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Date: 20 December 2022
Our ref: 50303/17/JG/JCx/26082481v2
Your ref:

Dear Mr Smith

The Woodsmith Project - Full planning application for temporary soil storage stockpiles on land adjacent to Woodsmith Mine, Sneatonthorpe

On behalf of our client, Anglo American (Woodsmith) Ltd ('Anglo American'), Lichfields is pleased to enclose this application for full planning permission for temporary soil storage stockpiles on land adjacent to Woodsmith Mine, Sneatonthorpe.

Background to the Proposal

Anglo American is in the process of implementing "the Woodsmith Project" which comprises the following key elements:

1 An underground Mine including a surface access point at Woodsmith Mine, Sneatonthorpe, approved by RCBC (for those areas of the development site within its remit) under ref: R/2014/0627/FFM (dated 19 August 2015) and by the North York Moors National Park Authority ('NYMNPA') under ref: NYM/2014/0676/MEIA (dated 19th October 2015) and as subsequently varied by ref. NYM/2017/0505/MEIA (dated 6th February 2018);

2 A Mineral Transport System ('MTS') consisting of a 36.5km long tunnel containing a series of linked conveyor belts that will transport the Polyhalite from Woodsmith Mine to Wilton, Teesside, approved alongside the underground Mine by RCBC and the NYMNPA;

3 A Materials Handling Facility ('MHF'), approved by RCBC under ref: R/2014/0626/FFM (dated 14th August 2015) and as subsequently varied under ref. R/2018/0139/VC (dated 29th May 2018);

4 A Port Handling Facility located at Bran Sands, comprising additional storage, an A1085 crossing and an alternative conveyor route associated with the Project, as approved by RCBC under ref: R/2017/0906/OOM (dated 30th April 2018); and

5 Harbour facilities and associated development at Teesside, granted by Order of the Secretary of State under DCO application ref: SI 2016 No. 772 (dated the 10th August 2016).

As detailed below, the application proposal will form part of the implementation of the Woodsmith Mine.

The Site

The application site is located to the immediate northeast of the Woodsmith Mine site, Sneatonthorpe. The adjoining mine site is at an advanced stage of construction, with works currently being implemented as part of a series of phases under planning permission ref. NYM/2017/0505/MEIA.

The application site comprises agricultural land and extends to c. 3.3 ha.

The Proposal

The application proposal seeks the creation of temporary soil stockpiles on existing agricultural land adjacent to the Woodsmith Mine site. This is necessary due to there being insufficient storage space within the existing confines of the mine site itself, where additional tree clearance would need to be undertaken to accommodate the proposed temporary stockpiles.

To construct the temporary stockpiles, topsoil and subsoil will be excavated from existing temporary stockpiles on the Woodsmith Mine site and systematically hauled on to the application site. Each new stockpile will then be seeded on completion, with the stored material remaining in situ until it is required as part of the restoration of the Woodsmith Mine site.

A more detailed description of the proposed works is included in the Construction Method Statement (ref. 40-SMP-WS-7100-PA-MS-00017) which accompanies this submission.

Assessment

The statutory development plan for the North York Moors National Park comprises the North York Moors Local Plan (adopted July 2020), with policy guidance also contained within the Renewable Energy and Design Guide Supplementary Planning Documents. The Minerals & Waste Joint Plan (2022) is also of relevance.

The National Planning Policy Framework (NPPF) (2021) sets out the overarching policy priorities for the planning system. The NPPF is a material consideration in the assessment of this application.

Principle of Development

Strategic Policy A sets out the requirements for achieving National Park purposes and sustainable development. As part of this, it highlights the importance of new development respecting the National Park including in terms of; supporting the function and viability of its communities; protecting and enhancing geodiversity and biodiversity; making sustainable use of resources and; preserving the quality of soil, air and water in around the National Park.

Strategic Policy D relates to Major Development within the National Park, with such proposals needing to demonstrate exceptional circumstances and public interest, including in terms of need and the opportunity to locate development outside of the National Park.

The application proposal involves temporary works that are related to the construction of the adjoining mine site and which has already satisfied the requisite Major Development Test as set out under Strategic Policy D. In facilitating the storage of material associated with the mine site in a suitable and accessible location that immediately adjoins it, this application will help ensure a sustainable use of resources and preserve the quality of existing soil in accordance with the principles of Strategic Policy A. As part of this, the proposed use of the adjoining land will avoid the need for further tree clearance that would otherwise need to be undertaken within the confines of the existing mine site if the temporary stockpiles were to be accommodated here.

Design & Visual Impact

Strategic policies C and G of the Local Plan relate to the design of development and ensuring that it respects the local landscape character.

A Landscape & Visual Appraisal note has been prepared to assess the potential landscape and visual impacts associated with the proposed development. It also includes photomontages illustrating what the temporary storage stockpiles will look like in the context of the existing landscape.

Whilst the note acknowledges that the application site is located within a highly sensitive setting with respect to landscape and visual changes, the magnitude of change from the assessed viewpoints is considered to be low, especially on the basis that any landscape or visual changes would be temporary and reversible. It concludes that the proposals would give rise to a negligible impact on landscape character and visual receptors and would not, therefore, be significant.

The construction lighting scheme that forms part of the proposed works (as detailed in Section 3.3 of the CEMP) is limited to only that required for safe working, with lights turned off when not in use and sensitively positioned and shielded such that they will point into the site and away from Whitby and the A171. This will ensure that the principles of NYMNPA's dark night skies initiative – as set out in Policy ENV4 - will be respected for the duration of the proposed works.

Environmental Effects

Policy ENV7 of the Local Plan seeks to protect the natural environment from potential harm in respect of hydrogeology, air quality and noise.

The Construction Environmental Management Plan (ref. 40-RDH-WS-70-EN-PL-0059) provides further details as to how the proposed works will be planned, monitored and managed in an environmentally responsible manner.

A Hydrogeological Risk Assessment (ref. 40-FWS-WS-70-WM-RA-0021) forms part of this application and confirms that because the proposed development only comprises surface works, it will not have significant chemical or physical impacts on the hydrogeology or hydrogeological receptors on or adjacent to the site.

The Noise & Vibration Impact Assessment (ref. 40-RHD-WS-70-EN-NT-0003) considers the potential noise and vibration impacts of the proposed works, taking into account the cumulative impacts of the ongoing works at the neighbouring mine site. The report describes how with appropriate mitigation in place, there will be no exceedances of the noise limit thresholds set out in planning permission NYM/2017/0505/MEIA. It goes on to confirm that a 'Best Practicable Means' approach to working will be applied to the application site and that the ongoing noise monitoring that takes place at Woodsmith Mine will capture any noise from the proposed works associated with this application. This will help avoid any unacceptable impacts on residential amenity, and also ensure that the proposals remain in-keeping with the principles of tranquillity as set out in Policy ENV2 of the Local Plan.

The site is currently used for cattle grazing and taking the agricultural land out of use will lead to a reduction in the phosphorus and nitrogen runoff from the site. To this end, the impact of the proposed works with regard to nutrient neutrality has also been considered.

The site is within the catchment of the River Esk which flows into the North Sea at Whitby. The site is typically underlain by impermeable soils and has an annual average rainfall of approximately 800-850 mm/year. The current land use of the site was defined as Less Favourable Areas (LFA). Runoff coefficients were derived using Farmscoper Upscale Tool. The current Total Nitrogen (TN) and Total Phosphorus (TP) loading for the site is 32.53 kg TN/yr and 1.79 kg TP/yr.

The future land use of the site, with the removal of the agricultural use, will contribute 9.96 kg TN/yr and 0.07 kg TP/yr. The installation of silt netting and temporary drainage features as well as seeding will limit the sediment bound phosphorus that could be lost from the site via runoff. The sources of nutrients in the future use are much more limited and are expected to have a lower concentrations and be less frequent than what is currently anticipated from the agricultural use of the site.

Conversion of the land from agricultural use to soil storage will reduce the nutrient losses. It is anticipated that a TN saving of 22.57 kg TN/yr and TP saving of 1.73 kg TP/yr will be achieved. (This is equivalent to the nutrient loading for 9 new dwellings for the TN saved and 18 new dwellings for the TP saved).

It should be noted that this reduction is temporary and would, in all likelihood, return to previous level on returning the land to agricultural use.

Flood Risk / Drainage Statement

Policy ENV5 of the Local Plan seeks to direct new development away from areas of flood risk and ensure that it does not increase the risk of flooding elsewhere. Similar requirements are set out within Policy D11 of the Minerals & Waste Local Plan.

The application site is located within Flood Zone 1 (i.e. land having less than 1 in 1,000 annual probability of river or sea flooding), where there is a "low" probability of flooding. As detailed in the Surface Water Drainage Strategy (ref. 40-ARI-WS-7100-CI-RP-01011), surface water drainage will be installed to control silt mobilisation and surface water run-off, and will include the construction of an attenuation pond and surface swales. Silt fences around earthworks and check-dams within swales will be provided to control silt run-off. If required due to the levels of silt generated, water run-off will be pumped from either the swales to the attenuation pond and/or from the attenuation pond to Pond B within the Woodsmith Mine site, to be treated through the surface water treatment plant (siltbuster), prior to discharge to Sneaton Thorpe Beck to ensure that water discharged from the site complies with the control levels set in the Groundwater and Surface Water Monitoring submitted to partially discharge condition NYMNPA 46 of NYM/2017/0505/MEIA.

Pumping will be delivered by two number HP150 super silenced performance pumps, one located at each 'pumped connection' point shown on the proposed general arrangement drawing. These diesel generated power pumps incorporate a built-in bunded fuel tank, enabling them to run for up to 24 hours before requiring refuelling. They will be situated on a temporary level hardstanding with overground flexi piped connections to the ponds. Pumps will be inspected daily and the safe refuelling procedures utilised at the Woodsmith Mine site will be adopted.

On the basis of the above, the proposal will not increase the level of flood risk at the site or to neighbouring land (including the mine site), in accordance with national policy guidance and Local Plan policy.

Biodiversity Statement

Strategic Policy H of the Local Plan requires development to maintain and, where appropriate, enhance features of ecological value and recognised geodiversity assets.

An Ecological Survey and Assessment (40-PCA-WS-8323-EN-AS-00001) accompanies this application and identifies the application site to be located within a poor habitat of negligible ecological value. Taking into account the fact that the site will be reinstated to its previous agricultural use on completion of the storage operation, it goes on to conclude that the impacts associated with the development on ecology will be negligible.

Notwithstanding the above, the report recommends various mitigation and precautionary working measures to be adopted as part of the proposed works. This includes the undertaking of further general walkover survey prior to the construction of any stockpiles.

Heritage Statement

Policy ENV 10 requires applicants to provide sufficient information to allow an informed assessment of the significance of the archaeological heritage asset and its setting, and the impact of the proposed development on that significance.

A Heritage Technical Note (40-COT-WS-83-PA-TN-0001) has been prepared in accordance with policy ENV10. It confirms how the potential within the application site for the presence of archaeological remains which predate the post-medieval/modern periods is negligible / low and there are unlikely to be any features beyond negligible significant that would warrant recording /investigation. Accordingly, no archaeological work within the site is considered to be necessary.

The Technical Note concludes that no adverse effects from the proposed development have been identified and that it accords with the requirements of legislation and policy relating to the historic environment.

Transport & Access Statement

Policy CO2 of the Local Plan looks to ensure that adjacent road networks have the capacity to serve new development proposals without detriment to highways safety. Given, however, that the application site will be accessed only from the adjoining mine site, the proposed development would not give rise to any traffic impacts.

Vehicular trips associated with the existing mine site will continue to be controlled via the daily targets set out in the Construction Traffic Management Plans submitted to discharge condition 34 of planning permission ref. NYM/2017/0505/MEIA.

Application Submission

This application has been prepared having regards to the Council's Local Validation Checklist and pre-application discussions regarding the scope of the submission.

It has been submitted to the North York Moors National Park Authority ('NYMNPA') via the Planning Portal (ref. PP-11761791) and comprises the following information:

1 Planning Application Forms and Ownership Certificates;

1 Covering Letter (this document);

2 Planning Drawings, prepared by Anglo American (set out in Table 1 at the end of this letter);

3 Supporting environmental information (set out in Table 2 at the end of this letter).

Conclusions

We trust the enclosed application and information is sufficient to enable you to validate and determine the application and we will be in contact with you to confirm this. In the meantime, if you have any questions, please do not hesitate to contact me.

Yours sincerely

James Cox
Associate Director

Copy – Anglo American Woodsmith Ltd

Table 1 – Supporting Environmental Information

Drawing Name	Document Reference
Construction Method Statement	40-SMP-WS-7100-PA-MS-00017
Hydrogeological Risk Assessment	40-FWS-WS-70-WM-RA-0021
Surface Water Drainage Stategy	40-ARI-WS-7100-C1-RP-01011
Heritage Technical Note	40-COT-WS-83-PA-TN-0001
Construction Environmental Management Plan	40-RHD-WS-70-EN-PL-0059
Landscape & Visual Appraisal	40-RHD-WS-70-EN-TN-0001
Noise and Vibration Management Plan	40-RHD-WS-70-EN-NT-0003
Ecological Survey and Assessment	40-PCA-WS-8323-EN-AS-00001

Table 2 – Planning Drawings

Drawing Name	Drawing Reference
Location Plan	40-ARI-WS-7100-CI-22-01106
Existing Site Plan	40-ARI-WS-7100-CI-22-01105
Proposed General Arrangement	40-ARI-WS-7100-CI-22-01103
Existing Cross Sections	40-ARI-WS-7100-CI-10-01107
Proposed Cross Sections	40-ARI-WS-7100-CI-10-01104

Project Title / Facility Name:

Woodsmith Project

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CONSTRUCTION METHOD STATEMENT (PLANNING APPLICATION FOR TEMPORARY SOIL STORAGE STOCKPILES) (CMS)

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Woodsmith Mine - Planning Application for Temporary Soil Storage Stockpiles Construction Method Statement (CMS)

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Woodsmith Mine - Planning Application for Temporary Soil Storage Stockpiles Construction Method Statement (CMS)

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Woodsmith Mine - Planning Application for Temporary Soil Storage Stockpiles Construction Method Statement (CMS)

1 Introduction

1.1 The purpose of this document

This document details the Construction Method Statement (CMS) relating to a planning application to undertake temporary stockpiling of topsoil and subsoil at a site adjacent to Woodsmith Mine. The application site is located immediately to the northeast of Woodsmith Mine, which was granted planning permission by the North York Moors National Park Authority (NYMNPA) (permission NYM/2014/0676/MEIA as subsequently varied by NYM/2017/0505/MEIA) and which is currently under construction.

This CMS provides details of the proposed works. Construction details relating to works on the wider Woodsmith Mine site have been submitted to and approved in writing by NYMNPA in respect of specific phases of work. In certain cases, soil stockpiling – which is the subject of this application – will make use of existing facilities and infrastructure that has already been approved as part of the wider development of the Woodsmith Mine. The CMS provides details of where this will be the case.

2 Project Overview and Description of the Works

2.1 Project overview

Anglo American Woodsmith Limited (Anglo American) is developing a new mine surface development south of Whitby in North Yorkshire to access polyhalite mineral. The polyhalite is to be brought to surface at the Wilton International site, Teesside, where it will be processed into a granular fertiliser product and transferred to a Port Handling Facility for storage and export (the port facility is covered by a separate consenting regime). This CMS relates to a planning application for stockpiling of topsoil and subsoil at a site adjacent to Woodsmith Mine, and associated drainage.

2.2 Description of the works

- Installation of access between Woodsmith Mine and the application site
- Construction of temporary haul road
- Installation of temporary drainage features, including attenuation pond, swales and silt netting
- Temporary stockpiling of topsoil and subsoil

These works are detailed in Section 3.

3 Construction Method Statements

3.1 Supporting Infrastructure

3.1.1 Perimeter Security Fencing

A 1.8m – 2.4m high secure perimeter fence will be installed around the boundary of the site (as shown by the red line on 40-ARI--WS-7100-CI-22-01106). This will tie in with the existing Woodsmith Mine site perimeter fence, with a gated access to be provided at the south western corner, where the temporary haul road is located.

Figure 1; Proposed perimeter fencing

3.1.2 Offices, Welfare & Compounds

The facilities already established at Woodsmith Mine in accordance with Planning Permission NYM/2017/0505/MEIA will be utilised to support the proposed works at the application site. No additional offices, welfare or construction compounds will be established as part of the proposals subject of this application.

3.1.3 Utilities

No utilities will be installed as part of the current application.

