EIA SCOPING REPORT

PROPOSED LATERAL EXTENSION & DEEPENING

AT

TINCORN HILL QUARRY,

SORN

This report was carried out in accordance with JPB Quality Assurance procedures.

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1 INTRODUCTION

1.1 Summary of the Proposal

Tincorn Hill Quarry, near Sorn (also known as Sorn Quarry) currently operates under planning permission reference 19/0230/PP approved following an application under Section 42 of the Town and Country Planning (Scotland) Act 1997 to vary the conditions pertaining to the extant consent on 31st March 2020. This permission provides for operations at the site to continue until 27 September 2032.

The current permitted site is close to its maximum lateral extent and remaining reserves are limited to 1.8 million tonnes equating to approximately 5 years of production. Further mineral resources are therefore required to continue. It is therefore proposed to laterally extend the working area to the north and east, and deepen the excavation. This proposal provides for a circa 12.7 hectare lateral extension and subsequent deepening of the extended quarry floor to a maximum depth of 222m AOD which would release circa 17.8 million tonnes of saleable aggregates and allow the quarry to remain operational for around a further 50 years from now.

This development needs to be considered for Environmental Impact Assessment (EIA). Given the size of the development footprint the proposal is a Schedule 1 development where EIA is mandatory. Breedon has engaged Johnson Poole and Bloomer to prepare an EIA Report (EIAR). The first stage is a Scoping Report to consider the subject areas for inclusion and focus (or "Scope") of the EIA. This report aims to provide the necessary information to the planning authority in order for it to provide a Scoping Opinion in respect of the proposed development in accordance with The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017.

1.2 Recent Planning History

The quarry at Tincorn Hill has been operational since the early 1990's. Permission over the current working area was approved under planning permission 03/1135/FL granted on 28th September 2007 to allow for the proposed extension of the mineral extraction area at the site.

The quarry now operates under planning permission reference 19/0230/PP, granted on 31st March 2020. This planning permission varied conditions 3, 21 and 23 of planning permission reference 03/1135/FL under Section 42 of the Town and Country Planning (Scotland) Act 1997; extending the period of operations from 27th September 2022 to 27th September 2032; extending the permitted hours at the site to allow despatch to take place from 7am; and the regularisation of the phasing of quarry extraction operations.

The extant planning permission provides solely for mineral extraction to take place at the site; however, a planning application for the establishment and operation of proposed asphalt and ready-mix concrete plants within the existing quarry void (reference 22/0473/PP) was submitted on 21st July 2022 and is awaiting determination. Should planning permission be granted these activities will also take place at the site.

1.3 The Site Operator

Breedon is a leading construction materials group in Great Britain and Ireland. It produces cement, aggregates, asphalt, ready-mixed concrete, Welsh slate and specialist concrete and clay products, and offers a range of contracting services.

It is one of the leading producers of ready-mix concrete, sands, gravel, crushed rock, agricultural lime, asphalt and concrete blocks in Scotland operating quarries, concrete and asphalt plants throughout the country.

In south west Scotland, Breedon employs over 100 people including 8 people based at Tincorn Hill Quarry.

2 ENVIRONMENTAL IMPACT ASSESSMENT (EIA) & REPORTING STRUCTURE

2.1 The Regulations

An Environmental Impact Assessment (EIA) systematically assesses the likely significant environmental effects generated by a project. This helps to ensure that the predicted effects, and the scope for reducing them are properly understood by the public and relevant competent authority before it makes a decision on the merits of a proposal.

In carrying out an EIA, reference is made to the following documents:

i. The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (The Regulations).
ii. Planning Circular 1 2017: The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017. ("The 2017 Circular").
iii. Planning Advice Note 1/2013 Environmental Impact Assessment.

The Regulations specify the projects for which an EIA is or may be required. That is:

iv. Development that falls within a relevant description in Schedule 1 which includes quarries with a surface area more than 25 hectares.
v. Any change to or extension of development listed in Schedule 1 where such a change or extension in itself meets the thresholds.
vi. Changes to Schedule 1 sites where the change is likely to have significant environmental effects.
vii. Quarries below the 25-hectare threshold where there are likely to be significant environmental effects. This requires consideration of whether the Site is located wholly or in part in a 'sensitive area' as defined in Regulation 2(1) (see paragraph 37); or meets one of the relevant criteria or exceeds one of the relevant thresholds listed in the second column of the table in Schedule 2.

The site is not in a sensitive area (as defined in the Regulations), however the proposed development site area comprises circa 35.5 hectares, with an extraction area of approximately 22 hectares together with soil storage/landscaping and ancillary areas for site infrastructure and access. The proposal is therefore Schedule 1 development.

2.2 EIA Scoping

Under Regulation 17 of The Regulations, a developer may ask the planning authority for their formal opinion on the information to be supplied in the EIA Report (a 'Scoping Opinion'). This provision allows the developer to be clear about what they consider the significant effects of the development are likely to be and, therefore, the topics on which the EIA report should focus.

A request for a Scoping Opinion must include (Regulation 17(2));

a) A description of the location of the development, including a plan sufficient to identify the land,
b) A brief description of the nature and purpose of the development and its likely significant effects on the environment,
c) Such other information or representations as the person making the request may wish to provide or make.

This EIA Scoping Report has been prepared to address the requirements described above as part of a request for a Scoping Opinion from East Ayrshire Council. This report considers the likely significant environmental effects towards establishing the content (or scope) of any EIA required. It also requests that the planning authority and all consultees notified make available any baseline information that is considered relevant to the EIA.

PAN 1/2013 states in paragraph 4.15 that:
"*The purpose of scoping is to:*

- *identify the key issues to be considered;*
- *identify those matters which can either be scoped out or which need not be addressed in detail;*
- *discuss and agree appropriate methods of impact assessment, including survey methodology where relevant."*

A Handbook on Environmental Impact Assessment prepared by SNH (2018) confirms a key advantage of Scoping is that the "scoping" of the EIA Report can avoid excessive detail and omission of important issues and help the EIA process to focus on key issues. It is an important contribution to the EIA process.

Since 2017 there has been a direction to try to "front load" EIA by proceeding with key or obvious studies. This enables the EIA to proceed in a meaningful and concise way. In this case early consideration of key potential issues has taken place with the engagement of ecological consultants to carry out Preliminary Ecological Appraisal and further survey, and consideration of peat to exclude areas of peatland from the proposed development footprint.

3 SITE DESCRIPTION AND CURRENT OPERATIONS

3.1 The Existing Permitted Site

Tincorn Hill Quarry is an existing operational rock quarry located within the boundaries of East Ayrshire, approximately 2km east of the village of Sorn, as shown in JPB Drawing WG853/SR/F/01 which shows the location of the existing quarry and proposed extension in context. The site is predominantly surrounded by agricultural land with individual and small groups of dwellings and farms within the general vicinity.

The quarry operates under planning permission reference 19/0230/PP, granted on 31st March 2020. This consent provides for operations at the site to continue until 27 September 2032 with restoration to a nature conservation afteruse.

The permitted boundary of Tincorn Hill Quarry extends to 23.4ha. The current quarry development is close to its maximum lateral extents, with all in situ soils having been stripped and placed in perimeter bunds around the site and all overburden placed in a suitable facility adjacent to the site's western boundary. Elevations across the site are shown on Drawing WG853/SR/F/02.

The quarry has been excavated on two benches or levels at 267m AOD and 252m AOD. The permitted working scheme under 19/0230/PP provides for the quarry void to be excavated across the permitted extraction area down to the 252m AOD level.

The site is well established with good infrastructure comprising:

- Site office, weighbridge and wheel bath area located in the south eastern part of the site near to the main site access.
- Surfaced access road which runs approximately 420m southwards from the site office and weighbridge to the main road
- Comprehensive water management system with a sump/settlement pond in the south west of the quarry void from where water is channelled to a series of settlement ponds in the south eastern area of the site adjacent to the site office before final discharge of water to into Benthead Burn.

To the south the existing quarry is bounded mature shelter belts and extensive new forestry on the improved ground between the quarry and the B743 with the ground falling towards the north bank of the River Ayr.

The existing quarry is well contained within the landscape by this planting, local topography and via screening provided by existing soil and overburden mounds with views of the existing working quarry limited to the site access road and infrastructure, and limited views of the soil and overburden mounds. No views of the main quarry faces are available.

3.2 Current Operations

The rock at Tincorn Hill is won by drilling and blasting. The operation is carried out by using specialist drilling contractors. Following the introduction of very stringent regulations in recent years all blasts are now individually surveyed, designed and monitored to an exacting specification.

3.2.1 Mineral Extraction

Blasting is designed to both dislodge and fragment the in-situ rock in order that it can be lifted directly by excavator. Before drilling, the quarry face is surveyed, and a computer program is used to specify the necessary holes and charges. A drill rig sinks holes designed to a shallow angle vertical from the rock surface to the just below the base of the working level which generally averages around 10-15 metres in thickness. A photograph of a rig drilling blast holes is included as Figure 3.1 below.

Figure 3.1 – Rig Drilling blast holes

These blast holes are filled with the requisite amount of explosive, which is then detonated in a carefully controlled manner in accordance with the blast design. A blast generally produces, circa 30,000 tonnes of broken rock in the blast pile. The Planning Permission restricts blasting operations to be carried out on a monthly basis only, between 1000 to 1600 Monday to Friday and vibration from any blast to 6mm/sec when measured at residential property in accordance with current Scottish Government Guidance contained in *Planning Advice Note 50 Controlling the Environmental Effects of Surface Mineral Workings Annex D: The Control of Blasting at Surface Mineral Workings.*

3.2.2 Mineral Processing

Mineral processing activities take place using mobile crushing and screening plant sited within the quarry excavation area with customers supplied from the stockpiles produced. Output from the site averages circa 350,000 tonnes per annum.

At the mobile processing plant the blasted rock is crushed, to reduce its size and put through a series of screens to sort it into the various product sizes. Following blasting the rock is subject to primary processing adjacent to the working quarry face before dispatch for general sale or transport by dump truck to the secondary processing plant for crushing and screening to produce single sized aggregates and crush rock fines. A proportion of the product may also be washed to remove any fines. The primary and secondary processing plant are shown in Figures 3.2 and 3.3 below.

Figure 3.2 – Primary processing plant

Figure 3.3 – Secondary processing plant

3.2.3 Sales and Despatch

Vehicles access the quarry from the existing site access road to the south of the site and are regularly weighed on entering and leaving the quarry using the site weighbridge. On entering the quarry, vehicles progress to the quarry bowl for loading. Once loaded, vehicles carrying an average load of 20 tonnes of aggregate leave the quarry via the site access to the public road network.

3.2.4 Operating Hours

Permitted hours of operation at Tincorn Hill Quarry are governed by condition 23 of Planning Certificate Reference 19/0230/PP which states:

"Except in the case of emergency, the hours of working on site will be between 0730 and 1800 hours Mondays to Fridays and between 0800 and 1200 hours on Saturdays with the exception of the loading a despatch of quarry products which shall be permitted between 0700 and 1800 Mondays to Fridays and between 0800 and 1200 hours on Saturdays in accordance with the submitted Site Rules for Vehicle Control and the prevention of Convoys, with the exception of essential site maintenance and the maintenance of plant and machinery, no work shall take place on Sunday or on recognised Public Holidays in East Ayrshire."

3.2.5 Site Restoration

The approved restoration scheme, Drawing S05/PA/05, details the restoration of the existing site to a nature conservation afteruse with a mixture of acid grassland, wet meadow grassland and ephemeral water areas, wet woodland, and native woodland.

3.2.6 Proposed Extension Site

The future extension area comprises 12.7 hectares of ground and is bounded by the existing quarry to the south, an open field to the east and west and the Harley Burn to the north. The extension area is shown below in photographic Figures 3.4 and Figure 3.5.

The extension site is located in the Landscape Character Type 78: Plateau Moorland – Ayrshire on the boundary with the Landscape Character Type 68: Lowland River Valleys – Ayrshire.

The plateau moorland landscape is of an open, exposed and rather wild moorland character covered by blanket bog, heather and grass moorland, with extensive mosses and peatland. However, there are frequent extensive areas of coniferous forest which, in places, have significantly modified the original character of these areas in terms of colour, texture and views including the large scale forestry at Meath Hill to the east of the site.

To the NW is the high point of Brown Knowes (283m AOD) with unimproved ground to the north across Blood Moss and Blacksidend Hill (411m AOD).

Landcover within the extension comprises semi-improved acid grassland, marshy grassland, and wet heath. As the ground slopes down towards the Harley Burn the habitat transitions into a mosaic of blanket bog and acid flush over deeper peat. The extension area has been designed to avoid these areas of deeper peat soils. Current elevations in the extension area vary from circa 277m AOD to the northwest of the site, to circa 268m AOD along the south eastern boundary. Elevations across the site are shown on Drawing WG853/SR/F/02 whilst photographic Figures 3.4 and 3.5 illustrate the landcover and character.

Figure 3.4: Photo taken from the western boundary of the permitted site looking east.

Figure 3.5: Photo taken from north eastern boundary of permitted site, looking east.

3.3 Environmental Designations

The East Ayrshire Local Development Plan 2017 designates Tincorn Hill Quarry and the proposed extension area a Sensitive Landscape Area. This designation is shown in Drawing WG853/SR/F/03 and considered further below in Section 6.1 Landscape and Visual Impacts.

The Muirkirk and North Lowther Uplands SPA, and Muirkirk Uplands SSSI, are located approximately 1km to the north of the extended site at the closest proximity. The proximity of environmental these designations to the site is shown in Drawing WG853/SR/F/03. Potential impacts are considered further below in Section 6.2 Ecology.

Historic environment assets within 2km are limited to three assets, the Category B Listed Buildings of Glenlogan,Nethershield Farmhouse & Steading as well as the Scheduled Monument of Blacksidend Cairn. These are shown on Drawing WG853/SR/F/09 and considered further in Section 6.6 below.

4 Proposed Development

4.1 Mineral Extraction and Processing

The rock at Tincorn Hill would continue to be won by drilling and blasting using specialist drilling contractors and mobile crushing and screening in the same way as at present. Following blasting the rock is subject to primary processing adjacent to the working quarry face before dispatch for general sale or transportation by dump truck to the secondary processing plant for crushing and screening into single sized aggregates and crush rock fines primarily for use in asphalt and ready-mix concrete.

4.2 Proposed Working Scheme

It is anticipated that the overall proposed development would release approximately 17.8 million tonnes of saleable rock products which at an assumed output of 350,000 tonnes per annum would allow the quarry to continue to operate for a further 50 years from present.

The proposed extent of extraction shown on Drawing WG853/SR/F/07 has been refined in accordance with the recommendations of an initial peat delineation survey to minimise the impacts of proposals.

The quarry will be worked in 4 phases, as shown in Drawings WG853/SR/F/04, 05, 06, and 07, and as detailed below.

4.2.1 Phase 1 Operations

All soils and overburden would be stripped from the extended area of mineral extraction and placed in site landscaping and storage as part of the first phase of the development.

Following advice from the project Landscape Architect, detailed in Section 6.1, it is proposed that the initial soils and overburden strip comprising 15,000 m^3 of material will be taken from the extended area and used to construct a screening mound to the east. This screening mound together with the strip of land to the south of the eastern extension will then be planted with a native mix of trees in the first planting season following the completion of the screening mound.

Thereafter remaining soils and overburden will be placed within the existing quarry storage facility to the west of the site. Placed material would be seeded in the first available season following formation to final levels.

Mineral extraction in this phase will result in the quarry being excavated to its maximum extent across the extended working area to a level of 267m AOD. Phase 1 will yield approximately 2.4 million tonnes of saleable product.

Proposed mineral extraction, soil and overburden placement and landscaping in this phase is shown in Drawing WG853/SR/F/04.

4.2.2 Phase 2 Operations

During Phase 2 of operations the quarry faces will be worked north and eastwards to their maximum extent on the 252m AOD bench level, as shown on Drawing WG853/SR/F/05.

Phase 2 will yield circa 3.9 million tonnes of saleable product.

4.2.3 Phase 3 Operations

Phase 3 of operations will result in the deepening of the eastern half of the quarry, forming a 237m AOD bench and the quarry floor at the base of the proposed excavation at 222m AOD, as shown on Drawing WG853/SR/F/06.

