extension generally is gently sloping towards the central boundary between the two areas. The ground elevation of the northern area ranges from 89m above Ordnance Datum (AOD) in the north to 80mAOD in the south. The ground elevation in the southern area ranges from 86mAOD in the south to 81mAOD in the north with a high point of 88mAOD in the centre of the southern area. The western extension is bordered by woodland and arable fields.

2.7 The existing ENRMF site is bordered by a dense continuous thorn hedge and/or 1.8m high chain link fencing on all boundaries. The waste treatment and recovery facility, surface water management compound and the gas flare areas are surrounded by fencing with lockable gates used for access. There are gates at the site entrance which are locked outside operating hours. A farm access track runs outside and adjacent to the southern boundary of the existing ENRMF site which joins an access track running north to south along the eastern boundary of the southern section of the western extension area. The access track then turns to the west to the south of the southern section of the western extension area. An agricultural storage area with barns used by the farmer of the adjacent fields is located in the inset on the southern boundary of the existing site.

2.8 There are scattered properties within 1km of the application area. The closest properties to the application area are the properties at Westhay Cottages located approximately 25m to the east of the application boundary. Westhay Farm is located approximately 75m east of the application boundary and is operated as a haulage yard and a farm with associated agricultural and commercial buildings. A cleared area in the centre of the woodlands located to the north of the existing site was used formerly by the Ministry of Defence for storage associated with the Wittering Airfield. This area has been granted planning permission for development as a transport facility but is unused currently. Westhay Lodge is located approximately 615m to the south of the application boundary. There are a number of properties between 750m and 955m to the north of the application boundary including an unnamed property approximately 750m north of the application boundary and Cuckoo Lodge which is approximately 875m to the north of the application boundary. The boundary of the operational training airfield at RAF Wittering and associated accommodation is located approximately 840m to the north north east of the application boundary. The closest settlement to the site is Duddington the outskirts of which are located approximately 1.1km to the west north west of the boundary of the northern section of the western extension area. Collyweston is located approximately 1.6km to the north north west of the northern section of the boundary of the western extension area. The village of Kings Cliffe is located approximately 2km to the south south east of the southern section of the boundary of the western extension area.

2.9 There are a number of listed buildings within 2km of the application boundary. None of the closest properties are listed buildings. The listed buildings are concentrated in Duddington, Collyweston, to the north of the A47 and in Kings Cliffe.

2.10 To the south of the application boundary is open agricultural land. The area of agricultural land to the south of the extension area is bordered to the south by woodland known as Little Wood (Figure 4). To the west of the majority of the application boundary is woodland known as Fineshade Wood and The Assarts which is a Local Wildlife Site (Figure 2). A short length of the western boundary of the northern section of the northern area abuts agricultural fields. The northern boundary of the western extension is formed of woodland with a field with a number of ponds beyond. The eastern boundary of the northern section of the extension area is adjacent to Collyweston Great Wood. To the east and north east of the application area beyond Collyweston Great Wood and east of Stamford Road is an area of

woodland known as Easton Hornstocks. Parts of the Collyweston Great Wood and Easton Hornstocks comprise a Site of Special Scientific Interest (SSSI) and a National Nature Reserve (NNR) (Figure 2).

2.11 The north eastern part of the existing ENRMF site and a section of the central area of the extension together with the woodland and pond area immediately to the north of the western extension area are designated as a Potential Wildlife Sites (PWS). Local Wildlife Sites (LWS) and PWS were reviewed by The Wildlife Trust for Northamptonshire in 2006[4]. PWS are sites that are either known or thought to be of higher biodiversity value than the average countryside but have not been confirmed to be of LWS standard. Category 1 PWS are sites that were never fully surveyed and assessed against LWS criteria. Thie area of the site which comprises the PWS is species-poor seeded grassland habitat over a capped area of the landfill. No information is available on the reasons for its selection. The details of the PWS are provided at Appendix A. The designated sites in the vicinity of the application boundary including the Regionally Important Geological Sites are shown on Figure 2. Details of the citations for each of the sites shown on Figure 2 are presented in Table 1 to this report. The closest European designated sites to the application boundary are Rutland Water and Barnack Hills and Holes which are shown on Figure 1. A full list of the designated European sites within 10km of the application boundary, the statutorily protected sites within 5km of the application boundary and the locally designated sites within 2km of the application boundary is provided at Appendix A.

2.12 The void for the existing landfill at ENRMF is formed from excavations extending through glacial clay (formerly referred to as boulder clay) and the Blisworth Limestone Formation where these formations are present and into the clay of the Rutland Formation of the Jurassic Great Oolite Group. The Jurassic Great Oolite Group is underlain in turn by the Lincolnshire Limestone Formation, the Grantham Formation comprising sands, silts, clays and mudstones and the Northampton Sand Formation comprising sandstones with subordinate limestones of the Jurassic Inferior Oolite Group. The Grantham Formation is discontinuous locally and often the Lincolnshire Limestone is underlain directly by the Northampton Sand Formation. The Northampton Sand Formation is underlain by the Whitby Mudstone Formation. The

[4] The Wildlife Trusts (2006) Wildlife Site Survey for North Northamptonshire https://www.east-northamptonshire.gov.uk/download/downloads/id/1054/north_northamptonshire_wildlife_site_survey.pdf Accessed 18/06/20

Blisworth Limestone Formation and the Lincolnshire Limestone Formation are designated as principal aquifers by the Environment Agency. The glacial till and the Grantham Formation are designated as secondary undifferentiated aquifers, the Northampton Sand Formation is designated a secondary A aquifer and the Rutland Formation is designated a secondary B aquifer. The application site is not located in a source protection zone (SPZ).

2.13 Based on the Environment Agency Flood Map for Planning the application site is located in Flood Zone 1. Flood Zone 1 is defined as land having a less than 1 in 1,000 annual probability of river or sea flooding.

2.14 No public rights of way cross the application area (Figure 4). There are rights of way in proximity to the western extension area which run through The Assarts woodland (part of Fineshade Wood). The closest right of way is MX15 which is approximately 100m to the west of the boundary of the application area at its closest point. Footpath MX15 runs in a north westerly and south westerly direction and connects into the wider public rights of way network. The Jurassic Way bridleway is located approximately 845m to the west of the application area at its closest point (Figure 4).

2.15 There are a number of services which cross the western extension area and which are in the vicinity of the site. The services at and in the vicinity of the site are shown on Figure 4. A mains gas pipeline runs parallel to the southern boundary of the existing ENRMF site and crosses the southern section of the western extension area in an east to west direction. Overhead power lines run along the eastern boundary of the southern section of the western extension area in a northerly direction before turning in a north westerly direction across the northern section of the western extension area. Two water pipelines cross the northern part of the southern section of the western extension area. A short section of redundant pipeline owned by the MOD is present at the northern point of the western extension area. An oil pipeline is located in the woodland to the east of the eastern boundary of the northern section of the western extension area.

3. The proposed development

3.1 The detailed design for the proposed development is being progressed. The design development process is iterative and will continue throughout the consultation period up to the submission of the DCO application. The full details of the proposed development will be set out in the application documents. A summary of the main elements of the proposed development is presented below:

- The construction of new landfill void for the disposal of the same range of hazardous wastes and low level radioactive waste (LLW) disposed of at the site currently with a capacity of greater than 100,000 tonnes per annum (tpa) supported by the existing site infrastructure. The new landfill will comprise a number of phases.
- The continuation of filling of the existing ENRMF landfill with hazardous waste and LLW the subject of the current Development Consent Order and the amendment of the consented restoration profile to tie the existing landfill in to the proposed extension landform. The amendment to the restoration profile will result in the creation of new void at the existing site.
- The winning and working of minerals in order to create the landfill void and provide extracted materials for use on site as well as the exportation of clay and overburden for use in engineering, restoration and general fill at other sites.
- The stockpiling of clay, overburden and soils for use in the construction of the engineered containment system at the site and restoration of the site.
- The direct input of waste into the existing and new landfill will continue at a rate of up to 150,000tpa.
- An increase to the waste throughput of the waste treatment facility to 250,000tpa which comprises an increase of 50,000tpa compared with the rate consented in the 2018 DCO amendment.
- The combined waste importation rate limit to the waste treatment facility and landfill is 300,000tpa which is an increase of 50,000tpa compared with the currently consented total input rate.

- The LLW which is and will continue to be disposed of at the ENRMF will be limited to that which has a level of radioactivity of up to 200 Bq/g.
- The diversion of services that cross the western extension to alternative routes within the application area.
- The operational hours of the site will not change from those already permitted.
- Restoration to generally domed restoration landforms in the extension area and amendment to the approved restoration profile of the existing ENRMF site to create a coherent restored landform over the whole application site.
- Restoration of the site to nature conservation interest using the soils available at the site as well as suitable imported materials.
- Completion of the landfilling and restoration operations by December 2046. This is a provisional completion date that will be updated as part of the ongoing detailed design works and confirmed in the DCO application.
- The site will be subject to a ten year aftercare and maintenance period following the completion of restoration.

3.2 Soils and overburden will be stripped from the western extension area prior to mineral extraction and landfill construction operations. Topsoil and subsoil will be stripped separately and managed in accordance with the MAFF Good Practice Guide for Handling Soils. All soils will be stored on site for use in restoration or will be used elsewhere.

3.3 The limit of extraction for the proposed western extension has been determined based on the boundaries of the land under the control of the applicant together with other constraints at the site such as the presence of boundary features, the need for ecological mitigation areas, the locations of services, the locations of geological features and the overall topography and surface water management needs.

3.4 The additional void will allow site operations to continue to provide a facility for the disposal of hazardous waste and LLW and the treatment of hazardous waste at the waste treatment and recovery facility for approximately 20 additional years. This is a

provisional duration estimate and will be updated as part of the ongoing detailed design works and confirmed in the DCO application.

3.5 The landfill site will be designed and operated based on the principle of engineered containment with low permeability basal, perimeter and capping seals constructed to an engineering specification. It is proposed that in continuation of the current practice clay is extracted during the development of the site and, together with currently stockpiled clay, is used in the construction of the clay containment system for the landfill cells. Clay will continue to be exported from the site to the nearby Augean landfill site at Thornhaugh where there is a need for clay for use in the construction of the engineered containment system. The remaining clay and overburden will be exported for general sale and reuse. Suitable wastes will be imported and used for restoration purposes to supplement the soils available on site.

3.6 The waste treatment and recovery facility located in the north west of the current site is consented for the operation of a soil washing plant, an immobilisation unit, a laboratory/office and an area for bioremediation. The plant comprises modular units including storage silos, material feed hoppers, transfer conveyors and closed mixing vessels. The plant is located on a concrete pad which has a self contained surface water management system and collection sump. The hardstanding covers a total area of approximately 1.5 hectares. The concrete pad is used for the storage of wastes awaiting treatment as well as for outputs from the treatment processes awaiting transportation from the site. A lined lagoon is in place in the treatment area which is used for the storage of wastes in sludge form prior to their treatment.

3.7 The full range of wastes which can be accepted will be listed in the Environmental Permits for the landfill site and treatment plant. Hazardous waste is classified as such based on the concentrations of specified contaminants present in the waste material. Hazardous wastes will only be accepted for landfill disposal if they meet specified waste acceptance criteria for hazardous waste landfill sites. The types of hazardous waste typically accepted by Augean at ENRMF include contaminated soils, contaminated dredging materials from the clearance of watercourses and harbours, treatment residues such as filter cakes, manufacturing residues and air pollution control residues used for scrubbing stack emissions at industrial facilities.

3.8 As is the case currently, it is proposed that Augean will continue to accept LLW for disposal from sources such as the decommissioning of nuclear facilities,

manufacturing activities and research facilities and hospitals where radioactive materials are used. The wastes will also include naturally occurring radioactive material (NORM) waste from the oil and gas and mineral processing industries notably supporting the decommissioning programme for the North Sea oil and gas extraction infrastructure. The LLW waste types principally will comprise construction and demolition waste such as rubble, soils, crushed concrete, bricks and metals from the decommissioning of nuclear power plant buildings and infrastructure, small amounts of lightly contaminated miscellaneous wastes from maintenance and monitoring at these facilities such as plastic and metal and wastes from manufacturing activities, science and research facilities and hospitals where radioactive materials are used. LLW is only accepted at the site if it is compatible with other wastes, meets the site conditions for acceptance and it has been demonstrated that disposal at the site represents the Best Available Technique for the management of the waste.

3.9 The current Environmental Permits for the landfill operations specify the types of hazardous waste and LLW permitted for importation and deposition at the site. To ensure that only permitted wastes are deposited within the landfill Augean operates a rigorous set of waste acceptance criteria. The Environmental Permit for the waste treatment facility specifies the types of non-hazardous and hazardous wastes that can be treated at the facility. Treated waste from the facility are either recovered and transferred from the site for use, are transferred for landfill disposal at a non-hazardous waste landfill site such as the Augean Thornhaugh Landfill Site or are transferred to the ENRMF hazardous waste landfill site for disposal depending on the nature of the output from the treatment process.

3.10 As part of its PAS 99 fully integrated and externally certified Environment, Health and Safety and Quality Management System Augean has formal procedures in place to assess and check that only permitted wastes are received at the site for treatment or disposal. Procedures for the pre-acceptance assessment, waste acceptance criteria and the reception, inspection and verification of waste are formalised in the management system and are rigorously enforced. Any waste that arrives at the site that has not been subject to the pre-acceptance and booking procedure is rejected or quarantined and the Environment Agency is immediately informed.

3.11 The current site operations and management systems for the acceptance of waste and the operation of the hazardous waste and LLW landfill site are developed based on guidance from the Environment Agency and the application of best practice. Environmental monitoring is carried out in accordance with guidance and site specific schemes agreed by the Environment Agency to confirm that the operations are not having a significant impact on the environment and do not represent an unacceptable risk to human health. It is proposed that these systems and schemes will be continued at the application site. The systems and schemes will be adapted as necessary in response to site specific experience and changes in guidance.