3.1.4 Transport, Mobilisation and Parking

Workers accessing the application site will do so via Woodsmith Mine, will be sourced from the existing Woodsmith Mine workforce, and will comply with the requirements of the current Construction Traffic Management Plan (CTMP) prepared for the wider Woodsmith Mine site.

All equipment, plant and materials will be delivered to Woodsmith Mine following the traffic routes detailed within the Woodsmith Mine CTMP. Drivers will not be permitted to stop or wait along the B1416.

Fewer than 10 abnormal indivisible loads (AIL) would be required for mobilisation and demobilisation of additional plant. The routing and timing of these AIL deliveries will be subject to separate agreement with the local highway authorities and police through the established Electronic Service Delivery for Abnormal Loads system (ESDAL) process.

Internal access routes will connect Woodsmith Mine to the application site. These will be demarcated and separated from pedestrians. A speed limit of 10 mph will be enforced.

Vehicles entering site will stay on existing hardstanding areas within the wider Woodsmith Mine site. HGV drivers will also be required to make use of the existing wheel wash facility prior to leaving the Woodsmith Mine site and joining the public highway network.

3.1.5 Storage of plant and materials

Plant and materials will be stored within the Woodsmith Mine site.

3.1.6 Lighting

No permanent lighting columns will be installed as part of these works. The works will be undertaken on a 7am to 7pm basis. Where temporary task lighting is required, this will be specified and managed in accordance with the wider Woodsmith Mine site requirements. As such, where possible:

- The number of temporary lighting towers will be kept to a minimum. They will have a maximum height of 4m, directed down towards the ground and will illuminate only the areas needed for safe working practices.
- All lights will be switched off when not required.
- The lights will be sensitively positioned and shielded, pointing into site and away from Whitby and the A171 to minimise light emission.

3.2 Site Clearance

Prior to any soil stripping or stockpiling activities, the existing vegetation will be cleared, under the supervision of a suitably qualified ecologist to prevent disturbance to nesting birds and other protected species, adopting the precautionary methods of working in accordance with the Protected Species Management Plans established to discharge planning condition 56 of NYM/2017/0505/MEIA.

3.3 Haul Road

A haul road will be established between the existing Woodsmith Mine site and the application site as shown on General Arrangement Drawing 40-ARI-WS-7100-CI-22-01103. Topsoil and subsoil will be removed and stockpiled in temporary storage bunds on the Woodsmith Mine site. The road construction will be built up of imported stone. All imported material will be obtained from a permitted quarry source and approved by Anglo American.

3.4 Earthworks

Topsoil and subsoil generated from the Woodsmith Mine site requires temporary storage prior to placement as part of the site restoration process. These will either be moved from existing temporary stockpiles on the Woodsmith Mine site or stripped from situ. The temporary stockpile designs for this application are detailed on the General Arrangement Drawing 40-ARI-WS-7100-CI-22-01103 and Proposed Cross Section Drawing 40-ARI-WS-7100-CI-10-01104.

All handling of topsoil and subsoil, both on Woodsmith Mine site and the application site, will be undertaken in accordance with the Phase 11 Soil Management Plan produced to discharge planning condition 76 of NYM/2017/0505/MEIA.

In areas designated for topsoil stockpiling, existing vegetation will be removed, and topsoil will be stockpiled to a maximum height of 3m.

In areas designated for subsoil stockpiling, existing vegetation will be removed, topsoil will be stripped, and stockpiled separately, and subsoil will be stockpiled to a maximum height of 7m.

In constructing the attenuation pond and surface swales, existing vegetation will be removed and topsoil and subsoil will be stripped and stockpiled separately.

All works will be undertaken between 1 April and 30 September as per condition 76 of NYM/2017/0505/MEIA, unless prior agreement is made with the Mineral Planning Authority.

3.4.1 Construction Methodology

The plant that will be used for these works is as follows:

6 x Volvo A30G articulated haulers

1 x CAT D6T dozer

1 x Volvo EC480E excavator

2 x Bomag BW219 roller

The construction sequence shall commence with site clearance followed by the installation of the haul road, creation of the pond and swales and stripping the topsoil under the subsoil bund. These works will take approximately 4 weeks of daytime operations.

To construct the temporary stockpiles, topsoil and subsoil will be excavated from existing temporary stockpiles on the Woodsmith Mine site and systematically hauled and placed into each respective stockpile. There is a total of approximately 30,000m^3 topsoil and 40,000m^3 subsoil to be placed which will take approximately 8 weeks of daytime operations.

The stockpiles will be seeded in a progressive manor, as they are completed. Once seeded, they will remain in situ until the material is required by the Woodsmith Mine site for restoration works.

As the restoration works within the Woodsmith Mine site progress, topsoil and subsoil will be extracted from the temporary stockpiles, for use in the restoration, in a progressive manor, in accordance with the Woodsmith Mine Soil Management Plan.

All temporarily stored topsoil and subsoil has a certainty of beneficial use within the approved habitat creation/restoration activities at Woodsmith Mine and do not represent a risk to human health or the environment. As such, the stockpiled material will not be discarded.

3.5 Surface Water Management

Surface water drainage will be installed to control silt mobilisation and surface water runoff and will include the construction of an attenuation pond and surface swales. Silt fences around earthworks and check-dams within swales will be provided to control silt run-off. If required due to the levels of silt generated, water runoff will be pumped from either the swales to the attenuation pond and/or from the attenuation pond to Pond B within the Woodsmith Mine site and treated through the surface water treatment plant (Siltbuster), prior to discharge to Sneaton Thorpe Beck to ensure that water discharged from the site complies with the control levels set in the Groundwater and Surface Water Monitoring submitted to partially discharge condition NYMNPA 46 of NYM/2017/0505/MEIA, and the Discharge Permit (EPR-MB3399VR).

Pumping will be delivered by two number HP150 super silenced performance pumps, one located at each ‘pumped connection’ point shown on the General Arrangement Drawing 40-ARI-WS-7100-CI-22-01103. These diesel generated power pumps incorporate a built-in bunded fuel tank, enabling them to run for up to 24 hours before requiring refuelling. They will be situated on a temporary level hardstanding with overground flexi piped connections to the ponds. Pumps will be inspected daily and the safe refuelling procedures utilised at the Woodsmith Mine site will be adopted.

3.6 Restoration

Once the requirement for temporary stockpiling at the application site has finished, and the topsoil and subsoil stockpiles have been removed, topsoil will be reinstated in the footprint of the subsoil stockpiles, and the areas where the attenuation pond and swales are installed will be remediated. The area will be seeded in a progressive manor.

Project Title / Facility Name:

Woodsmith Project

Document Title:

TECHNICAL NOTE - WOODSMITH - ARCHAEOLOGICAL REPORT FOR LAND OUTSIDE WOODSMITH CONSTRUCTION BOUNDARY

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Cotswold Archaeology

Woodsmith Mine
Sneaton
North Yorkshire

Heritage Technical Note

Report prepared for:
AngloAmerican

CA Project: MK0825

CA Report: MK0825_2

December 2022

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Woodsmith Mine
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Figure 1 Site location plan

Figure 2 Construction masterplan

Figure 3 Proposed works within the Site

Figure 4 HER search results

Figure 5 Previous archaeological works

SUMMARY

Project Name: Woodsmith Mine
Location: Sneaton, North Yorkshire
NGR: 489771 505599

In December 2022, Cotswold Archaeology (CA) was commissioned by Anglo-American to produce a Heritage Technical Note in respect of land at Woodsmith Mine, Sneaton, North Yorkshire, in support of a forthcoming planning application for the creation of temporary soil storage stockpiles on land adjacent to Woodsmith Mine with attenuation ponds for management of surface water runoff.

The potential within the Site for the presence of archaeological remains predating the post-medieval/modern periods is negligible to low, based on previous fieldwork in adjacent areas of the wider development site, and relevant HER data. Such features as may be present are considered likely to comprise, at most, drainage and other land management features of late post-medieval and early modern date. Such features would be of negligible significance and would not warrant recording/ investigation. Consequently, no archaeological work within the Site is considered necessary.

This Technical Note provides sufficient information to conform to the requirements set out in with paragraph 194 of the NPPF. No adverse effects have been identified and the proposed development accords with the requirements of legislation and policy relating to the historic environment.

1. INTRODUCTION

1.1. In December 2022, Cotswold Archaeology (CA) was commissioned by Anglo-American to produce a Heritage Technical Note in respect of land at Woodsmith Mine, Sneaton, North Yorkshire (centred at NGR 489771 505599, see Fig. 1; hereafter referred to as 'the Site').

1.2. North York Moors National Park Authority (NYMNPA) has previously granted planning permission (ref: NYM/2014/0676/MEIA) for the development of a mine and associated infrastructure (see Fig. 2). A new planning application will be submitted for *temporary soil storage stockpiles on land adjacent to Woodsmith Mine with attenuation ponds for management of surface water runoff*, immediately to the north-east of the existing mining operation and north of an existing area of bunds and attenuation ponds. This Technical Note considers the potential impacts of the proposed development upon the archaeological resource within the proposed Site.

1.3. The Site is located at the north-eastern edge of the wider Woodsmith Mine complex, situated approximately 5km to the south of Whitby and 20km to the north-west of Scarborough, within the North York Moors National Park. The current Woodsmith Mine encompasses an area of approximately 50ha on the grounds of the former Dove's Nest Farm and is bounded by the B1416 road to the west and the south, by Whinny Wood and the Haxby Plantation to the east, and by arable fields to the north. The Site itself is bounded to the east and north by arable land, and to the west and south by existing portions of the Woodsmith Mine.

1.4. The underlying geology within the Site comprises sandstone, siltstone and mudstone of the Saltwick Formation and Cloughton Formation, a sedimentary bedrock formed between 174.1 and 168.3 million years ago during the Jurassic period. Superficial deposits of Till, Devensian diamicton, a sedimentary superficial deposit formed between 116 and 11.8 thousand years ago during the Quaternary period, are recorded at the eastern end of the Site (BGS 2022).

Objectives and professional standards

1.5. This Statement considers the potential development effects upon known and potential archaeological heritage assets.

1.6. The composition and development of the historic environment within the Site is briefly discussed. A determination of the significance of any heritage assets located within

the Site and any heritage assets beyond the Site boundary that may potentially be affected by the development proposals is presented. Any potential development effects upon the significance of these heritage assets (both adverse and/or beneficial) are then described.

1.7. This Statement does not comprise a full Desk-Based Assessment although its preparation has been informed by the 'Standard and guidance for historic environment desk-based assessment' published by the Chartered Institute for Archaeologists (CIfA) (2020). CA is a Registered Organisation with the CIfA.

Statute, policy and guidance context

1.8. This assessment has been undertaken within the key statute, policy and guidance context, including the NPPF and local planning policy. The applicable provisions contained within these statute, policy and guidance documents are referred to, and discussed, as relevant, throughout the text. Potential archaeological interest in the Site derives from its location within the North York Moors National Park, which is rich in well preserved prehistoric funerary and settlement remains (see section 3, below). Paragraph 176 of the NPPF sets out the particular importance of the conservation and enhancement of cultural heritage within National Parks, building upon the provisions of *The National Parks and Access to the Countryside Act 1949*. Specific polices pertaining to the historic environment are contained in chapter 16, *Conserving and enhancing the historic environment*. Paragraph 194 states that: *In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.*

2. METHODOLOGY

Data collection, analysis and presentation

2.1. Existing historic environment data collected as part of previous phases of work within the main development area (covered by planning ref. NYM/2014/0676/MEIA) has been utilised to inform this Statement, along with the results of previous desk-based studies (CA 2012a, 2012b and 2014a; RHDHV 2014) and previous archaeological fieldwork (GSB 2012; CA 2013; CA 2014b; CA 2018; CA 2019a and CA 2020). An up-to-date search of data held by the North York Moors National Park Historic Environment Record (HER) was also commissioned to inform this Statement.

Assessment of heritage significance

2.2. The significance of known and potential heritage assets within the Site, and any beyond the Site which may be affected by the proposed development, has been assessed and described, in accordance with paragraph 194 of the NPPF (2021), the guidance issued by the CIfA (2020) and 'Historic Environment Good Practice Advice in Planning Note 2' (HE 2015). Determination of significance has been undertaken according to the industry-standard guidance on assessing heritage value provided within 'Conservation Principles' (English Heritage 2008) and 'Statements of Heritage Significance: Analysing Significance in Heritage Assets Historic England Advice Note 12' (HE 2019).

Assessment of potential development effects (benefit and harm)

2.3. This report sets out the ways in which identified susceptible heritage assets might be affected by the proposals, as well as the anticipated extent of any such effects. Both physical effects, i.e. resulting from the direct truncation of archaeological remains, and non-physical effects, i.e. resulting from changes to the setting of heritage assets (in accordance with HE 2017), have been assessed. Identified effects upon heritage assets have been defined in accordance with key national heritage policy and guidance terminology, particularly that of the NPPF (2021).

3. ARCHAEOLOGICAL BACKGROUND

3.1. The Woodsmith Mine site has previously been the subject of desk-based assessments (CA 2012a, 2012b and 2014a), and an Environmental Statement (RHDHV 2014). Geophysical survey of the majority of the area has been also undertaken (GSB 2012). Previous phases of archaeological fieldwork within the Woodsmith Mine site comprise watching briefs and strip, map and sample excavation

(CA 2013; CA 2014b; CA 2018; CA 2019a and CA 2020). A full search of records held by the North York Moors Historic Environment Record (HER) was also carried out to supplement and cross-reference the previously gathered information. A visual representation of the HER data is presented in Figure 4.

3.2. The archaeological background of the Woodsmith Mine site has been presented in detail as part of previous phases of reporting (see above) and will not be reproduced here. The following summary will instead focus on the results of the various fieldwork programmes carried out within the Woodsmith Mine site to date. The locations of the separate phases of fieldwork are presented in Figure 5.

Geophysical survey (GSB 2012; HER Event No. 897)

3.3. A programme of geophysical survey was carried out in 2012, covering the majority of the Woodsmith Mine site to the west and south-west of the current Site (GSB 2012).

3.4. No anomalies likely to be of archaeological interest were detected. A number of responses of uncertain origin were recorded, and responses due to natural soil effects and past ploughing were visible throughout the datasets. Several areas of magnetic disturbance were considered to be of relatively recent origin.

Watching brief (CA 2013; HER Event No. 905)

3.5. A watching brief was undertaken in 2012 and 2013 during groundworks associated with the construction of temporary drilling compounds at two locations within the Woodsmith Mine site (Doves Nest South and Doves Nest North; CA 2013). Features relating to modern agricultural activity were identified at both sites. No significant archaeological remains were identified at either of the sites.

Watching brief (CA 2014; HER Event No. 898)

3.6. An archaeological watching brief was undertaken in 2014 during hydrogeological investigations across the existing consented Woodsmith Mine site area (CA 2014).

3.7. A total of 48 trial pits were excavated and several undated archaeological features were identified, including three ditches, a probable pit and two postholes (HER 22313). Two of the diches are on a similar alignment, and in a similar location, to an anomaly identified by the geophysical survey. A mound identified by a preceding LiDAR survey was found to be of probable geological origin.

Watching brief and SMS excavation (CA 2018; HER Event No. 936)

3.8. A programme of archaeological work was undertaken in stages between 2015 and 2018 immediately to the south of the Site, as well as covering a number of other areas of groundworks within the wider Woodsmith Mine site to the west and south-west (CA 2018).

3.9. The initial works comprised a watching brief during the excavation of test pits, which did not reveal any archaeological finds, features or deposits. The second phase of fieldwork, consisting of a strip, map and sample excavation, identified one post-medieval field boundary ditch (HER 22493) depicted on an Ordnance Survey map of 1853 and one undated field boundary ditch, which likely forms the continuation of a boundary identified on historic and modern Ordnance Survey mapping. Two small undated pits were also recorded towards the north-eastern part of the site (HER 22497).

3.10. A watching brief was also carried out during the demolition of Dove's Nest Farmhouse (HER 22304). The observations confirmed the farmhouse was constructed during the modern period, with no elements pre-dating the modern period observed.

Watching brief (CA 2019a; HER Event No. 969)

3.11. An archaeological watching brief was carried out in 2018 at the southern end of the Woodsmith Mine site, to the south-west of the current Site. The works comprised the monitoring of the mechanical stripping of overburden from six areas, down to the natural geological substrate.

3.12. This revealed two sinuous features, interpreted as silted palaeochannels, as well as partial elements of at least two field systems (HER 22789, 22790, 22799, and 2280). Although these field systems remained undated artefactually, they were assigned to either the pre-medieval period or the post-medieval period based on their spatial relationships with one another, their morphological characteristics and cartographic analysis. In addition, a stone lined culvert of probable post-medieval date (HER 22804) and two undated pits (HER 22801 and 22802) were also identified.