Phase 3 will yield approximately 7.3 million tonnes of saleable product.

4.2.4 Phase 4 Operations

Phase 4 of operations will see the 237m AOD and 222m AOD benches being worked westwards to their maximum extents, as shown on Drawing WG853/SR/F/07 completing mineral extraction within the development.

Phase 4 will yield approximately 4.2 million tonnes of saleable product.

4.3 Sales and Dispatch

Operations will continue as at present whereby vehicles access the quarry from the existing site access road to the south of the site and are regularly be weighed on entering and leaving the quarry using the site weighbridge. On entering the quarry, vehicles progress to the quarry bowl for loading. Once loaded, vehicles carrying an average load of 20 tonnes of aggregate leave the quarry via the site access to the public road network.

4.4 Operating Hours

Operating hours for mineral extraction will continue as per condition 23 of planning Certificate Reference 19/0230/PP which states:

"Except in the case of emergency, the hours of working on site will be between 0730 and 1800 hours Mondays to Fridays and between 0800 and 1200 hours on Saturdays with the exception of the loading a despatch of quarry products which shall be permitted between 0700 and 1800 Mondays to Fridays and between 0800 and 1200 hours on Saturdays in accordance with the submitted Site Rules for Vehicle Control and the prevention of Convoys, with the exception of essential site maintenance and the maintenance of plant and machinery, no work shall take place on Sunday or on recognised Public Holidays in East Ayrshire".

4.5 Asphalt & Ready-Mix Concrete Production

An application has been made for the production of asphalt and ready-mix concrete manufacture within the site. Although not part of this proposal, should planning permission be granted for this development, any impacts which would result from the operation of the plants in combination the proposals will be considered within the EIA, including those associated with noise and landscape.

4.6 Site Restoration

A restoration scheme will be prepared and submitted with the application. Restoration will be primarily to a waterbody and will be designed to maximise biodiversity within the site and its surrounds including the provision of shallow margins on the edges of the waterbody. Surrounding the waterbody, it is anticipated that the restoration will target native woodland planting and incorporate local priority habitats including acid grassland/heath.

5 CONSIDERATION OF ALTERNATIVES

The EIA Regulations require that alternatives be considered and this should be completed for the ultimate EIA Report. There are a number of alternatives within the design process which are likely to be the focus of further design work. The text below indicates the alternative aspects already considered and which may be considered during further design/mitigation (or iteration). Others may also arise.

Alternative Sites
It is recognised within a wide range of planning guidance notes and at National, Regional and indeed Local level that minerals are unusual in development terms, in that, that they can only be worked where they naturally occur, so the usual criteria applied in site searching exercises cannot be wholly adopted.

Tincorn Hill Quarry is a source of good quality aggregates used in road surfacing, the production of ready-mix concrete, and the majority of other construction uses including type 1 and fills. The site is an established quarry with good infrastructure in place. It is generally recognised as being preferable to extend established quarry operations with suitable infrastructure in place such as Tincorn Hill rather than open up new quarries in order to supply the construction industry with the aggregate products it needs.

Extent of Development
The proposed extension footprint has been developed and has been heavily influenced by early ecological study which recommended a constrained extraction limit to avoid peat and to provide a buffer to the Harley Burn which has been followed.

Alternative Method of Working
The method of working may be most simply considered in three components, namely: (1) the face extraction, and processing, (2) the internal transportation of the mineral from face to the secondary processing plant, and (3) the secondary processing operation, involving secondary crushing and screening. Ancillary aspects for consideration could include the water treatment systems. These aspects will be reviewed within the design and the EIA, but options are limited, and it is unlikely that they will change substantially.

Alternative Access/Transport
The current site infrastructure caters for all material being transported from site by road. There are no practical possibilities for a rail connection to the site and this is not practicable or economic.

6 SITE ASSESSMENT

An investigation of the existing site conditions has been carried out, taking into account the proposed development. This has reviewed the physical condition of the site, the nature of proposed development and desk-based assessment of available background information on the site and its surrounds including identification of any statutory and non-statutory designations.

Where necessary this has led to the appointment of appropriate specialists to undertake initial work and to advise on the proposed scope of works required in in relation to particular topics. The works undertaken and by whom are detailed in Table 6.1 below.

Table 6.1 Supporting Studies

Topic	Specialist	Works
Landscape	MDA	Landscape & Visual Scoping Report (Appendix 1)
Ecology	Echoes Ecology	Preliminary Ecological Appraisal, Newt EDNA Survey (Appendix 2)
Water Environment	Envireau Water	Preliminary Appraisal and Peat Survey (Appendix 3)
Historic Environment	Rathmall Archaeology	Scoping Assessment
Noise	Vibrock	Scoping Assessment
Vibration	Vibrock	Scoping Assessment
Dust	Vibrock	Scoping Assessment

In accordance with approach advocated for EIA Scoping, information has been front loaded to include the provision of a Preliminary Ecological Appraisal & Newt EDNA Survey and Peat Survey.

The proposed scope of the EIA is detailed in Sections 6.1 to 6.13 below. A matrix has been prepared which taking into account the consideration of potential environmental sensitivities and effects detailed in Sections 6.1 to 6.13. This is detailed in Table 6.2 below. Where potential effects require further consideration/assessment these are shaded blue.

Table 6.2: Initial Scoping Matrix

Phase of development				
Environmental Impact /Receptor	**Preliminary works in new area**	**Mineral Extraction Operations**	**Site Restoration**	**Commentary**
Landscape and Visual Effects				Landscape and visual effects has been considered at an early stage with the incorporation of screen bunding and planting into the proposal which will limit views of the development. Nevertheless further consideration is required.
Ecology				Preliminary Ecological Appraisal has supported the refinement of the proposal and confirmed the requirement for further consideration regarding breeding birds and associated habitat and great crested newts. Survey work in respect of Great Crested Newts has confirmed their absence. Survey for birds is ongoing. Further consideration required.
Water Environment				Due to the low permeability of the bedrock, it is unlikely that groundwater dewatering will be significant, however the proposed development has the potential to increase runoff rates off-site during operations and following restoration. Further consideration is required.
Historic Environment				The potential for physical and setting impacts will be considered. The potential for significant setting impacts is restricted by existing and proposed screening.
Noise Impacts				There is no record of complaints and the development would continue to maintain suitable standoffs to potential sensitive receptors. A review study will be undertaken to confirm that operations can be carried out within appropriate limits.
Dust Emissions and Air Quality				There is no known history of complaints about dust and the development would continue to maintain suitable standoffs to potential sensitive receptors. An updated Dust Management and Monitoring Plan will be prepared to control and measure potential emissions.
Vibration from Blasting				All blasts are monitored and levels are well within currently approved modern limits, and the development would continue to maintain suitable standoffs to potential sensitive receptors. A review study will be undertaken to confirm that operations can be carried out within these existing modern limits
Natural Resource Usage and Waste				No significant impacts will result with standard good practice mitigation in place.
Transport				No increase in output is proposed. Impacts will therefore continue for longer but there will be no increase in intensity.
Recreation, and Access				There are no paths or public access routes within the proposed development boundary. Potential impacts will be restricted to visual impacts which will be considered in the LVIA.
Land and Soil Quality				The site is not prime agricultural land and a peat depth survey has been carried out to aid in the quarry design to avoid peat. No significant impacts are anticipated.
Population and Human Health				Human population are considered including in relation to visual impact, vibration and noise. No other significant impacts are anticipated. Potential impacts will be considered in relevant chapters.
Major Accidents and Disasters				Potential impacts considered in respect of flood risk. Little or no potential for significant impacts.

6.1 Landscape and Visual Impacts

Mullin Design Associates have been appointed to consider the potential landscape and visual impacts that could occur as a result of the development. The site is located within a Sensitive Landscape Area (SLA) within the East Ayrshire Local Development Plan 2017, and it is proposed that a detailed landscape and visual assessment will be carried out. Full details are contained within Appendix 1 of this document however in summary it is proposed that the assessment will be prepared in accordance and with reference to best practice guidance documents and information sources including the following:

- Guidelines for Landscape and Visual Impact Assessment (GLVIA), Third Edition, edited by The Landscape Institute and Institute of Environmental Management and Assessment (2013);
- Landscape Character Assessment Guidance (2002) Countryside Agency in conjunction with Scottish Natural Heritage
- Landscape Character Topic papers 1 to 9 (Various Dates). Published by The Countryside Agency and Scottish Natural Heritage
- East Ayrshire Local Development Plan 2017.
- National Planning Framework 4

The assessment will review the policy context, the landscape character of the site and the site's visibility and use this analysis to advise on the development strategy.

Landscape

The landscape character type associated with the area of further mineral working at the site has been identified by NatureScot (previously Scottish Natural Heritage) as LCT 78 Plateau Moorland Ayrshire. The existing quarry excavation is located on the boundary of this landscape type and Landscape Character Type 68 Lowland River Boundaries Ayrshire with the site access road located within this second landscape character type.

Key characteristic of the Plateau Moorland Character Type can be described as:

- Topography is comparatively level with extensive plateaux rising to soft contoured ridges.
- Underlain by basalts to the east and greywackes to the south-west.
- Covered by blanket bog, heather and grass moorland, with extensive mosses and peatland forming an important component of this landscape type.
- Frequent extensive areas of coniferous forest of uniform age which, in places, have significantly modified the original character of these areas in terms of colour, texture and views.
- Largely undeveloped with a sparse network of roads.
- Wind farm development on the north-eastern margins.

To the south the existing quarry as the landscape character changes to the Lowland River Boundaries landscape Character type the is site bounded by mature shelter belts and extensive new forestry with the ground falling towards the right bank of the River Ayr.

Visual Effects

The existing quarry is well contained within the landscape by mature shelter belt planting, local topography and via screening provided by existing soil and overburden mounds. Views of the existing working quarry are currently limited to the site access road and infrastructure, with limited views of the soil and overburden mounds. No views of the main quarry faces are available.

A Zone of Theoretical Visibility or ZTVI is a tool to identify locations in the surrounding area from where changes (as a result of a proposal) would be theoretically visible. ZTVI plans are reliant on the data used to generate them and almost always overemphasise the degree to which a development would be visible due to the fact that they do not account for all vegetation and other screening elements that may be present in the landscape.

ZTVI has been created for the overall proposed development site as existing including the pre-development condition of the extension area and a series of representative viewpoints have been selected for the assessment. These are shown MDA Figure 1.1 and detailed in Table 6.1.1 below:

Table 6.1.1 – Representative Viewpoint Locations

Viewpoint	Co-ordinates	Description
1	258130, 628020	Highpoint along the northern boundary of the extension area (to show intervisibility)
2	257880, 629060	Hill to the north of the of the site
3	258330, 629470	Blacksidend Cairn
4	259290, 628510	West Auchenlongford
5	258230, 626920	Site entrance from B743
6	259660, 627230	Access to Broxden House from B743
7	257900, 625730	View from road near Woodhead Lodge and Nether Heiler
8	257630, 624130	Darnconner Farm
9	258290, 623070	Common Cottage

Characteristics of the Proposed Development

The sequence, position and extent of the proposed extension area will be refined iteratively with direct input from the project landscape architect to ensure that the quarry incorporates all primary mitigation measures possible.

This application will include direct design input that:

- Identifies required screening, with potential location of advance screening requirement including temporary screen bunds and or planting;
- Identifies and agrees extraction limits;
- Agrees final quarry shape, form and depth;
- Identifies and agrees stand offs and buffers;
- Agrees phasing and restoration proposals along with direction of extraction;

Advanced mitigation

Initial mitigation has been proposed following ZTVI Analysis detailed in Figure 1.1 which identified that, pre-development, the extension could be viewed tfrom the south and east. As a result, early mitigation has been introduced into the proposed Phase 1 establishment works involving the construction of a screening bund and associated planting and screening of the eastern and south eastern boundaries of the proposed quarry extension as detailed in JPB Drawing WG853/SR/F/04. The effect of this mitigation, following implementation, is detailed on MDA Figure 1.2 (Phase 1 Mitigation ZTVI) demonstrating that once established screen bunding and planting significantly restricts views of the development.

Identification of Likely Significant Impacts

Assessment will establish the sensitivity of specific landscape resources and describe the significance of changes to that landscape as a result of a proposed development. Once the design process is complete and mitigation is fully incorporated into the development proposals, the assessment of potential Landscape and Visual Impacts will be considered in the following key phases: -

1 Construction Phase (Establishment)
2 Operational Phase (Extractive Operations)
3 Restoration Phase (Post Extractive Operations)

6.2 Ecology

A Preliminary Ecological Appraisal has been carried out by Echoes Ecology Ltd in November 2022, and included as **Appendix 2**. The key findings of the PEA and requirements for further work, subsequent work undertaken and proposed assessment required can be described as follows:

Muirkirk and North Lowther Uplands SPA & Muirkirk Uplands SSSI
Muirkirk and North Lowther Uplands SPA is located 1km north of the Site, with Blood Moss to the north of the site providing habitat connectivity between the SPA and the Site. The qualifying interests of the SPA include breeding and over-wintering hen harrier (*Circus cyaneus*), breeding short-eared owl (*Asio flammeus*), breeding peregrine falcon (*Falco peregrinus*), breeding golden plover (*Pluvialis apricaria*) and breeding merlin (*Falco columbarius*). The conservation objectives of the SPA include the avoidance of any significant disturbance to the qualifying species. The core ranges for hen harrier, short-eared owl and peregrine falcon are 2km, for golden plover is 3km and for merlin is 5km. Therefore, there is a risk that the proposal could disturb the qualifying interests of the SPA if these species utilise the habitats within and around the Site.

Muirkirk Uplands SSSI is notified for its blanket bog habitat as well as the populations of short eared owl and hen harrier. There will be no impact upon the habitats as it is located 1km from the Site and there are no hydrological connections. There is potential for disturbance to the notified bird species as discussed above with regards to the SPA.

Further Works/Mitigation:

- A Habitats Regulation Appraisal will be required once the breeding bird surveys have been completed to confirm there will be no likely significant effect on the qualifying interests of the SPA (hen harrier, merlin, golden plover, peregrine falcon and short-eared owl). Suffient information will be contained within the EIA to inform the completion of the HRA by the Planning Authority.

Habitats
The higher ground around the edge of the active quarry comprises semi-improved acid grassland which is grazed by sheep and cattle. As the ground slopes down towards the Harley Burn the habitat transitions into a mosaic of blanket bog and acid flush over deeper peat.

An area of raised ground in the northwest corner of the Site consists of wet heath and containes a similar species composition to the blanket bog habitat alongside Harley Burn, but with areas of abundant cross-leaved heath (*Erica tetralix*) and bilberry (*Vaccinium myrtillus*) over carpets of mosses.

An extensive area of blanket bog is located to the north of the Harley Burn (Blood Moss). The habitat in the east of the extension area is grazed by cattle and sheep and consisted of marshy grassland and semi-improved acid grassland. The areas of marshy grassland is dominated with sharp-flowered rush (*Juncus acutiflorus*) and had additional species including meadow buttercup (*Ranunculus acris*) and wavy bitter-cress (*Cardamine flexuosa*). Alongside the Harley Burn there is a mosaic of wet heath, dominated by purple moor-grass, and marshy grassland.

The semi-improved acid grassland and marshy grassland are considered common and widespread in the area and given the discrete nature of the extension area; the loss of these habitats is not considered to have a significant ecological impact.

Blanket bog is an Annex I and SBL priority habitat and wet heath and acid flush are SBL priority habitats. The wet heath habitat resembles *Scirpus cespitosus - Erica tetralix* wet heath community (M15) which can occur on both shallow and deep peat.

Further works/Mitigation:
In accordance with the recommendations of the PEA:

- Further peat depth surveys have taken place to accurately map the areas of deep peat. Areas of peat soils greater than 0.5m in depth have been excluded from the proposed development site.

- A 15m stand-off to the Harley Burn is to be implemented to protect the flushes and Harley Burn.

- If works at the Site do not commence prior to 21 April 2024, then a repeat PEA survey should be commissioned in order to ascertain that the habitats at the Site have not changed.