3.12 The management and monitoring of the site will continue long after the site has ceased accepting waste. It is a requirement of the legislation that appropriate management remains in place for the duration of the Environmental Permits. The Environmental Permits do not cease on a specified date but continue in force until an application for its surrender is submitted to and accepted by the Environment Agency. The Environment Agency will not accept the surrender of an Environmental Permit until there is no longer any need for active management and monitoring in the opinion of the Environment Agency.

3.13 Preliminary design options for the final integrated restored landform have been prepared. The options reflect the extent of the constraints which may have to be accommodated in the design depending on the outcome of the ongoing investigations, risk assessments and discussions with the regulatory authorities. The preliminary design options are presented on Figures 6A and 6B. It is proposed that the site will be restored to nature conservation interest including hedgerow and woodland with the objective of providing a net biodiversity gain.

4. The scope of the Environmental Impact Assessment

4.1 Introduction

4.1.1 The aspects which it is necessary to assess in the Environmental Impact Assessment (EIA) and those which it is considered can be scoped out are identified below. A summary of the aspects and matters[5] which it is considered can be scoped out of the assessment are presented in Table 2.

4.1.2 The application boundary includes the currently consented area as well as the western extension area therefore all remaining activities in the existing site will be assessed including any changed or additional activities as well as the proposed activities in the western extension area. It is intended that the new DCO the subject of the proposed application will replace the current DCO.

4.1.3 The baseline for the EIA is the currently permitted activities at the site ie the operation of the waste treatment facility and landfill with restoration to woodland and grassland by 31 December 2026. The EIA for the proposed development will comprise an assessment of the additional and cumulative impacts or those that may change due to the proposed development. The baseline section will also describe the likely evolution of the baseline scenario if the proposed development was not implemented.

4.1.4 The impacts will be assessed for the construction of the consented and new landfill void, for the operation of the consented and new landfill and for the operation of the waste treatment facility. The impacts associated with the decommissioning of the treatment facility will be assessed. For the ENRMF landfill it is not appropriate to consider the impacts associated with decommissioning as the landfilled waste will remain in place in the restored landform and will not be decommissioned. The site infrastructure will be decommissioned and the associated impacts will be assessed. The impacts associated with the closure, restoration and aftercare period for the site will be considered as part of the EIA.

4.1.5 The detailed design for the western extension is still being progressed. There will be amendments to the details of the proposed development as the design assessments

[5] The Planning Inspectorate uses the term 'matters' referring to those parts that are a subdivision of the aspect, for example an assessment of a particular species is a 'matter' to the aspect of biodiversity. Advice Note 7: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements. Version 6. December 2017.

progress, consultation takes place with statutory consultees and the design details are finalised. It is likely that there will be elements of the proposed development for which it will be necessary to incorporate flexibility such as the exact nature and location of items of plant in the waste treatment facility and the locations of stockpiles of excavated materials. The parameters that have been assessed for each aspect of the development will be set out clearly in the Environmental Statement. The relevant values for the parameters assessed will be the worst case for the design envelope in terms of each of the impacts being assessed. The development parameters will be presented as precisely as possible where this is achievable, but it is intended to adopt the Rochdale Envelope approach for certain aspects of the development where a high degree of precision is not possible at this stage.

4.2 Population and human health

4.2.1 The assessment of risk including the identification and assessment of exposure pathways is an integral part of the pollution control regulatory function and is carried out by the Environment Agency as part of the permit application process. The assessment of risk to the population in terms appropriate to the planning process will be carried out in the EIA.

4.2.2 The nature of the hazardous waste that will be deposited in the landfill site and the hazardous and non-hazardous wastes that will be treated in the treatment facility will be explained and the properties of the wastes, individually or in combination, which have the potential to affect people and human health will be identified.

4.2.3 The LLW which will be accepted at the site will have a maximum activity limit of 200Bq/g. The precise amount of LLW that will be accepted at the landfill will be specific to each isotope and will be determined by specific cautious risk assessments which take into account normal operations as well as the potential for accidents. The risk assessments must demonstrate to the satisfaction of the Environment Agency that even under conservative conditions the dose that could be received by the public and workers does not exceed thresholds set out in regulation and guidance. The actual amount of LLW that will be accepted at the site as determined by specific cautious risk assessments will be regulated by the Environment Agency under the pollution control regime.

4.2.4 The potential impact of the proposed development on human health will be assessed. Assessments of the risk to the public and workers at the site will be undertaken. The assessment of the risk to human health as a result of the continued treatment and disposal of hazardous waste and LLW will be based on the identification of potential exposure pathways and an assessment of the embedded mitigation measures proposed as an intrinsic part of the design and operation of the landfill site and waste treatment facility. The exposure pathways will include direct and indirect exposure to wastes, atmospheric exposures pathways such as gases and dust as well as aqueous exposure pathways such as surface water and groundwater. Potential exposures as a result of accidents such as dropped loads of waste and fires also will be assessed. The assessment will include all stages of the management of the wastes received at the site during the operational period as well as the period following closure and restoration of the site. Mitigation measures which will be implemented to ameliorate any significant impacts identified will be described and the residual impacts will be assessed. Monitoring proposals to provide confidence that the operations at the site are controlled appropriately and the site is performing to the standard predicted in the risk assessments will be described. The pathways that will be assessed will be consistent with those considered for the assessment of the impacts of the existing ENRMF site.

4.2.5 The risks to human health will be assessed by comparison of the potential for emissions with relevant quality standards set for the protection of human health. The assessments of risks associated with potential exposure to hazardous waste will be based on the environmental quality standards for air quality and water quality which are set in order to protect human health and the environment.

4.2.6 All the work at the landfill site with respect to LLW will continue to be undertaken in accordance with the Ionising Radiation Regulations 2017[6] and The Environmental Permitting (England and Wales) Regulations 2016[7]. The amount of radiation a person is exposed to is known as the dose and is measured in millisieverts (mSv) or microsieverts (μSv) per year. 1,000μSv/yr is equivalent to 1mSv/yr. The dose criteria that will be applied at the site will be set out in context with the exposure limits set in

[6] The Ionising Radiations Regulations 2017. SI 2017 No. 1075. Schedule 3.

[7] Schedule 23 Part 4 Section 1 Paragraph 1b references the legal limits in the EU Basic Safety Standards (Article 13, Council Directive 2013/59/Euratom of 5 December 2013 laying down basic safety standards for protection against the dangers arising from exposure to ionising radiation, and repealing Directives 89/618/Euratom, 90/641/Euratom, 96/29/Euratom, 97/43/Euratom and 2003/122/Euratom). The BSS Directive refers in turn to Section (Table) 2.3 of ICRP Publication 116

the legislation and guidance as well as other more familiar sources of radiation exposure. The design dose criterion adopted by Augean for the activities involving the disposal of LLW at the landfill site will be explained. Design dose criteria are adopted for normal operational activities as well as for accidents. The adopted design dose criterion for each circumstance is either the legal dose limit, the relevant dose constraint specified in legislation or regulatory guidance or a dose level proposed by Augean which is lower (ie more protective) than the dose constraint specified in legislation or regulatory guidance and which is achievable based on the proposed activities and waste types to be accepted.

4.2.7 Perceptions of the impacts of hazardous waste and LLW management facilities on human health and the environment may give rise to concerns which result in indirect effects on health. The potential reasons for perceptions of adverse impacts will be assessed together with the evidence regarding the perceived concerns. An assessment will be prepared in which are presented the methodology and conclusions of an assessment of indirect effects on health associated with perceptions of impacts.

4.2.8 As explained above, the approach to the assessments and the emission standards to be achieved through detailed controls in the Environmental Permits will be described in the impact assessments. The passive and active control measures will be described for the potential pathways identified and the nature of the restrictions and limits on emissions which will be imposed through the Environmental Permits will be described. The assessment of impacts on human health as a consequence of the operation of the permitted facilities will be assessed. The applications for the variation of the Environmental Permits to include the western extension area, including the detailed quantitative risk assessments, will be prepared in parallel with the application for the Development Consent Order (DCO). Given the timescales of the DCO process and the permit application process it is unlikely that the varied permits will have been issued by time that the DCO application is submitted and examined. The Environmental Permits will be issued by the Environment Agency only if, following their robust scrutiny of the quantitative risk assessments associated with the permit application process, they are satisfied that the facility can be operated without an unacceptable risk to human health and the environment. The risk assessment information and assessment that will be provided through the EIA will be at the level of detail that is appropriate to the land use planning regime taking into

account the parallel pollution control regulatory regimes and the guidance in paragraph 183 of the NPPF[8] which states that:

> *'The focus of planning policies and decisions should be on whether proposed development is an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes). Planning decisions should assume that these regimes will operate effectively. Equally, where a planning decision has been made on a particular development, the planning issues should not be revisited through the permitting regimes operated by pollution control authorities.'*

4.3 Ecology and biodiversity

4.3.1 In 2018 a Preliminary Ecological Appraisal (PEA) has been undertaken of the western extension area. The PEA identified that further surveys should be undertaken for plants, amphibians, bats, reptiles, badgers, dormice, breeding birds, wintering birds, invertebrates and trees. Wintering bird surveys were undertaken in 2018/2019 which confirmed that the western extension area is not used by any notable wintering bird assemblage. In 2019 a range of surveys were undertaken within the application boundary. A further habitat survey was undertaken to update the preliminary appraisal undertaken in 2018. This habitat survey will be updated as necessary during the 2020 survey season and will include habitats within the existing ENRMF site. Surveys were undertaken for badgers, bats, dormice, great crested newts, reptiles, breeding birds and invertebrates. A tree survey was also undertaken in 2019 in accordance with BS5837: 2012 (Trees in relation to construction). In summary the results of the surveys in 2019 were:

- The badger surveys confirmed that there were no badger setts in the application area but there are many setts present in the vicinity and several setts near the boundary ditches around the western extension area. Badger activity monitoring will continue through 2020.

- A variety of species of bats were noted foraging over the western extension area mainly on the margins and the internal hedgerow which provides a foraging and

[8] National Planning Policy Framework 2019 (NPPF) Ministry of Housing, Communities & Local Government

movement corridor. Bat activity monitoring will continue during 2020, with particular focus on habitat usage and trees with potential roost sites.

- No signs of dormice were noted during the surveys but they are known to be present in the wider area of Fineshade Wood and therefore the continuation of the surveys through 2020 is being undertaken as a precaution.

- Presence and absence surveys and population surveys were undertaken for great crested newts on a number of waterbodies within 250m of the western extension application boundary where access permitted. Additional waterbodies adjacent to the existing ENRMF site are already being monitored for great crested newts and other amphibians as part of the biodiversity management plan for that site. Great crested newt adults or eggs were found in the majority of the waterbodies surveyed. Smooth and Palmate newts and Common Toads were also present. There are no waterbodies present in the western extension area. Surveys for great crested newts and other amphibians continued through the spring 2020 to fully understand the populations present.

- The reptile surveys confirmed the presence of adder, common lizard and slow worm within the western extension area, mainly to the margins. Surveys for reptiles continues through 2020 to fully understand the populations present.

- The breeding bird surveys confirmed that the bulk of the western area is relatively poor for breeding birds with most using boundary hedgerows and the scrubby woodland area. Some notable probable breeding birds in adjacent woodlands included Red Kite, Lesser Spotted Woodpecker and Marsh Tit. No further breeding bird surveys in 2020 are considered necessary due to the sufficient information already gained.

- A wide selection of insects were identified during the invertebrate surveys. A Black Hairstreak butterfly colony was identified using a hedgerow/woodland edge area at the north west boundary of the western extension area. Due to these findings, further invertebrate surveys are being undertaken through 2020, including within adjacent woodlands.

As stated above, a suite of further ecological surveys is currently being undertaken during 2020 at and in the vicinity of the western extension area for amphibians, invertebrates, reptiles, badgers, bats and dormice.

4.3.2 Liaison is currently being undertaken with Natural England with respect to the proposed development through the Discretionary Advice Service (Consultation number 313659). The scope of the surveys is being discussed with Natural England and either have been or will be agreed with them. Discussions will also be held with the County Ecologist at Northamptonshire County Council. Mitigation measures will be proposed as necessary to ameliorate any significant impacts identified, the residual impacts will be assessed and the mitigation measures will be agreed with Natural England. The assessments will include impacts as a result of the operational stages of the proposed development as well as beneficial impacts associated with the restoration design for the site. The habitats to be included in the restored site will also be discussed and agreed with Natural England.

4.3.3 The assessments will include impacts within the area of the site and in the immediate vicinity of the site as well as the potential for impacts on designated sites in the vicinity the locations of which are shown on Figure 2. There are no Natura 2000 sites comprising Special Areas for Conservation (under the Habitats Directive) and Special Protection Areas (under the Birds Directive) within 5km of the application boundary. The closest European Natura 2000 sites are Rutland Water SPA/Ramsar which is approximately 8.8km to the north west of the application boundary and Barnack Hills and Holes Special Area for Conservation which is 7.5km north east of the application boundary (Appendix A). Both of these sites are also SSSIs and their locations are shown on Figure 1. Due to the distance from site it is anticipated that a No Significant Effects Report will be prepared for the proposed development rather than a Habitats Risk Assessment.

4.3.4 The net biodiversity gain which can be achieved as part of the proposals for the restoration of the site will be considered as part of the application. The DEFRA Biodiversity Metric 2.0 will be used to calculate the gains and losses at the site in order to assess the net biodiversity gain. The approach to the consideration of net biodiversity gain will be agreed with Natural England and the Local Authority and the mechanism for securing the gain will be specified.