Excavation (CA 2020)

3.13. An excavation carried out in 2020 immediately to the south-west of the Site, in the area of Bund F, revealed a number of post-medieval/modern features including a pond and former watercourse, as well as a holloway and field system boundary ditches (CA 2020).

Watching brief (CA 2022)

3.14. A watching brief was carried out during groundworks in the northern part of the Woodsmith Mine site, just to the west of the current Site. No archaeological remains pre-dating the modern period were observed. A number of modern field drains, an area of made ground, a soil and stone surface, and further evidence of modern disturbance were identified, all resulting from very recent activities related to the mine works. Two vast areas of dark silty clay were also recorded, which could be possibly interpreted as recent slurry pools or natural deposits. None of the features previously identified in adjacent areas of monitored groundworks (see above) extended into the area.

4. POTENTIAL EFFECTS

Potential development effects

4.1. Any truncation (physical development effects) upon any archaeological remains located within the Site would primarily result from groundworks associated with construction works and subsequent soil compaction and rutting due to heavy plant operation. Such groundworks might include:

- topsoil stripping prior to the deposition of soil in the three bund areas;
- groundworks in relation to the construction of the new surface water attenuation pond (including soakaways); and
- any compaction and/or maintenance required on access routes for heavy plant.

4.2. No significant archaeological remains have been identified to date within the Site or the wider Woodsmith Mine development area, and there is considered to be a low potential for any significant as yet unknown archaeological remains to survive buried within the Site. It is anticipated that no significant archaeological remains will therefore be truncated by the proposed development.

5. CONCLUSIONS

5.1. The potential within the Site for the presence of archaeological remains predating the post-medieval/modern periods is negligible to low, based on previous fieldwork in adjacent areas of the wider development site, and relevant HER data. Such features as may be present are considered likely to comprise, at most, drainage and other land management features of late post-medieval and early modern date. Such

features would be of negligible significance and, based upon the archaeological works undertaken to date at Woodsmith Mine, would not warrant recording/ investigation. Consequently, no archaeological work within the Site is considered necessary.

5.2. In keeping with the methodology adopted for previous phases of work in response to Condition 95 of planning permission NYM/2014/0676/MEIA, the works could be managed under the controls and methodologies set out in the overarching *Woodsmith Mine, Sneaton, North Yorkshire, Phase 11: Written Scheme of Investigation for an Archaeological Watching Brief* (CA 2019b) for the Woodsmith site.

5.3. This Statement provides sufficient information to confirm the likely impacts of the proposed development upon the historic environment, in accordance with paragraph 194 of the NPPF. No adverse effects have been identified and the proposed development accords with the requirements of legislation and policy relating to the historic environment.

6. REFERENCES

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7. APPENDIX 1: HERITAGE STATUTE POLICY & GUIDANCE

Heritage Statute: Scheduled Monuments

Scheduled Monuments are subject to the provisions of the Ancient Monuments and Archaeological Areas Act 1979. The Act sets out the controls of works affecting Scheduled Monuments and other related matters. Contrary to the requirements of the Planning Act 1990 regarding Listed buildings, the 1979 Act does not include provision for the 'setting' of Scheduled Monuments.

Heritage Statute: Listed Buildings

Listed buildings are buildings of 'special architectural or historic interest' and are subject to the provisions of the Planning (Listed Buildings and Conservation Areas) Act 1990 ('the Act'). Under Section 7 of the Act 'no person shall execute or cause to be executed any works for the demolition of a listed building or for its alteration or extension in any manner which would affect its character as a building of special architectural or historic interest, unless the works are authorised.' Such works are authorised under Listed Building Consent. Under Section 66 of the Act 'In considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any feature of special architectural or historic interest which it possesses'.

Note on the extent of a Listed Building

Under Section 1(5) of the Act, a structure may be deemed part of a Listed Building if it is:

(a) fixed to the building, or
(b) within the curtilage of the building, which, although not fixed to the building, forms part of the land and has done so since before 1st July 1948

The inclusion of a structure deemed to be within the 'curtilage' of a building thus means that it is subject to the same statutory controls as the principal Listed Building. Inclusion within this duty is not, however, an automatic indicator of 'heritage significance' both as defined within the NPPF (2021) and within Conservation Principles (see Section 2 above). In such cases, the significance of the structure needs to be assessed both in its own right and in the contribution it makes to the significance and character of the principal Listed Building. The practical effect of the inclusion in the listing of ancillary structures is limited by the requirement that Listed Building Consent is only needed for works to the 'Listed Building' (to include the building in the list and all the ancillary items) where they affect the special character of the Listed building as a whole.

Guidance is provided by Historic England on 'Listed Buildings and Curtilage: Historic England Advice Note 10' (Historic England 2018).

Heritage Statue: Conservation Areas

Conservation Areas are designated by the local planning authority under Section 69(1)(a) of the Planning (Listed Buildings and Conservation Areas) Act 1990 ('the Act'), which requires that '*Every local planning authority shall from time to time determine which parts of their area are areas of special architectural or historic interest the character or appearance of which it is desirable to preserve or enhance*'. Section 72 of the Act requires that '*special attention shall be paid to the desirability of preserving or enhancing the character or appearance of that area*'.

The requirements of the Act only apply to land within a Conservation Area; not to land outside it. This has been clarified in various Appeal Decisions (for example APP/F1610/A/14/2213318 Land south of Cirencester Road, Fairford, Paragraph 65: '*The Section 72 duty only applies to buildings or land in a Conservation Area, and so does not apply in this case as the site lies outside the Conservation Area*.').

The NPPF (2021) also clarifies in Paragraph 207 that '*Not all elements of a World Heritage Site or Conservation Area will necessarily contribute to its significance*'. Thus land or buildings may be a part of a Conservation Area, but may not necessarily be of architectural or historical significance. Similarly, not all elements of the setting of a Conservation Area will necessarily contribute to its significance, or to an equal degree.

National heritage policy: the National Planning Policy Framework

Heritage assets and heritage significance

Heritage assets comprise 'a building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest' (the NPPF (2021), Annex 2). Designated heritage assets include World Heritage Sites, Scheduled Monuments, Listed Buildings, Protected Wreck Sites, Registered Parks and Gardens, Registered Battlefields and Conservation Areas (designated under the relevant legislation; NPPF (2021), Annex 2). The NPPF (2021), Annex 2, states that the significance of a heritage asset may be archaeological, architectural, artistic or historic. Historic England's 'Conservation Principles' looks at significance as a series of 'values' which include 'evidential'. 'historical', 'aesthetic' and 'communal'.

The July 2019 revision of the Planning Practice Guidance (PPG) expanded on the definition of non-designated heritage assets. It states *that 'Non-designated heritage assets are buildings, monuments, sites, places, areas or landscapes identified by plan-making bodies as*

having a degree of heritage significance meriting consideration in planning decisions, but which do not meet the criteria for designated heritage assets.' It goes on to refer to local/neighbourhood plans, conservation area appraisals/reviews, and importantly, the local Historic Environment Record (HER) as examples of where these assets may be identified, but specifically notes that such identification should be *made 'based on sound evidence'*, with this information *'accessible to the public to provide greater clarity and certainly for developers and decision makers'*.

This defines *non-designated heritage assets* as those which have been specially defined as such through the local HER or other source made accessible to the public by the plan-making body. Where HERs or equivalent lists do not specifically refer to an asset as a *non-designated heritage asset*, it is assumed that it has not met criteria for the plan-making body to define it as such, and will be referred to as a *heritage asset* for the purpose of this report.

The assessment of *non-designated heritage assets* and *heritage assets* will be equivalent in this report, in line with industry standards and guidance on assessing significance and impact. They may not, however, carry equivalent weight in planning as set out within the provisions of the NPPF, should there be any effect to significance.

The setting of heritage assets

The 'setting' of a heritage asset comprises 'the surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral' (NPPF (2021), Annex 2). Thus it is important to note that 'setting' is not a heritage asset: it may contribute to the value of a heritage asset.

Guidance on assessing the effects of change upon the setting and significance of heritage assets is provided in 'Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets', which has been utilised for the present assessment (see below).

Levels of information to support planning applications

Paragraph 194 of the NPPF (2021) identifies that 'In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance'.

Designated heritage assets

Paragraph 189 of the NPPF (2021) explains that heritage assets 'are an irreplaceable resource and should be conserved in a manner appropriate to their significance'. Paragraph 199 notes that 'when considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance'. Paragraph 200 goes on to note that 'substantial harm to or loss of a grade II listed building…should be exceptional and substantial harm to or loss of designated heritage assets of the highest significance (notably scheduled monuments, protected wreck sites, registered battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites)…should be wholly exceptional'.

Paragraph 202 clarifies that 'Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including, where appropriate, securing its optimum viable use'.

Good Practice Advice 1-3

Historic England has issued three Good Practice Advice notes ('GPA1-3') which support the NPPF. The GPAs note that they do not constitute a statement of Government policy, nor do they seek to prescribe a single methodology: their purpose is to assist local authorities, planners, heritage consultants, and other stakeholders in the implementation of policy set out in the NPPF. This report has been produced in the context of this advice, particularly 'GPA2 – Managing Significance in Decision-Taking in the Historic Environment' and 'GPA3 – The Setting of Heritage Assets'.

GPA2 - Managing Significance in Decision-Taking in the Historic Environment

GPA2 sets out the requirement for assessing 'heritage significance' as part of the application process. Paragraph 8 notes 'understanding the nature of the significance is important to understanding the need for and best means of conservation.' This includes assessing the extent and level of significance, including the contribution made by its 'setting' (see GPA3 below). GPA2 notes that 'a desk-based assessment will determine, as far as is reasonably possible from existing records, the nature, extent and significance of the historic environment within a specified area, and the impact of the proposed development on the significance of the historic environment, or will identify the need for further evaluation to do so' (Page 3).

GPA3 – The Setting of Heritage Assets

The NPPF (Annex 2: Glossary) defines the setting of a heritage asset as 'the surroundings in which a heritage asset is experienced…'. Step 1 of the settings assessment requires heritage assets which may be affected by development to be identified. Historic England notes that for the purposes of Step 1 this process will comprise heritage assets 'where that experience is capable of being affected by a proposed development (in any way)…'.

Step 2 of the settings process 'assess[es] the degree to which these settings and views make a contribution to the significance of the heritage asset(s) or allow significance to be appreciated', with regard to its physical surrounds; relationship with its surroundings and patterns of use; experiential effects such as noises or smells; and the way views allow the significance of the asset to be appreciated. Step 3 requires 'assessing the effect of the proposed development on the significance of the asset(s)' – specifically to 'assess the effects of the proposed development, whether beneficial or harmful, on the significance or on the ability to appreciate it', with regard to the location and siting of the development, its form and appearance, its permanence, and wider effects.

Step 4 of GPA3 provides commentary on 'ways to maximise enhancement and avoid or minimise harm'. It notes (Paragraph 37) that 'Maximum advantage can be secured if any effects on the significance of a heritage asset arising from development liable to affect its setting are considered from the project's inception.' It goes on to note (Paragraph 39) that 'good design may reduce or remove the harm, or provide enhancement'.

Heritage significance

Discussion of heritage significance within this assessment report makes reference to several key documents. With regard to Listed buildings and Conservation Areas it primarily discusses 'architectural and historic interest', which comprises the special interest for which they are designated.

The NPPF provides a definition of 'significance' for heritage policy (Annex 2). This states that heritage significance comprises 'The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic'. This also clarifies that for World Heritage Sites 'the cultural value described within each site's Statement of Outstanding Universal Value forms part of its significance'.

Regarding 'levels' of significance the NPPF (2021) provides a distinction between: designated heritage assets of the highest significance; designated heritage assets not of the highest significance; and non-designated heritage assets.

Historic England's 'Conservation Principles' expresses 'heritage significance' as comprising a combination of one or more of: evidential value; historical value; aesthetic value; and communal value:

- Evidential value – the elements of a historic asset that can provide evidence about past human activity, including physical remains, historic fabric, documentary/pictorial records. This evidence can provide information on the origin of the asset, what it was used for, and how it changed over time.
- Historical value (illustrative) – how a historic asset may illustrate its past life, including changing uses of the asset over time.
- Historical value (associative) – how a historic asset may be associated with a notable family, person, event, or moment, including changing uses of the asset over time.
- Aesthetic value – the way in which people draw sensory and intellectual stimulation from a historic asset. This may include its form, external appearance, and its setting, and may change over time.
- Communal value – the meaning of a historic asset to the people who relate to it. This may be a collective experience, or a memory, and can be commemorative or symbolic to individuals or groups, such as memorable events, attitudes, and periods of history. This includes social values, which relates to the role of the historic asset as a place of social interactive, distinctiveness, coherence, economic, or spiritual / religious value.

Effects upon heritage assets

Heritage benefit

The NPPF clarifies that change in the setting of heritage assets may lead to heritage benefit. Paragraph 206 of the NPPF (2021) notes that 'Local planning authorities should look for opportunities for new development within Conservation Areas and World Heritage Sites, and within the setting of heritage assets, to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to the asset (or which better reveal its significance) should be treated favourably'.

GPA3 notes that 'good design may reduce or remove the harm, or provide enhancement' (Paragraph 28). Historic England's 'Conservation Principles' states that 'Change to a significant place is inevitable, if only as a result of the passage of time, but can be neutral or beneficial in its effects on heritage values. It is only harmful if (and to the extent that) significance is reduced' (Paragraph 84).

Specific heritage benefits may be presented through activities such as repair or restoration, as set out in Conservation Principles.

Heritage harm to designated heritage assets

The NPPF (2021) does not define what constitutes 'substantial harm'. The High Court of Justice does provide a definition of this level of harm, as set out by Mr Justice Jay in *Bedford Borough Council v SoS for CLG and Nuon UK Ltd*. Paragraph 25 clarifies that, with regard to 'substantial harm': 'Plainly in the context of physical harm, this would apply in the case of demolition or destruction, being a case of total loss. It would also apply to a case of serious damage to the structure of the building. In the context of non-physical or indirect harm, the yardstick was effectively the same. One was looking for an impact which would have such a serious impact on the significance of the asset that its significance was either vitiated altogether or very much reduced'.

Effects upon non-designated heritage assets

The NPPF (2021) paragraph 203 guides that 'The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that affect directly or indirectly non-designated heritage assets, a balanced judgment will be required having regard to the scale of any harm or loss and the significance of the heritage asset'.