Ground Water Dependent Terrestrial Ecosystems
The blanket bog and wet heath are rain-fed mires and not ground water dependent. As the marshy grassland is located adjacent to and downslope of the rain-fed habitats they will also have low groundwater dependency. Surveys at the Site have also confirmed that the geology is such that the habitats cannot be dependent on a groundwater aquifer. Therefore, there are no ecological constraints with regards to ground water dependent terrestrial ecosystems.

Fauna

Birds
There is potential for breeding birds associated with moorland habitat including hen harrier, short-eared owl, merlin and golden plover which are qualifying interests of the SPA. The habitat within the extension site is not considered suitable for breeding peregrine falcon and given the distance from the SPA and SSSI, no significant disturbance to the wintering population of hen harrier is anticipated.

Correspondence with NatureScot in November 2022 (John Adair) confirmed that NatureScot shared the view that a winter survey for hen harrier presence in the vicinity of the quarry was not essential and so further winter surveys were not recommended.

A breeding pair of peregrine falcons is located within Sorn Quarry. These are not associated with the SPA but require an appropriate species protection plan.

Further Works/ Mitigation:

- As there is potential for breeding birds which are qualifying interests of the SPA, no vegetation removal should take place until the situation regarding breeding birds has been confirmed through further surveys and the impacts can be fully assessed.

- Breeding raptor surveys and a Brown and Shepherd Survey are currently being carried out during the 2023 breeding bird season.

- The peregrine nesting location must be protected from commencement of occupancy through to at least five weeks post-fledging (Bodnar, 2022). A Species Protection Plan will be prepared to cover both the works associated with existing active quarry and the new extension area. The Species Protection Plan will outline how the nest is to be adequately protected whilst in use and how suitable nesting habitat will remain available to peregrine falcon throughout the operation and restoration of the quarry.

Reptiles
The habitats within the Site are deemed to be suitable for commuting and foraging reptiles, and the stone walls and loose stones may be used by hibernating reptiles. The removal of these habitats without mitigation could lead to the death of reptiles, if they are present at the time of works, which could lead to a potential breach in legislation.

Further Works/Mitigation:

- Stone walls and exposed rocks should be removed during the reptile active season (March to October). If these features must be moved during the winter months (November to February), the stone walls and exposed rocks will need to be dismantled under the supervision of an Ecologist. If an inactive reptile is found during the dismantling, the feature under which the reptile was found must be carefully replaced and the area delineated and no works will be allowed to take place in this area until the reptile active season (March to October).

- Any soil stripping and above ground vegetation should be removed during the winter months between November and February, when reptiles are hibernating below ground or under cover. If soil stripping or vegetation removal is due to be carried out during the reptile active season (March to October) then the vegetation should be cut down to ground level towards retained habitat north, west or east of the Site, to allow reptiles to move out of the area ahead of works. Once the vegetation has be cut the soil can be stripped, but this must also be done towards retained habitat.

Amphibians
The PEA considered that three lagoons located within the active quarry and the pond located to the north-west of the Site may provide suitable breeding habitat for great crested newts (*Triturus cristatus*). The habitats within the Site are suitable for foraging and commuting great crested newt and so the PEA recommended that no works should occur until further survey of these water bodies confirms that great crested newts are absent from the area.

The discrete habitat loss is not considered to have a significant impact upon the local population of common toad, and the protection of the Harley Burn plus a 15m corridor will provide this species with a commuting route through the Site.

Water was collected for eDNA testing from the water bodies on 18 April 2023. The results did not reveal any great crested newt eDNA in the water samples and therefore it was concluded that they are absent from the survey area. (Report in Appendix 2).

Further Works/Mitigation:

- If the works do not commence by April 2026, then further surveys should be carried out in order to ensure that the situation regarding great crested newts at the Site has not changed since this report was produced.

Invertebrates
The discrete habitat loss is not considered to have a significant impact upon the local population of invertebrates, and a 15m corridor of retained habitat along the Harley Burn will ensure there is connectivity through the moorland habitat, past the extension area. Therefore, there are no ecological constraints regarding invertebrates.

Bats
There are no structures or trees within the survey area and so no potential roost features for bats are present. The discrete habitat loss of marshy grassland, wet heath and semi-improved acid grassland is not considered to have a significant impact upon foraging and commuting bats. Therefore, there are no ecological constraints with regards to bats.

Water Vole
As long as the Harley Burn is adequately protected through a 15m stand-off and appropriate pollution prevention, given the limited suitability of the water course for water vole, no further survey is considered necessary.

Summary

A Preliminary Ecological Appraisal has been carried out and followings its recommendations:

- Peat Survey has been carried and the site design has been prepared to avoid peat and to maintain appropriate standoffs to the Harley Burn.
- eDNA testing has been carried out which has confirmed the absence of Great Crested Newt from the site.

Following this, potential key impacts to be considered further will be those upon bird species associated with the Muirkirk and North Lowther Uplands SPA to the north and peregrines nesting within the site. Further surveys are ongoing in this respect. It is therefore proposed that ecology is scoped into the EIA with the impacts on the breeding birds to be fully assessed once the surveys have been completed.

6.3 Water Environment

Envireau Water has been engaged to prepare an Environmental Impact Assessment (EIA) scoping chapter to cover the water environment (to include flood risk, drainage, and hydrogeology).

6.3.1 Hydrology & Hydrogeology

Introduction

This section sets out how the potential effects of the proposed development on flood risk, drainage, water quality and hydrogeology will be assessed as part of the planning application.

The proposed development will extend the quarry void to the north by approximately 100 m and east by 180 m and deepen the existing void by approximately 30 m. The existing quarry void is at around 252 m AOD and has not intercepted groundwater.

Baseline Conditions

The extension area is underlain by glacial till and, in the northern proposed extension area, a small area of peaty soils. This is mapped as overlying the Silurian Swanshaw Sandstone Formation; however, exploration drilling has proven granodiorite and diorite of the Devonian Tincorn Hill Intrusion in this area, which is overlain by sandstone in the east. The Swanshaw Sandstone Formation is comprised of red-brown medium-coarse grained sandstones, subordinate conglomerate, and minor fine-grained sandstone, siltstone, and mudstone.

The Site is located within the River Ayr (d/s Greenock Water) catchment which in 2020 was classified under the Water Framework Directive (WFD) as Moderate with a moderate water quality and moderate ecological status. There are three main watercourses draining Tincorn Hill; Harley Burn 100 m north, Wyndy Burn 700 m east, and Benthead Burn 500 m southeast of the current quarry void. Several smaller field drains and watercourses are located south of the Site.

Runoff ingress to the quarry void is discharged to Benthead Burn to the south under a CAR discharge licence. According to the SEPA Flood Risk Map, the Site is not at risk of fluvial flooding, however, topographic lows surrounding Harley Burn, Wyndy Burn and in the quarry, void are mapped as having a High Likelihood (10% chance each year) of surface water flooding.

The bedrock at the Site is comprised of low permeability strata and groundwater was not encountered during exploration drilling within the extension area to a depth of 244 m AOD. A number of watercourses on land south of the quarry void start at elevations of around 230 – 240 m AOD and this may correspond to a spring line at the regional water table. Under the WFD, the Site is situated in the Ayr groundwater body and in 2020, was classified as having an overall status of Poor with a poor chemical status and good quantitative status.

Private water supply data obtained from East Ayrshire Council shows that there are no groundwater abstractions within 4 km of the Site. There are 8 CAR licences and 45 CAR registrations for discharges within a 4 km radius. Most of these are for discharge or engineering activities, with the exception of an impoundment along the River Ayr 2.8 km west of the Site.

The closest designated site is around 1 km to the north (Muirkirk Uplands SSSI/SPA).

Assessment Methodology

The impacts of the proposed development will be assessed through a Flood Risk Assessment (FRA) and Hydrogeological Impact Assessment (HIA). The FRA will consider flood risk and drainage from the Site. The HIA will assess impacts on water quantity (from dewatering, any catchment diversion etc.) and quality (from water discharge, chemical spills etc.). Both the HIA and FRA will be carried out relative to the baseline environment, which will be established through a comprehensive desk-based study utilising data from third party sources combined with previous work, verified by walkovers and observations.

The FRA will consider the potential impacts of flooding to and from the Site as a whole in accordance with Scottish National Planning Framework 4 (NPF4), SEPA and East Ayrshire Council FRA guidance. The assessment will consider the flood risk associated with pluvial, groundwater and other types of flood risks and will be accompanied by a drainage strategy to demonstrate how surface water will be controlled to ensure there are no negative impacts. Separate drainage strategies will be developed for the operational and restored phases of the development.

The FRA and HIA will involve the identification of hazards from baseline data during both the operational and restored phases of the development, applying a source-pathway-receptor (S-P-R) methodology. Where S-P-R linkages exist, hazards will be qualitatively risk assessed in accordance with the EIA assessment methodology.

Predicted Impacts

Available data will be assessed and interpreted to estimate dewatering rates, including from groundwater. We expect that the void would drain perched groundwater in the shallow superficial deposits overlying the bedrock, and groundwater dewatering from the bedrock may be required below around 235 m AOD. Due to the low permeability of the bedrock, it is unlikely that groundwater dewatering will be significant, and the zone of influence will be small. These calculations will be used to assess dewatering and discharge impacts. Dewatering and discharge impacts are expected to be insignificant.

Accounting for climate change, the proposed development has the potential to increase runoff rates off-site during operations and following restoration. During operations, runoff will be attenuated in the quarry void and, due to the large attenuation capacity, the risk is low. An assessment will be carried out on the restored site inform the design of the waterbody and whether any outflow control is required to ensure that discharge rates are controlled and do not increase flood risk to downgradient receptors.

Mitigation and Enhancement

A combined drainage strategy and surface water management plan will be developed for the Site. Separate drainage strategies will be produced for the operational and restored phases. This will align with the drainage strategy produced for the existing quarry as part of the existing planning permission which will be updated to reflect any changes in guidance and the proposed quarry extension and deepening.

The drainage strategies will rely on the quarry void to provide runoff attenuation to ensure discharge rates from the Site will not be increased relative to the existing condition. The FRA will demonstrate that these is sufficient attenuation capacity for the 1 in 200-year storm event accounting for climate. Discharge of surface water will meet regulatory requirements under the Controlled Activities (Scotland) Regulations (CAR) and local discharge rates will be defined as part of the drainage strategy. The above mitigation will ensure that the proposed development does not increase the flood risk and will provide betterment compared to the existing condition.

Impacts on water quality will be managed through Breedon's Environmental Management System (EMS) and standard best practice. The discharge will continue in accordance with the existing CAR discharge licence.

6.4 Historic Environment

Rathmell Archaeology Limited has been appointed to undertake an Environmental Impact Assessment on the Historic Environment for the proposed extension to Tincorn Hill Quarry, Sorn.

The Historic Environment comprises archaeological sites, historic buildings, gardens and designed landscapes, battlefields and other assets, features or places that have the capacity to provide information about past human activity or which have cultural relevance due to associations with historic events. The 'setting' of a historic structure or place can also be important to the way in which they are understood, appreciated and experienced.

6.4.1 Relevant Legislation, Policy and Guidance

The UK and Scottish Governments have passed legislation for the conservation and protection of the historic environment; this legislation has generated a range of relevant designations.

Table 6.4.1: Relevant historic environment designations

Designation	Explanation	Importance	Responsibility
Conservation Areas	Areas of special architectural or historic interest can be designated as Conservation Areas, under the *Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997*.	Local	Planning Authority
Historic Battlefields	Battlefields included on the Inventory of Historic Battlefields giving them protection through the planning system.	National	Historic Environment Scotland
Historic Gardens and Designed Landscapes	Gardens and designed landscapes included on the Inventory of Gardens and Designed Landscapes giving them protection through the planning system.	National	Historic Environment Scotland
Listed Buildings	Buildings of special architectural or historic interest protected under the *Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997* as modified by the *Historic Environment (Amendment)(Scotland) Act 2011*. Classified into (non-statutory) categories A, B and C in decreasing order of importance.	National, Regional and Local	Historic Environment Scotland and Planning Authority
National Scenic Area	Landscapes of outstanding scenic interest, incorporating historic environment dimension, designated under *Planning (Scotland) Act 2006*. Receiving protection through the planning system	National	Nature Scotland
Protected Places	Under *Protection of Military Remains Act 1986.*	National	Ministry of Defence
Scheduled Monuments	Ancient monuments protected for archaeological interest under *Ancient Monuments and Archaeological Areas Act 1979* as modified by the *Historic Environment (Amendment)(Scotland) Act 2011.*	National	Historic Environment Scotland
World Heritage Sites	Inscribed by UNESCO as exceptional places of '*outstanding universal value'* under the *UNESCO World Heritage Convention* ratified by the UK in 1984.	International	Historic Environment Scotland and Planning Authority

Assets without statutory protection are solely curated within the relevant planning system by the appropriate planning authority. The *National Planning Framework 4* within Policy 7 deals with all aspects of the historic environment with a view to its protection, enhancement and to enable positive change as a catalyst for the regeneration of places. For archaeological sites *PAN 02/2011 Planning & Archaeology* indicates that the principle of preservation *in situ* where possible, and by record if loss cannot be avoided. However, with regard to mineral extraction the PAN states:

"Because minerals can only be worked where they are found there may be less flexibility over the choice of location than for other forms of development. In considering the information necessary to make decisions on applications for extraction, and in designing programmes of mitigation when consent is granted, there is a need to pay particular attention to the affordability of archaeological requirements. Only sufficient information to characterise the archaeological content and potential of application area should be required with applications." PAN 02/2011, July 2011

The Scottish Government in 2014 expressed their strategy towards the management of the historic environment through *Our Place In Time*. Of note in this context:

"Any decision made in relation to the care and management of the historic environment should be informed by the best available evidence, supported by robust data. This is at the heart of all good decision making and delivery and is core to the international community's approach to managing the historic environment." Our Place In Time 2014

The Development Plan is delivered by the planning authority through both National Planning Framework 4 and East Ayrshire Council's 2017 Local Development Plan (LDP). Within the LDP their Built Environment Policies seek to protect, preserve and enhance the historic environment. Specifically, the approach for Listed Buildings is presented within Policy ENV1 while Scheduled Monuments and Archaeological Resources are covered by Policy ENV3. Within the latter policy, development that will have an adverse effect on Scheduled Monuments or their setting shall not be supported. This stance is lessened where undesignated assets are considered with physical preservation sought wherever possible.

The emerging Local Development Plan 2 (LDP2) sustains comparable policies for the protection and enhancement of Historic Environment assets including Listed Buildings (Policy HE1) and Scheduled Monuments, Historic Battlefields and other Archaeological and Historic Environment assets (Policy HE3).

The LDP is not supported by supplementary guidance that bears on these policies in the context of this development proposal. All planning-related work within East Ayrshire is expected to comply with the *Standards Conditions for Archaeological Fieldwork* prepared by the West of Scotland Archaeology Service.

Historic Environment Scotland has issued guidance that is a material consideration through their *Managing Change in the Historic Environment* series. Of particular note is their volume in this series on *Setting* for historic environment assets.

6.4.2 Initial Review

In an initial desk-based review, information has been gathered from the following sources:

- Designation data from Historic Environment Scotland;
- Canmore records (National Record of the Historic Environment);
- West of Scotland Archaeology Service Historic Environment Record; and
- Historic map collections from National Library of Scotland;

Data gathered was supplemented by a targeted library search. No consultation has been undertaken to date. LiDAR and other specialist resources have not been consulted. This review does not constitute a desk-based assessment (per CIfA standard and guidance).

6.4.3 Designated Assets within the development area

Based on the initial review, there are no World Heritage Sites, Scheduled Monuments, Inventory Sites, Listed Buildings or Conservation Areas in the development area or within 500m of the boundary of the development area.

6.4.4 Undesignated Assets within the development area

There is one known archaeological site located within the development area, a farmstead known as Tincorn Hill (Canmore Id 170165, WoSAS PIN 47325). This site was identified in 1980 by the RCAHMS (now part of HES) who described this site from the 1st edition Ordnance Survey map and the supporting Ordnance Survey Name Book as the ruins of a small cottage annotated '*Tincornhill (ruin)*' on the map. The point for this site lies under the haul road as it enters, from the south, the stock pile area on the E

side of the existing quarry. This farmstead appeared to reasonably be of post-medieval date, probably late 18th or early 19th century and is provisionally wholly destroyed by previous development.