4.3.5 The ecological assessment will be undertaken in accordance with Chartered Institute of Ecology and Environmental Management Guidelines for Ecological Impact in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine published in September 2018. British Standard 42020.2013: "Biodiversity - Code of practice for planning and development" will also be consulted in carrying out the ecological impact assessment. Anticipated new British Standards such as those relating to Net Biodiversity Gain will be referenced if published at the time of the completion of the ecological impact assessment.

4.4 Landscape and visibility

4.4.1 The existing ENRMF site and western extension area do not lie within a designated landscape. The application boundary is adjacent to Collyweston Great Wood and Easton Hornstocks Site of Special Scientific Interest (SSSI) and National Nature Reserve (NNR). The existing ENRMF site and western extension area lie within the Local Landscape Character Area 11a: Kings Cliffe Hills and Valleys. The site is well screened from views from the west, south west, north and north east due to well established mature woodland vegetation. The landscape to the south and south east is more open and gently undulating with open or partial views towards the site.

4.4.2 The study area for the proposed development will be based on the area within a 3km radius from the centre of the site. Initial discussions have been undertaken with Northamptonshire County Council with respect to the representative viewpoint locations for inclusion in the Landscape and Visual Impact Assessment (LVIA) and a Zone of Theoretical Visibility (ZTV) has been prepared. On 4 February 2020 Northamptonshire County Council agreed that the 13 representative viewpoints presented on Figure 7 were appropriate. The initial viewpoint photographs have been taken and work is continuing to establish the baseline.

4.4.3 The assessment will include the impacts associated with the operational activities together with the temporary structures such as the waste treatment facility plant and soil, clay and overburden stockpiles as well as the restored landform which will become a permanent feature in the landscape.

4.4.4 The LVIA will be undertaken in accordance with the Guidelines for Landscape and Visual Impact Assessment[9]. The viewpoint photographs to support the LVIA have been taken in accordance with the Landscape Institute and Institute of Environmental Management and Assessment Technical Guidance Note: Visual Representation of Development Proposals[10]. Mitigation measures embedded within the design proposals will be summarised and the residual effects on landscape receptors (features and character) and visual amenity will be assessed.

4.5 Soil resources and agricultural land classification

4.5.1 There are no undisturbed areas remaining in the existing ENRMF site. Some soils are present in storage bunds located at the eastern and southern boundaries of the site which will be used in the restoration of the site. A soil survey was undertaken of the western extension area in 2019. The survey comprised 28 hand auger holes and one soil pit. The agricultural land classification of the western extension area has been determined (Figure 8). The majority of the soils within the western extension area are classed as Grade 3b. The northern half of the northern field is Grade 3a which is the lower grade of best and most versatile agricultural land.

4.5.2 A soil impact assessment will be undertaken as part of the EIA. There are no standard criteria for assessing the significance of the effects of the proposed development on soil resources or agricultural land quality. A bespoke impact assessment matrix and criteria will be used to determine the impacts associated with the proposed development. The proposed methodology is presented at Appendix B.

4.5.3 Mitigation measures will be proposed as necessary to ameliorate any significant impacts identified and the residual impacts will be assessed.

4.5.4 All soils in the extension area will be stripped and stored in accordance with best practice and used in the restoration of the site or husbanded for use elsewhere. It is intended that the ENRMF site will be restored to habitats with a nature conservation interest rather than to agriculture which has a low biodiversity potential. In preliminary discussions with Natural England and Northamptonshire County Council no concerns

[9] Landscape Institute and IEMA (2013) Guidelines for Landscape and Visual Impact Assessment 3rd Edition (GLVIA3)

[10] Landscape Institute and Institute of Environmental Management and Assessment (2019) Visual Representation of Development Proposals Technical Guidance Note 06/19

have been raised regarding the proposal to not return the site to agricultural use. As it is not proposed to reinstate the agricultural land there would be a potential permanent loss of in the region of 6 hectares of best and most versatile agricultural land and a loss of in the region of 20 hectares of lower quality agricultural land.

4.6 Cultural heritage

4.6.1 There is no surviving archaeology within the existing ENRMF site as all areas of the site have been disturbed and were subject to previous investigation and recording. The cultural heritage report will focus on the proposed new development area which is the western extension area (Figure 4).

4.6.2 A desk based assessment will be undertaken which will include an evaluation of the potential importance of any potential surviving archaeological remains within the western extension area and in the surrounding area based on published and unpublished data. The desk-based assessment will include data obtained from a variety of sources including the Northamptonshire Historic Environment Record, the Historic England Archive, an examination of historical works and readily available local history materials, aerial imagery and any previous archaeological and historic landscape assessments in the area including those for the existing site.

4.6.3 The western extension area is within Rockingham Forest, an area that is known for iron smelting in the Roman period and possibly earlier. There is also recently identified Anglo Saxon industrial activity within Rockingham Forest at Wakerley Quarry, 4.75km west of the western extension area. The presence of a Romano British temple complex was identified in Great Wood, 250m east of the northern section of the western extension and partly excavated in 1953 before development by the RAF which also points to Roman settlement in the landscape. However, the western extension area itself has no recorded sites in the Historic Environment Record so the archaeological potential is currently unknown.

4.6.4 No designated heritage assets are situated within the western extension area. The designated heritage assets located within 2km of the western extension and the current site will be identified and potential impacts on their setting will be assessed. Given the surrounding woodland close to most of the site, visual impacts on the setting of any heritage assets are considered unlikely.

4.6.5 A geophysical survey has been undertaken of the western extension area. The results of the geophysical survey are still being processed but other than a rectangular enclosure in the northern part of the western extension area and evidence of possible burning on the western boundary, the western extension area appears to have no evidence of archaeology. The southern section of the western extension is dominated by services, pipelines and under-drainage. Initial discussions have been held with the County Archaeological Officer. The need for trial trenching will be determined through liaison with the County Archaeological Officer.

4.6.6 The cultural heritage assessment will consider:

- Direct impacts on archaeological remains lying within the development footprint.
- Indirect impacts on offsite assets through changes to their setting during continued operation and after restoration.
- Cumulative and combined impacts.

4.6.7 The assessment will be based on professional judgement and published guidance including the EIA Regulations 2017[2], NPPF 2019 and Good Practice Advice 3 – The Setting of Heritage Assets (Historic England 2017)[11]. The methodology that will be used for the assessment is presented at Appendix C.

4.6.8 Mitigation measures will be proposed as necessary to ameliorate any significant impacts identified and the residual impacts will be assessed.

4.7 Water resources

4.7.1 The geology, hydrogeology and hydrology of the current site is well understood as a result of a number of site investigations carried out prior to the development of the existing ENRMF site. Studies are being undertaken of the geology, hydrogeology and hydrology of the western extension area and the surrounding land based on published information, site investigations and information obtained from the Environment Agency. Based on the information collated the baseline groundwater and surface water conditions will be established.

[11] Historic England (2017) The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3 (Second Edition)

4.7.2 An extensive site investigation has been undertaken in the western extension area the scope of which was agreed with the Environment Agency. Between 18 November 2019 and 17 March 2020 twenty seven boreholes were drilled in the potential western landfill extension area to investigate the ground conditions in accordance with the scope of the site investigation agreed with the Environment Agency.

4.7.3 The void for the existing landfill at ENRMF extends through glacial clay (formerly referred to as boulder clay) and the Blisworth Limestone Formation where these formations are present and into the clay of the Rutland Formation of the Jurassic Great Oolite Group. The Jurassic Great Oolite Group is underlain in turn by the Lincolnshire Limestone Formation, the Grantham Formation comprising sands, silts, clays and mudstones and the Northampton Sand Formation comprising sandstones with subordinate limestones of the Jurassic Inferior Oolite Group. The Grantham Formation is discontinuous locally and often the Lincolnshire Limestone is underlain directly by the Northampton Sand Formation. The Northampton Sand Formation is underlain by the Whitby Mudstone Formation.

4.7.4 The Blisworth Limestone Formation and the Lincolnshire Limestone Formation are designated as principal aquifers by the Environment Agency. Principal aquifers have high intergranular and/or fracture permeability meaning that they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. The Blisworth Limestone Formation where present at the site is thin and of insignificant resource value. The site is not located in a source protection zone (SPZ).

4.7.5 The glacial till and the Grantham Formation are designated as secondary undifferentiated aquifers, the Northampton Sand Formation is designated a secondary A aquifer and the Rutland Formation is designated a secondary B aquifer.

4.7.6 The objective of the intrusive site investigation is to establish that a natural low permeability geological barrier is present over the Lincolnshire Limestone Formation aquifer at the site. The elevation of the boundary between the base of the Rutland Formation and the top of the Lincolnshire Limestone Formation in the potential landfill extension area at ENRMF will be used to inform an assessment of the thickness of Rutland Formation that would need to be left in-situ during the construction of the western landfill area at ENRMF. As part of the site investigation sixteen combined groundwater and ground gas monitoring boreholes were installed round the perimeter

of the potential extension area and monitoring of the groundwater levels and quality in these boreholes has commenced.

4.7.7 A swallow hole and potential doline features are present in the ground to the north of the western section of the current landfill site and potentially in the south eastern section of the northern part of the western extension area. Interpretation of the site investigation data together with the results of geophysical surveys is being carried out to determine in particular the geology and hydrogeology of this area in and in the vicinity of the application site.

4.7.8 A detailed topographic survey of the western extension area has been carried out including recording the ground elevations for the surface water drainage system comprising ditches and piped drainage in and around the site. The results of the surveys are being used to develop an understanding of the current surface water drainage patterns which will inform the design of the surface water management systems for the operational and post-restoration periods for the site.

4.7.9 Based on the results of the studies of the baseline geology, hydrogeology and hydrology including the results of site investigations and reviews of water level and water quality data, an assessment will be made of the potential effect of the proposed development on groundwater and surface water resources. A quantitative hydrogeological risk assessment will be carried out to support the Environmental Permit application and will be discussed and agreed with the Environment Agency. The conclusions of the hydrogeological risk assessment will be used in the EIA to assess the potential impacts on groundwater and surface water quality Recommendations for management measures to ameliorate any significant effects on groundwater or surface water will be provided as necessary and incorporated within the design of the landfill site in the western extension area.

4.7.10 Embedded mitigation measures which are incorporated as an integral part of the design of the landfill site will be identified and additional mitigation measures will be proposed as necessary to ameliorate any significant impacts identified. The residual impacts on water resources will be assessed. Monitoring proposals to provide confidence that the operations at the site are controlled appropriately and the site is performing to the standard predicted in the risk assessments will be described.

4.7.11 The assessment will include consideration of any impacts of the proposed development that might affect compliance with The EU Water Framework Directive[12] (or substituted UK water resource protection legislation) and The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 including the relevant River Basin Management Plan which is that for the Anglian River Basin District.

4.8 Flood risk assessment

4.8.1 The existing ENRMF site and the western extension area are located in Flood Zone 1 which is an area with a low probability of flooding. As the proposed development site area is greater than 1 hectare a flood risk assessment will be prepared. The flood risk assessment will focus on surface water flows and movement as a result of the proposed development. In carrying out the assessment consideration will be given to the potential effect of climate change on the intensity of storm events. Mitigation measures will be proposed as necessary to ameliorate any significant impacts identified and the residual impacts will be assessed.

4.9 Transport and traffic

4.9.1 There are no changes proposed to the site access as a result of the proposed development. The proposed HGV movements associated with the operations at the site including the importation of waste and the exportation of clay and other overburden materials will be similar to those assessed for the current operations. As there is a limited increase in the proposed overall waste inputs to the site there could be an increase in HGV movements associated with the waste inputs. Any changes will be quantified and assessed in the context of the overall HGV movements including those associated with the removal of excavated materials from the site.

4.9.2 A transport assessment for the proposed development will be carried out generally in accordance with the Travel Plans, Transport Assessments and Statements Guidance[13]. It is not anticipated that it will be necessary to undertake capacity assessments for the junction of Stamford Road with the A47. Discussions are

[12] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (the 'Water Framework Directive').
[13] Ministry of Housing, Communities and Local Government (2014) Travel Plans, Transport Assessments and Statements

currently being undertaken with Northamptonshire County Council to agree the scope of the transport assessment including the appropriate baseline data and traffic growth factors.

4.9.3 The traffic numbers that will be assessed will comprise the worst case for the site to cover the periods when there is the highest potential number of vehicle movements associated with the removal of extracted materials and the importation of waste.

4.10 Noise and vibration

4.10.1 There are no activities at the existing ENRMF that would result in vibration. The proposed development does not include blasting as a method in which to extract the minerals or any other activities which would generate significant vibration. It is proposed that vibration is scoped out of the EIA.

4.10.2 The DCO for the current site includes reference to a noise management and monitoring scheme. It is anticipated that a similar scheme will be implemented for the extended site the subject of the DCO application.

4.10.3 The approach to the noise impact assessment is being discussed and will be agreed with the Environmental Health Officer at East Northamptonshire District Council. Discussions are also being held with Northamptonshire County Council and the Environment Agency in order to discuss and agree the approach to the noise assessment. The Covid-19 pandemic presents new challenges in obtaining representative baseline sound levels because typical road, air and rail transport usage have been reduced by travel restrictions and restrictions on many day to day activities. Under normal circumstances, it would be proposed that baseline monitoring is conducted continuously and simultaneously at a number of agreed locations over a period of at least 24 hours. The monitoring data would be used to establish the prevailing acoustic environment at existing noise-sensitive receptors within the vicinity of the proposed development.

4.10.4 Extensive background noise monitoring was undertaken in March 2011 as part of an application for the currently consented site. The noise-sensitive receptor locations considered in 2011 remain appropriate for inclusion within the noise impact assessment for the proposed development. The receptor locations are shown on

Figure 7. It is understood that no new noise-sensitive development has occurred in closer proximity to the site during the intervening period.