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PROJECT TITLE
Woodsmith Mine, North Yorkshire

FIGURE TITLE
Site location plan

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CHECKED BY	AS	DATE	20/12/2022	1
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PROJECT TITLE
Woodsmith Mine, North Yorkshire

FIGURE TITLE
Construction masterplan

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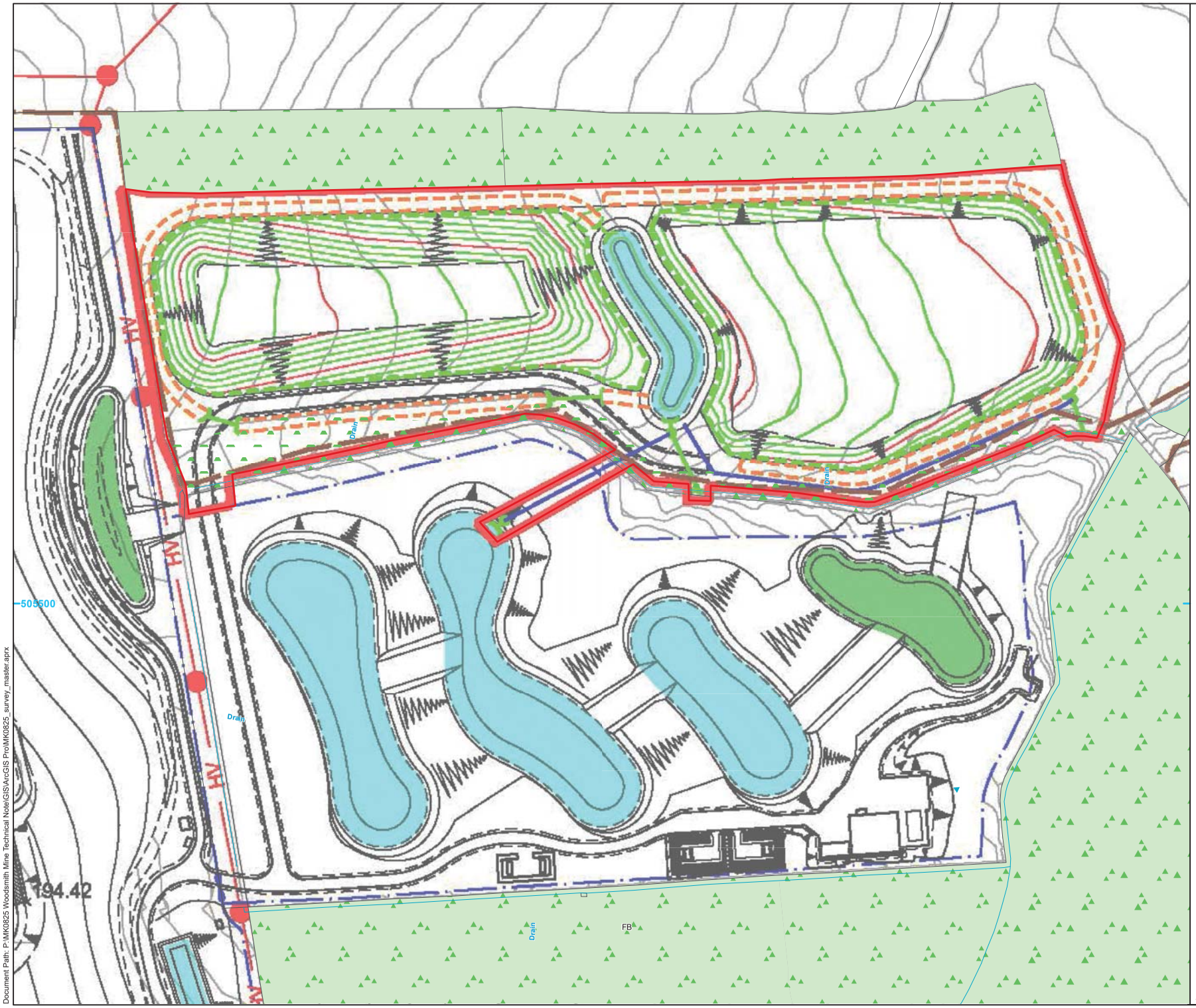

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PROJECT TITLE
Woodsmith Mine, North Yorkshire

FIGURE TITLE
Proposed works within the site

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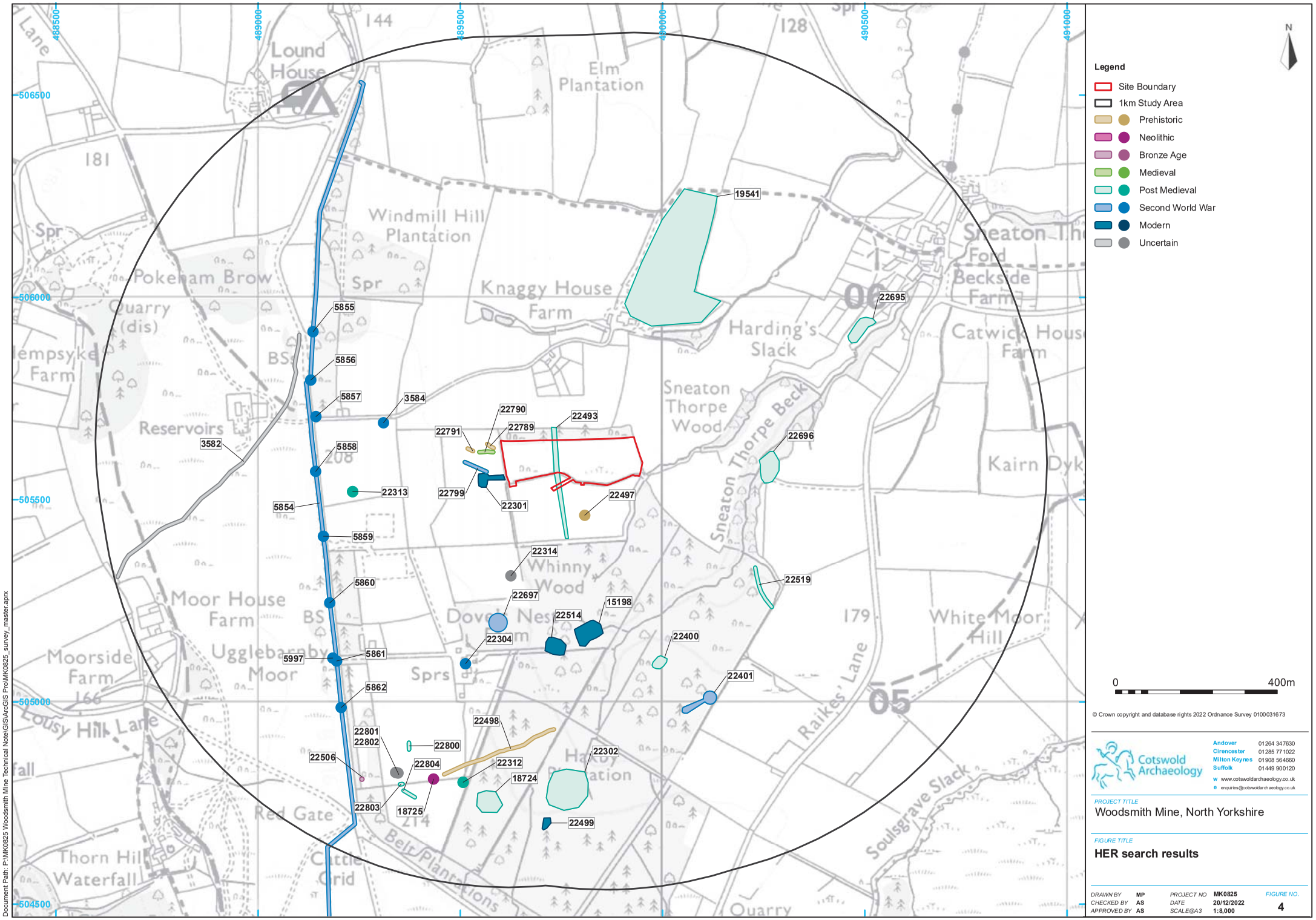

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FIGURE TITLE
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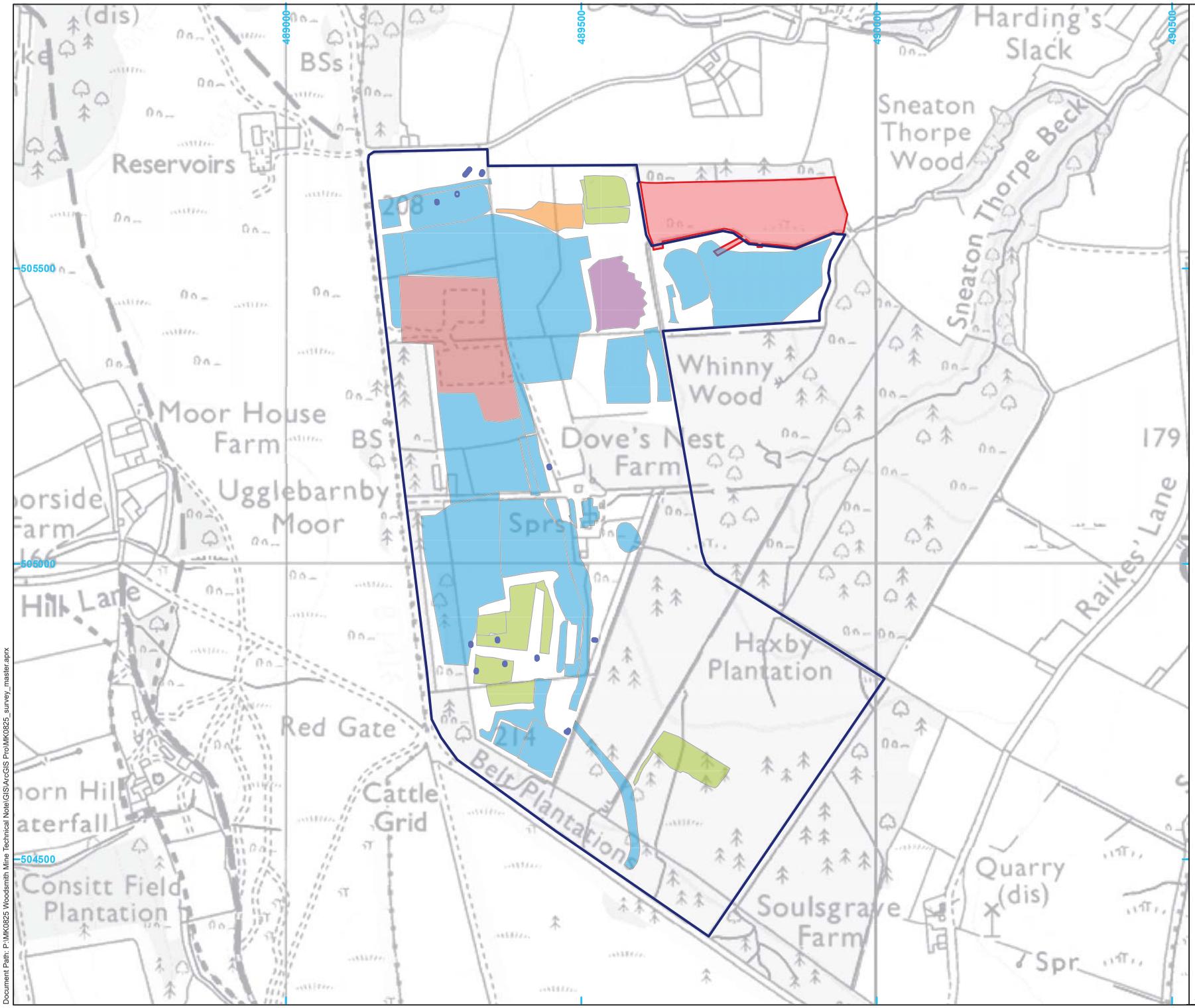

Legend

- Construction boundary
- Current site boundary

Previous archaeological works

- CA (2013)
- CA (2014)
- CA (2018)
- CA (2019)
- CA (2020)
- CA (2022)

N

0 300m

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PROJECT TITLE
Woodsmith Mine, North Yorkshire

FIGURE TITLE
Previous archaeological works

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Project Title / Facility Name:

Woodsmith Project

Document Title:

HYDROGEOLOGICAL RISK ASSESSMENT - TEMPORARY SOIL STORAGE ON LAND ADJACENT TO WOODSMITH MINE

NYMNPA

09/01/2023

Document Review Status

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TECHNICAL NOTE

Subject:	Hydrogeological Risk Assessment for Temporary Soil Storage Stockpiles on Land Adjacent to Woodsmith Mine		
Date:	21 November2022	**Ref:**	1433DevOR500
To:	Robert Staniland	**Document Number:**	40-FWS-WS-70-WM-RA-0021
From:	CM		
Copy:	RIL		

HYDROGEOLOGICAL RISK ASSESSMENT
TEMPORARY SOIL STORAGE ON LAND ADJACENT TO WOODSMITH MINE

Please find below our comments on the Hydrogeological Risk Assessment for the proposed temporary soil storage on land adjacent to Woodsmith Mine.

1 DESCRIPTION OF THE WORKS

The proposed works are to include:-

- Installation of access between Woodsmith Mine and the Application site.
- Construction of a temporary haul road.
- Installation of temporary drainage features, including attenuation pond, swales and silt netting.
- Temporary stockpiling of topsoil and subsoil.

2 CONSTRUCTION METHODOLOGY

Full details of the construction works are presented in Anglo American Construction Method Statement Ref 40-SMP-WS-8300-PA-MS-00002.

The construction works to form the supporting infrastructure (i.e. fencing, offices, welfare, compound lighting & utilities), site clearance, haul road, soil stockpiles and associated drainage will entail localised regrading within the upper 1 m of the superficial deposits.

These works will have no significant hydrogeological impacts and no site-specific hydrogeological risk assessment is required for this aspect of the site development works.

3 QUALITATIVE HYDROGEOLOGICAL RISK ASSESSMENT

Details on the hydrogeology of the site are presented in FWS Hydrogeological Baseline Report (Ref. 1).

The scope of construction works to be carried out as part of the temporary soil storage comprises only surface works that will have no significant chemical or physical impacts on the hydrogeology or hydrogeological receptors on or adjacent to the site. As such, it is considered that no site-specific hydrogeological risk assessment is warranted for these works.

As no hydrogeological risks have been identified associated with these works, there will be no additional requirements for revision of the existing construction and operational environmental monitoring scheme, groundwater management plan or the remedial action plan above those currently being implemented on the Woodsmith Mine Site as documented for Phases 11 and 12 (Refs. 2, 3, 4 and 5).

R IZATT-LOWRY
CONSULTANT

C MILLER
DIRECTOR

4 REFERENCES

1 FWS Consultants Ltd, 2016. Hydrogeological Baseline Report for the Doves Nest Farm

2 FWS Consultants Ltd, 2019 Hydrogeological Risk Assessment for the Phase 12 Works at Woodsmith Mine, North Yorkshire, North Yorkshire (1433OR455).

3 FWS Consultants Ltd, 2019 Construction and Operation Phase Ground and Surface Water Monitoring Scheme for the Phase 11 Works at Woodsmith Mine, North Yorkshire (1433OR444).

4 FWS Consultants Ltd, 2019 Groundwater Management Scheme for the Phase 11 Works at Woodsmith Mine, North Yorkshire (1433OR443).

5 FWS Consultants Ltd, 2019 Remedial Action Plan for the Phase 11 Works at Woodsmith Mine, North Yorkshire (1433OR445).

Project Title / Facility Name:

Woodsmith Project

Document Title:

WOODSMITH MINE - TEMPORARY EARTHWORKS STORAGE BUND - ECOLOGICAL SURVEY AND ASSESSMENT

NYMNPA

09/01/2023

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WOODSMITH MINE (TEMPORARY EARTHWORK STORAGE BUND)

ECOLOGICAL SURVEY & ASSESSMENT

REF: 40-PCA-WS-8323-EN-AS-00001 - Rev 0

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December 2022

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1.0 INTRODUCTION

Paul Chester and Associates (PCA) was commissioned by Anglo American to undertake a to undertake an extended Phase 1 Habitat Survey and to compile an Ecological Impact Assessment (EcIA) on land to the north-west of the Woodsmith Mine construction site (NGR NZ 8978 0561). The land relates to an improved agricultural grassland field that will be subject to a planning application for a temporary earthwork storage bund. Access to the site would be via a temporary access track established from the main construction area.

A site location plan is provided as Figure 1. The site currently comprises of an improved pasture. It is bordered to the east, south and west by mature field boundaries and to the north by an open strip of mature planted Scots Pine. A series of photographs are included to illustrate the more detailed baseline description of the site.

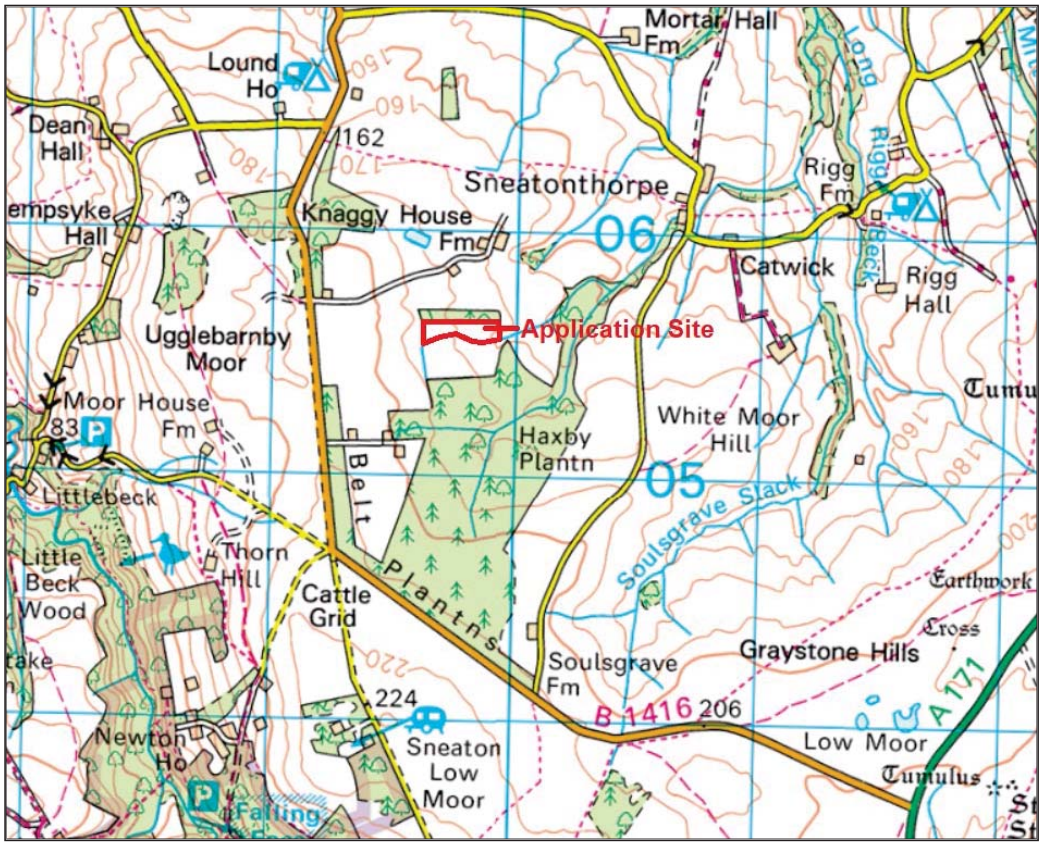


Figure 1: Application Site Location

2.0 ECOLOGICAL SURVEY METHODOLOGY

2.1 Introduction

The final scope of the ecological survey was defined on the basis of known and potential ecological interest in the local area. This was defined on the basis of desk-based consultation and search as well as professional knowledge of the local area. The survey was completed on 4th November 2022. Reference is also made to observations made of the application site in 2022 during unrelated ecological monitoring surveys of Woodsmith. This related to breeding bird and bat surveys that were completed across the year. As such, information relevant to the application was site was gathered

for breeding birds on April 6th, May 10th and June 16th 2022 and for bats on 23rd May, 13th June; 22nd August and 13th September.