Historic Ordnance Survey maps also show several small, opportunistic whinstone quarries on the slope that will subsequently become Tincorn Hill Quarry.

Adjacent to the southern boundary of the existing quarry there is also the record for a commemorative stone at Tincorn Hill (Canmore Id 46540, WoSAS PIN 8034). The record for this asset describes it as: *"This is traditionally said to be the spot where George Wood, a sixteen year old Covenanter, was shot by a trooper."*

This late 17th century killing is linked to the aftermath of a conventicle (open air preaching) at Distinkhorn Hill, some 5km to the N. Contrary to the classification of the Historic Environment Record, there appears to be no commemorative stone at Tincorn Hill, rather the record clarifies that:

"A stone bearing an inscription to his memory is placed on the outside wall of Sorn Church (NS 5501 2675); a later stone, erected in 1828, is also placed nearby. The inscription on the original stone reads: 'Here lyes Georg Wood, who was shot at Tinkhornhill by Bloody John Reid trvper (sic) for his adherence to the Word of God and the Covenanted vork of Reformation 1688.'"

There is extensive new forestry planting (Scots Pine compartment then Sitka Spuce compartments) on the improved ground to the south of the quarry falling to the B743. The extension area reaches north and east from the existing quarry, covering the balance of Tincorn Hill and reaching towards the Harley Burn. The ground appears to be a mixture of unimproved and reverted hill ground. Modern drainage networks are visible on aerial imagery, as are underlying rig systems to the east of the existing quarry. No modern archaeological survey appears to have been undertaken on this ground.

6.4.5 Features in the surrounding landscape

The development area is bounded to the south by mature shelter belts and then the extensive new forestry with the ground falling towards the right bank of the River Ayr. To the NW is the high point of Brown Knowes (283m AOD) with unimproved ground reaching north across Blood Moss and then climbing Blacksidend Hill (411m AOD).

Historic environment assets are scarce within the immediate surrounding landscape. On the valley floor and lower slopes of the River Ayr valley there is a range of 18th to 19th century assets linked to the agricultural use of the area including Nethershield farmhouse (Cat B Listed Building LB19258; 550m to SE). Within this riverside distribution are assets that hint at a comparable post-medieval and medieval landscape such as the purported castle at Daldilling (Canmore 43546, WoSAS PIN 8040) and the motte & bailey castle at Castle Hill (Canmore 43544, WoSAS Pin 8038). The array of shieling huts on the Merkland Burn to the E recorded by archaeological survey in 1990 (Canmore 72028, WoSAS Pin 12104) suggests unimproved, higher ground may contain traces of this earlier post-medieval landscape.

There are very few traces of any prehistoric activity within the landscape except for the Blacksidend cairn (SM2924; 1500m to N) perched at the SW end of the summit of Blacksidend. That this Bronze Age funerary cairn used a prominent location is reflected in the reuse of the site by the Ordnance Survey for a triangulation pillar. Of note, to the S of the River Ayr valley is Airds Moss, a location associated with the recovery of Bronze Age metalwork deposited into this moss (Canmore 44762, WoSAS PIN 9115).

6.4.6 Key Potential Environmental Factors

The potential effects on the Historic Environment associated with the operation and/or restoration of the development are as follows.

Physical disturbance of known or undiscovered historic environment assets or features, including unforeseen buried remains of archaeological interest.

All elements of the extraction process have the potential for permanent adverse physical impact on historic environment assets that would be irreversible.

While there are no known assets within the extension there is potential for currently unidentified assets to be present. There are preliminary indications to suggest post-medieval rig blocks and field systems while the Merkland Burn survey illustrates the potential for shieling huts (upland seasonal rural occupation). Hence the extraction area could generate adverse impacts though the present understanding of the assets to be impacted is poor. The overall scale of impact is anticipated to be within the Major range with the current importance of affected assets uncertain, though they may of Local importance or less.

Effects on the setting of significant historic environment assets

The extension of the extraction of minerals has the potential to have an increased adverse impact on the setting of significant Historic Environment assets in the surrounding landscape. This is substantially a temporary and reversible impact, based on the quality and suitability of the restoration scheme. Given the quarry is already present in the landscape, the potential for substantive, durable change is best considered against the ZTV analysis. By this point in the phased sequence the full areal extent of the extension will have been realised, the new screening bund to the east will have been formed while planting to both east and southeast will have started to become established.

The assessment will consider the potential impact of the proposed mineral extension on significant Historic Environment assets (Scheduled Monuments; Category A & B Listed Buildings; Conservation Areas; Inventory Designed Landscapes and Gardens; Inventory Battlefields and World Heritage Sites) within proximity of the site. A study area of 2000m from the quarry boundary will be adopted (not the centroid of the quarry per ZTV distance bands). Within this extent there are three such assets, the Category B Listed Buildings of Glenlogan (LB14262) and Nethershield Farmhouse & Steading (LB1928) as well as the Scheduled Monument of Blacksidend Cairn (SM2924).

Overlaying these sites onto the Phase 1 ZTV (shown in Drawing WG853/SR/F/09) the two Listed Buildings will not be afforded views of the quarry, as such they will not reasonably experience an adverse change in their current setting. Blacksidend Cairn is afforded views into the quarry now, and these would be sustained and expanded by the extension. However, the cairn is 1600m from the proposed development and has panaoramic views across Ayrshire, lessening the consequences of the expansion of the quarry to change in one small aspect of those views. Setting impact on significant historic environment assets are assessed to be limited following the implementation of landscape and visual mitigatory measures in Phase 1 to visual impact on Blacksidend Cairn (SM2924) with the overall scale of impact anticipated to be at most Minor.

6.4.7 Scope of Further Assessment and Assessment Method

Based on this review and professional judgement, it is not considered that any potential effects can be wholly scoped out at this stage, although the study of setting impact should be limited to visual impact on Blacksidend Cairn (SM2924). A study of the impact of the development on the Historic Environment will be undertaken and presented as a chapter within the EIAR. This study will cover both physical impacts of the extension area and visual impact on Blacksidend Cairn.

6.4.8 Physical impact

A desk-based assessment will be undertaken of accessible cartographic and documentary sources. This will include the National Record of the Historic Environment, local Historic Environment Record, the National Library of Scotland, local museums, libraries, record offices and other archives. Information contained within available published sources will also be consulted.

A walkover survey of the development area will be undertaken to assist characterisation of those Historic Environment assets identified by the desk-based assessment and to identify additional upstanding archaeological sites. Site limits will be identified on 1:2500 base maps through the use of a DGPS system.

The product of the assessment and survey will be a section within the EIAR chapter on the Historic Environment containing a summary of the work undertaken and the baseline present including the cultural significance of assets. The specific character of the development will then be assessed, adverse impact identified and proportionate mitigation defined.

6.4.9 Visual Impact

The asset, Blacksidend Cairn, will be categorised based on its proximity, physical character (is it identifiable and interpretable on the ground), the use of its amenity (is it interpreted through its views, e.g. inter-visibility with other cairns of contemporary structures) and the likely scale of change in the visual impact of the quarry.

A site impact survey of Blacksidend Cairn will be undertaken to evaluate the efficacy of the categorisation (outlined above). This survey will enable the refinement of this categorisation and allow a more effective assessment of impact. Where significant adverse impacts (within the methodology applied) are anticipated visualisations will be prepared to validate the anticipated intervisibility between the receptor and the development.

The product of the assessment and survey will be a section within the EIAR chapter on the Historic Environment containing a summary of the work undertaken and a baseline for Blacksidend Cairn. The specific character of the development will then be assessed, adverse impact identified and proportionate mitigation defined.

Where visualisations are required to assess the impact and communicate effects of the development, these will be requested from the landscape assessment specialist within the EIA team.

6.4.10 Standards

The assessment of effects on the historic environment will be carried out in line with relevant standards and guidance:

- Historic Environment Scotland (2009) Managing Change in the Historic Environment - Setting;
- The Scottish Government (2023) National Planning Framework 4;
- The Scottish Government (2011) PAN 2/2011 Planning and Archaeology;
- The Chartered Institute for Archaeologists (2014 as updated) Standard and guidance for historic environment desk-based assessment; and
- The Chartered Institute for Archaeologists (2014 as revised) Code of Conduct: professional ethics in archaeology.

Consultation will be undertaken with the West of Scotland Archaeology Service and Historic Environment Scotland to ensure the study will meet their expectations.

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6.5 Noise Impacts

Vibrock Ltd has been appointed to consider the environmental impact of noise as a result of the development. Guidance applicable to the assessment of noise impacts from mineral extraction and related development is provided by:

viii. BS5228-1:2009 (as amended): Code of practice for noise and vibration control on construction and open sites [British Standards Institute, 2009];
ix. PAN 50 Controlling the Environmental Effects of Surface Mineral Workings. Annex A: The Control of Noise at Surface Mineral Workings [Scottish Office, 1996].

The use of plant and machinery in the extraction, processing and dispatch of materials has the potential to increase noise levels in the areas around these types of development. Accordingly, it is considered that a noise assessment should be undertaken to demonstrate that the proposed development can comply with relevant noise criteria and operate with minimal likelihood of receiving complaints over noise from nearby residents.

Condition 24 of the extant planning permission 19/0230/PP provides appropriate noise limits for the site based upon Scottish Government Guidance contained in Planning Advice Note 50 Annex A – *"the Control of Noise at Surface Mineral Workings"* as follows*:*

"The conduct of the site and method of operations shall be such that except during the stripping and replacement of soils, the noise limit during daytime (0700 to 1900 hours) shall not exceed 55dB LAeq, 1h. During the stripping and replacement of soils, the noise limit shall not exceed 70dB LAeq,1h at noise sensitive properties with such works only taking place during daylight hours."

Noise monitoring is carried out bi-annually on behalf of Breedon by independent specialists Vibrock Limited in accordance with the requirements of condition 25 of Planning Permission 19/0230/PP. This monitoring confirms the site currently complies comfortably with these approved noise levels.

It is assumed that the existing limits within planning permission 19/0230/PP will be maintained in respect of the extension and deepening of the site.

From an inspection of the proposed development area, we have identified the following receptor locations detailed in Table 6.5.1 below and Drawing WG853/SR/F/08 – Residential Property Location Plan. Table 6.5.1 details the current minimum distance from the receptors to mineral extraction and processing operations and the proposed minimum proposed distance. It can be noted that substantial standoffs currently exist with operations moving slightly closer to Blackside Farm, and Lown Haddin but with substantial separation distances still maintained.

Table 6.5.1 Residential Property Locations

Location	Current Minimum Distance to Mineral Extraction Operations	Minimum Distance to Proposed Extraction Area
Blackside Farm (1)	730m	660m
Lown Haddin (2)	1110m	1020m
Nethershield Farm (3)	840m	850m
West Town Farm (4)	665m	855m
Daldinning (5)	975m	1170m

At the agreed locations noise predictions, based upon methods outlined in BS 5228-1:2009+A1:2014 and the sound power levels of the intended plant, would be made for several phases throughout the life of the proposed development, including, for example: soil/overburden stripping, mineral extraction and processing, and haulage from the site. In each phase of working the worst possible case scenario would

be addressed. The predictions would utilise acoustic modelling software, configured to calculate the noise from the development in accordance with the BS 5228-1 methodology.

The results from the prediction exercise would be used to undertake an assessment of the noise impact of the proposed development on the local environs. The noise assessment will follow the recommendations and guidelines given in PAN 50 (Annex A) 'The Control of Noise at Surface Mineral Workings' and, if necessary, will give details of mitigation measures to be adopted at the site to reduce impact.

6.6 Dust Emissions and Air Quality

The environmental impact on air quality as a result of the proposed development relates primarily to the emissions of dust.

Dust emissions from surface mineral operations can arise from a number of sources, including stripping and stockpiling of soils and overburden, mineral handling and processing, and vehicle movements on internal roads and haul routes.

PAN 50 Annex B provides examples of neighbouring land uses and their sensitivity to dust. These are detailed in the table 6.6.1 below.

Table 6.6.1: Land Use Sensitivity

High Sensitivity	Medium Sensitivity	Low Sensitivity
Hospitals and clinics Retirement homes Hi-tech industries Painting and furnishing Food processing	Schools Residential areas Food retailers Glasshouses and nurseries Horticultural land Offices	Farms Light and heavy industry Outdoor storage

The publication entitled "*The Environmental Effects of Dust from Mineral Workings" (HMSO 1995)* provides advice on the sensitivity of receptors to dust. The report advises that receptors with a stand-off of less than 100m to quarrying activities are considered as being the highest risk in terms of dust sensitivity, receptors 150m – 200m away as being of medium risk and receptors from 200m – 250m to dust emitting sources have a low risk of dust sensitivity.

Consideration of the potential for dust impacts has been undertaken early in the process and included a review of "*Guidance on the Assessment of Mineral Dust Impacts for Planning"* produced by the Institute of Air Quality Management (May 2016).

This guidance confirms that where there are no receptors near to a mineral site there will be no significant effect. Therefore, it is possible to screen out the need for a detailed assessment based on the distance from a mineral site to potentially sensitive receptors. The guidance goes on to confirm if there are no potentially sensitive receptors within a distance of 500m of activities associated with the requirement for a Dust Assessment can be screened out unless there any special circumstances e.g., high local PM_{10} concentration due to other sources.

The minimum distances to mineral extraction to the closest potentially sensitive receptors are as noted in Table 6.6.2 below and Drawing WG766/SR/F/08 – Residential Property Location Plan.

Table 6.6.2: Distance to Potentially Sensitive Receptors

Location	Minimum Distance to Proposed Extraction Area
Blackside Farm (1)	660m
Lown Haddin (2)	1020m
Nethershield Farm (3)	850m
West Town Farm (4)	855m
Daldinning (5)	1170m

In this regard no receptors are within 500m of proposed mineral extraction activities. Background annual mean concentrations of PM_{10} in the area around Tincorn Hill Quarry are low. Data from the Scottish Air Quality website for the 1 km x 1km grid square that covers the proposed development, centred on NS 57906 27930, for 2020 has an annual mean concentration of 6 and below μgm^3 and below, significantly below the Scottish air quality objective of 18 μgm^{-3}. Accordingly, there are no special circumstances that require to be taken into account and no requirement for a detailed assessment.

The assessment of Air Quality impacts can therefore be scoped out of assessment.

The site is subject to regular dust monitoring under a Dust Monitoring Scheme agreed under Condition 22 of planning consent reference 03/1135/FL. A limit of 250mg/m^2/day has been set at 3 monitoring locations in accordance with recognised good practice limits. The results of this monitoring confirm that emission levels are significantly below the limits set.

It is therefore proposed that the existing Dust Monitoring Scheme be refined to produce a Dust Management and Monitoring scheme that could be used during the future working at Tincornhill Quarry allowing best practice to continue to be implemented and dust emissions monitored and recorded in accordance with IAQM and planning policy/guidance.

6.7 Vibration and Blasting

The first operation in the mineral extraction works will be drilling and blasting, to fragment the strata such that it can be fed into the processing equipment. Even the most well designed and executed of blasts will generate a certain amount of energy in the form of both ground vibration and airborne vibration.

These effects radiate away from the blast site and can be perceived at nearby receptor locations. PAN 50 Annex D: “The Control of Blasting at Surface Mineral Workings” provides guidance on acceptable levels of ground vibration, limits set to preclude even the most cosmetic of damage. Airborne vibration limits, because they are influenced by variable meteorological effects, are not usually set but are controlled through the use of best practice techniques.

A vibration limit of 6mms-1 at a 95% confidence level has been placed on the existing permitted mineral extraction at the site under condition 27 of Planning Consent 19/0230/PP which states:

“Blasting operations shall be carried out in such a manner that no component of the peak particle velocity attributable to any blast, measured at any point immediately adjacent to any building outside the boundaries of the site exceeds a vibration criterion of 6 mm/sec at a 95% confidence limit

Regular blast vibration monitoring is undertaken during production blasts in accordance with a monitoring scheme approved under condition 28 of the extant consent. It is understood that there has been no exceedance of the existing 6 mms-1(at 95% confidence) planning condition limit at the closest residential properties. Additionally, there have been no recent complaints made in relation to ground vibration effects.