4.10.5 At present the Covid-19 pandemic is continuing to result in environmental sound climates that may vary quite significantly from representative conditions. It is therefore proposed that, should monitoring of representative baseline noise levels for the current baseline conditions not be possible, the background noise data measured during the 2011 survey will be adopted as a suitable baseline against which to make an assessment of noise impact for the western extension. This approach is being discussed and will be agreed with East Northamptonshire District Council, Northamptonshire County Council and the Environment Agency.

4.10.6 Noise from the proposed development will be assessed with reference to current noise policy in England including the Noise Policy Statement for England, the NPPF and associated planning practice guidance along with any relevant local policies. In terms of technical guidance on the assessment of noise impacts, emissions from operations associated with the proposed development will be assessed primarily with reference to BS 4142:2014+A1:2019 *'Methods for rating and assessing industrial and commercial sound'* along with other relevant guidance and criteria as appropriate. Noise predictions will be carried out using the methods in BS 5228-1:2009+A1:2014 '*Code of practice for noise and vibration control on construction and open sites'.* The proposals will not result in a significant overall increase in HGV traffic on the local road network hence an assessment of road traffic noise will not be undertaken. Where necessary mitigation measures will be recommended so that there are no significant or unacceptable adverse impacts as a result of noise generation at the site. The site will continue to be the subject of a noise management and monitoring scheme as for the current DCO.

4.11 Air quality and dust

4.11.1 No part of the application site is located in an Air Quality Management Area (AQMA). There are no AQMAs in close proximity to the site[14]. The traffic movements associated with the operations at the ENRMF site will not change significantly as a

[14] UK Air: Air Information Resource (2020) AQMAs interactive map https://uk-air.defra.gov.uk/aqma/maps/ Accessed 20/05/2020

result of the proposed development. A traffic air quality assessment is therefore scoped out of the EIA.

4.11.2 Gaseous and particulate emissions may be released from the deposited waste, from the waste treatment and recovery facility, from mobile plant and vehicles which may without mitigation have an impact on local air quality, contribute to the greenhouse effect or may have a potential impact on health. The emissions from the landfill and the waste treatment and recovery facility will continue to be controlled and monitored in accordance with an Environmental Permit. Receptors sensitive to the potential migration of landfill gas, including adjoining agricultural land, will be identified from the baseline studies. Hazardous waste cannot be landfilled where it has a total organic carbon content greater than 6% by weight. Accordingly the deposited waste will have a low potential for biodegradation and the generation of landfill gas. Based on the geology and hydrogeology of the site and surrounding area together with the presence of services at and in the vicinity of the site, potential pathways for the lateral migration of landfill gas from the site will be identified. Based on the nature of the wastes to be deposited in the site, the potential for the generation of landfill gas will be assessed together with the landfill containment design principles and any associated gas control measures. Based on the potential pathways available for gas migration, the proximity of receptors and the landfill management methods to be implemented at the site, the likely effect of gas generated at the site and the risks associated with gas migration towards buildings and structures will be assessed together with potential effects on vegetation and wildlife. Further mitigation measures will be proposed as necessary to ameliorate any significant impacts identified and the residual impacts will be assessed.

4.11.3 A qualitative particulate dust assessment will be undertaken in accordance with the Institute of Air Quality Management document 'Guidance on the Assessment of Mineral Dust Impacts for Planning v1.1 (2016)'. The annual mean national air quality objective for PM_{10} is 40µg/m³. The site is not located in an Air Quality Management Area and the annual background PM_{10} concentration[15] for the site in 2018 was between 14.11µg/m³ and 15.39µg/m³ with a mean of 14.65µg/m³ which is well below the national air quality objective for PM_{10}. As the background annual PM_{10} concentration for the site is below 17µg/m³ there is little risk that the process

[15] DEFRA (2017) UK Ambient Air Quality Interactive Map https://uk-air.defra.gov.uk/data/gis-mapping Accessed 20/05/2020

contribution from the proposed development would lead to an exceedance of the annual mean air quality objective for PM_{10}. Any potential effects on health as a result of the chemical or radiological properties of dust emissions will be considered in the assessment of risks to health discussed earlier in this scoping report and will not be considered in the dust assessment.

4.11.4 The assessment will consider the current background dust levels in the vicinity of the site using site monitoring data and publicly available data, likely sources of dust, meteorological conditions and the location of identified potentially sensitive receptors. The Environmental Permits include measures necessary to control the emissions of dust to acceptable levels for the protection of health and amenity. It is anticipated that with the implementation of suitable operational controls the potential for significant dust impact can be minimised. Mitigation measures will be proposed as necessary to ameliorate any significant impacts identified and the residual impacts will be assessed.

4.12 Climate change

4.12.1 A separate chapter will not be provided in the ES on climate change. The potential effects on the operations and consequential impacts of and on the development site as a result of the predicted effects of climate change will be addressed in the relevant sections as part of the flood risk assessment and the hydrological risk assessment. Measures which are included in the development design which comprise or allow adaptation to climate change will be identified and assessed.

4.13 Nuisance

4.13.1 Odour can arise from waste management operations accepting biodegradable waste or wastes with inherent chemical odours. Hazardous waste and LLW contain minimal quantities of biodegradable waste and the organic content of the waste which can be landfilled is limited by legislation to less than 6% by volume of total organic carbon. Accordingly odour as a result of the presence of biodegradable waste is proposed to be scoped out of the EIA and will not be considered further. The environmental impacts with respect to the potential for odour emissions as a result of the chemical nature of some wastes, such as hydrocarbon contaminated material, will be assessed taking into account the odour management controls which will be incorporated in the design and management of the landfill and waste treatment facility.

4.13.2 As the hazardous waste and LLW which will be managed at the site will contain minimal quantities of putrescible material they do not represent a food source and therefore are unlikely to attract vermin such as foxes, rats, flies and birds. Notwithstanding that the waste types do not provide a potential food source, it is unlikely that vermin will infest sites operated in accordance with good landfill practice as habitats suitable for the breeding of vermin are minimised. The current and proposed methods of operational control including the method of containing the waste and covering of waste will reduce the attractiveness of the site to vermin. Accordingly this aspect is proposed to be scoped out of the EIA and will not be considered further.

4.13.3 The nature of the waste imported and the methods of containment mean it is unlikely that significant quantities of litter will be generated. This aspect is accordingly also proposed to be scoped out of the EIA and will not be considered further.

4.13.4 The Environmental Permits will continue to include measures necessary to control the emissions of odour to acceptable levels and the control of vermin and litter for the protection of amenity.

4.14 Material assets

4.14.1 Material assets include both built assets and natural assets. The impacts on material assets will be assessed under the appropriate topics such as cultural heritage, ecology, landscape and visibility and soil resources.

4.15 Socio-economic impacts

4.15.1 The proposed development may result in actual or perceived adverse or beneficial socio-economic impacts at a local, regional or national level. The assessment will comprise a review of publicly available data only. The baseline assessment will comprise a review of the local and national socio-economic context. The national and regional impacts will be considered in the context of the role of ENRMF in the Augean business and the significance of the business in respect of the management of hazardous waste and LLW in the UK. The local impacts will be considered in respect of the site presence and its beneficial contribution to or adverse effect on the local socio-economic climate as well as its compatibility with surrounding land uses.

4.16 Alternatives

4.16.1 The main alternatives considered in relation to the proposed development will be described in the Environmental Statement. The presentation of the alternatives will consider the alternative locations for the future waste management activities considered by Augean and present the reasons for the selection of the application site. For the application site, the main alternatives considered will be summarised including the alternative design options for the western extension area and options for the diversion of services, alternative restoration profiles for the site and alternative timescales for the development. The evolution of the baseline without the implementation of the project will be considered as the 'do nothing' scenario which equates in these circumstances to a 'no change to consented activity' scenario.

4.17 Major accidents

4.17.1 An assessment will be undertaken of the potential impacts associated with the possible events and accidents associated with the manmade and natural environments at and around the site. The site location is not considered potentially vulnerable to severe earthquakes, tsunamis, avalanches or natural events such as flooding and sea level rises associated with predicted climate change hence these matters are scoped out of the EIA.

4.18 Transboundary impacts

4.18.1 The proposed development is not located within the vicinity of another Member State of the European Economic Area (EEA) and there are no emissions which could migrate to or beyond the boundary of another Member State. The proposed development will not have a direct, indirect or cumulative effect on other Member States of the EEA due to the size and scale of the proposed development and the distance of the site from other European countries. This aspect is therefore proposed to be scoped out of the EIA and will not be considered further.

4.19 Cumulative impacts

4.19.1 The cumulative impacts of the proposed development will be assessed, including those associated with the development of a larger site area where activities will continue for a longer period than consented currently, together with those from the permitted or committed developments in the vicinity of the site. Information will be

sought from the East Northamptonshire District Council and Northamptonshire County Council on any actual or proposed developments in the vicinity of the application site and the Local Development Plans will be reviewed to identify any nearby areas which are identified or allocated for future development. If any relevant development is identified the approach to the assessment of cumulative impacts will take into account the guidance in 'Advice note seventeen: Cumulative effects assessment relevant to nationally significant infrastructure projects' prepared by the Planning Inspectorate.

5. The structure of the Environmental Statement

5.1 The Environmental Statement will be prepared in accordance with The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. The Environmental Statement will comprise a number of volumes. The volumes will comprise the Environmental Statement text, tables and figures and separate volumes for the appendices. The appendices will comprise the detailed technical reports. A Non Technical Summary will be included in the Environmental Statement and will also be made available as a separate document. The proposed structure of the Environmental Statement is presented at Appendix D.

5.2 Each of the technical sections of the Environmental Statement will include subsections on baseline, methodology, assessment of effects, mitigation, assessment of residual effects and cumulative effects. The baseline subsection will include a description of the likely evolution of the baseline if the proposed development does not progress.

TABLES

Table 1

Details of the ecological and geological features for designated sites in the vicinity of the application site

The site locations are shown on Figure 2

Site name	Designation	Reason for designation	Approximate distance from the application boundary at its closest point	Direction from the application site
Collyweston Great Wood and Easton Hornstocks	National Nature Reserve Site of Special Scientific Interest	Largest Northamptonshire remnant of the ancient Purlieu coppices of Rockingham Forest. Large range of semi-natural woodland types, a complex mosaic of vegetation, extremely rich ground flora and many locally-rare plants provide breeding bird fauna.	Adjacent	North and East
Cross Leys Quarry	Regionally important Geological Site		1.3km	ENE
Bonemills Hollow	Site of Special Scientific Interest	Grassland communities of calcareous and marsh types. Additional habitats provided by scrub, willow carr and reeds enhance the value of the area for birds and invertebrates.	1.5km	ENE
West Abbot's and Lound Woods	Site of Special Scientific Interest	Range of lowland woodland types many of which are scarce in Britain. A narrow strip of land holds habitats of general wildlife value including a lake and a small marsh.	4.1km	ENE
Bedford Purlieus	National Nature Reserve Site of Special Scientific Interest	Ancient woodland supporting a variety of woodland community types. Great diversity of herbaceous plants and associated fauna.	2km	ESE

Site name	Designation	Reason for designation	Approximate distance from the application boundary at its closest point	Direction from the application site
King's Cliffe Banks	Site of Special Scientific Interest	Former Quarry. Oolitic limestone grassland. A high quality, species-rich closed calcareous grassland sward has developed on the thinner soils. Neutral grassland and scrub communities are associated with deeper soils.	2.3km	SSE
Fineshade Woods	Local Wildlife Site	Mixed plantation on ancient woodland site with neutral grassland and ponds.	Adjacent	W
Collyweston Quarry	Local Geological Site	An active quarry with important limestone formations.	0.5km	NW

Table 2

Matters or aspects which can be scoped out of the Environmental Impact Assessment

Topic	Matter/Aspect to be scoped out of the ES	Section of the scoping where detail is provided
Noise and vibration	There are no activities at the site which will result in vibration. Blasting will not be used to extract the minerals from the site. Vibration is scoped out.	4.10.1
	There will be no significant increase in traffic and there is no change in the site access location. An assessment of road traffic noise is scoped out.	4.10.6
Air quality and dust	There will be no significant increase in traffic. A traffic air quality assessment is scoped out.	4.11.1
	The PM_{10} background level is low and the process contributions will not lead to an exceedance of the PM_{10} air quality objective. The potential effect on health due to dust is scoped out of the dust assessment as it will be considered in the health assessment.	4.11.3
Nuisance	Hazardous waste and LLW contain minimal quantities of biodegradable waste and the organic content of the waste which can be landfilled is limited by legislation to less than 6% by volume of total organic carbon. Accordingly odour as a result of the presence of biodegradable waste is scoped out.	4.13.1
	Hazardous waste and LLW contain minimal quantities of putrescible waste and are unlikely to attract vermin. An assessment of nuisance associated with vermin as a result of the proposed development is scoped out.	4.13.2
	Hazardous waste and LLW contain minimal quantities of litter. An assessment of the impact of litter as a result of the proposed development is scoped out.	4.13.3
Major accidents	The site location is not considered potentially vulnerable to severe earthquakes, tsunamis, avalanches or natural events such as flooding and sea level rises as a result of climate change. These accidents are scoped out of the EIA.	4.17.1

Topic	Matter/Aspect to be scoped out of the ES	Section of the scoping where detail is provided
Transboundary impacts	The proposed development is not located within the vicinity of another Member State of the European Economic Area and there are no emissions which could migrate to or beyond the boundary of another Member State. This matter is scoped out of the EIA.	4.18.1

FIGURES

N

0m 500 1000 1500 2000 2500m

Key / Notes

- Boundary of the existing East Northants Resource Management Facility
- Rutland Water SSSI/Ramsar and Special Protection Area
- Barnack Hills and Holes SSSI and Special Area of Conservation