2.2 Personnel

The field survey and EcIA report was completed by Mr Paul Chester, Managing Director of PCA Ltd. Mr Chester is an ecologist with more than thirty years professional experience. He has been a member of the Chartered Institute of Ecology and Environmental Management since 1995. He has extensive experience in the ecological survey and assessment of sites such as this and of the survey and assessment of a comprehensive range of habitats and species. Specific to the Woodsmith project, along with PCA associates, he was responsible for completing all of the ecological surveys and associated reports submitted to inform the planning application for the land-based elements of the project, including for Woodsmith Mine. Since this time, he has been responsible for ongoing monitoring surveys relating to certain habits and breeding birds and is part of the team that undertakes ongoing bat monitoring. Currently he is advising Anglo American on their long-term biodiversity enhancement aspirations.

2.3 Ecological Survey Methodology

The ecological survey broadly followed the standard extended phase 1 methodology. This methodology involves surveying the habitats that are present as well as the recording of field signs/evidence indicating the presence/potential presence of species that could constitute a material consideration in planning terms. The final scope of the ecological survey was defined on the basis of known and potential ecological interest in the local area and giving due consideration to potential ecological impacts associated with the temporary storage site.

2.4 Limitations

A walkover survey such as this provides only a “snapshot” of the conditions prevailing at the time of survey. This site has, however, been subject to survey, either directly or indirectly across 2022. As such, it is considered that the survey results are representative of flora and fauna of the site and that additional survey effort would not materially alter the conclusions of this report.

3.0 APPROACH TO THE ECOLOGICAL IMPACT ASSESSMENT

3.1 Introduction

Following on from the establishment of the baseline ecological conditions, the ecological impacts are identified and assessed in line with guidance published by the Chartered Institute of Ecology and Environmental Management (CIEEM). This involves an initial process of evaluation, followed by a process of impact identification and assessment. The methodology and approach that has been followed in this assessment is described further below.

3.2 Evaluation

3.2.1 Introduction

Ecological value is established on the basis of the importance of the identified habitats and species. Importance relates to the overall importance of a species or habitat and forms the basis for establishing the value of a discrete population of a particular species or discrete habitat. There are many factors which contribute to such value including extent, naturalness, rarity, fragility and diversity. These along with other established criteria have been applied.

An important element of the evaluation process is that of establishing the value of a particular species or habitat within set geographical parameters. Those that have been used in the assessment are typically as follows:

- International (Europe)
- National (United Kingdom)
- Regional (North-east England)
- County (North Yorkshire)
- District/Unitary Authority area (North York Moors National Park)
- Local (Application site, Woodsmith Mine and its surrounds)
- Site i.e., within zone of influence only (typically the planning application site although where relevant, a larger area)

In terms of attributing value, whilst clearly the presence of protected sites or species is of fundamental importance it is also important to identify those habitats and species which are of significance in the local or site-specific context. The identification of such features and species enables best practice to be followed in the detailed design of an individual proposal.

The relative sensitivity of an individual ecological receptor has also been considered and is based upon a number of factors including the extent of a particular habitat or the size of population of an individual species. Other factors include the fragility of the habitat or species both in terms of its susceptibility to disturbance and its ability to recover following such disturbance.

3.3 Identification and Assessment of Ecological Impacts

Following on from the establishment of the baseline ecological conditions and evaluation, the ecological impacts are considered in line with published CIEEM guidance. These include consideration of the following parameters:

- positive or negative
- magnitude
- extent
- duration
- reversibility
- timing and frequency

Whether a potential impact is significant is determined by quantifying the magnitude of effect of the identified impact on each of the identified ecological receptors. Large scale effects on receptors of high or very high sensitivity and value are likely to represent a significant impact that may be unacceptable in nature conservation terms. Equally, small-scale effects on receptors of low or very low degrees of sensitivity are likely to be below significance thresholds and thereby not a significant constraint to the proposed development.

3.3.1 Defining Significance

Establishing the significance of an identified ecological impact is based upon the consideration of the impact alongside the value of the impacted habitat, species or species-group. Whilst this is not necessarily straightforward, it can be summarised in simple terms in the table below:

	Magnitude		
Value/Importance	**Substantial**	**Moderate**	**Minor**
International	Very High	High	Moderate
National	Very High	High	Moderate
Regional	Very High/High	High/Moderate	Moderate/Low
County	High	Moderate	Low
District	High	Moderate	Low
Local	High/Moderate	Low	Very Low

The lowest category of value/importance used in the assessment i.e., “site” has been deliberately excluded from the table. This is because these are impacts which are best treated on a site-specific basis, particularly when considering requirements for mitigation.

3.3.2 Mitigation Requirements

The establishment of mitigation requirements is based upon the consideration of the established ecological value and magnitude of the identified impact also taking into consideration the duration of the impact where relevant. Given the complexity of ecological processes, together with relevant legislation and policy guidance, this is not always straightforward. Clearly, adverse impacts on statutory designated sites and species would always require appropriate mitigation. However, other legislation, particularly the Natural Environment and Rural Communities Act 2006, extends these requirements to encompass biodiversity as a whole. Key documents including national priority lists, North York Moors National Park priorities in relation to species and habitats therefore also need to be fully considered when defining mitigation requirements. It is also important to consider those impacts which are of significance only in the site context and to seek to reduce these wherever possible. Such site-specific measures strictly fall outside the definition of mitigation but are, nevertheless, something which should routinely be sought as a matter of best practice wherever possible.

3.3.3 Residual Impact Assessment

Following through the ecological impact assessment process, the final element of the process is the re-assessment of the identified significant ecological impacts with any proposed mitigation in place.

4.0 LEGISLATION & POLICY

4.1 Legislation

The Wildlife and Countryside Act (1981, as amended) provides protection for Britain's flora and fauna. Particular protection is afforded to certain species listed in schedules to the Act although the degree and nature of the protection varies. Schedule 1 of the Wildlife and Countryside Act (Part 4) lists birds which are afforded special protection. This protection is greater than for other birds and includes it being an offence to disturb a bird whilst it is building a nest or is in, on, or near a nest containing eggs or young. It is also an offence to disturb the dependent young of a Schedule 1 species. Schedule 5 lists animals which are afforded special protection. Potentially relevant to development plans, this schedule makes it an offence to damage, destroy or obstruct access to any structure or place which any Schedule 5 animal inhabits. It is also an offence to disturb any such animal while it is occupying a structure or place which it uses for that purpose. For certain species, different levels of protection are afforded. Schedule 8 lists species of plants which are afforded special protection.

Other national legislation includes the Natural Environment and Rural Communities Act 2006 which was developed primarily to implement key aspects of the Government's Rural Strategy published in July 2004. Specific to biodiversity conservation, Section 40 extends to all public authorities the duty to have regard to biodiversity as far is consistent with the proper exercise of their functions. Section 41 places a duty on the Government to publish, review and revise lists of living organisms and types of habitat in England that are of principal importance for the purpose of conserving biodiversity.

More recent legislation relates to the Environment Act in November 2021. Whilst the objective of seeking to deliver biodiversity enhancement as part of new development projects has been a target for many years, the Environment Act sets out the framework that will establish a mandatory requirement to deliver biodiversity net gain (BNG) on virtually every development project. Whilst the Environment Act sets out the framework for BNG, mandatory BNG as set out in the Act, will apply in England only by amending the Town & Country Planning Act (TCPA) and is likely to become law in 2023.

4.2 Policy

4.2.1 National Policy

The National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, 2021) seeks the conservation and enhancement of the natural environment, requiring development to protect sites of biodiversity value. Harm to biodiversity should be avoided, adequately mitigated or compensated for. The NPPF also sets out requirements for the delivery of BNG, which is supported within Planning Policy Guidance (PPG) (updated July 2021). In particular the PPG promotes the delivery of measurable BNG through the creation and enhancement of habitats alongside development.

4.2.2 North York Moors National Park Authority Policy

The North York Moors National Park Authority Local Plan, July 2020 sets out national park policy relevant to biodiversity. Strategic Policy H - Habitats, Wildlife, Biodiversity and Geodiversity is particularly relevant and states that:

1. "*The conservation, restoration and enhancement of habitats, wildlife, biodiversity and geodiversity in the North York Moors National Park will be given great weight in decision making.*
2. *All development and activities will be expected to:*

a) *Maintain and where appropriate enhance features of ecological value and recognised geodiversity assets;*
b) *Maximise opportunities to strengthen the integrity and resilience of habitats and species within the National Park and provide a net gain in biodiversity; including those species for which the National Park supports a significant proportion of the regional or national populations and those found at the edge of their range. Examples would include nightjar, honey buzzard, goshawk and turtle dove; and*
c) *Maintain and where appropriate enhance existing wildlife connections and landscape features such as water courses, disused railway lines, hedgerows and tree lines for biodiversity as well as for other green infrastructure and recreational uses.*

3. *Development proposals that are likely to have a harmful impact on protected or valuable sites or species will only be permitted where it can be demonstrated that:*

a) *There are no alternative options that would avoid or reduce the harm to the protected or valuable interest;*
b) *Suitable mitigation measures to avoid or reduce the harm have been incorporated into the proposals and will be maintained in order to retain their biodiversity or geodiversity benefits;*
c) *Any residual harmful impacts have been offset through appropriate habitat enhancement, restoration or creation on site or elsewhere; and*
d) *The wider sustainability benefits of the development outweigh the harm to the protected or valuable interest … "*

4.2.3 Other – Local Biodiversity Action Plan

With the creation of country-level biodiversity strategies, much of the work previously carried out under the UK Biodiversity Action Plan is now focussed at a country level. Despite the move to a more strategic national approach, published Local BAPs remain highly relevant. In particular, whilst the new approach to biodiversity conservation is one based upon a landscape and/or ecosystem scale approach, biodiversity is ultimately lost or conserved at the local level. Within North York Moors, the North York Moors National Park Authority Local Biodiversity Action Plan 2013-2017 sets out targets for a number of habitats and species that are regarded as being priorities within the national park, the majority of which remain relevant today.

5.0 SURVEY RESULTS

5.1 Desk Study

As part of the EcIA a detailed desk-based study has been undertaken. This has involved the consideration of a number of published documents and other information relevant to the study area. Key sources of information reviewed as part of the desk study include, in particular:

- National Biodiversity Network (NBN) Gateway.
- Various national and regional distribution atlases/reports in relation to plants, birds, etc.

As part of the wider Woodsmith project, all relevant ecological data within a zone extending to approximately 2km from the application site for the mine (and therefore including the application site) was been obtained from the North East Yorkshire Ecological Data Centre (NEYEDC). Since this time, baseline surveys and monitoring associated with construction of Woodsmith Mine have established a very extensive and comprehensive record of species that are present both within the site and boundary and wider local area. The table below provides a summary of key species along with an approximate distance from the application site. Given the potentially sensitive nature of certain records, precise locations is not necessarily provided.

Species	Status/Location
Mammals	
Common Pipistrelle Bat	Occasional around the Woodsmith Mine, mostly foraging with some roosting in small numbers.
Soprano Pipistrelle Bat	Rare around the Woodsmith Mine site.
Noctule Bat	Occasional, woodlands surrounding Woodsmith Mine site.
Daubenton's Bat	Rare, feeding on ponds 50m south of application site.
Brown Long-eared Bat	Very rare around the Woodsmith site.
Myotis sp. Bat	Very rare around the Woodsmith site.
Brown Hare	Common around the Woodsmith site.
Harvest Mouse	Resident population in reedbeds within the Woodsmith site, 25m south of the application site.
Badger	Several main setts in wider local area, the nearest of which is 350m from the application site.
Reptiles	
Adder	Rare in open heathy sections of Haxby Plantation and on Ugglebarnby Moor. Closest record >500m from the application site.
Common Lizard	Occasional in open heathy sections of Haxby Plantation and on Ugglebarnby Moor. Closest record >500m from the application site.
Amphibians	
Common Toad	Present in several ponds locally, the nearest of which is 25m south of the application site.
Common Frog	Present in several ponds locally, the nearest of which is 25m south of the application site.

Palmate Newt	Present in several ponds locally, the nearest of which is 25m south of the application site
Schedule 1 Birds	
Goshawk	Very rare breeding species, woodland wider local area (nest site not disclosed but distant from application site).
Crossbill	Occasional nesting species in Haxby Plantation.
Barn Owl	Occasional hunting and roosting around Woodsmith Mine. No confirmed breeding to date.
NERC Act S41 Birds	
Bullfinch	Rare breeding species in woodland and scrub around Woodsmith Mine.
Dunnock	Occasional breeding species in woodland and scrub around Woodsmith Mine.
Lesser Redpoll	Very rare breeding species in Haxby Plantation.
Linnet	Very rare breeding species in scrub around Woodsmith Mine
Marsh Tit	Very rare breeding species, woodland associated with Sneaton Thorpe Beck.
Nightjar	Rare breeding species on Ugglebarnby Moor, very rare in Haxby Plantation.
Reed Bunting	Very rare breeding species, pond margins in Woodsmith Mine.
Skylark	Occasional breeding species in rough grasslands around Woodsmith Mine.
Song Thrush	Occasional breeding species in woodland and scrub around Woodsmith Mine.
Spotted Flycatcher	Very rare breeding species in Haxby Plantation and woodland associated with Sneaton Thorpe Beck.
Yellowhammer	Rare nesting species, mature boundaries at Woodsmith Mine.

5.2 Statutory and Non-Statutory Sites of Nature Conservation Interest

5.2.1 Statutory Designations

The application site and its immediate surrounds is not subject to any statutory nature conservation designation. In the wider area, the closest statutory site is the North York Moors Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC) and Special Protection Area (SPA). This is an extensive statutory site covering much of the moorland within the North York Moors National Park. The nearest section of the designated site to the application site is associated with Ugglebarnby Moor approximately 460mto the west of the site to the west of the B1416.

The site qualifies as a SAC on the basis of providing examples of the following habitat types listed in Annex 1 of Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora.

- Northern Atlantic wet heaths with Cross-leaved Heath *Erica tetralix* for which this is considered to be one of the best areas in the United Kingdom.

- European dry heaths for which this is considered to be one of the best areas in the United Kingdom.
- Blanket bogs for which the area is considered to support a significant presence (Blanket Bog is an Annex 1 priority habitat type when in its active form).

The site qualifies as an SPA by supporting populations of European importance of the following species:

- Golden Plover *Pluvialis apricaria*, 526 pairs representing at least 2.3% of the breeding population in Great Britain.
- Merlin *Falco columbarius*, 40 pairs representing at least 3.1% of the breeding population in Great Britain.

With the same boundary as the European sites, the North York Moors SSSI contains the largest continuous tract of heather moorland in England. The site is of national importance for its mire and heather moorland vegetation communities and of international importance for its breeding bird populations. The site consists of the four main moorland blocks with five smaller outlying areas.

5.2.2 Non Statutory Designations

The study area and its immediate surrounds are not subject to any non-statutory nature conservation designation. In the wider local area, Sneaton Thorpe Wood which is a narrow valley woodland associated with a tributary of Sneaton Thorpe Beck is included on the Ancient Woodland Inventory as an example of ancient semi-natural woodland. The western boundary is approximately 160m to the east of the application site at its closest point. The entire main valley of Sneaton Thorpe Beck north of Whinny Wood is also classified as ancient semi-natural woodland.