Table 6.7.1 and Drawing WG766/SR/F/08 – Residential Property Location Plan detail the current minimum distance from the receptors to mineral extraction operations and the proposed minimum proposed distance. It can be noted that blasting in the proposed extension and deepening will only come slightly closer to Blackside Farm, to the north, and, of even less of a degree, to Lown Hadden to the northwest, and it not considered that the levels in PAN 50 will be exceeded.

Table 6.7.1 – Distance to Potentially Sensitive Receptors

Location	Current Minimum Distance to Mineral Extraction Operations	Minimum Distance to Proposed Extraction Area
Blackside Farm (1)	730m	660m
Lown Haddin (2)	1110m	1020m
Nethershield Farm (3)	840m	850m
West Town Farm (4)	665m	855m
Daldinning (5)	975m	1170m

Nevertheless blasting is a common concern in relation to mineral extraction and a blast vibration assessment will be undertaken to demonstrate than guidance levels can be achieve. The study will commence by monitoring a typical production blast with several instruments so that the rate at which vibration decays with distance away from the blast site can be determined.

As is the case at present, the quarry extension will be worked in a series of benches and based on these face heights and a knowledge of the explosive charges that will be employed, ground vibration predictions will be made to the nearest receptor locations. These predicted vibration levels will be compared to the criteria in the PAN guidance.

If the predicted levels exceed the criteria, then practical mitigation measures will be recommended.

6.8 Transport

The site is accessed from the B743, which runs from Heathfield Roundabout at Ayr, eastwards through Mossblown, Mauchline and Sorn, past the site before continuing east to join the A70 at Muirkirk. It is maintained by the Ayrshire Roads Alliance on behalf of East Ayrshire Council. The B734 is the only route into the site.

It is anticipated that the overall saleable mineral extracted from Tincornhill Quarry will remain the same as at present at in the region of 350,000 tonnes per annum. As the output would remain the same, the number of vehicles on the local road network will remain similar to the current situation.

Tincornhill Quarry has an agreed a route for HGV use to minimise overall impact on the surrounding area. It is proposed that these routes are maintained for the proposal. Furthermore, the operator contributes an annual sum toward the maintenance of the route under a S75 Agreement tied to the sites planning consent. It is anticipated this will continue during the extended period of operations.

The access junction of Tincornhill Quarry/B743 has good existing overall visibility for all movements.

Should the erection of asphalt and concrete plants be approved this is likely to result in slight increase in daytime traffic on the B713 through Catrine (19 more movements), and on the B743 between the site and the A70 to the east (17 additional movements). However, there will be significant reductions in lorry traffic on the remainder of the local road network. This increase has been considered and a Transport Statement produced to support the planning application for the erection and utilisation of the plants which confirms the relocation of the plants from killoch Depot to Tincorn Hill would be likely to result in a reduction of over 70,000 lorry miles per annum on the local road network, taking account of unloaded return journeys.

Given the above, the proposal is not anticipated to create any additional road network issues beyond those identified and previously assessed and it is proposed that Transport be scoped out of environmental impact assessment.

6.9 Recreation and Access

There are no core paths or rights of way directly affected the proposed development. The closest paths are the Four Farms Route associated with Sorn Village over 1km to the west, and rights of Way associated with the River Ayr Way to the South.

There is therefore limited potential for recreational access to be affected by the proposed development and it is proposed that consideration of impacts upon recreation and access be scoped out of the assessment except where they relate to visual effects from distance which will be considered within the Landscape and Visual Impact Assessment.

6.10 Natural Resource Usage and Waste

Relevant policy and guidance include:

- The Waste (Scotland) Regulations 2012;
- The Management of Extractive Waste (Scotland) Regulations 2010;
- Zero Waste Plan; and
- Waste Hierarchy.

In 2010 the Scottish Government published Scotland's Zero Waste Plan [Scottish Government, 2010a], which sets out the government's vision for a sustainable and resource efficient future. Breedon intends to operate at Tincorn Hill Quarry in accordance with this vision which aims to:

'Reduce Scotland's impact on the environment, both locally and globally, by minimising the unnecessary use of primary materials, reusing resources where possible, and recycling and recovering value from materials when they reach the end of their life.'

6.10.1 Potential Impacts

A site Extractive Waste Management Plan will be prepared in accordance with The Management of Extractive Waste (Scotland) Regulations 2010, detailing the management of natural resources on site. The proposed quarrying area at Tincorn Hill Quarry will be stripped of soils and overburden in advance of extraction. These soils and overburden are to be held in in a screening bund to the east of the site and in storage to the west. These facilities will be managed to maintain soil quality in accordance with best practice. Thereafter the quarry excavation will be restored to a suitable after use with retained soils.

The main natural resource used during the operation of the site is the rock which will be excavated, processed and then sold to the market. It is anticipated that during the life of the project a total of 17.8 million tonnes will be extracted and removed from Site. As a finite resource, it is important to ensure that this is done in to maximise resource usage therefore minimising likely significant effects.

Welfare waste will result from the proposed development with, appropriate waste segregation and recycling impacts are not deemed to be significant.

6.10.2 Mitigation

Mitigation proposed to minimise effects on natural resources and waste are outlined in Table 6.10.1 below.

Table 6.10.1 Mitigation - Natural Resources and Waste

Phase	Risk/Effect	Cause	Mitigation
Operation	Material usage	Inefficient use of resources	• Soil and overburden are stored, for reuse in restoration • No soils will leave Site. • Facilities are designed to minimise material usage.
Operation	Material Usage	Inefficient use of resources	• Extracted rock will be processed as efficiently as possible. • Any residues from extraction or processing will be reused in site restoration in accordance with the sites Extractive Waste Management Plan.
Operation	Waste	Incorrect waste disposal	• Segregated bins provided. • Waste appropriately segregated.

No significant effects are expected from the development of the Site and mitigation has been identified to minimise any effects arising. It is therefore proposed that consideration of impacts upon natural resource usage and waste are scoped out of the assessment.

6.11 Land and Soil Quality

6.11.1 Introduction

Impacts upon land and soil quality primarly relate to potential impacts upon its productive capacity, or in the case of peatland and carbon rich soils on, climate and carbon emissions.

Scotland's National Planning Framework 4 Policy 5 provides that:

Developments on peatland and carbon rich soils will only be accepted if a site assessment identifies the baseline depth, habitat conditions, quality and stability of the soils, the likely effects caused by the development and the net effects of the development on climate emissions and loss of carbon.

Development on prime agricultural land, or land of lesser quality that is culturally or locally important for primary use, as identified by the LDP, will only be supported where it is for the extraction of mineral and there is secure provision for restoration.

6.11.2 Peat & Carbon Rich Soils

The proposed development will extend the quarry to the north and east. The Scottish Peatland map classifies the Site as almost entirely Class 3 (peatland with some heath), with one small area of Class 5 (peatland soil with no peatland vegetation) (NatureScot, 2016). The Blood Moss, immediately to the north of the Site is a Class 1 peatland but this is outwith the Site boundary.

NatureScot and East Ayrshire Council guidance states that peat surveys should be undertaken where Class 1-5 peat soils are mapped within the Site boundary (Scottish Government, Scottish National Heritage, SEPA, 2017; East Ayrshire Council, 2020). NPF4 notes that *a peat soil is defined in Scotland as when soil has an organic layer at the surface which is more than 50cm deep*.Therefore, to support this Scoping Report, an initial peat survey, including selected hand pitting and laboratory sampling has been undertaken in accordance with the guidance.

Baseline Conditions

Desk study
Blood Moss, to the north of the Site, is an approximately 8 ha area of blanket bog, between Tincorn and Auchenlongford Hill. Blanket bog is listed in Annex I of the Habitats Directive (Scot Gov, 1994) and is a Scottish Biodiversity List priority habitat (NatureScot, 2020). Blood Moss does not have an associated national or European designation (e.g., SAC, SSSI, NNR etc.) and is undesignated.

In 2010, an analysis of the Blood Moss was completed by BCL Consultant Hydrogeologists Ltd (BCL) which confirmed that the depth of the peat increases northwards away from the quarry to a maximum depth of 1.1 m, north of the Site. Clay and silt underly the peat, and the water within the peat is prevented from draining away by low permeability bedrock (BCL, 2010).

Peat survey
A peat probing survey was undertaken in October and November 2022 in accordance with the prevailing guidance (NatureScot (2017) and Scottish Government, Scottish National Heritage, SEPA (2017)). An approximately 10ha area extending 150 m north and 230 m east from the current quarry void to cover the proposed extension area was probed at a 50 m interval and the approximately 3.2ha area in the northernmost part of the proposed extension was probed at a 25 m interval. The increase in probe frequency in the northernmost part of the Site was due to the proximity to Blood Moss where peat is more likely to be located.

At each probe location the grid coordinates and probed depth were recorded (probe data is presented in Appendix 3A). Following the depth survey, fifteen hand pits ranging in depth from 0.55 to 0.75 m, were dug within the proposed extension area to log the superficial deposits (see logs presented in

Appendix 3B) and take samples for laboratory analysis (see Appendix 3C for laboratory results). Figure 1 in Appendix 3 shows the probe and handpit locations in relation to the proposed quarry void extension.

The results from the survey show a variable non-uniform thickness of the probed depth with a maximum of 0.74 m at HP9, a minimum of 0.21 m at HP05, and a mean depth of 0.39 m within the proposed excavation area footprint. Envireau Water Figure 1 in Appendix 3 shows contours of probed thickness generated from interpolation of probed depths using the Kriging method to generate a contour map of the peat and soil thickness across the survey area. Thickness increases towards Blood Moss and is less than 0.5 m across the proposed extension area.

Probed thickness is not equivalent to peat thickness as shown by the hand pit logs which mostly show clayey material with minor peat (Appendix 3B). Table 5.3.1 summarises the findings of the hand pit logs The hand pit logs detail peaty soil, or peaty clay overlying clay soils, which agrees with the earlier assessment undertaken by BCL. The hand pit logs show topsoil (mostly not peaty) overlying clay, mostly described as sandy gravelly clay with some peaty clay. In two of the 16 very peaty clay was encountered (HP13 and HP16 both north of the proposed extension area) and eight of the 16 being peaty clay or slightly peat clay (HP02, HP05, HP09, HP10, HP11, HP12, HP14 and HP15).

Laboratory analysis of 8 hand pit samples was completed by MAT Test Ltd (Appendix 3C). These indicate that the samples from HP09 (described as peaty clay in the log) and HP13 (described as very peaty clay) are peat (carbon content of 91.6% and 81.9%, respectively) whilst the other samples had organic contents of <25% and are not peat. The hand pits for HP09 and HP13 were both dug to 0.65 m before being terminated due to difficulty digging and water seepage.

Table 6.11.1 shows that all locations within the proposed extension area have a thickness of peaty material of no more than 0.5 m. All tested peaty material within the proposed extension area had organic contents of < 30% except at HP13 (see above). HP13 is within the extension area but beyond the proposed extraction boundary. The data therefore shows that there are minimal peat soils in the proposed working area and no peat.

Table 6.11.1 Handpit logs summary[1]

Handpit ID	Depth (m)	Topsoil thickness (m)[2]	Lithology underlying topsoil	Peaty material thickness (m)	Base of peaty material proven?	Laboratory OM content (%)
HP01	0.75	0.25	Slightly silty, sandy, slightly gravelly clay	n/a	n/a	n/a
HP02	0.7	0.15	Silty, sandy, gravelly clay and slightly silty very sandy, gravelly slightly peaty clay	0.35	Pit terminated due to obstruction at base	n/a
HP03	0.65	0.25	Sandy gravelly clay	n/a	n/a	n/a
HP04	0.7	0.35	Slightly silty very sandy slightly gravelly clay and very sandy, gravelly clay	n/a	n/a	n/a
HP05	0.55	0.15	slightly sandy slightly gravelly slightly peaty clay and sandy gravelly clay	0.25	Yes at 0.4 m	n/a
HP06	0.7	0.2	sandy very gravelly clay and silty sandy gravelly clay	n/a	n/a	n/a
HP07	0.7	0.25	silty slightly sandy gravelly clay	n/a	n/a	n/a

Handpit ID	Depth (m)	Topsoil thickness (m)[2]	Lithology underlying topsoil	Peaty material thickness (m)	Base of peaty material proven?	Laboratory OM content (%)
HP08	0.75	0.3	silty slightly sandy slightly gravelly clay	n/a	n/a	23.1
HP09	0.7	0.2 (peaty)	silty sandy gravelly peaty clay	0.7	No	91.6
HP10	0.65	0.15	silty sandy slightly gravelly slightly peaty clay and silty sandy gravelly clay	0.3	Yes at 0.45 m	22.6
HP11	0.65	0.15 (peaty)	slightly silty slightly sandy peaty clay	0.65	No	21.5
HP12	0.55	0.15	Slightly silty slightly sandy slightly gravelly peaty clay	0.4	No	22.7
HP13	0.65	0.15	Silty sandy slightly gravelly very peaty clay and sandy slightly gravelly clay	0.3	Yes at 0.45 m	81.9
HP14	0.7	0.2	Slightly silty sandy slightly gravelly peaty clay and very sandy slightly gravelly clay	0.35	Yes 0.55 m	21.8
HP15	0.75	0.15	Slightly silty sandy gravelly peaty clay and very sandy gravelly clay	0.5	Yes at 0.65 m	23.4
HP16	0.6	0.15 (peaty)	Slightly silty slightly sandy slightly gravelly very peaty clay	0.6	No	n/a

[1]Highlighted rows indicate where handpits are within the proposed extension area;
[2]Topsoil not peaty except where noted

Predicted Impacts
The quarry void has been designed to take the peat survey into account and avoid areas where probed thickness exceeds 0.5 m. Furthermore, there will be no development such as screening bunds, on the peatland north of the Site.

No peat will be affected by the development and only one handpit (HP13) to the north of the proposed working area contained peat soil (with a thickness of less than 0.5m).

The proposed development will therefore have negligible impact on the peatland environment and on carbon rich soils.

Based on the results of this initial assessment, further site investigation and an assessment of impacts on peat and carbon rich soils should be scoped out of the EIA.

6.11.3 Land Capability

Guidance on the quality of agricultural land is provided by The Macaulay Institute Land Capability for Agriculture Maps (LCA) which have defined the capability of land in Scotland for Agricultural use.

The Macaulay Institute LCA classification is used to rank land on the basis of its potential productivity and cropping flexibility. This is determined by the extent to which the physical characteristics of the land (soil, climate and relief) impose long term restrictions on its use. Prime quality land is described as LCA Grade 3.1 or above. In this connection:

- The proposed extension area is wholly comprised of Land Capability for Agriculture class 5.3 – land capable of use as improved grassland, and Land Capability for Agriculture class 6.1 – land capable of use as rough grazings with a high proportion of palatable plants.
- The proposed quarrying extension area at Tincorn Hill Quarry will be stripped of soils in advance of extraction. These soils are to be held in screening bunds and in soiling of the overburden storage area. Soils will be placed and seeded in accordance with best practice.

Therefore, none of the land which has been subject to development is considered to be prime agricultural land and soil resources from the site are retained on site and preserved in accordance with good practice. Thereafter, the site will be restored to a suitable after use with retained soils reused in restoration.

No significant impacts are therefore considered to result from the proposed development. It is therefore proposed that consideration of impacts upon land use and soils is scoped out of the assessment.

REFERENCES

BCL. (2010). *Hydrological Assessment of Blood Moss.* Wolverhampton: BCL.
East Ayrshire Council. (2020). *East Ayrshire Minerals Local Development Plan 2020: Non-statutory Guidance on Peat, Excess Soils, and Sewage Sludge.*
NatureScot. (2016). Carbon and Peatland Map .
NatureScot. (2017). *Peatland Action: Peat Depth Survey Guidance.* Retrieved from NatureScot: https://www.nature.scot/sites/default/files/2018-03/Guidance-Peatland-Action-Peat-depth-survey-2017-18.pdf
Scottish Government, Scottish National Heritage, SEPA. (2017). *Peatland Survey: Guidance on Developments on Peatland .*

6.12 Population and Human Health

Relevant guidance on impacts upon population and human health at this stage is limited. Reference has been made to “Health in Environmental Impact Assessment – A Primer for a Proportionate Approach” produced by IEMA.