Rev	Status	Dm	App	Chk	Date
	Final	KR	SPS	LH	29/06/20

Site: EAST NORTHANTS RESOURCE MANAGEMENT FACILITY

Client: Augean South Ltd

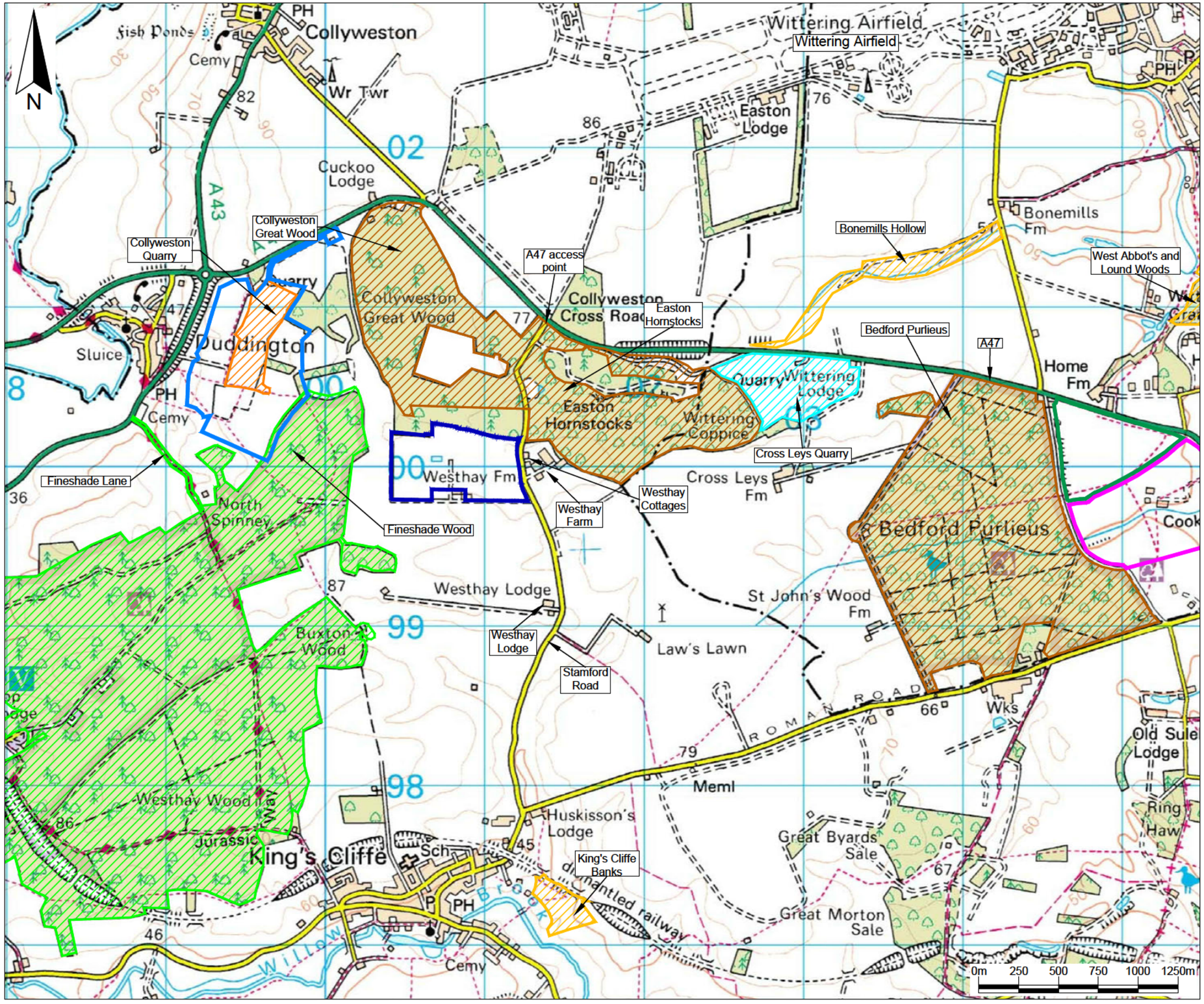
Title: The site location

Figure 1

Scale: 1:50,000@A1

Drawing Ref: AU/KCW/06-20/21847

MJCA Technical advisers on environmental issues
Baddesley Colliery Offices, Main Road, Baddesley, Atherstone, Warwickshire, CV9 2LE.
Telephone : 01827 717891
Fax: 01827 718507



Key / Notes

- Boundary of the existing East Northants Resource Management Facility
- Boundary of Cooks Hole Quarry
- Boundary of Thornhaugh Landfill Site
- Approximate boundary of Collyweston Quarry
- Approximate location of a Site of Special Scientific Interest (SSSI)
- Approximate location of a Site of Special Scientific Interest (SSSI) and a National Nature Reserve (NNR)
- Approximate location of a Local Wildlife Site
- Approximate location of a Regionally Important Geological Site
- Approximate location of a Local Geological site

Rev	Status	Drn	App	Chk	Date
	Final	KR	SPS	LH	29/06/20

Site: EAST NORTHANTS RESOURCE MANAGEMENT FACILITY

Client: Augean South Ltd

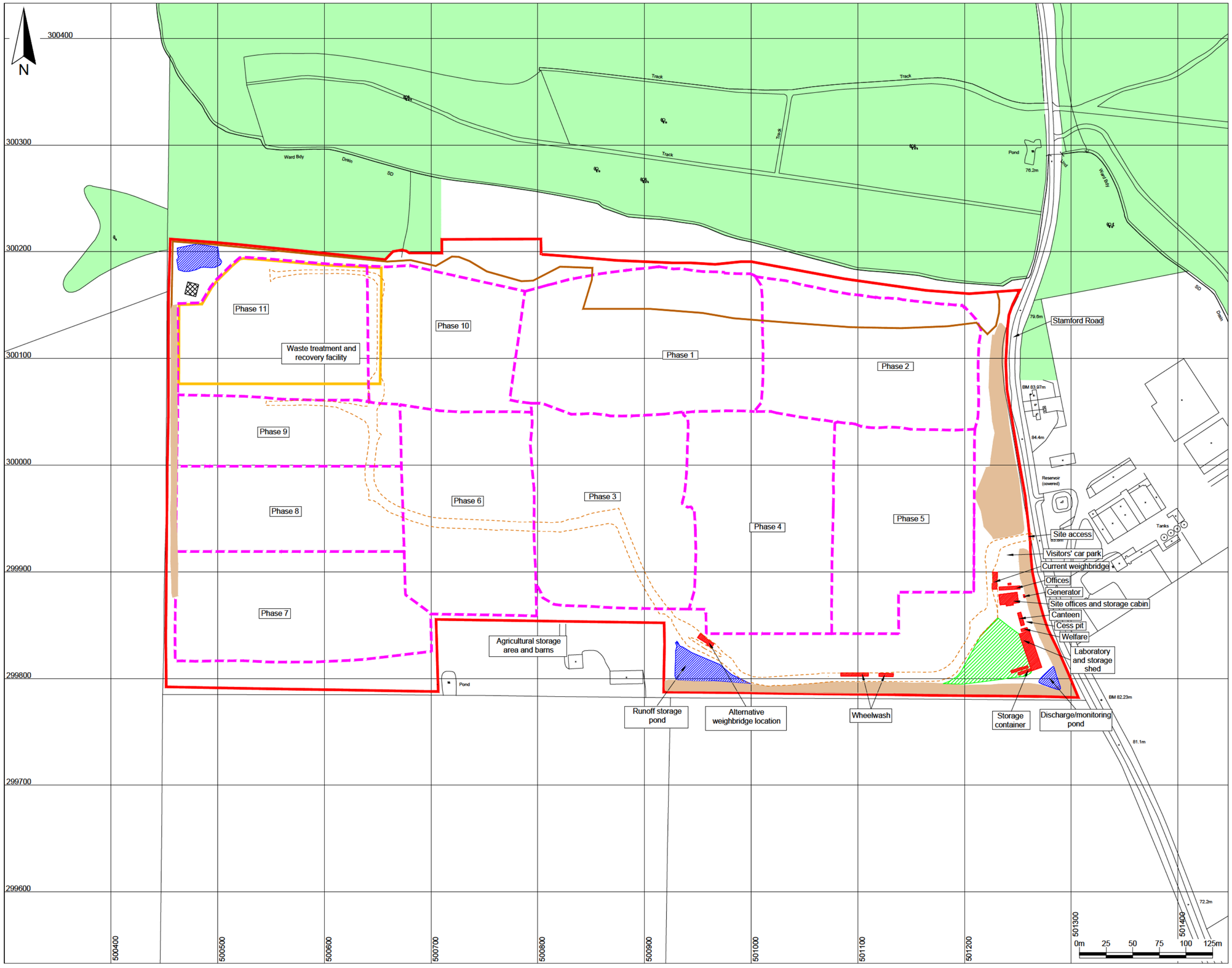
Title: The site location and designated sites in the vicinity of ENRMF

Figure 2

Scale: 1:25,000@A3

Drawing Ref: AU/KCW/06-20/21848

MJCA
Technical advisers on environmental issues
Baddesley Colliery Offices, Main Road, Baxterley, Atherstone, Warwickshire, CV9 2LE.
Telephone : 01827 717891
Fax : 01827 718507



Key / Notes

- The boundary of The East Northamptonshire Resource Management Facility Order 2013 (2013 No. 1752)
- Approximate phase boundaries for the landfill site
- Waste treatment and recovery facility and storage area
- Building or structure
- Approximate route of haul roads
- Approximate location of permanent newt exclusion fencing
- Surface water collection areas
- Approximate area of hardstanding
- Approximate location of bunds
- Woodland
- Gas flare and surface water management compound

Note:
Drawing based on survey reference AU-US-15426.LSS dated 29 May and 2 June 2020

Rev	Status	Drn	App	Chk	Date
	Final	KR	SPS	LH	29/06/20

Site: EAST NORTHANTS RESOURCE MANAGEMENT FACILITY

Client: Augean South Ltd

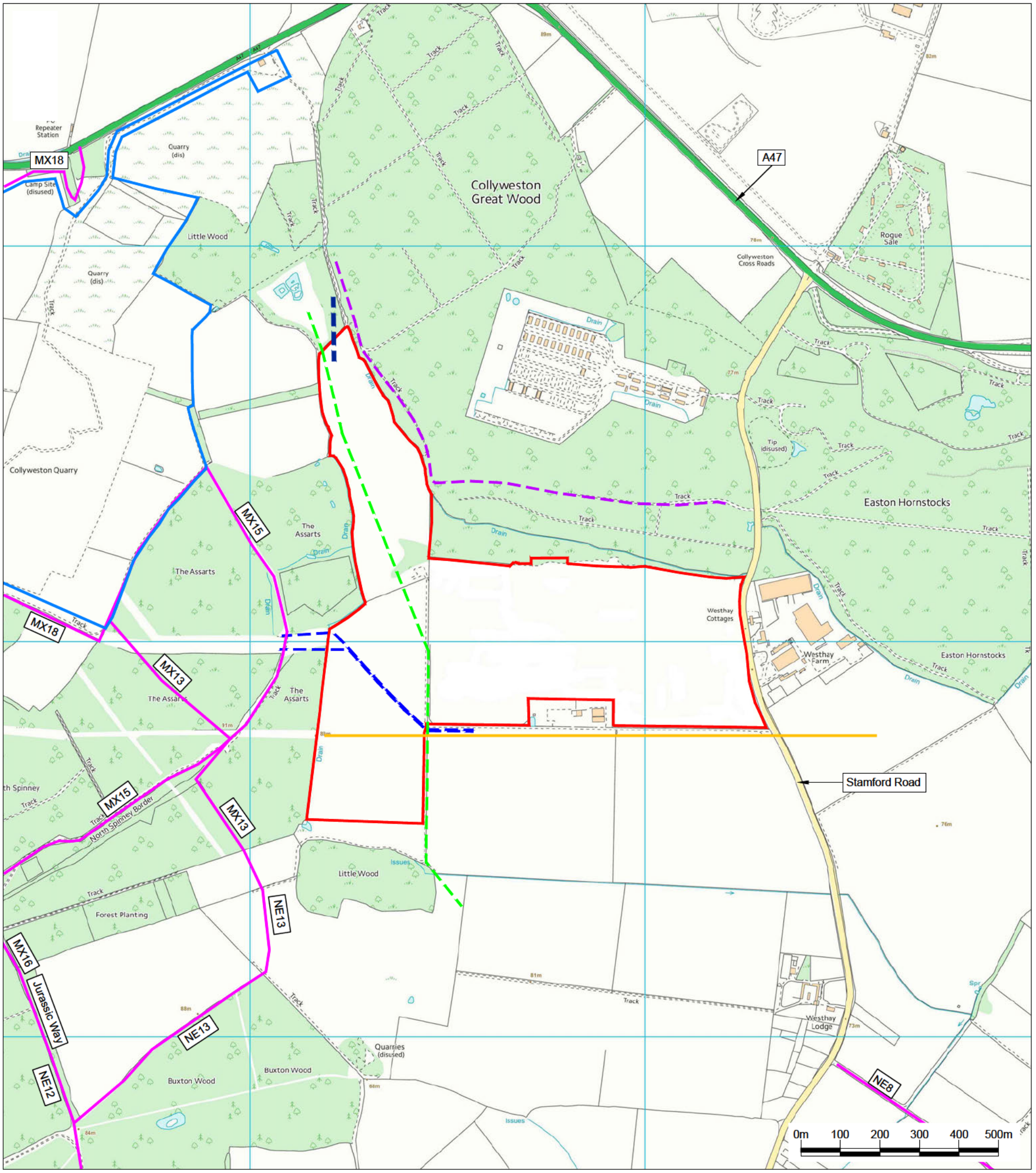
Title: The current site layout

Figure 3

Scale: 1:2,500@A2

Drawing Ref: AU/KCW/06-20/21849

MJCA
Technical advisers on environmental issues
Baddesley Colliery Offices, Main Road, Baxterley, Atherstone, Warwickshire, CV9 2LE.
Telephone : 01827 717891
Fax : 01827 718507