5.3 Plants/Habitats

5.3.1 Survey Methodology

The botanical survey involved a walkover survey with detailed descriptions of individual areas, where relevant. A botanical species list is provided as Appendix 1. Likewise, a series of illustrative photographs are provided in Appendix 2. Figure 2 shows the locations of specific areas/target notes referred to in the habitat description.

5.3.2 Survey Results

The main part of the site (Target Note 1, Photographs 1 and 2) comprises of an improved grass field. Used for arable production in the recent past, the grassland appears to be a typical rye-grass dominated seed mixture typical of those used for quick establishment for grazing and for silage production. Naturally establishing species are rare, for example, Broad-leaved Dock *Rumex obtusifolius*, Common Chickweed *Stellaria media* and Greater Plantain *Plantago major*.

The eastern boundary of the field (TN2, Photograph 3) is a poorly structured and occasionally open fenced field boundary, typically 3-5m high and unmanaged. Canopy species particularly include Blackthorn *Prunus spinosa*, Gorse *Ulex europaeus* and Hawthorn *Crataegus monogyna* with more

rarely occurring Beech *Fagus sylvatica*, Holly *Ilex aquifolium* and Pedunculate Oak *Quercus robur*. Mature trees are represented by several mature Sycamore *Acer pseudoplatanus*. The boundary is open and grazed in the base.

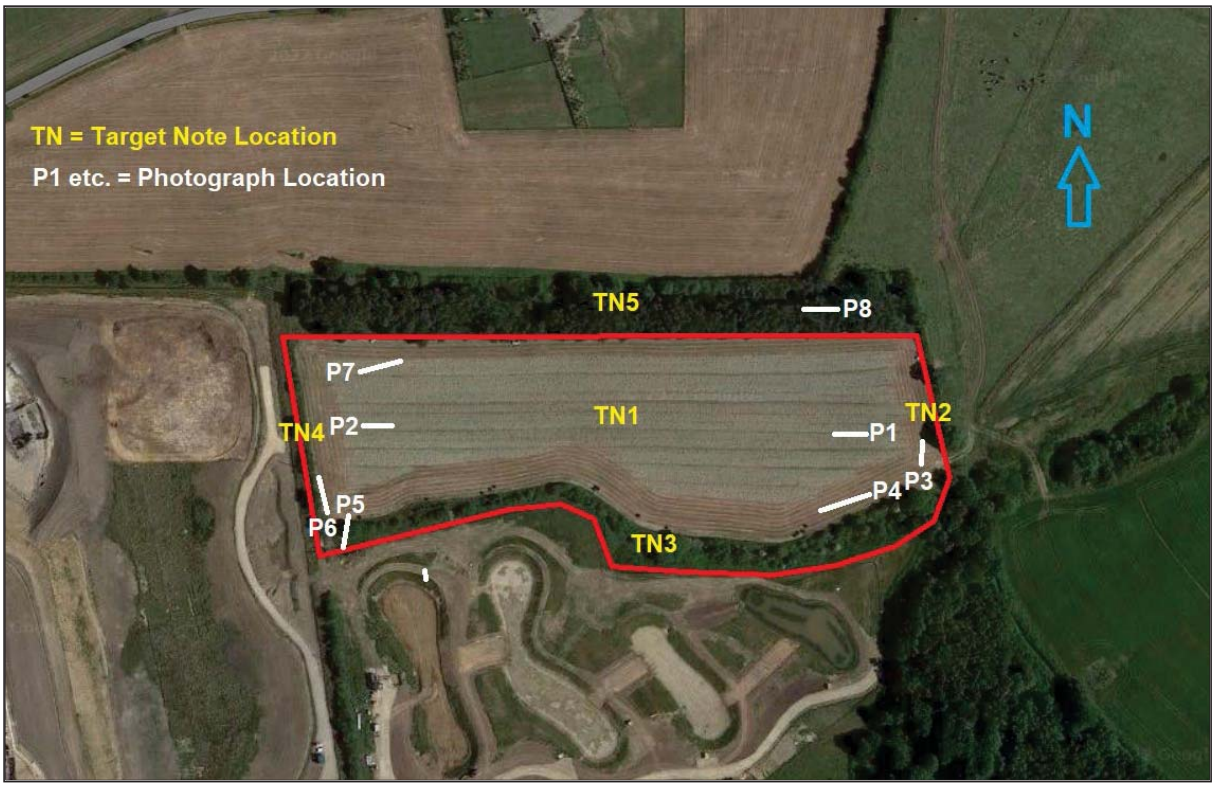


Figure 2: Survey Plan and Photographic Locations

The southern boundary of the field TN1 is marked by a post and wire fence outside of which is a mature boundary within a small and shallow valley associated with the upper reaches of Sneaton Thorpe Beck (TN3, Photograph 4). It is a It has not been subject to significant levels of management in recent years and has developed into a reasonably intact and well-structured boundary. It has a mixed composition with species such as Blackthorn *Prunus spinosa*, Dog-rose *Rosa canina*, Downy Birch *Betula pubescens*, Elder *Sambucus nigra*, Gorse *Ulex europaeus*, Goat Willow *Salix caprea*, Grey Willow *Salix cinerea* and Hawthorn *Crataegus monogyna*. Shading limits the development of any significant ground flora. Very occasional open sections are typically infilled with dense Bramble *Rubus fruticosus* agg. and ruderals, whilst damper more open ground at the edges support species such as Soft-rush *Juncus effusus* and Tufted Hair-grass *Deschampsia cespitosa*. The boundary will be crossed to establish and access to the temporary bund. This will be through a virtually open section towards the western end (see Photograph 5).

The western boundary of the field TN1 is marked by a post and single strand barbed wire fence (TN4, Photograph 6). It is a mature boundary although slightly more open than TN3. It has not been subject to significant management in recent years and has developed a reasonably intact and well-developed structure. Canopy species include Dog-rose *Rosa canina*, Downy Birch *Betula pubescens*, Elder *Sambucus nigra*, Gorse *Ulex europaeus*, Grey Willow *Salix cinerea*, Hawthorn *Crataegus monogyna*, Hazel *Corylus avellana* and Silver Birch *Betula pendula*. Bramble *Rubus fruticosus agg.* scrub is locally prominent, whilst Honeysuckle *Lonicera periclymenum* is present as a climber. The

ground flora is species-poor with species such as Common Nettle *Urtica dioica*, Rosebay Willowherb *Chamaenerion angustifolium* and Soft-rush *Juncus effusus*, along with more rarely occurring Broad Buckler-fern *Dryopteris dilatata* and Male-fern *Dryopteris filix-mas*.

Immediately beyond the northern boundary of the application boundary (TN4, Photographs 7 and 8) is a narrow band of plantation woodland. The plantation comprises of relatively open Scots Pine *Pinus sylvestris*. The woodland is open with the adjacent field and has been grazed at time. It has an open shrub layer with scattered Hawthorn *Crataegus monogyna* and Holly *Ilex aquifolium*, and a poor grass dominated ground flora with species such as Broad-leaved Dock *Rumex obtusifolius*, Cock's-foot *Dactylis glomerata*, Common Chickweed *Stellaria media* and Common Nettle *Urtica dioica*.

5.4 Breeding Birds

5.4.1 Survey Methodology

The breeding bird survey utilises surveys information gathered as part of a wider survey of the Woodsmith Mine that was completed in 2022 and which included the wide local area including the application site. The survey followed a standard breeding bird survey methodology. All bird species were noted either by sight or call and were recorded. Birds were deemed to be holding territory if they were observed to be displaying any behaviour indicative of breeding. Three full surveys were completed on April 6th, May 10th and June 16th 2022.

5.4.2 Survey Results

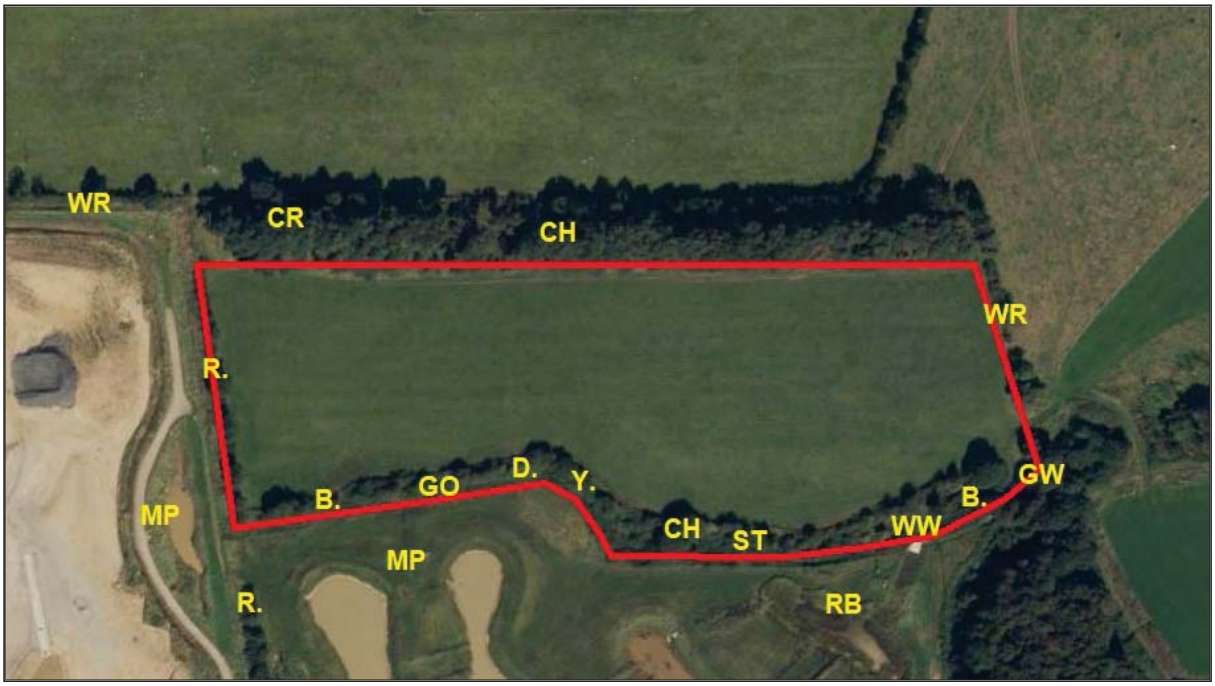


Figure 3: Breeding Bird Records

No ground nesting species were recorded as breeding from the main part of the field with all breeding associated with the perimeter and immediately adjacent habitats. The densely vegetated habitat adjacent to the southern boundary (TN3) yielded the most breeding records which included

Chaffinch *Fringilla coelebs* (CF), Blackbird *Turdus merula* (B.), Dunnock *Prunella modularis* (D.), Garden Warbler *Sylvia borin* (GW), Goldfinch *Carduelis carduelis* (GO), Song Thrush *Turdus philomelos* (ST), Willow Warbler *Phylloscopus trochilus* (WW) and Yellowhammer *Emberiza citrinella* (Y). The eastern boundary (TN2) supported a single Wren *Troglodytes troglodytes* (WR) and the western boundary (TN3) a single Robin *Erithacus rubecula* (R.).

Regarding other habitats, the Scots Pine plantation (TN5) supported single Carrion Crow *Corvus corone* (CR) and Chaffinch *Fringilla coelebs* (CF). Nearby grasslands within the Woodsmith Mine site held two Meadow Pipit Anthus pratensis (MP) whilst a Reed Bunting *Emberiza schoeniclus* bred in tall herbage adjacent to one of the ponds to the south. Additional Robin *Erithacus rubecula* (R.) and Wren *Troglodytes troglodytes* (WR) territories were present in adjacent boundaries.

5.5 Bats

5.5.1 Survey Methodology

Whilst the application will not result in the loss of any trees, to consider indirect effects, those that were present in adjacent boundaries were assessed on the basis of the presence of features typically associated with tree roosting bats, for example, woodpecker holes, trunk and branch splits, rot holes (cavities) where branches have been removed, frost cracks, hollow sections of trunk, branches or even roots, cavities beneath old root buttresses, beneath loose bark, behind dense ivy, in dense epicormic growth and in bat or bird boxes. A number of more general principles were used, in particular, tree species usually favoured by roosting bats are Oak, Ash, Beech, Elm, Scots Pine and Willow. Trees of less than 30cm diameter and less than 80 years old are least likely to contain roosts and trees greater than 50cm diameter and more than 120 years old are most likely to contain roosts.

Regarding foraging activity, the survey results are drawn from wider monitoring surveys completed for Woodsmith Mine. These were based upon a continuous walking transect with occasional stops at key potential habitats, particularly ponds and woodland edge habitats. These surveys were completed with an Echo Meter Touch Pro full spectrum bat detector. A thermal imaging scope was used in order to provide additional detail on the number of bats as well as the number of bat passes

5.5.2 Survey Results

None of the trees along the site boundaries or adjacent Scots Pine plantation showed any signs typically associated with roosting bats and all were considered to offer little or no potential for roosting. When considering the wider local area, there are now numbers of roost boxes deployed around the Woodsmith Mine site. Limited roosting activity has been noted to date, most notably from a pole mounted ‘American-style’ bat box located close to the eastern pond, approximately 20m south of the application site. This box has held two Common Pipistrelle *Pipistrellus pipistrellus* on the May, June and August inspection visits in 2022 with a single bat present in September.

Regarding foraging, yearly monitoring has noted a general increase in bat activity across the adjacent Woodsmith site. At least six and possibly seven species were recorded in 2022. The most frequently recorded species is Common Pipistrelle *Pipistrellus pipistrellus* with Noctule *Nyctalus noctula* the second most frequent. Other species that have been recorded more rarely are Brown Long-eared

Bat *Plecotus auratus*, Daubenton's *Myotis daubentonii*, *Myotis* sp, Nathusius' Pipistrelle *Pipistrellus nathusii* and Soprano Pipistrelle *Pipistrellus pygmaeus*.

Commuting activity is always associated with well-defined boundaries and regular foraging with wetland, woodland and woodland edge habitats.

Specific to the application site, the western boundary (TN4) is used by very occasional commuting and feeding Common Pipistrelle *Pipistrellus pipistrellus*. This is also the case with regard to the southern boundary (TN3). The open nature of the application site and typically low levels of activity along the two monitored boundaries indicate a typically poor habitat for bats. Nearby habitats within the mine site adjacent to this boundary also include several ponds where single, and very rarely two Daubenton's *Myotis daubentonii* have been recorded. The highest levels of activity in this part of the site are associated with boundary with Whinny Wood which regularly supported two to four feeding Common Pipistrelle *Pipistrellus pipistrellus*.

5.6 Other Fauna

As part of the survey, consideration was given to the potential for other key rare or legally protected species to be present within the site. This was undertaken through a combination of desk-study, habitat assessment and direct search. Where applicable, consideration was given to the wider local area.

In relation to amphibians, whilst breeding in ponds locally, the main field that dominates the application site represents a typically hostile terrestrial habitat for amphibians. Adjacent boundaries, particularly the better developed southern and western ones provide a higher quality terrestrial habitat that is likely to be used by Common Frog, Common and Palmate Newt at times. However, with the exception of the site access and the removal of a small section of the southern boundary to connect the water attenuation basin to Pond D, these boundaries are not impacted by the temporary soil storage bund.

The application site is a hostile habitat for reptiles with known populations all distant from the application site.

There is nothing to suggest that the application site is of any value to any other species or species-group.

6.0 EVALUATION

6.1 Plants/Habitats

The application site supports a limited range of species typical of the habitats encountered on and around the application site. No nationally or regionally rare or scarce plants were encountered during the surveys and all species are common or very common in the habitats encountered on the site.

The improved grassland which dominates the application site is a poor habitat typical of intensive agriculture and of negligible value.

The application site boundaries vary in quality. The eastern is open and poorly structured, and whilst individual trees and shrubs contribute to the site, this is a poor and semi-defunct boundary of no particular value. In contrast, the western and southern boundaries have been not been subject to cutting or flailing in recent years. This has enabled an improvement in structure. The southern boundary in particular is now a continuous and dense habitat of high value in the local context. Remaining more open, the western boundary is considered to be of moderate local value.

To the north, the Scots Pine plantation is a poorly structured and open plantation. Whilst of moderate value in the local context it is of no value in any wider geographical context.

In the wider area, the most valuable habitats are those associated with Ugglebarnby Moor. Forming part of the designated SSSI and SAC, this moorland is therefore part of a habitat of both national and international importance. It is, however, distant from the site and therefore of no relevance to this application.