Impacts on population and human health are considered firstly in the sense of any impact on human beings as receptors. These will be considered under noise, vibration, and visual impact.

It is therefore proposed that human health is covered under these topics but otherwise scoped out of the EIA process.

6.13 Major Accidents and Disasters

Major accidents/disasters that may affect the surrounding area is limited to flooding.

Flood risk is in relation to the site is considered in Section 6.3, which will be assessed as part of the water environment of the EIA.

With the exception of flood risk, which will be assessed in the water chapter of the EIA, it is therefore proposed that Major Accidents and disasters is scoped out of the EIA process due to the lack of significant potential impacts associated with the development. Relevant mitigation measures for water management will be included in the EIA process under the relevant sections.

7 PLANNING CONTEXT

Decisions on planning applications should be made in accordance with the development plan unless material considerations indicate otherwise. The House of Lord's judgement on the City of Edinburgh Council v the Secretary of State for Scotland (1998) provided that if a proposal accords with the development plan and there are no material considerations indicating that it should be refused, permission should be granted. If the proposal does not accord with the development plan, it should be refused unless there are material considerations indicating that it should be granted.

The development plan for the area comprises the National Planning Framework 4, the East Ayrshire Local Development Plan, and the East Ayrshire Minerals Local Development Plan. In accordance with guidance contained in Annex A of Circular 3/2023 Development Management Procedures it is considered that the following documents represent material considerations:

- Planning Advice Note 50 – Controlling the Environmental Effects of Surface Mineral Workings Annexes A, B & D;
- Planning Advice Note 64 – Reclamation of Surface Mineral Workings.
- Proposed East Ayrshire Council Local Development Plan 2

It is proposed that a Planning Application Statement addressing the development plan and relevant material considerations will be present as part of the supporting documentation to accompany the proposal.

7.1 The Development Plan

7.1.1 National Planning Framework 4

NPF4 was adopted by the Scottish Ministers on 13 February 2023, following approval by the Scottish Parliament in January. This replaces National Planning Framework 3 and Scottish Planning Policy.

The National Planning Policy Framework provides specific policy guidance mineral extraction, as well as guidance on the protection of biodiversity, natural places, biodiversity and the historic assets and places, which are of relevance to the proposals. Relevant elements of these policies are described below.

Policy 33 – Minerals

Policy 33 provides policy guidance in relation to minerals extraction. Policy aims *"To support the sustainable management of resources and minimise the impacts of the extraction of minerals on communities and the environment".*

Intended policy outcome are that:

- *"Sufficient resources are available to meet industry demands, making an essential contribution to the Scottish economy.*
- *Important raw materials for manufacturing, construction, agriculture, and other industries are available.*
- *Important workable mineral resources are protected from sterilisation by other developments.*
- *Communities and the environment are protected from the impacts of mineral extraction.*
- *LDPs should support a landbank of construction aggregates of at least 10-years at all times in the relevant market areas, whilst promoting sustainable resource management; safeguarding import workable mineral resources, which are of economic or conservation value, and take steps to ensure these are not sterilised by other types of development."*

In assessing development proposals Policy 33 Provides that:

d) Development proposals for the sustainable extraction of minerals will only be supported where they:

i) *will not result in significant adverse impacts on biodiversity, geodiversity and the natural environment, sensitive habitats, and the historic environment, as well as landscape and visual impacts;*
ii) *provide an adequate buffer zone between sites and settlements taking account of the specific circumstances of individual proposals, including size, duration, location, method of working, topography, and the characteristics of the various environmental effects likely to arise;*
iii) *can demonstrate that there are no significant adverse impacts (including cumulative impact) on any nearby homes, local communities and known sensitive receptors and designations;*
iv) *demonstrate acceptable levels (including cumulative impact) of noise, dust, vibration and potential pollution of land, air, and water;*
v) *minimise transport impacts through the number and length of lorry trips and by using rail or water transport wherever practical;*
vi) *have appropriate mitigation plans in place for any adverse impacts;*
vii) *include schemes for a high standard of restoration and aftercare and commitment that such work is undertaken at the earliest opportunity.*

Policy 3 – Biodiversity

Policy provides for *"the protection of biodiversity, reverse biodiversity loss, deliver positive effects from development and strengthen nature networks."*

Policy requires that:

a) *"Development proposals will contribute to the enhancement of biodiversity.*
Development proposals for national or major development, or for development that requires an Environmental Impact Assessment will only be supported where it can be demonstrated that the proposal will conserve, restore, and enhance biodiversity, including nature networks so they are in a demonstrably better state than without intervention."

Policy 4 – Natural Places

Policy intends *"To protect, restore and enhance natural assets making best use of nature-based solutions."*

Intended Policy outcomes are that:
- *"Natural places are protected and restored.*
- *Natural assets are managed in a sustainable way that maintains and grows their essential benefits and services."*

In assessing Development proposals Policy 4 provides that:

a) *"Development proposals which by virtue of type, location or scale will have an unacceptable impact on the natural environment, will not be supported.*
b) *Development proposals that are likely to have a significant effect on an existing or proposed European site (Special Area of Conservation or Special Protection Areas) and are not directly connected with or necessary to their conservation management are required to be subject to an "appropriate assessment" of the implications for the conservation objectives*
c) *Development Proposals that will affect a… Site of Special Scientific Interest… will only be supported where*:
    a. *The objectives of designation and the overall integrity of the areas will not be compromised; or*
    b. *Any significant adverse effects on the qualities for which the area has been designated are clearly outweighed by social, environmental, or economic benefits of national importance."*

Policy 7 – Historic Assets and Places

Policy intends *"To protect and enhance historic environment assets and places, and to enable positive change as a catalyst for the regeneration of places."*

Policy provides that:

a) *Development proposals with a potentially significant impact on historic assets or places will be accompanied by an assessment which is based on an understanding of the cultural significance of the historic asset and/or place. The assessment should identify the likely visual or physical impact of any proposals for change, including cumulative effects and provide a sound basis for managing the impacts of change.*

7.1.2 East Ayrshire Local Development Plan

The vision of the plan is to make East Ayrshire a desirable place in which to live, work, invest and visit. It will have a buoyant, sustainable economy with varied and plentiful employment opportunities and pleasant, well designed and affordable places to live. It will contribute to providing a low carbon economy through the use of renewable energy technologies. Minerals development is considered separately East Ayrshire Minerals Local Development Plan, 2020 described in 7.1.3 below.

Relevant policies are as follows:

Overarching Policy OP1	Overarching Policy OP1 All development proposals will require to meet the following criteria in so far as they are relevant, or otherwise demonstrate how their contribution to sustainable development in the context of the subsequent relevant policies in the Local Development Plan and Scottish Planning Policy would outweigh any lack of consistency with the relevant criteria: i. Comply with the provisions and principles of the LDP vision and spatial strategy, all relevant LDP policies and associated supplementary guidance and non-statutory guidance; ii. Be fully compatible with surrounding established uses and have no unacceptable impacts on the environmental quality of the area; iii. Ensure that the size, scale, layout, and design enhances the character and amenity of the area and creates a clear sense of place; iv. Where possible, reuse vacant previously developed land in preference to greenfield land; v. Be of the highest quality design by meeting with the provisions of SPP, the Scottish Government's policy statement Designing Streets, the Council's Design Guidance and any master plan/design brief prepared for the site; vi. (Prepare Master Plans/Design Statements in line with Planning Advice Notes 83 and 68 respectively where requested by the Council and/or where this is set out as a requirement in Volume 2 of the LDP; vii. Be compatible with, and where possible implement, projects shown on the LDP placemaking maps; viii. Ensure that there is no unacceptable loss of safeguarded areas of open space/green infrastructure and prime quality agricultural land; ix. Protect and enhance natural and built heritage designations and link to and integrate with green infrastructure where possible; x. Ensure that there are no unacceptable impacts on the landscape character or tourism offer of the area; xi. (Meet with the requirements of all relevant service providers and the Ayrshire Roads Alliance; and xii. Be accessible to all.

Further Relevant Policies the LDP includes are:

Policy ENV2	Scheduled Monuments and Archaeological Resources
Policy ENV6	Nature Conservation
Policy ENV7	Wild Land & Sensitive Landscape Areas
Policy ENV8	Protecting & Enhancing the Landscape
Policy ENV11	Flood Prevention

7.1.3 East Ayrshire Minerals Local Development Plan, 2020

Set in the context of the historic, current and potential future extraction of minerals, the Minerals Local Development Plan (MLDP) sets out what the Council wants East Ayrshire to be like in 20 years' time. As well as indicating where minerals development should and should not occur, it also provides information about the future of abandoned and unrestored minerals sites.

The Plan aims are:

- To secure restoration of previously worked sites;
- To encourage the development of alternative uses on former minerals opportunity sites including tourism, leisure, forestry, biodiversity, nature conservation and agriculture to the benefit of local communities;
- To conserve and enhance the natural and built environment where mineral extraction is not suitable and to minimise the negative impacts of mineral extraction upon the natural and built environment;
- To promote green networks, enhance biodiversity and create more attractive, healthy environments for people to live in, work in and which gives them opportunities for recreation;
- To minimise the negative impacts of minerals extraction on people;
- To safeguard workable mineral resources of economic or conservation value from sterilisation;
- To ensure an adequate and steady supply of minerals, thereby helping to contribute to sustainable economic growth; and
- To promote and deliver excellence in working and restoration practices of mineral extraction sites.

The MLDP provides overarching policy guidance in respect of mineral developments with key policies including the following;

Policy MIN SS1: Minerals Overarching Policy	All development proposals will require to meet the following criteria in so far as they are relevant, or otherwise demonstrate how they would contribute to sustainable development in the context of the subsequent relevant policies of the Minerals Local Development Plan and Scottish Planning Policy, so that they would outweigh any lack of consistency with the relevant criteria: (i) Comply with the provisions and principles of the MLDP vision and spatial strategy, all relevant MLDP policies and LDP policies, associated supplementary guidance and non-statutory guidance and any relevant provisions from Annex 1: Required information for proposals for new mineral extraction sites and extensions to existing mineral extraction sites; (ii) Comply with the mitigation requirements of the MLDP Environmental Report; (iii) Ensure that there are no overriding unacceptable impacts on the environmental quality of the area including on areas of natural and geological conservation and heritage interest; (iv) Ensure that they conserve and enhance the character, appearance and amenity of the rural area, communities and individual properties; (v) Be of the highest possible quality restoration and aftercare and provide a viable afteruse for the site; (vi) Prepare Master Plans for progressive restoration where requested by the Council;

	(vii) Be compatible with, and where possible, link with projects shown on the Local Development Plan 2017 placemaking maps, the Coalfield Communities Landscape Partnership projects and Ayrshire Growth Deal projects as they are developed; (viii) Ensure that there is no unacceptable loss of safeguarded areas of open space/green infrastructure and prime quality agricultural land; (ix) Protect and enhance natural and built heritage designations and link to and integrate with green infrastructure; (x) Ensure that there are no unacceptable impacts on the landscape character or tourism offer of the area; (xi) Meet with the requirements of all relevant service providers and the Ayrshire Roads Alliance; and (xii) Be accessible to all.
Policy MIN SS10: Construction Aggregates	The extraction of construction aggregates will be supported where there will be no unacceptable and significant adverse impact on local communities and the environment. The following criteria will be used to assess applications, and applicants should provide supporting information accordingly: • The contribution to the maintenance of a landbank of reserves for construction aggregates; • Impact on local communities and other sensitive receptors; • Impacts upon any natural or built heritage features; • Impacts in terms of noise, dust, vibration, odour, air quality and water quality; • Landscape and visual impacts; • Cumulative impacts; • Impacts upon transport; • Suitability of the restoration and aftercare proposals for the site; and • The benefits accruing from the proposal including local employment opportunities

Further Relevant Policies the MLDP includes are:

Policy MIN SS2	Minerals Restoration and Placemaking
Policy MIN ENV5	Mitigating Flood Risk
Policy MIN ENV6	The Protection of Water Resources, Water Bodies and Ground Water
Policy MIN ENV8	Restoration and the Water Environment
Policy MIN ENV9	Protection of Areas of Nature Conservation Interest
Policy MIN ENV10	Protection of Built and Natural Environmental Resources
Policy MIN ENV11	Protecting the Landscape
Policy MIN ENV12	Assessing the Landscape and Visual Impacts
Policy MIN PPL1	Protecting communities
Policy MIN PPL2	Protecting Residential Amenity
Policy MIN PPL4	Duration of extraction period of non-coal minerals extraction
Policy MIN T1	Routing of the transportation of minerals
Policy MIN T2	Cumulative Impacts of Minerals Related Traffic
Policy MIN WP1	Financial guarantees

7.2 Material Considerations

7.2.1 Proposed East Ayrshire Council Local Development Plan 2

The Proposed second Local Development Plan (LDP2) represents the Council's settled view on how East Ayrshire should be developed over the next 10-20 years. As well as indicating where development should and should not occur, LDP2 is proactive in supporting the creation of successful places.

The LDP Vision is as follows:

"East Ayrshire will be a low carbon place with a thriving and diverse environment. We will have strong, healthy and resilient communities that benefit from high quality places, multi-functional green spaces and access to high quality services that are well located to maximise sustainable travel choices. Our economy will have recovered and be fairer, greener and more inclusive, with all East Ayrshire citizens able to benefit from greater economic opportunities."

Relevant policies are as follows:

Policy MIN2: Extraction of Minerals	The extraction of minerals will be supported where there will be no unacceptable and significant adverse impact on local communities and the environment. The following criteria will be used to assess applications, and applicants should provide supporting information and mitigation measures accordingly: • the contribution to the maintenance of a landbank of reserves for construction aggregates; • impact on any nearby homes, local communities and known sensitive receptors and designations; • impacts upon biodiversity and the natural environment, sensitive habitats and the historic environment; • impacts in terms of noise, dust, vibration, odour, and potential pollution of land, air and water; • landscape and visual impacts; cumulative impacts; • impacts upon transport, including cumulative impacts (in respect of traffic movements related to wind farms under construction or consented, quarries and surface coal mining sites). The number and length of lorry trips should be specified and rail transport should be used wherever practical; • suitability of the restoration and aftercare proposals for the site; and • the benefits accruing from the proposal including local employment opportunities

Further Relevant Policies the LDP2 includes are:

Policy SS1:	Climate Change
Policy SS2	Overarching Policy
Policy HE3	Scheduled Monuments, Historic Battlefields and other Archaeological and Historic Environment assets
Policy NE1	Protecting and Enhancing Landscape and Features
Policy NE3	Local Landscape Areas
Policy NE4	Nature Crisis
Policy NE5	Protection of Areas of Nature Conservation Interest
Policy NE6	Vulnerable, Threatened and Protected Species
Policy NE11	Soils
Policy NE12	Water, Air, Light and Noise Pollution
Policy MIN3	Minerals Restoration and Placemaking
Policy MIN4	Protecting communities
Policy MIN5	Protecting residential amenity
Policy MIN6	Duration of extraction period
Policy FIN1	Financial Guarantees
Policy CR1	Flood Risk Management

7.2.2 Planning Advice Note 50 – Controlling the Environmental Effects of Surface Mineral Workings and Annexes.

This PAN deals generally with the environmental effects of surface mineral working and provided the framework for detailed advice in a series of annexes on particular aspects. Of particular relevance are Annex A (Noise), Annex B (Dust) and Annex D (Blasting).

PAN 50 Annex A – Noise
In relation to noise, PAN 50 Annex A recommends the setting of absolute values for noise limits, linked to daytime and night-time working periods, defined as 07:00 – 19:00 hours and 19:00 – 07:00 hours, respectively. It also identifies evening and down periods as being typically 19:00 – 22:00 hours and 06:00 – 07:00 hours, respectively.