Key / Notes

- Approximate boundary of the area the subject of the application for the Development Consent Order
- Approximate boundary of Collyweston Quarry
- Approximate route of water pipelines
- Approximate route of an oil pipeline
- Approximate route of overhead electricity cables
- Approximate route of surface water drainage pipes
- Redundant MOD pipeline
- Approximate location of a high pressure gas pipeline
- Public rights of way

Note:
Public rights of way taken from the Northamptonshire County Council Interactive Mapping
http://maps.northamptonshire.gov.uk/
#x=479000,y=269000,zoom=0,base=NCC,layers=,search=,fade=false,mX=0,mY=0

Rev	Status	Drn	App	Chk	Date
	Final	KR	SPS	LH	29/06/20

Site: EAST NORTHANTS RESOURCE MANAGEMENT FACILITY

Client: Augean SOUTH LTD

Title: The application boundary, the services at and in the vicinity of the western extension and the public rights of way in the vicinity of ENRMF

Figure 4

Scale: 1:10,000@A3

Drawing Ref: AU/KCW/06-20/21850

MJCA
Technical advisers on environmental issues
Baddesley Colliery Offices,
Main Road, Baxterley, Atherstone,
Warwickshire, CV9 2LE.
Telephone : 01827 717891
Fax : 01827 718507

Key / Notes

Approximate boundary of the area the subject of the application for the Development Consent Order

Rev	Status	Drn	App	Chk	Date
	Final	KR	SPS	LH	29/06/20

Site
EAST NORTHANTS RESOURCE MANAGEMENT FACILITY

Client
Augean SOUTH LTD

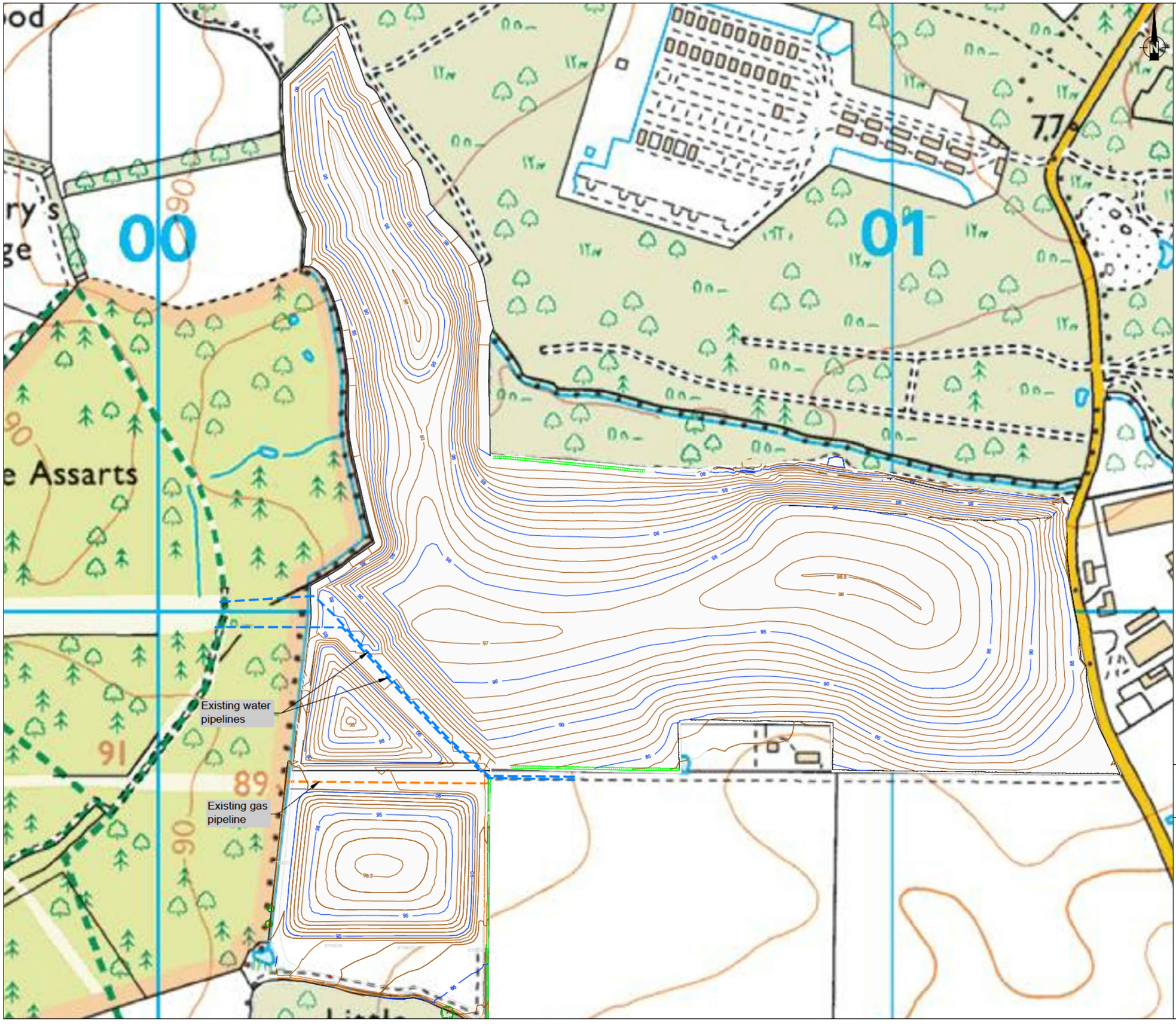
Title
Aerial photograph of the site and surrounding area in 2019

Figure 5

Scale
Not to scale

Drawing Ref
AU/KCW/06-20/21851

MJCA
Technical advisers on environmental issues
Baddesley Colliery Offices,
Main Road, Baxterley, Atherstone,
Warwickshire, CV9 2LE.
Telephone : 01827 717891
Fax : 01827 718507



KEY

PROPOSED RESTORATION CONTOURS @ 1m INTERVALS

EXISTING ROUTES OF WATER PIPELINES

EXISTING ROUTE OF GAS PIPELINE

NOTE: THE INDICATIVE LANDFORMS SHOWN ON THIS DRAWING ARE FOR ILLUSTRATIVE PURPOSES ONLY. IT IS NOT A FINALISED DESIGN AND WILL BE SUBJECT TO FURTHER ITERATIONS AND REVISIONS AS THE DESIGN IS DEVELOPED.

0 50 100 150 200 250 METRES

SCALE 1:5000

Client: Augean South Ltd

Site: EAST NORTHANTS RESOURCE MANAGEMENT FACILITY

Project: PROPOSED WESTERN EXTENSION

Drawing Title: RESTORATION LANDFORMS WITH WATER PIPES RETAINED

Date: JUNE 2020

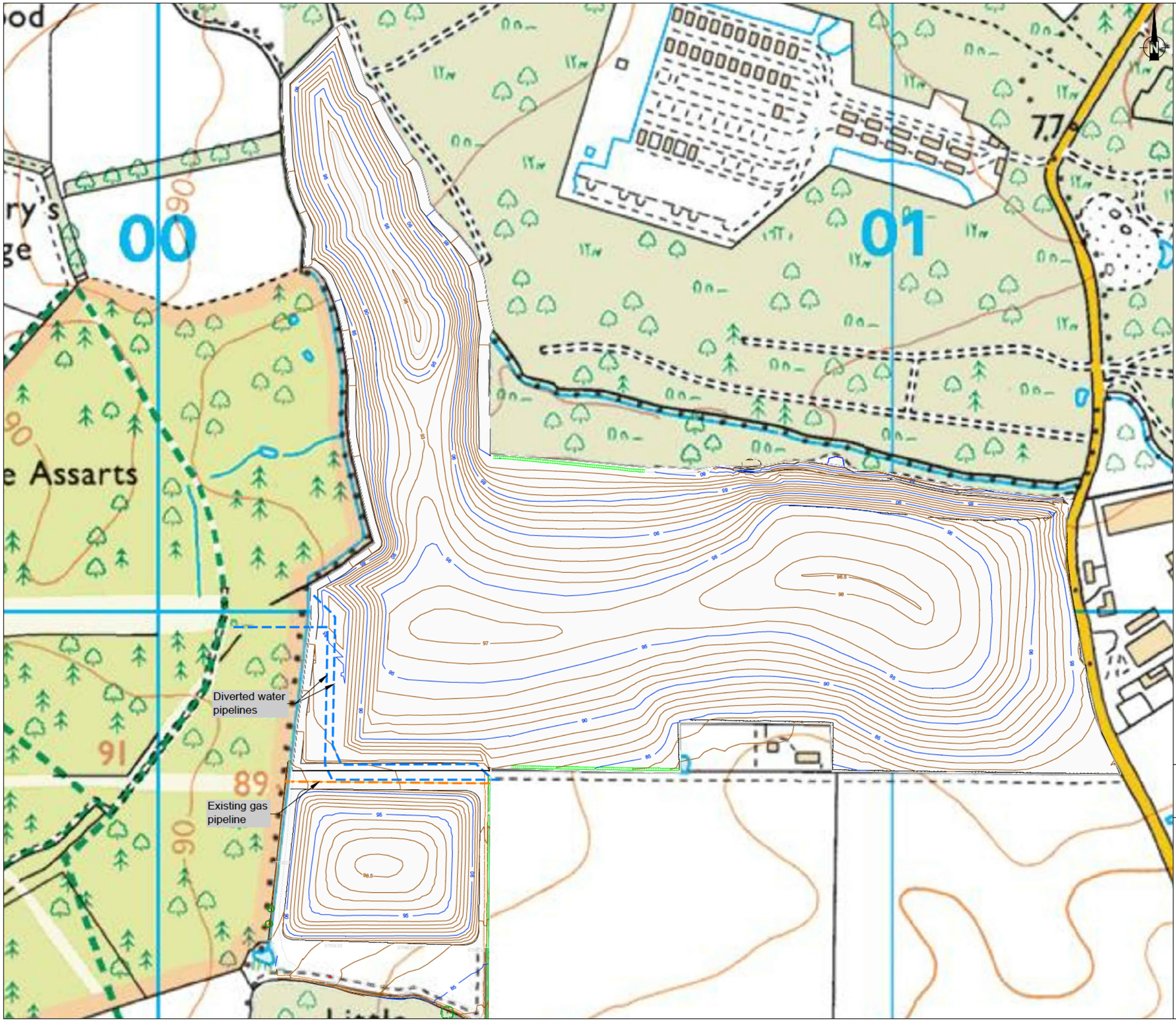
Drawing No.: FIGURE 6A

Scale: 1:5000 @ A3 (Plan View)

File Ref.: 2006_008.006_ENRMF_FIGURE 6A

Revision: 0

DB Landscape Consultancy
T: 01344 624 709
M: 07736 083 383
david@dblc co.uk
www.dblc co.uk



KEY

PROPOSED RESTORATION CONTOURS @ 1m INTERVALS

DIVERTED WATER PIPELINE ROUTES

EXISTING ROUTE OF GAS PIPELINE

NOTE: THE INDICATIVE LANDFORMS SHOWN ON THIS DRAWING ARE FOR ILLUSTRATIVE PURPOSES ONLY. IT IS NOT A FINALISED DESIGN AND WILL BE SUBJECT TO FURTHER ITERATIONS AND REVISIONS AS THE DESIGN IS DEVELOPED

0 50 100 150 200 250 METRES

SCALE 1:5000

Client: Augean South Ltd

Site: EAST NORTHANTS RESOURCE MANAGEMENT FACILITY

Project: PROPOSED WESTERN EXTENSION

Drawing Title: RESTORATION LANDFORMS WITH WATER PIPES DIVERTED

Date: JUNE 2020

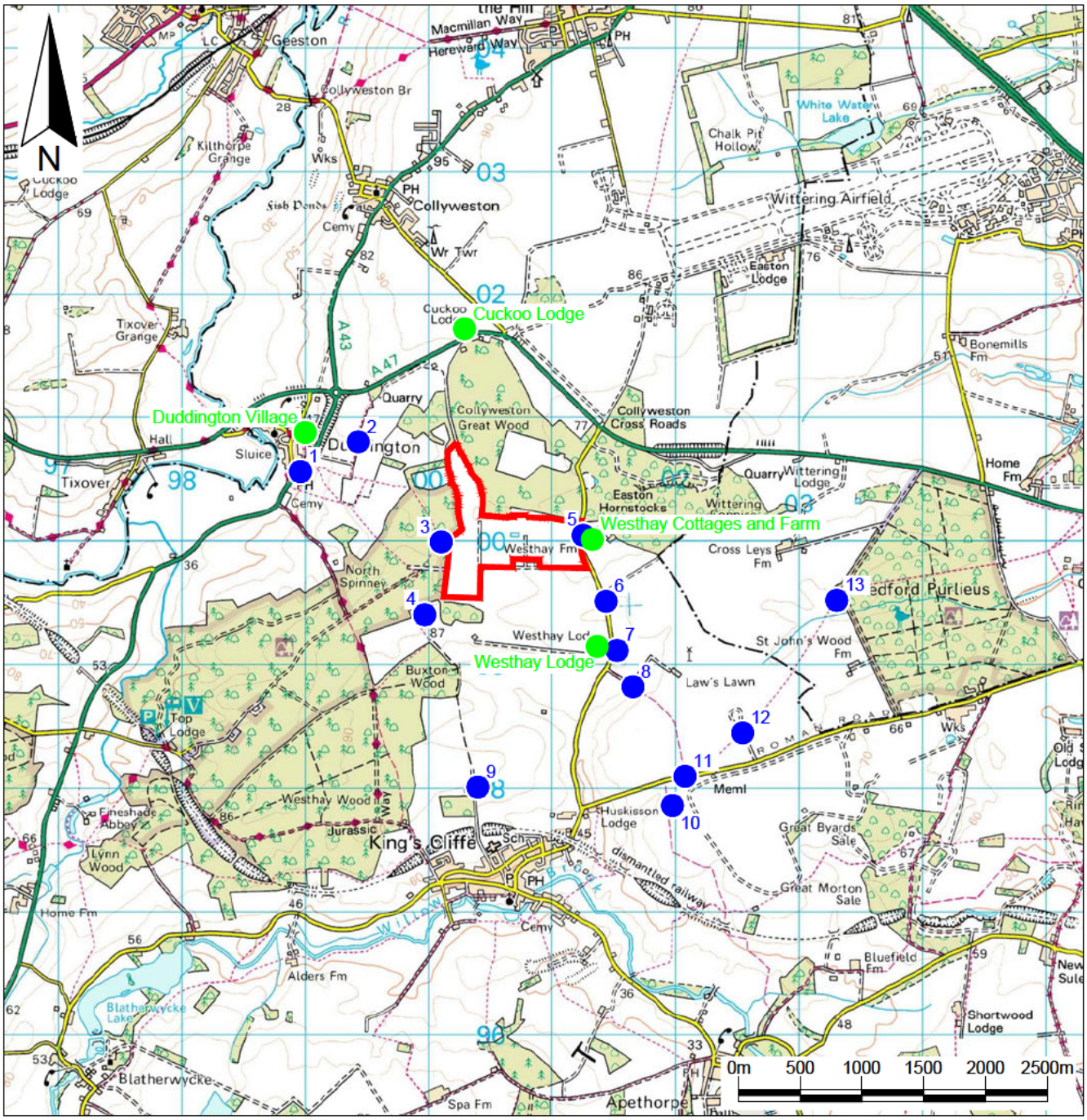
Drawing No.: FIGURE 6B

Scale: 1:5000 @ A3 (Plan View)