6.2 Breeding Birds

The application site is of little or no value to breeding birds. All breeding activity is associated with the adjacent boundaries and plantation. Of these boundaries, the southern boundary supported by far the most breeding records. It is a habitat with an improving structure which is enhanced further by the adjacent meadow and ponds that have been established in the Woodsmith Mine site.

Whilst the range of species recorded was typical of the habitats found locally, several of the species are declining and therefore of conservation concern. In particular, Dunnock, Song Thrush and Yellowhammer, are NERC Section 41 List of Species of Principle Importance for the Conservation of Biodiversity in England. Of these, Yellowhammer is also included on the British Trust for Ornithology (BTO) Red List of birds of high conservation concern. The Red List refers to species which have typically seen a severe decline in the UK breeding population size of more than 50% over the last 25 years or over the entire period used for assessments since the first Birds of Conservation Concern (BoCC) review in 1969. Dunnock and Song Thrush are included on the BTO Amber List which refers to species which have seen a moderate decline (by more than 25% but less than 50%) in breeding numbers over the last 25 years. With regard to other species, Willow Warbler and Wren are also included on the Amber List. Monitoring surveys of Woodsmith Mine completed in 2022 indicated

that the mine and surrounds provides an improving and locally important habitat for these declining species.

6.3 Other Species

On the basis of the current survey there is nothing to suggest that the survey area is of any elevated value to any other individual species or species group.

7.0 IDENTIFICATION & ASSESSMENT OF ECOLOGICAL IMPACTS

7.1 Identification of Potential Impacts

7.1.1 Detail of the Proposed Temporary Earthwork Storage Bund

The proposal includes the establishment of a temporary storage area within an improved pasture field with associated access and drainage. It will include the following:

- A subsoil storage mound up to 7m tall located in the western half of the application site with an approximate volume of 38800m^3.
- A topsoil storage mound up to 3m tall located in the eastern half of the application site with an approximate volume of 28800m^3.
- A 6m wide access track from the Woodsmith construction site involving crossing the southern boundary at its northern end and then running close to the southern boundary of the application site
- A central surface water attenuation basin with a capacity of approximately 660m^3.
- A connection from the water attenuation basin to Pond D within the mine site to allow treatment of surface water runoff via the siltbuster.
- A swale running around the outside of the storage mound.
- A security fence of similar design to the existing Woodsmith Mine perimeter fence.

The storage facility will be used for a period of up to five years after which it would be restored to its previous agricultural use.

7.1.2 Broad Types of Ecological Impact

Ecological impacts can arise at all stages of a project, i.e., within the pre-development, the mid-development and the post-development scenarios. Impacts during the pre-development may result from activities such as preliminary ground investigation work, initial site clearance, topsoiling, re-grading and drainage works. Mid-development impacts are essentially related to the activities themselves i.e., in this case the movement and storage of subsoil and topsoil. Whilst post-development impacts may be relevant to typical development projects, as this is a temporary storage area that will be returned to its former agricultural use, they are not relevant here.

Impacts can be either temporary or permanent. Temporary impacts are typically less significant than the longer term or permanent impacts of a development. They may include risks such as disturbance to local birds and other animals using the site at this time or may come from pollution incidents or similar. Temporary habitats may also be created during this stage of development. Of particular

importance is the risk of temporary disturbance to those species which are either rare or legally protected. All impacts associated with this application are of a temporary nature.

7.1.3 Relevant Observations from the Adjacent Woodsmith Mine

The proposed temporary earthwork storage bund has essentially the same impacts as those associated with similar bunds within the main Woodsmith Mine construction site. With construction now well under way, monitoring of biodiversity around the construction site provides a valuable insight into the likely impacts associated with this application. Specific to this, species have proven to be far more adaptable than was predicted at the time of the planning application for the mine. Whilst a long-term i.e., post-construction positive impact was predicted, in reality, positive impacts are being observed alongside construction. For example, the grasslands around the mine now support a thriving Brown Hare population whereas pre-construction this species was only very rarely recorded. For breeding birds, more birds are now breeding in the Woodsmith site than was the case in 2012. This is both with regard to the number of species and the overall numbers of birds combined. There is likewise nothing to suggest that construction activities are resulting in any significant disturbance or displacement. Numbers of feeding bats has also increased; as have common amphibians. The reasons for these positive changes are probably associated with several factors. In particular, whilst a major construction project, the cessation of intensive farming has probably increased food availability and improved habitat structure. Likewise, where possible, positive habitat creation and management is being implemented up front, for example, the creation of a wildflower meadow. Alongside these factors, the project has detailed operational procedures which ensure biodiversity is fully considered in all construction activities and at all stages of the project. These are implemented by the projects environmental team supported by external ecological expertise as required.

7.1.4 Identification and Assessment of Potential Impacts

Given the low value of the habitats in and adjacent to the temporary earthwork storage bund and the absence of sensitive receptors in the relevant zone of influence, there are unlikely to be any significant adverse impacts as a result of the establishment and use of the storage bund.

Habitat losses are associated with the temporary loss of the improved grassland. This is a habitat of negligible importance, the loss of which is of very low significance. Other habitat losses are associated with the temporary loss of a section of the southern boundary to create an access to the storage bund. This is located within an open section characterised by dense Bramble and ruderals and is a minor adverse impact in the site context A smaller section in the central part of this boundary will also need to be removed to connect the water attenuation basin to Pond D and will also represent a minor adverse impact in the site context. Given that these habitats can all be readily reinstated on completion of the works, there should be no permanent impacts. In the case of the access through the southern boundary, opportunities will be available to reinstate a better quality habitat.

In terms of impacts on individual species, these are likely to be restricted to localised disturbance to birds and other species in the immediate wider local area. Whilst some disturbance is inevitable, this is not regarded as significant impact. This is evidenced by monitoring of the adjacent mine.

8.0 MITIGATION AND ENHANCEMENT

Strict mitigation requirements relate only to ensuring legal compliance in respect of the legal protection afforded all birds whilst nesting. A number of other precautionary and other recommendations are made in relation to pre-construction surveys and habitat reinstatement as follows:

8.1 Breeding Birds

The optimum scenario in terms of addressing the risk of encountering breeding birds is to establish the temporary earthwork storage bund outside the breeding season (avoiding the approximate period from March to end-August). Under this scenario, there is very low risk of encountering breeding activity and the works can proceed without any specific advanced consideration of breeding birds. If the storage bund is established during the period when birds could potentially be breeding, it will be necessary to ensure that no birds are present within the field or impacted boundary. The following approach would be followed:

- Before works commence a suitably qualified or experienced ornithologist will undertake a careful survey of the habitats within the site to ensure that there are no nesting birds.
- The working area will be observed for at least 30 minutes and note taken of whether any birds are nesting or preparing to nest (e.g., carrying nest building materials and/or food for the young).
- To avoid disturbance to any possible nesting birds the observations will take place from a reasonable distance from the working area.
- Birds incubating eggs are extremely illusive and therefore a more detailed search of specific habitat, particularly areas of very dense vegetation may be necessary. Particular attention will be made during such searches to avoid disturbance.
- If no signs of nesting birds are observed then works may start.
- A record of the observations and any results will be made and retained for reference.
- If, during the inspection, active nests are identified, the works will be postponed until after the young have fledged.

Specific to this site, it is probably also important to maintain the main field under its current agricultural usage. This is likely to deter ground nesting species. Conversely any abandonment of the grassland is likely to rapidly improve the habitat for ground nesting species, particularly Meadow Pipit and Skylark. Whether or not additional bird scaring measures should be deployed in the field should be reviewed according to the timing of the planning application/decision and use of the field.

If there are opportunities to coppice/clear the sections of the boundary required for the access and connection to Pond D during the winter of 2022/23, these should be pursued. Material should be cut close to the ground and removed off-site.

8.2 Pre-construction Survey

In addition to the above, it is recommended that the site should be subject to a further general walkover survey. This is essentially to re-confirm the continued validity of the baseline and to ensure that no additional potential ecological constraints have become relevant in the intervening period between this survey and site establishment. Particular attention should be paid to any changes in Badger activity, particularly along the southern boundary.

8.3 Establishment of Site Access and Connection to Pond D

It is recommended that an watching brief with an ecologist or environmental officer present is maintained during the establishment of these works. This would essentially be to ensure that the vegetation is removed carefully and to relocate any species that may be encountered. This is most likely to be associated with common amphibians.

8.4 Habitat Reinstatement

Whilst main field will be restored to its original agricultural use there is an opportunity to provide an enhanced replanting of the section of the southern boundary removed to provide a connection to Pond D. It is therefore recommended that this section is restocked with native species typical of those found in the wide boundary, for example, Blackthorn, Dog-rose, Downy Birch, Elder, Goat Willow, Grey Willow and Hawthorn.

8.5 Other Considerations – Biodiversity Net Gain

The Woodsmith project is committed to delivering significant Biodiversity Net Gain (BNG). Whilst BNG has been a target amongst conservationists for development plans for many years, the Environment Act 2021 established BNG as a mandatory requirement of development, with a target of 10% BNG being the minimum requirement. Natural England Biodiversity Metric 3.1 provides a standardised methodology for calculating BNG. Whilst the project is not subject to the obligations brought in by the Environment Act, Anglo American is committed to delivering BNG and to testing the mine with metric 3.1. Regarding any such assessment, it is important that BNG is considered for the Woodsmith Mine as a whole. It is at this scale that the projects benefit to biodiversity will need to be delivered. No specific assessment is therefore merited for temporary aspects of the development such as this temporary earthwork storage bund.

9.0 RESIDUAL ASSESSMENT/CONCLUSION

In summary, the ecological survey and assessment has shown that the proposed temporary earthwork storage bund is located within a poor habitat of negligible ecological value. The site will quickly be restored to its previous agricultural use on completion of the storage operations with the short impacted southern boundary sections also subject to rapid reinstatement. Residual effects of the use of this area as a temporary earthwork storage bund are therefore considered to be negligible.

APPENDIX 1 – BOTANICAL SPECIES LIST

Scientific Name	Common Name
Achillea millefolium	Yarrow
Agrostis capillaris	Common Bent
Agrostis stolonifera	Creeping Bent
Anthoxanthum odoratum	Sweet Vernal-grass
Arrhenatherum elatius	False Oat-grass
Arum maculatum	Lords-and-Ladies
Betula pendula	Silver Birch
Betula pubescens	Downy Birch
Cardamine flexuosa	Wavy Bitter-cress
Centaurea nigra	Common Knapweed
Cerastium fontanum	Common Mouse-ear
Chamerion angustifolium	Rosebay Willowherb
Cirsium arvense	Creeping Thistle
Cirsium palustre	Marsh Thistle
Cirsium vulgare	Spear Thistle
Crataegus monogyna	Hawthorn
Dactylis glomerata	Cock's-foot
Deschampsia cespitosa	Tufted Hair-grass
Dryopteris dilatata	Broad Buckler-fern
Dryopteris filix-mas	Male-fern
Epilobium hirsutum	Great Willowherb
Equisetum arvense	Field Horsetail
Fagus sylvatica	Beech
Festuca rubra	Red Fescue
Galium aparine	Cleavers
Glechoma hederacea	Ground-ivy
Heracleum sphondylium	Hogweed
Holcus lanatus	Yorkshire-fog
Holcus mollis	Creeping Soft-grass
Ilex aquifolium	Holly
Juncus effusus	Soft-rush
Juncus inflexus	Hard Rush
Lolium perenne	Perennial Rye-grass
Lonicera periclymenum	Honeysuckle
Pinus sylvestris	Scots Pine
Plantago lanceolata	Ribwort Plantain
Plantago major	Greater Plantain
Poa annua	Annual Meadow-grass
Poa trivialis	Rough Meadow-grass
Prunus spinosa	Blackthorn
Pteridium aquilinum	Bracken
Quercus robur	Pedunculate Oak
Ranunculus repens	Creeping Buttercup

Scientific Name	Common Name
Rosa canina	Dog-rose
Rubus fruticosus agg.	Bramble
Rumex acetosa ssp. acetosa	Common Sorrel
Rumex crispus	Curled Dock
Rumex obtusifolius	Broad-leaved Dock
Salix caprea	Goat Willow
Salix cinerea	Grey Willow
Sambucus nigra	Elder
Stellaria holostea	Greater Stitchwort
Stellaria media	Common Chickweed
Taraxacum agg.	Dandelion
Teucrium scorodonia	Wood Sage
Trifolium pratense	Red Clover
Trifolium repens	White Clover
Teucrium scorodonia	Wood Sage
Trifolium pratense	Red Clover
Trifolium repens	White Clover
Ulex europaeus	Gorse
Urtica dioica	Common Nettle
Veronica persica	Common Field-speedwell
Vicia sepium	Bush Vetch

APPENDIX 2 – PHOTOGRAPHIC RECORD

Photograph 1: Application Site Viewed West from the Eastern Boundary

Photograph 2: Application Site Viewed East from the Western Boundary

Photograph 3: Target Note 2 (TN2), Eastern Boundary, Viewed Northwards

Photograph 4: Target Note 3 (TN3), Southern Boundary, Viewed Westwards

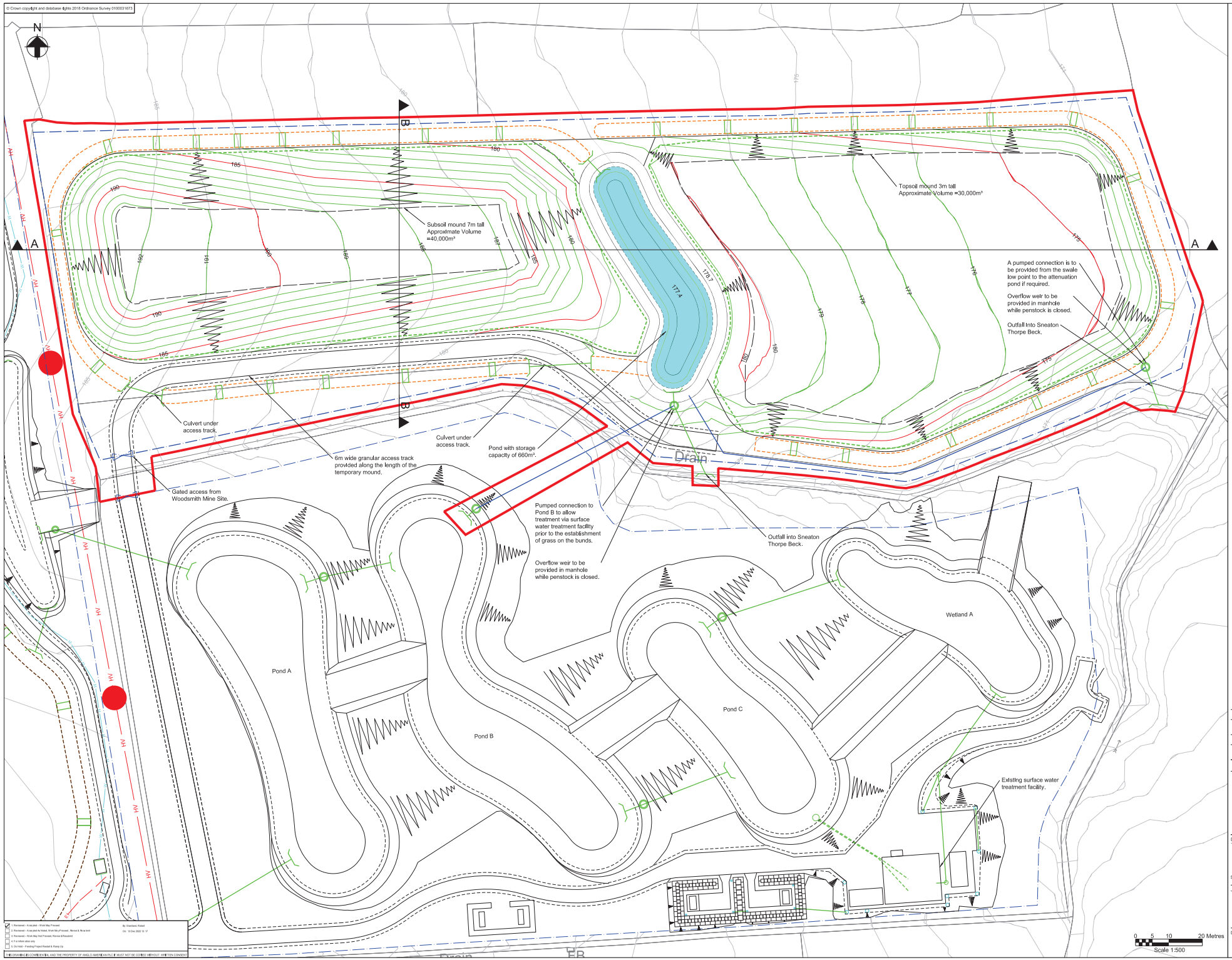
Photograph 5: Southern Boundary, Approximate Location of Access to the Temporary Storage Bund

Photograph 6: Target Note 4 (TN4), Western Boundary, Viewed Northwards

Photograph 7: Target Note 5 (TN5), Scots Pine Plantation Adjacent to the Northern Boundary, Viewed Eastwards

Photograph 8: Target Note 5 (TN5), Scots Pine Plantation Adjacent to the Northern Boundary, Interior, Viewed Westwards

APPENDIX 3 – TEMPORARY EARTHWORK STORAGE BUND (GENERAL ARRANGEMENT)



Notes:

1. For cross sections refer to drawing 40-ARI-WS-7100-CI-10-01104.
2. For the existing layout refer to drawing 40-ARI-WS-7100-CI-22-01105.
3. For the location plan refer to drawing 40-ARI-WS-7100-CI-22-01106.