PAN 50 introduces the concept of a maximum fixed accepted noise level of 55 dB $L_{Aeq,1h}$ for daytime operations and 42 dB $L_{Aeq,1h}$ for night-time operations during the working week and states, in paragraph 33, that this is generally found to be a tolerable level at the closest residential properties.

PAN 50 Annex B – Dust
PAN 50 Annex B provides advice on control of dust at surface mineral workings. It identifies activities likely to cause dust emissions; methods of assessment; and good practice in controlling emissions.

PAN 50 Annex D – Blasting
Planning Advice Note (PAN) 50 Annex D entitled “The Control of Blasting at Surface Mineral Workings” issued by the Scottish Executive Development Department in February 2000, provides the most recent guidance on the subject of surface mineral blasting for developments in Scotland.

In terms of ground vibration, PAN 50 Annex D confirms that limits for peak particle velocity in the range 6 – 10 mms^{-1} in 95% of all blasts measured over any reference period, with no individual blast exceeding a higher peak particle velocity, 12 mms^{-1} being suggested as a limit, will provide suitable and adequate control of operations at the closest residential properties.

7.2.3 Planning Advice Note 64: Reclamation of Surface Mineral Workings

This advice note aims to help planning authorities and operators improve the reclamation of surface mineral workings by building on existing experience and where appropriate disseminating and improving best practice.

8 CONCLUSIONS

Focus of the EIA
A full range of environmental aspects relating to the development have been considered. Early work has focussed upon ecology, which has influenced the design of the site which has been refined to mitigating impacts at this early stage. Following this mitigation it is proposed that ecological assessment will focus on the impacts on the breeding birds which will be fully assessed once the surveys have been completed.

Potential effects upon the hydrology and hydrogeology will also be considered in detail, together with potential landscape and visual impacts and impacts upon the historic environment.

Although, further mineral extraction will take place at a significant distance away from property it is acknowledged that noise and vibration are common concerns of quarrying activity. Consideration of these topic would provide measurable data and update best practice mitigation and recommended controls.

EIAR Summary
Taking the above into account the following topics are proposed to be considered in detail in accordance with the scope of works identified in Section 6.0 above:

- Ecology
- Historic Environment
- Landscape and Visual Impacts
- Hydrology and Hydrogeology
- Noise Impacts
- Vibration

Issues to be scoped out
It is considered that the following topics are proposed to be scoped out of the EIA process as they are not likely to have significant environmental impacts:

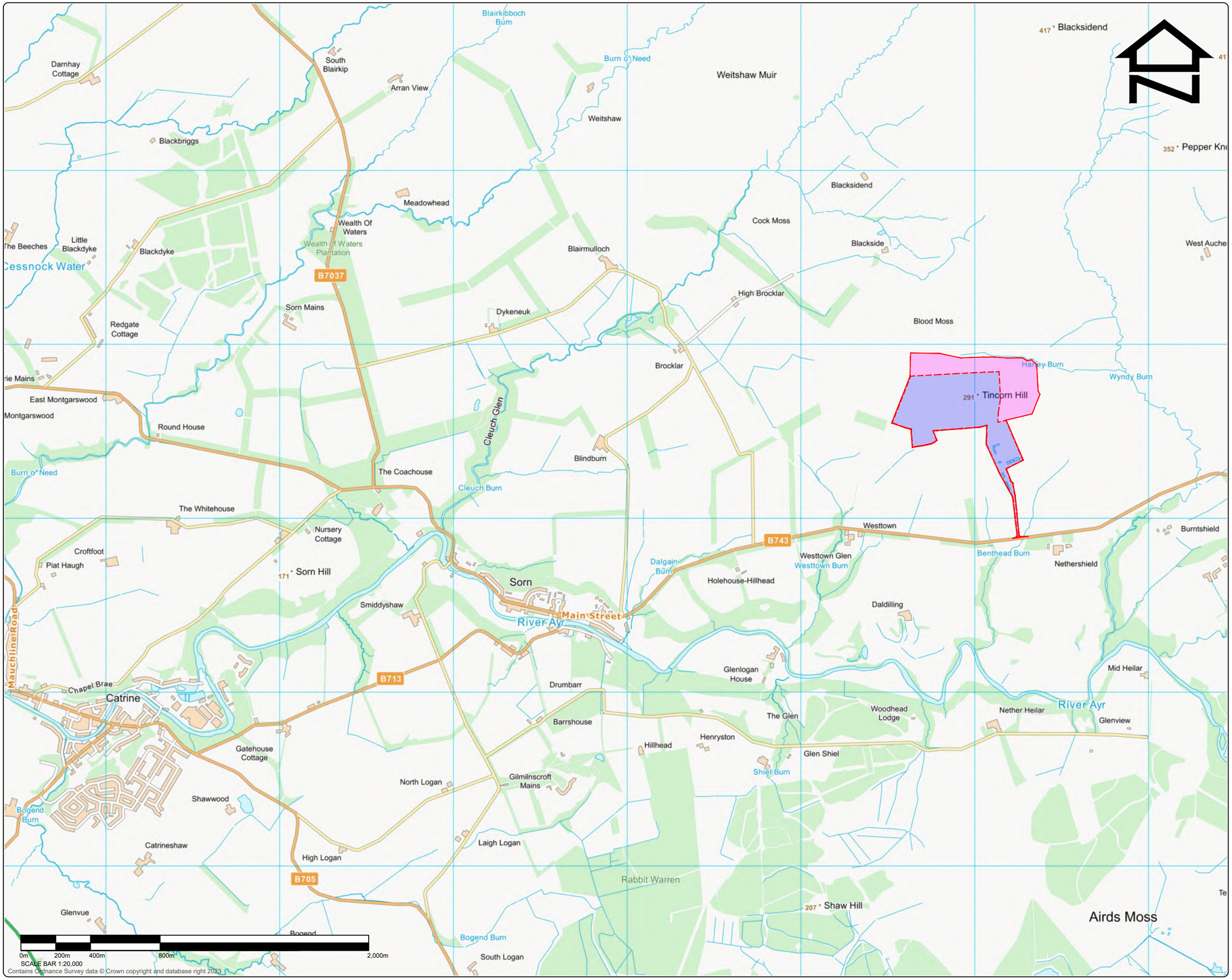
- Air Quality
- Land and Soil Quality
- Transport
- Recreation and Access
- Population and Human Health
- Major Accidents and Disasters
- Natural Resources and Waste

This approach has been taken in accordance with the 2017 Regulations; to ensure the EIA focuses on the potential significant environmental risks and that the EIA Report is proportionate to the risk of the development.

East Ayrshire Council is therefore requested to adopt a formal EIA Scoping Opinion, having regard to the content of this report and appedicies, in accordance with Regulation 17 of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017.

DRAWINGS

JOHNSON POOLE & BLOOMER CONSULTANTS GEO - ENVIRONMENTAL & MINERALS 50 SPEIRS WHARF GLASGOW G4 9TH TEL: 0141 331 1456



LEGEND

- Planning Permission Ref. 19/0230/PP
- Proposal Boundary
- Extension Area
- Area within exisiting permission

NOTES

DATE	REVISION	No.

Johnson Poole & Bloomer Consultants
GEO-ENVIRONMENTAL & MINERALS

CLIENT

BREEDON
MAKING A MATERIAL DIFFERENCE

PROJECT TITLE

TINCORN HILL QUARRY

DRAWING TITLE

SITE LOCATION PLAN

DRAWN BY	APPROVED BY
MG	TL
SCALES	ORIGINAL DRAWING SIZE
1:20,000	A3
DATE	DRAWING No.
SEP 2023	WG853/SR/F/01

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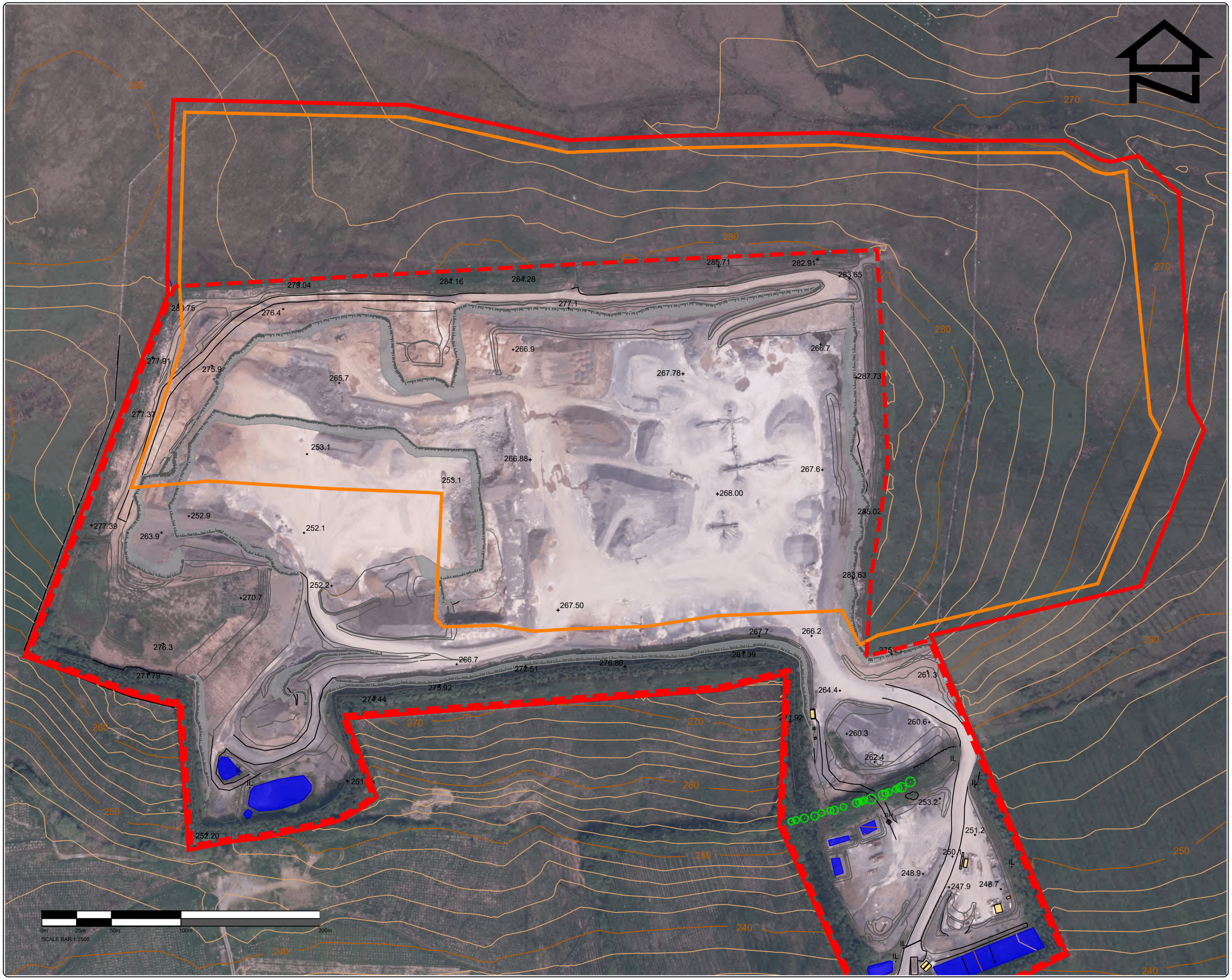

LEGEND

- Planning Permission Ref. 19/0230/PP
- Proposal Boundary
- Proposed Extraction Boundary

NOTES

DATE	REVISION	No.

Johnson Poole & Bloomer Consultants
GEO-ENVIRONMENTAL & MINERALS

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MAKING A MATERIAL DIFFERENCE

PROJECT TITLE

TINCORNHILL QUARRY

DRAWING TITLE

SITE AS EXISITING

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MG	TL
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DATE	DRAWING No.
SEP 2023	WG853/SR/F/02

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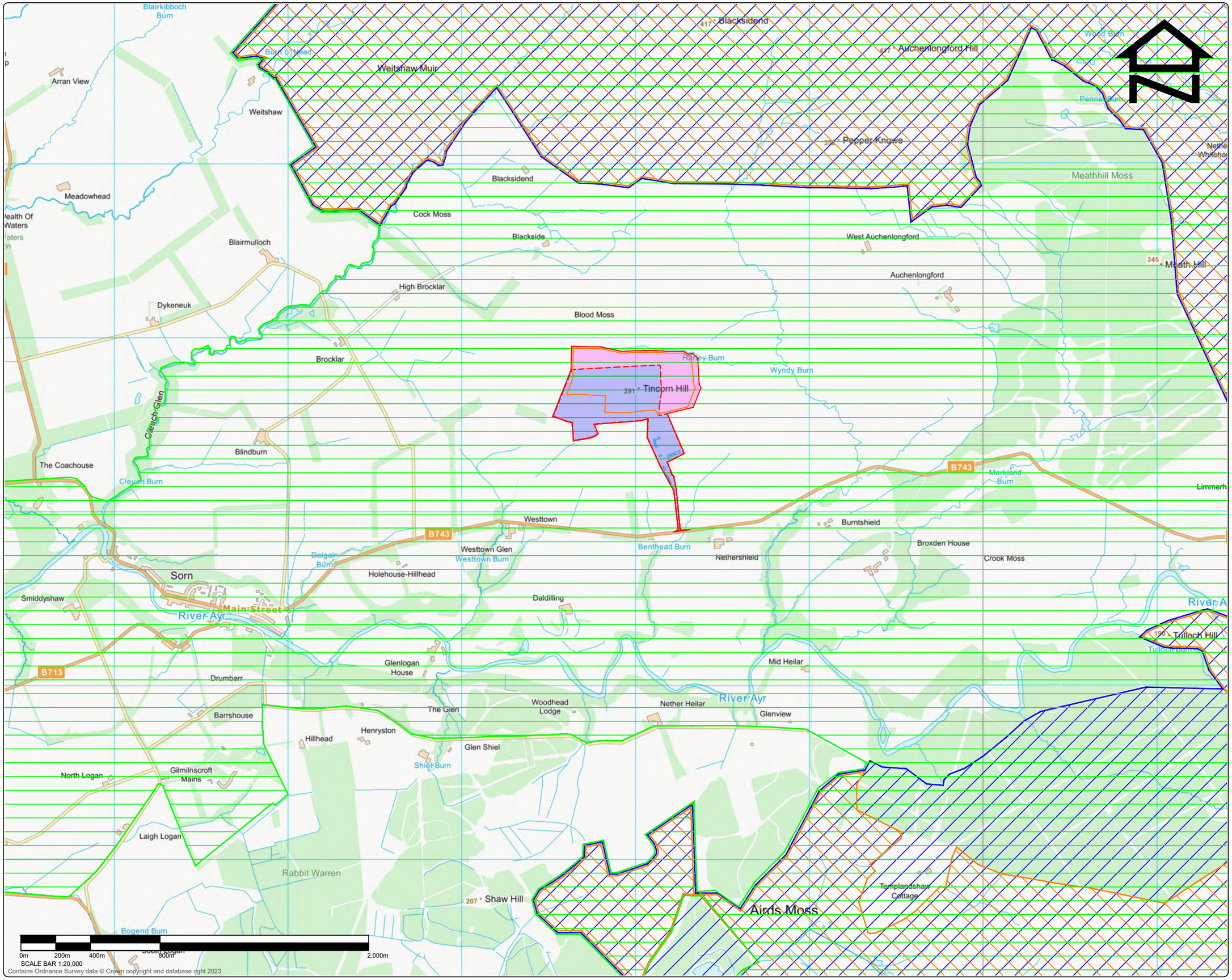

LEGEND

- Planning Permission Ref. 19/0230/PP
- Proposal Boundary
- Proposed Extraction Boundary
- Extension Area
- Area within exisiting permission
- Muirkirk Uplands SSSI
- Muirkitk & North Lowether Uplans SPA
- Sensitive Landscape Area

NOTES

DATE	REVISION	No.

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GEO-ENVIRONMENTAL & MINERALS

CLIENT

BREEDON
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PROJECT TITLE

TINCORN HILL QUARRY

DRAWING TITLE

ENVIRONMENTAL DESIGNATION LOCATION PLAN

DRAWN BY	APPROVED BY
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SCALES	ORIGINAL DRAWING SIZE
1:20,000	A3
DATE	DRAWING No.
SEP 2023	WG853/SR/F/03

EXTENSION OF QUARRY WORKINGS AT 267M BENCH LEVEL

FORMATION OF BUND, PLANTED WITH MIXED BROADLEAF WOODLAND AND SCOTS PINE.