File Ref.: 2006_008.006_ENRMF_FIGURE 6B

Revision: 0

DB Landscape Consultancy
T: 01344 624 709
M: 07736 083 383
david@dblc co.uk
www.dblc co.uk



Key / Notes

Approximate boundary of the area the subject of the application for the Development Consent Order

Approximate location of the agreed landscape and visual impact assessment viewpoints

Approximate location of the noise assessment locations

VP1) Public Right of Way (B.O.A.T) beside the A43, southern part of Duddington village
VP2) Footpath to the east of Duddington
VP3) Footpath within The Assarts woodland, at a break in the woodland cover
VP4) Footpath within a field to the south of The Assarts woodland
VP5) Location along the road to the east of site, close to Westhay Cottages
VP6) Location along the road between the existing site and Westhay Lodge
VP7) Pavement in close proximity to Westhay Lodge
VP8) Bridleway to the southeast of Westhay Lodge
VP9) Location on Willow Lane to the north of Kings Cliffe
VP10) Bridleway within the field to the northeast of Kings Cliffe
VP11) Roman Road, at the start of the Bridleway heading north, to the northeast of Kings Cliffe
VP12) Footpath within the field to the northeast of Kings Cliffe
VP13) Start of the Footpath on the western edge of Bedford Purlieus Local Nature Reserve

Rev	Status	Drn	App	Chk	Date
	Final	KR	SPS	LH	29/06/20

Site: EAST NORTHANTS RESOURCE MANAGEMENT FACILITY

Client: Augean South Ltd

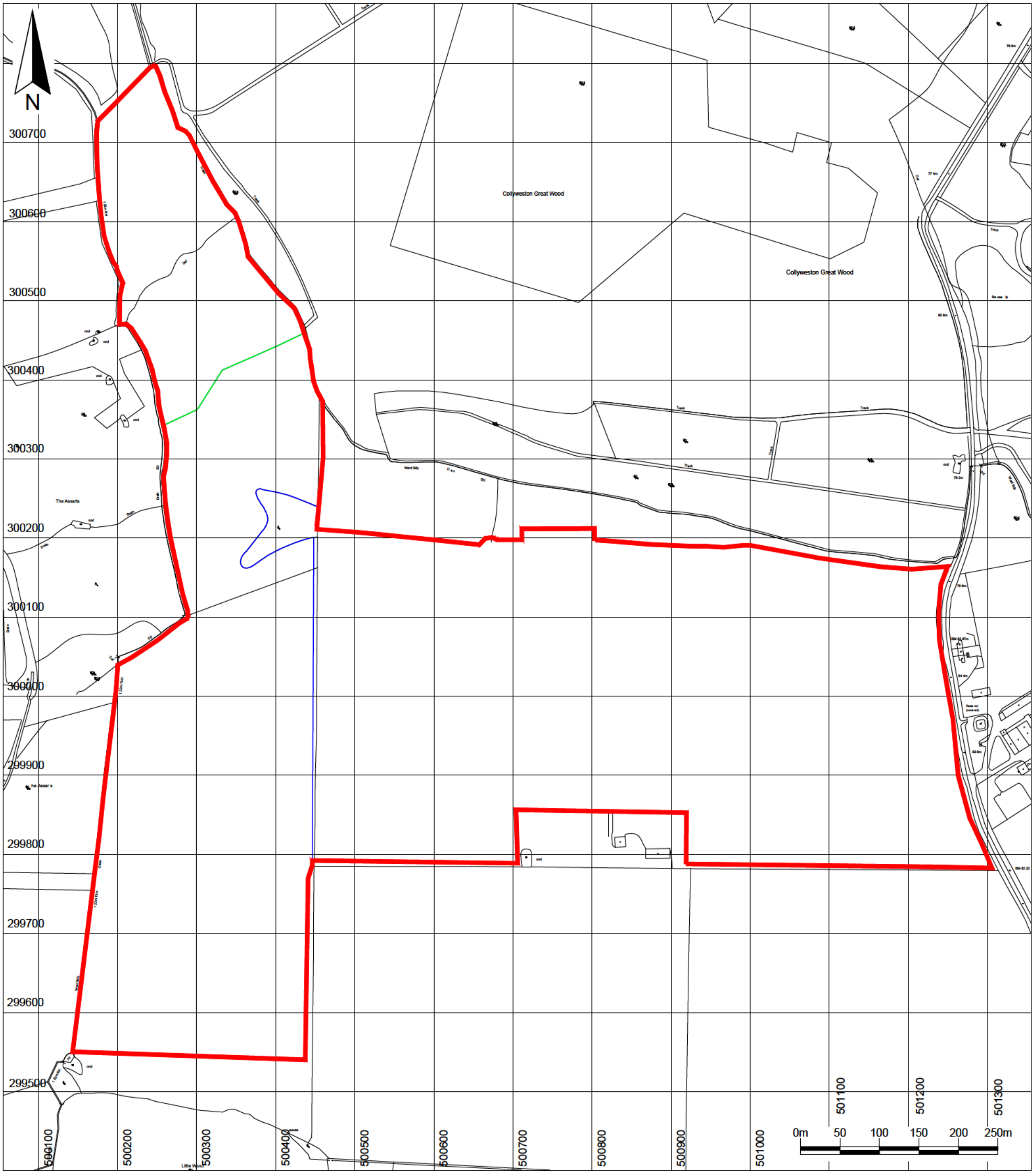
Title: Landscape and visual impact assessment viewpoints and noise assessment locations

Figure 7

Scale: 1:50,000@A4

Drawing Ref: AU/KCW/06-20/21852

MJCA
Technical advisers on environmental issues
Baddesley Colliery Offices,
Main Road, Baxterley, Atherstone,
Warwickshire, CV9 2LE.
Telephone : 01827 717891
Fax : 01827 718507



Key / Notes

Approximate boundary of the area the subject of the application for the Development Consent Order

Subgrade 3a

Subgrade 3b

Other land

Rev	Status	Dm	App	Chk	Date
	Final	KR	SPS	LH	26/06/20

Site: EAST NORTHANTS RESOURCE MANAGEMENT FACILITY

Client: Augean SOUTH LTD

Title: Agricultural land classification

Figure 8

Scale: 1:5,000@A3

Drawing Ref: AU/KCW/06-20/21853

MJCA
Technical advisers on environmental issues

Baddesley Colliery Offices,
Main Road, Baxterley, Atherstone,
Warwickshire, CV9 2LE.
Telephone : 01827 717891
Fax : 01827 718507

APPENDIX A

EUROPEAN DESIGNATED SITES WITHIN 10KM OF THE APPLICATION BOUNDARY, STATUTORILY DESIGNATED SITES WITHIN 5KM OF THE APPLICATION BOUNDARY AND LOCALLY DESIGNATED SITES WITHIN 2KM OF THE APPLICATION BOUNDARY

Appendix A

European Designated Sites within 10km of the application boundary, statutorily designated sites within 5km of the application boundary and locally designated sites within 2km of the application boundary

European designated sites within 10km of ENRMF

Site name	Designation	Reason for designation	Approximate distance from the application boundary at its closest point	Direction from the application site
Rutland Water	Special Protection Area Ramsar Site of Special Scientific Interest	A very large artificial freshwater reservoir, fringed by a mosaic of wetland habitats which display succession from open water to semi-natural mature woodland. The most interesting semi-terrestrial habitats occur mainly at the western end of the lake and include lagoons, reed swamp, marsh and damp meadows. Counts of wintering water birds regularly exceed 20,000 individuals including internationally important numbers of *Anas strepera* (1,498) and *A. clypeata* (511) and nationally important numbers of several other *Anatidae*. The area is also of regional importance for breeding and passage birds.	8.8km	NW
Barnack Hills and Holes	Special Area of Conservation Site of Special Scientific Interest	Semi-natural dry grasslands and scrubland facies on calcareous substrates. This site hosts the priority habitat type "orchid rich sites". This habitat at Barnack Hills and Holes consists largely of CG5 *Bromus erectus – Brachypodium pinnatum* grassland. It supports what is considered to be the largest UK population of the nationally scarce man orchid *Aceras anthropophorum*. It also supports a rich assemblage of other orchid species, such as fragrant orchid *Gymnadenia conopsea*, pyramidal orchid *Anacamptis pyramidalis* and bee orchid *Ophrys apifera*. The site represents orchid-rich grassland in the northern part of its range, on limestone rather than on chalk.	7.5km	NE

Statutorily designated sites within 5km of ENRMF

Site name	Designation	Reason for designation	Approximate distance from the application boundary at its closest point	Direction from the application site
Collyweston Great Wood and Easton Hornstocks	National Nature Reserve Site of Special Scientific Interest	Largest Northamptonshire remnant of the ancient Purlieu coppices of Rockingham Forest. Large range of semi-natural woodland types, a complex mosaic of vegetation, extremely rich ground flora and many locally-rare plants provide breeding bird fauna.	Adjacent	North and East
Collyweston Quarries	Site of Special Scientific Interest	An area of rough grassland with more than one hundred flowering plant species. Good populations of several species of butterfly and a characteristic invertebrate fauna are present. There are additional geological features of interest.	2.9km	N
Racecourse Farm Fields	Site of Special Scientific Interest	Grazed Jurassic limestone grassland. Several small pits provide microclimatic and soil differences which extend the range of species and habitats; one pit has an exposure of geological interest.	3.5km	NNE
Whitewater Valley	Site of Special Scientific Interest	Comprises part of a stream running through Lower Lincolnshire Limestone, and the associated habitats of base poor marsh, tall fen and willow carr.	4.3km	NE
Bonemills Hollow	Site of Special Scientific Interest	Grassland communities of calcareous and marsh types. Additional habitats provided by scrub, willow carr and reeds enhance the value of the area for birds and invertebrates.	1.5km	ENE
Cross Leys Quarry	Regionally important Geological Site	No information available	1.3km	ENE
West Abbot's and Lound Woods	Site of Special Scientific Interest	Range of lowland woodland types many of which are scarce in Britain. A narrow strip of land holds habitats of general wildlife value including a lake and a small marsh.	4.1km	ENE
Bedford Purlieus	National Nature Reserve	Ancient woodland supporting a variety of woodland community types. Great diversity of herbaceous plants and associated fauna.	2km	ESE

Site name	Designation	Reason for designation	Approximate distance from the application boundary at its closest point	Direction from the application site
	Site of Special Scientific Interest			
Old Sulehay Forest	Site of Special Scientific Interest	Important group of ancient woodlands with diverse ground flora and archaeological features. The rides and clearings add to the floristic interest of the site and provide habitat for butterflies and other insects.	4.6km	ESE
King's Cliffe Banks	Site of Special Scientific Interest	Former Quarry. Oolitic limestone grassland. A high quality, species-rich closed calcareous grassland sward has developed on the thinner soils. Neutral grassland and scrub communities are associated with deeper soils.	2.3km	SSE
Wakerley Spinney	Site of Special Scientific Interest	Native broadleaved woodland and semi-natural grassland among extensive softwood plantations. Grassland areas are attractive to butterflies and other insects.	3.5km	WSW
Luffenham Heath Golf Course	Site of Special Scientific Interest	Mosaic of calcareous grassland, scrub and broad-leaved woodland provides an ideal habitat for a diverse insect fauna and butterfly populations.	4.1km	WNW
North Luffenham Golf Course	Site of Special Scientific Interest	Mosaic of calcareous grassland, rich flora and scrub provide an ideal habitat for a diverse insect fauna, including butterflies.	4.9km	NW
Ketton Quarries	Site of Special Scientific Interest	Exposures of Jurassic Limestone and semi-natural limestone grassland and scrub. A complex mosaic of grassland, scrub and woodland vegetation has developed in disused pits and on spoil heaps.	4.8km	NNW
Collyweston Slate Mine	Site of Special Scientific Interest	Exposes the 'Collyweston Slate' of the Jurassic lower Lincolnshire Limestone Formation	2.2km	N

Locally designated sites within 2km of ENRMF

Site name	Designation	Reason for designation	Approximate distance from the application boundary at its closest point	Direction from the application site
Fineshade Woods	Local Wildlife Site	Mixed plantation on ancient woodland site with neutral grassland and ponds.	Adjacent	W
Fineshade Lane	Local Wildlife Site	No information available	1.1km	W
Collyweston Quarry	Local Geological Site	An active quarry with important limestone formations.	0.5km	NW
Potential Wildlife Site-Category 1. Ref. 659.	Potential Wildlife Site	No information available.	Adjacent to the northern boundary of the western extension	N
Potential Wildlife Site-Category 1. Ref. 742	Potential Wildlife Site	No information available.	Partly within the northern part of the existing ENRMF facility	N
Potential Wildlife Site-Category 1. Ref. 743	Potential Wildlife Site	No information available.	Within the northern part of the existing ENRMF facility	

APPENDIX B

PROPOSED METHODOLOGY FOR THE AGRICULTURAL LAND AND SOIL RESOURCES ASSESSMENT

Appendix B

Proposed methodology for the agricultural land and soil resources assessment

Determining Significance

B1. As described the Institute of Environmental Management and Assessment's (IEMA) EIA Guidelines (2004)[16], '*…the assessment of significance is based on the characteristics (or magnitude) of the impact and the sensitivity of the receptor*…'

Magnitude of Effect: Agricultural Land Quality

B2. The magnitude of the predicted impact on agricultural land quality is assessed as 'Very High', 'High', 'Medium', 'Low' or 'Very Low' following the criteria given below.