Key:

- Planning Boundary
- Major Contour (5m)
- Minor Contour (1m)
- Pumped connection
- Carrier Pipe
- Swale with check dams
- 2.4m high black weld mesh fence
- Silt fence

REV	DATE	BY	CHKD	APPD
0	07/12/22	KK	JD	CW
For planning				
A	01/11/22	EC	JD	CW
For Review				

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Drawing Title: Woodsmith Mine
Temporary Earthwork Storage Bund
Proposed General Arrangement

SCALE @ A1: 1:500

Job No: 253285

ARUP

DRG No: 40-ARI-WS-7100-CI-22-01103

REV 0

Project Title / Facility Name:

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Document Title:

PLANNING APPLICATION FOR TEMPORARY SOIL STORAGE STOCKPILES - NOISE ASSESSMENT

NYMNPA

09/01/2023

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REPORT

Woodsmith Mine - Planning Application for Temporary Soil Storage Stockpiles

Noise and Vibration Impact Assessment

Client: Anglo American Woodsmith Ltd

Reference: 40-RHD-WS-70-EN-NT-0003 Rev 0

Status: 00/Final

Date: 16 December 2022

Royal HaskoningDHV

Enhancing Society Together

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Appendix A Acoustic Terminology

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1 INTRODUCTION

1.1.1 This Noise and Vibration Impact Assessment (NVIA) has been prepared on behalf of Anglo American Woodsmith Ltd. (Anglo American) as part of a planning application for the temporary stockpiling of topsoil and subsoil on land adjacent to Woodsmith Mine, Sneatonthorpe (hereafter, the 'proposed Works' as described in paragraph 1.1.3).

1.1.2 Woodsmith Mine was granted planning permission in 2014 (reference NYM/2014/0676/MEIA), and the permission was subsequently varied in 2017 (reference NYM/2017/0505/MEIA). The mine is currently under construction, and the planning conditions on the permission are discharged in a phased manner.

1.1.3 The proposed Works to be undertaken as part of this planning application are as follows:

- Site clearance;
- Installation of access between Woodsmith Mine and the application site;
- Construction of temporary haul road;
- Installation of temporary drainage features, including attenuation pond, swales and silt netting; and
- Temporary stockpiling of topsoil and subsoil.

1.1.4 The site clearance, installation of access, haul road and temporary drainage features will take approximately 4 weeks. Temporary stockpile construction will take approximately 8 weeks. These operations will be undertaken during the daytime only.

1.1.5 There may also be a requirement for pumps to control surface water run-off; these pumps could run simultaneously with the temporary stockpiling activity and may be required to run at night.

1.1.6 This assessment considers the impact of noise and vibration from the proposed Works, cumulative with the current on-going phased works at Woodsmith Mine as agreed under the extant permission and described and assessed in the Phase 17 NVMP (Ref: 40-RHD-WS-70-EN-PL-0058 Rev 0).

1.1.7 The proposed Works are detailed in the Construction Method Statement (CMS) document (Ref: 40-SMP-WS-7100-PA-MS-00017), which provides details of the construction methodology and number and type of construction plant items to be used. The site layout is detailed on drawing 40-ARI-WS-7100-CI-22-01103_Rev_0 Woodsmith Mine Temporary Earthwork Storage Bund Proposed General Arrangement.

1.1.8 Appendix A of this document provides a glossary of the acoustic terminology used in this NVIA.

2 RELEVANT LEGISLATION, PLANNING POLICY AND GUIDANCE

2.1 Legislation

Environmental Protection Act 1990

2.1.1 The Environmental Protection Act 1990[1] defines statutory nuisance with regard to noise and determines that local planning authorities have a duty to detect such nuisances in their area.

2.1.2 Section 79 of the Act requires local authorities to investigate any public complaints of noise. No statutory noise limits exist for determining a nuisance; therefore, the local authority can take account of various guidance documents and existing case law when investigating complaints. Lower noise level limits are generally applied when considering the acceptability of a planning application than those which would be used when considering whether an existing noise source amounts to a statutory nuisance.

2.1.3 If the local authority is satisfied that a statutory nuisance exists, or is likely to occur or recur, it must serve a noise abatement notice on the person responsible, under the powers provided in Section 80. The notice requires either the abatement of the nuisance; works to abate the nuisance to be carried out; or it prohibits or restricts the activity. Contravention of a notice without reasonable excuse is an offence. A right of appeal to the Magistrates Court exists within 21 days of the service of a noise abatement notice.

2.1.4 Demonstrating the use of "Best Practicable Means" (BPM) to minimise noise levels is an accepted defence against a noise abatement notice. The Act defines the concept of BPM as:

- *" 'practicable' means reasonably practicable having regard among other things to local conditions and circumstances, to the current state of technical knowledge and to the financial implications;*
- *the means to be employed include the design, installation, maintenance and manner and periods of operation of plant and machinery, and the design, construction and maintenance of buildings and structures;*
- *the test is to apply only so far as compatible with any duty imposed by law; and*
- *the test is to apply only so far as compatible with safety and safe working conditions, and with the exigencies of any emergency or unforeseeable circumstances."*

2.1.5 When considering a planning application, local authorities consider whether the development under consideration has the potential to cause a statutory nuisance and to use the planning process to avoid this outcome if possible.

The Control of Pollution Act 1974

2.1.6 The Control of Pollution Act 1974[2] (CoPA) requires that Best Practicable Means (BPM) (as defined in Section 72 of CoPA) are adopted to control construction noise on any given site as far as reasonably practicable. Sections 60 and 61 of CoPA provide the main legislation regarding construction site noise and vibration. If noise complaints are received and substantiated, a Section 60 notice may be issued by the local authority with instructions to cease work until specific conditions to reduce noise have been adopted.

[1] *Environmental Protection Act 1990, c. 79. Available at https://www.legislation.gov.uk/ukpga/1990/43/contents (accessed 02/08/22)*
[2] *Control of Pollution Act 1974, c. 60 and 61. Available at https://www.legislation.gov.uk/ukpga/1974/40/part/III/crossheading/construction-sites (accessed 02/08/22)*

2.1.7 Section 61 of the CoPA provides a means to apply for Prior Consent to carry out noise generating activities during construction. The 'Prior Consent' is agreed between the local authority and the contractor and may contain a range of agreed working conditions, noise limits and control measures designed to minimise or prevent the occurrence of noise nuisance from construction activities. Once Prior Consent has been agreed under Section 61, a Section 60 notice cannot be served, provided that the agreed conditions are maintained on site.

2.2 National Policy

2.2.1 National policy guidance with respect to noise is found in the National Planning Policy Framework (NPPF)[3].

2.2.2 Paragraph 174 of the NPPF states planning policies and decisions should contribute to and enhance the natural and local environment by:

"……preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution……".

2.2.3 Furthermore, Paragraph 185 of the NPPF states:

"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;

b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason;

2.2.4 The Noise Policy Statement for England (NPSE)[4] document was published by Defra in 2010 and paragraph 1.7 states three policy aims:

"Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- *Avoid significant adverse impacts on health and quality of life;*
- *Mitigate and minimise adverse impacts on health and quality of life; and*
- *Where possible, contribute to the improvement of health and quality of life."*

2.2.5 The Explanatory Note within the NPSE introduces the following concepts to aid in the establishment of significant effects:

- No Observed Effect Level (NOEL): the level below which no effect can be detected. Below this level no detectable effect on health and quality of life due to noise can be established.
- Lowest Observable Adverse Effect Level (LOAEL): the level above which adverse effects on health and quality of life can be detected.
- Significant Observed Adverse Effect Level (SOAEL): the level above which significant

[3] *Ministry of Housing, Communities & Local Government (2019) National Planning Policy Framework*
[4] *Department for Environment, Food and Rural Affairs (DEFRA), Noise Policy Statement for England (NPSE), March 2010, DEFRA, UK*

adverse effects on health and quality of life occur.

2.2.6 The aims of the NPSE can therefore be interpreted as follows (within the context of Government policy on sustainable development):

- The first aim is to avoid noise levels above the SOAEL.
- In situations where noise levels are between the LOAEL and SOAEL,, all reasonable steps should be taken to mitigate and minimise the effects. However, this does not mean that such adverse effects cannot occur.

2.2.7 The NPSE recognises that '*it is not possible to have a single objective noise-based measure that is mandatory and applicable to all sources of noise in all situations*'. The levels are likely to be different for different noise sources, for different receptors and at different times of the day.

2.2.8 The National Planning Practice Guidance (NPPG)[5] web-based resource was originally launched by the Department for Communities and Local Government (DCLG) on 6 March 2014[6], to support the NPPF and make it more accessible. The overall aim of the guidance, tying in with the principles of the NPPF and the Explanatory Note of the NPSE, is to '*identify whether the overall effect of noise exposure is, or would be, above or below the significant observed adverse effect level and the lowest observed adverse effect level for the given situation.'*

2.2.9 A summary of the effects of noise exposure associated with both noise generating developments and noise sensitive developments is presented within the NPPG, and reproduced in **Table 2-1**.

Table 2-1: Noise exposure hierarchy

Response	Examples of outcomes	Increasing effect level	Action
No Observed Effect Level (NOEL)			
Not present	No Effect	No Observed Effect	No Specific Measures Required
No Observed Adverse Effect Level (NOAEL)			
Present and not intrusive	Noise can be heard, but does not cause any change in behaviour, attitude or other physiological response. Can slightly affect the acoustic character of the area but not such that there is a change in the quality of life.	No Observed Adverse Effect	No Specific Measures Required
Lowest Observed Adverse Effect Level (LOAEL)			
Present and intrusive	Noise can be heard and causes small changes in behaviour, attitude or physiological response, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to closing windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a small actual change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level (SOAEL)			
Present and disruptive	The noise causes a material change in behaviour, attitude or other physiological response, e.g. having to keep windows closed most of the time, avoiding certain	Significant Observed Adverse Effect (SOAE)	Avoid

[5] *National Planning Practice Guidance: Noise, Ministry of Housing, Communities and Local Government, Last updated 22nd July 2019, last accessed 29th March 2021, https://www.gov.uk/guidance/noise--2*
[6] *Ministry now responsible for update of guidance is the Ministry of Housing, Communities and Local Government*

Response	Examples of outcomes	Increasing effect level	Action
	activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.		
Present and very disruptive	Extensive and regular changes in behaviour, attitude or other physiological response and/or an inability to mitigate effect of noise leading to psychological stress, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory	Unacceptable Adverse Effect (UAE)	Prevent

2.3 Guidance

Planning Practice Guidance: Minerals

2.3.1 The National Planning Practice Guidance web-based resource also includes specific guidance on mineral extraction (Planning Practice Guidance for Minerals (PPGM)[7]). This guidance provides noise control advice and limits for the control of noise emissions from minerals sites, as shown in Table 2-2.

Table 2-2: PPGM noise limits

Activity	Period (hh:mm)	Noise Limit (dB $L_{Aeq,1h}$)
Normal operations (long term extraction)	07:00 to 19:00	≤ 10 dB above the background noise level. Where difficult not to exceed 10 dB above the background noise level without imposing unreasonable restrictions, the limit should be as near that level as practical. In any event, total noise from operation ≤ 55 dB
	19:00 to 22:00	≤ 10 dB above the background noise level ≤ 55 dB
	22:00 to 07:00	≤ 42 dB
Short-term activities (limited to 8 weeks in any year – soil stripping/bund construction/restoration etc)	Daytime activities	≤ 70 dB

2.3.2 The noise level limits in Table 2-2 are considered to represent SOAEL values for mineral extraction noise; equivalent LOAEL values for mineral extraction works are not identified.

[7] *Planning Practice Guidance for Minerals (PPGM), 2014 Department for Levelling Up, Housing and Communities (/government/organisation/department-for-levelling-up-housing-and-communities) and Ministry of Housing, Communities & Local Government (/government/organisations/ministry-of-housing-communities-and-local-government. (URL:https://www.gov.uk/guidance/minerals, accessed 08 December 2022)*

BS 5228:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 2: vibration[8]

2.3.3 BS 5228 provides recommendations for basic methods of noise and vibration control relating to construction and open sites where work activities/operations generate significant noise and/or vibration levels. Part 2 of the standard provides guidance on predicting and assessing vibration levels from construction and a database of measured vibration levels during piling activities.

Design Manual for Roads and Bridges (DMRB), LA 111 Noise and Vibration, Revision 2[9]

2.3.4 The DMRB LA111 Noise and Vibration provides detailed methodologies for the assessment of construction and operational noise and vibration impacts from major road schemes. It provides guideline significance criteria in terms of both absolute noise and vibration levels and the change in noise levels due to a scheme.

[8] *British Standards Institute (2014). British Standard 5228:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 2: vibration*
[9] *Highways England, Transport Scotland, Welsh Assembly, Department for Infrastructure, Northern Ireland (2020), Design Manual for Roads and Bridges LA 111, Noise and Vibration, Revision 2, TSO*

3 ASSESSMENT METHODLOGY

3.1 Baseline Receptor Locations

3.1.1 Residential and recreational noise-sensitive receptors for this NVIA remain as identified in the Environmental Statement (ES) which accompanied the planning application for the Woodsmith Mine site, as shown in Appendix B, Figure B1 and listed below:

- Parkdown Bungalow
- Moor House Farm
- Moorside Farm
- Thornhill
- Soulsgrave
- Wainwright Coast to Coast Path
- Sneaton Foss Caravan Park
- Falling Foss Tearooms
- Lound House Caravan Park

3.1.2 The closest noise-sensitive receptor to the proposed Works is Parkdown Bungalow at a distance of around 170 m.

3.2 Noise

3.2.1 Established noise limits for the Woodsmith Mine site are detailed in NYMNPA Condition 20 and NYMNPA Condition 21 for existing site construction works as follows:

- 55 dB $L_{Aeq,1hr}$ for normal daytime working (07:00 – 19:00);
- 65 dB $L_{Aeq,1hr}$ for the demolition of buildings and erection of new structures;
- Up to 70 dB $L_{Aeq,1hr}$ for temporary noisy operations to provide noise-reducing earth bunds and / or barriers (for up to 56 calendar days per year); and
- 42 dB $L_{Aeq,1hr}$ for evening and night-time (19:00 – 07:00).

3.2.2 The consented limits related to normal daytime working and temporary stockpiling, and the night-time working limits are directly taken from the PPGM. These are deemed to be the SOAEL values in accordance with the requirements of the NPSE. Hence, these are the noise level limits applicable to the combined noise from the proposed Works and the ongoing construction works at Woodsmith Mine. Compliance with these limits would therefore indicate compliance with the first aim of the NPSE (to avoid significant adverse effects).

3.2.3 In terms of compliance with the second NPSE aim (to take all reasonable steps to mitigate impacts between the LOAEL and SOAEL), there is no published guidance identifying LOAEL values in relation to mineral extraction noise in the UK. Implementation of BPM (as identified in Section 6) is considered to demonstrate compliance with the second aim of the NPSE.

3.2.4 3-d noise modelling has been undertaken using computational noise modelling software SoundPLAN (v8.2) to predict the cumulative construction noise levels at the identified noise-sensitive receptors. The model predictions utilised the methodology in ISO 9613-2:1996 'Acoustics - Attenuation of sound during propagation outdoors - Part 2: General method of calculation'[10].

[10] *International Organisation for Standardization (1996). ISO 9613-2:1996 'Acoustics - Attenuation of sound during propagation outdoors - Part 2: General method of calculation'*