Impact Magnitude for Agricultural Land	
Impact Magnitude	**Definition**
Very High	Gives rise to an irreversible and permanent (>25 year) long term loss of more than 20 ha agricultural land of that grade or predicted long term reduction in ALC grade on more than 20 ha agricultural land of that grade (see Note 1).
High	Gives rise to an irreversible and permanent (>25 year) long term loss of between 5 and 20 ha of agricultural land of that grade, or predicted long term reduction in ALC grade on between 5 and 20 ha of agricultural land of that grade.
Medium	Development is 5 ha or more and temporary (< 25 years), or potentially 'reversible' such as soft uses that could be returned relatively easily back to agricultural land. Some adverse on-site impacts anticipated e.g. reduced yields, increased management inputs but recovery predicted in the short to medium term (within 5-10 years, see Note 2) following end of use without permanent reduction in ALC grade provided appropriate mitigation is in place.

[16] Institute of Environmental Management and Assessment (IEMA') (2004) 'Guidelines for Environmental Impact Assessment'

Impact Magnitude for Agricultural Land	
Low	Affects < 5ha of agricultural land or with short term effects with no material reduction in ALC grade of development site.
Very Low	Non-agricultural land
Note 1: Magnitude assessments reflect the national agricultural interest embodied in the BMV consultation threshold under the Town and Country Planning (Development Management Procedure) (England) Order 2015 (20ha); and at the lower magnitude (5ha) follows the applicable thresholds and criteria of EIA Regulations 2017, Schedule 2 (10)(b). and threshold for agricultural permitted development rights.	
Note 2: Based on 5 year aftercare period for minerals development, to allow soil structure to develop post soil disturbance.	

Magnitude of Effect: Soil Resources

B3. The magnitude of the predicted impact on soil resources may be assessed as 'High', 'Medium', 'Low' or 'Very Low' following the criteria given below.

Magnitude of Impact - Soil Resources	
Impact Magnitude	**Soil Resources**
High	50,000 m^3 of soil or more. Based on soil resources within 20.0 ha (200,000 m^2) of land area or more, affected by the development with an average 0.25m (25 cm) layer of soil (topsoil or subsoil) (see Note 1).
Medium	25,000 m^3 to 49,999 m^3 of soil. Based on soil resources within 10.0 ha to 19.9 ha (100,000 m^2 to 199,999 m^2) of land area, with an average 0.25m (25 cm) layer of soil (topsoil or subsoil).
Low	12,500 m^3 to 24,999 m^3 of soil. Based on soil resources within 5.0 ha to 9.9 ha (50,000 m^2 to 99,999 m^2) of land area affected by the development, with an average 0.25m (25 cm) layer of soil (topsoil or subsoil) (See Note 2).
Very Low	12,499 m^3 or less.

Magnitude of Impact - Soil Resources	
	Based on soil resources within 4.9 ha or less (49,999 m^2 or less) of land area affected by the development, with an average 0.25m (25 cm) layer of soil (topsoil or subsoil).
Note 1: Magnitude assessments reflect the national agricultural interest embodied in the BMV consultation threshold of 20 ha under TAN6, Annex B2; and at the lower magnitude (5ha) follows the applicable thresholds and criteria of the Welsh EIA Regulations 2017 (Welsh S.I. No. 567), Schedule 2 (10)(b) and threshold for agricultural permitted development rights.	
Note 2: A threshold of 5.0 ha follows the applicable thresholds and criteria of the Welsh EIA Regulations 2017 (Welsh S.I. No. 567), Schedule 2 (10), and threshold for agricultural permitted development rights.	

Sensitivity of Receptors: Agricultural Land Quality

B4. For the purpose of this assessment, the sensitivity of agricultural land is assessed as Very high', 'High', 'Medium', 'Low' or 'Very low' following the criteria given below.

Receptor Sensitivity - Agricultural Land Quality	
Value	**Receptors**
Very high	Grade 1 and Grade 2 agricultural land
High	Subgrade 3a agricultural land
Medium	ALC Subgrade 3b agricultural land
Low	Grade 4 or 5 agricultural land
Very low	Previously developed land formerly in hard uses, with little potential to return to agriculture

Sensitivity of Receptors: Soil

B5. For the purpose of this assessment, the sensitivity of soil is assessed as 'High', 'Medium', 'Low' or 'Very Low' following the criteria given below.

Receptor Sensitivity - Soil	
Value (Sensitivity)	**Descriptor**

Receptor Sensitivity - Soil	
High	Soil types with low resilience to structural damage when being handled: heavy soils with >27% clay content: heavy silty clay loam (HZCL), heavy clay loam (HCL), sandy clay (SC), silty clay (ZC), clay (C); where average annual rainfall is 700mm or greater.
Medium	Soil types with moderate resilience to structural damage when being handled: - Light textured soils: sand (S), loamy sand (LS), sandy loam (SL), sandy silt loam (SZL); where average annual rainfall is more than 1000mm; - Medium textured soils with <27% clay content: silt loam, medium silty clay loam (MZCL), medium clay loam (MCL), sandy clay loam (SCL); where average annual rainfall is 1000mm or greater; - Heavy soils with >27% clay content: heavy silty clay loam (HZCL), heavy clay loam (HCL), sandy clay (SC), silty clay (ZC), clay (C); where average annual rainfall is less than 700mm.
Low	Soil types with high resilience to structural damage when being handled: Light textured soils: sand (S), loamy sand (LS), sandy loam (SL), sandy silt loam (SZL); where average annual rainfall is less than 1000mm.
Very Low	Soil types unsuitable for reuse in restoring agricultural land, reuse in residential gardens, reuse in landscaping schemes, or reuse in ecological schemes, etc. For example, Made Ground/contaminated land.

Significance Matrix

B6. The significance of the predicted impacts, which may be beneficial (positive) or adverse (negative), agricultural land quality and soil resources can be assessed as either 'Major', 'Moderate', 'Minor' or 'Negligible' according to the magnitude of the effect and sensitivity of the receptor, as set out in the Impact Assessment Matrix (IAM) given below.

Impact Assessment Matrix – Agricultural Land Quality and Soil Resources					
Magnitude of Impact	**Sensitivity of Receptor**				
	Very High	**High**	**Medium**	**Low**	**Very Low**
Very High	Major – Significant	Major - Significant	Moderate- Significant	Minor - Not Significant	Negligible - Not Significant
High	Major*/ Moderate – Significant	Major*/ Moderate - Significant	Minor - Not Significant	Minor - Not Significant	Negligible - Not Significant
Medium	Moderate – Significant	Moderate - Significant	Minor - Not Significant	Minor - Not Significant	Negligible - Not Significant
Low	Minor - Not Significant	Minor - Not Significant	Minor - Not Significant	Negligible - Not Significant	Negligible - Not Significant
Very Low	Negligible - Not Significant	Negligible - Not Significant	Negligible - Not Significant	Negligible - Not Significant	Negligible - Not Significant
*Where total of Grades 1, 2 and 3a is 20 ha or more.					

APPENDIX C

PROPOSED CULTURAL HERITAGE ASSESSMENT METHODOLOGY

Appendix C

Proposed cultural heritage assessment methodology

C1. In accordance with the EIA Regulations the significance of an impact or effect should be identified. This is achieved using a combination of published guidance and professional judgement. Four criteria will be considered in evaluating the significance of the residual effects of the proposed development, taking into account any proposed mitigation measures.

Type of Impact

C2. Impacts may be positive, beneficial, negative, adverse, neutral (i.e. no discernible effect) or none. They may be permanent or temporary, of long, medium or short duration, direct or indirect. They may also be cumulative or combined with other effects occurring in the vicinity.

C3. Direct impacts have a physical effect upon an archaeological site, structure or cultural heritage asset. This may lead to the partial or total destruction of that asset.

C4. Indirect impacts of development upon scheduled monuments, listed buildings, parks and gardens and other designated features of the cultural heritage landscape are more difficult to assess. Consideration should include the context (or setting) of a cultural heritage asset (or place) and how we should assess its significance. Contextual relationships may be visual, but can also be, for example, functional or intellectual.

Likelihood of the impact occurring

C5. An assessment will be made as to the likelihood of the identified impact occurring. Probability is considered as certain, likely, unlikely or not known.

Sensitivity

C6 Three categories of sensitivity are identified: high, medium and low. These are expanded upon in the table below.

Definition of cultural heritage sensitivity

Sensitivity	Definition
High	Sites and settings of *national importance*. Scheduled Monuments. Registered Battlefields. Grade I and Grade II* Listed Buildings and Registered Historic Parks and Gardens. Sites may also be discovered as a result of new research that are also of national importance and are candidates for scheduling.
Medium	Sites and settings of *regional importance*. Archaeological sites and features that are not considered sufficiently important or well-preserved to be protected as Scheduled Monuments. Grade II Listed Buildings and Grade II Registered Historic Parks and Gardens. Conservation Areas.
Low	Archaeological sites and structures, and other components of the historic environment that contribute to the local landscape. Locally designated assets.

The Setting of Heritage Assets

C7 Historic England recommends in Good Practice Advice 3 a broad approach to assessment, undertaken as a series of steps that apply proportionately to complex or more straightforward cases:

- Step 1: identify which heritage assets and their settings are affected;
- Step 2: assess whether, how and to what degree these settings make a contribution to the significance of the heritage asset(s);
- Step 3: assess the effects of the proposed development, whether beneficial or harmful, on that significance;
- Step 4: explore the way to maximise enhancement and avoid or minimise harm;
- Step 5: make and document the decision and monitor outcomes.

These steps will be followed in the assessment.

Magnitude

C8. The magnitude of change to a cultural heritage asset or landscape is considered in terms of its vulnerability, its current condition and the nature of the impact upon it. With respect to sub-surface archaeology, there may be a degree of uncertainty of the magnitude of change, and where this is the case it is noted. Magnitude is assessed as high, medium, slight or none and the criteria used in this assessment are set out below:

Criteria for assessing magnitude of change for cultural heritage

Magnitude of Change	**Description of Change**
High	Complete destruction of a well-preserved archaeological site, historic structure or element of the cultural heritage landscape Change to the setting of a cultural heritage asset such that our ability to understand the resource and its historical context is permanently changed
Medium	Destruction of an archaeological site or other cultural heritage asset already in degraded condition Change to the setting of a cultural heritage asset such that our ability to understand the resource and its historical context is partly or temporarily changed
Slight	Destruction of an archaeological site or other cultural heritage asset already in highly degraded condition Change to the setting of a cultural heritage asset such that our ability to understand the resource and its historical context is slightly or temporarily changed
None	No physical effect upon an archaeological site or other asset of the cultural heritage landscape No discernible effect upon the setting of a cultural heritage asset, or our ability to understand the resource and its historical context

Assessing significance

C9. The four criteria are considered together to reach a conclusion upon the significance of residual effects taking into account any mitigation measures. In accordance with the EIA Regulations these are quantified as significant, not significant or neutral (i.e. no change to the existing situation). They may be beneficial or adverse. In some cases it may not be possible to quantify the significance of an effect, for example due to a gap in information, and this is noted. A matrix of the inter-relationship of sensitivity with magnitude is presented below.

Inter relationship of sensitivity with magnitude

Magnitude →	High	Medium	Slight	None
Sensitivity ↓				
High	**Significant**	**Significant**	Not significant	Neutral
Medium	**Significant**	Not significant	Not significant	Neutral
Low	Not significant	Not significant	Not significant	Neutral

APPENDIX D

PROPOSED CONTENTS OF THE ENVIRONMENTAL STATEMENT

Appendix D

Proposed contents of the Environmental Statement

NON TECHNICAL SUMMARY

Executive Summary

1. Introduction
2. Site location and description
3. Scoping and the approach to the Environmental Impact Assessment
4. Current operations at ENRMF
5. The proposed development
6. Site operations and phasing
7. Restoration and net biodiversity gain
8. Alternatives
9. Introduction to the assessment of the environmental effects
10. Population including impacts on human health
11. Ecology and biodiversity
12. Landscape and visual resources
13. Soil resources and agricultural land classification
14. Cultural heritage
15. Water resources
16. Flood risk assessment