267m AOD

ASPHALT AND CONCRETE PLANT, PROPOSED THROUGH PLANNING APPLICATION 22/0473/PP

QUARRY PRODUCTS TO BE STOCKED WITHIN QUARRY VOID - LOCATION TO BE TRANSIENT, DEPENDING ON AREA OF WORKING

EXTENSION OF QUARRY WORKINGS AT 267M BENCH LEVEL

EXTENSION OF EXISTING OVERBURDEN STORAGE MOUND, THEREAFTER TO BE SOILED AND SEEDED

278m AOD

267m AOD

274.98

260.86

261.13

260.64

CAR PARKING

PLANT MAINTENANCE WORKSHOP

SETTLEMENT LAGOONS

SITE OFFICES & WEIGHBRIDGE

229.76

SCALE BAR 1:2500

0m 25m 50m 100m 200m

LEGEND

- PLANNING PERMISSION REF. 19/0230/PP
- PROPOSAL BOUNDARY
- SCREENING PLANTING
- SCREENING BUND
- SOILED & SEEDED OVERBURDEN TIP
- HAUL ROAD
- QUARRY FACE
- QUARRY FLOOR

NOTES

DATE	REVISION	No.

Johnson Poole & Bloomer Consultants

GEO-ENVIRONMENTAL & MINERALS

CLIENT

BREEDON

MAKING A MATERIAL DIFFERENCE

PROJECT TITLE

TINCORN HILL QUARRY

DRAWING TITLE

PHASE 1

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SCALES	ORIGINAL DRAWING SIZE
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DATE	DRAWING No.
SEP 2023	WG853/SR/F/04

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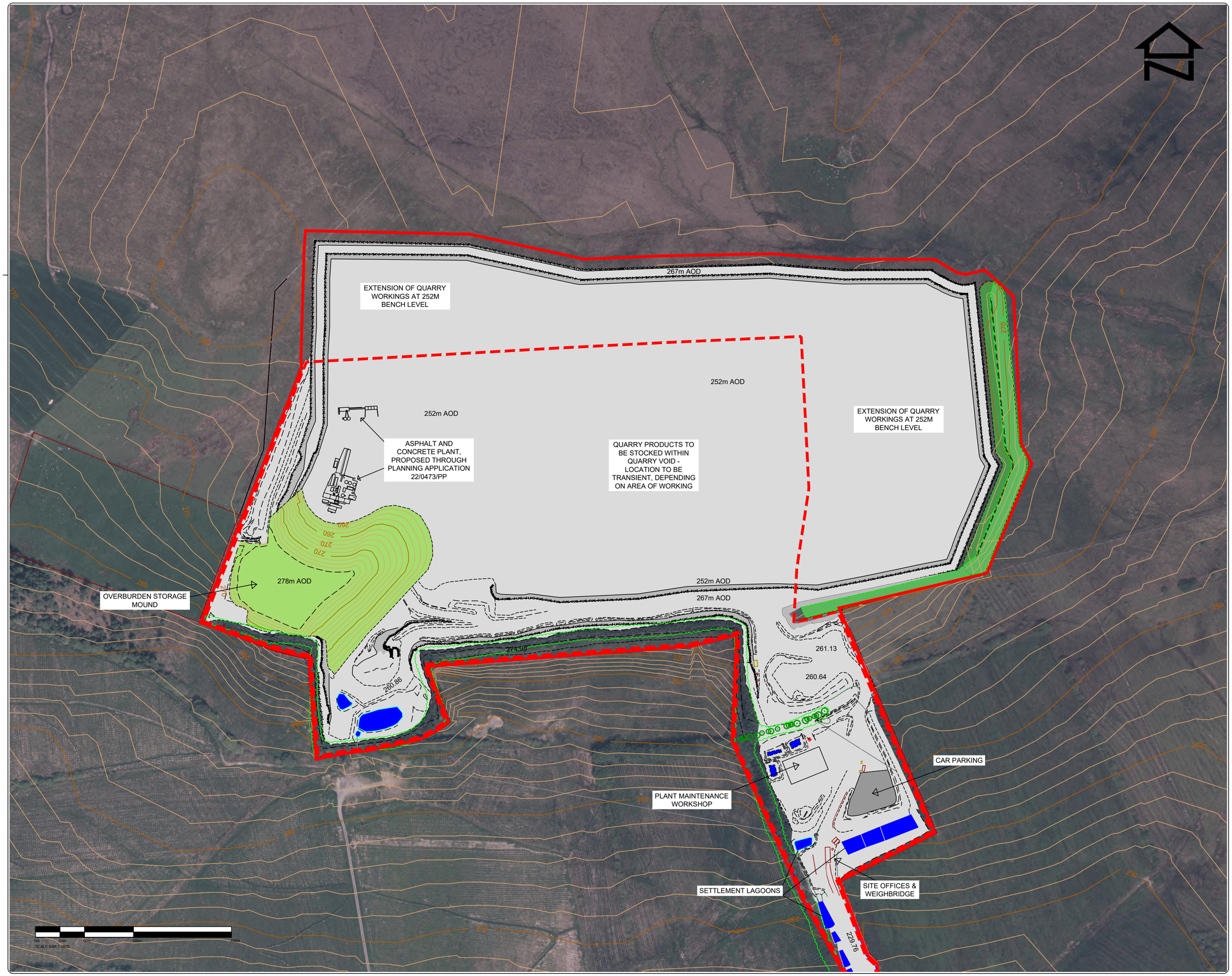

LEGEND

- PLANNING PERMISSION REF. 19/0230/PP
- PROPOSAL BOUNDARY
- SCREENING PLANTING
- SCREENING BUND
- SOILED & SEEDED OVERBURDEN TIP
- HAUL ROAD
- QUARRY FACE
- QUARRY FLOOR

NOTES

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MAKING A MATERIAL DIFFERENCE

PROJECT TITLE

TINCORN HILL QUARRY

DRAWING TITLE

PHASE 2

DRAWN BY	APPROVED BY
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SCALES	ORIGINAL DRAWING SIZE
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DATE	DRAWING No.
SEP 2023	WG853/SR/F/05

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267m AOD
252m AOD
237m AOD
252m AOD
ASPHALT AND CONCRETE PLANT, PROPOSED THROUGH PLANNING APPLICATION 22/0473/PP
QUARRY PRODUCTS TO BE STOCKED WITHIN QUARRY VOID - LOCATION TO BE TRANSIENT, DEPENDING ON AREA OF WORKING
EXTENSION OF QUARRY WORKINGS AT 222M BENCH LEVEL
278m AOD
OVERBURDEN STORAGE MOUND
237m AOD
252m AOD
267m AOD
274.98
260.86
261.13
260.64
PLANT MAINTENANCE WORKSHOP
CAR PARKING
SETTLEMENT LAGOONS
SITE OFFICES & WEIGHBRIDGE
229.76
SCALE BAR 1:2500

LEGEND

- PLANNING PERMISSION REF. 19/0230/PP
- PROPOSAL BOUNDARY
- SCREENING PLANTING
- SCREENING BUND
- SOILED & SEEDED OVERBURDEN TIP
- HAUL ROAD
- QUARRY FACE
- QUARRY FLOOR

NOTES

DATE	REVISION	No.

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GEO-ENVIRONMENTAL & MINERALS

CLIENT: BREEDON
MAKING A MATERIAL DIFFERENCE

PROJECT TITLE: TINCORN HILL QUARRY

DRAWING TITLE: PHASE 3

DRAWN BY	APPROVED BY
MG	TL

SCALES	ORIGINAL DRAWING SIZE
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DATE	DRAWING No.
SEP 2023	WG853/SR/F/06

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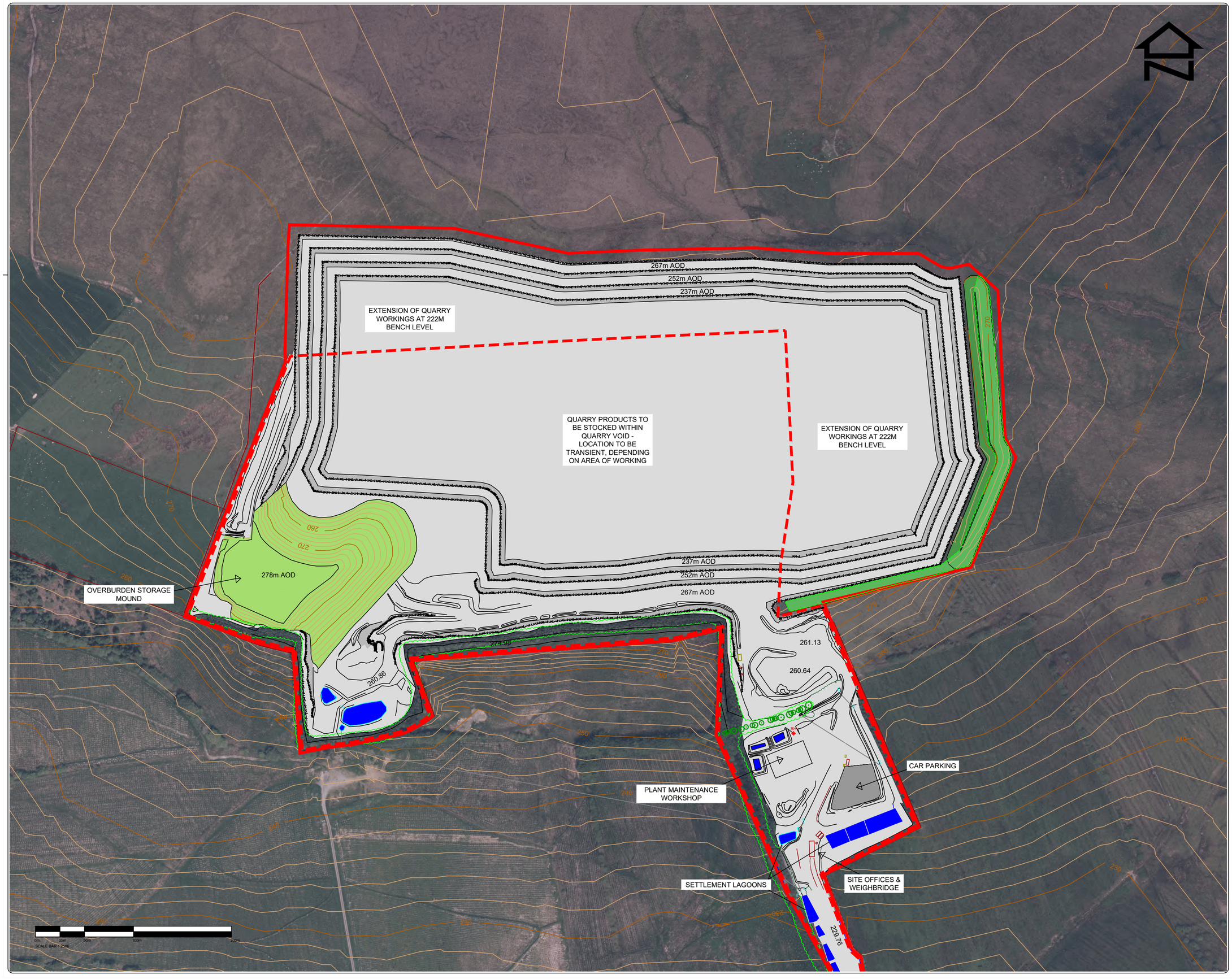

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- PLANNING PERMISSION REF. 19/0230/PP
- PROPOSAL BOUNDARY
- SCREENING PLANTING
- SCREENING BUND
- SOILED & SEEDED OVERBURDEN TIP
- HAUL ROAD
- QUARRY FACE
- QUARRY FLOOR

NOTES

DATE	REVISION	No.

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CLIENT

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PROJECT TITLE

TINCORN HILL QUARRY

DRAWING TITLE

PHASE 4

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MG	TL
SCALES	ORIGINAL DRAWING SIZE
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DATE	DRAWING No.
SEP 2023	WG853/SR/F/07

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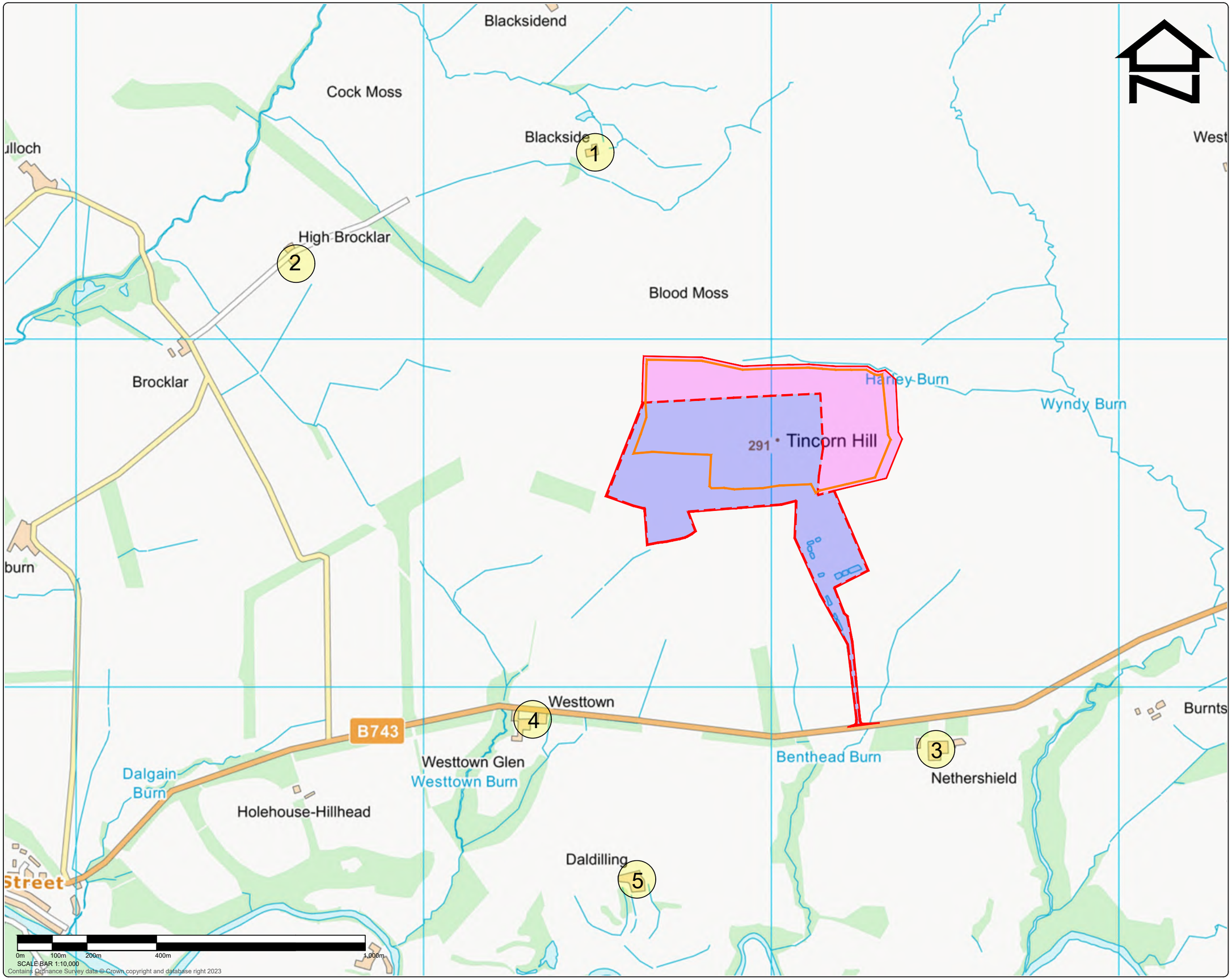

LEGEND

- Planning Permission Ref. 19/0230/PP
- Proposal Boundary
- Proposed Extraction Boundary
- Extension Area
- Area within exisiting permission

Representative Sensitive Receptors

1. Blackside Farm
2. Lown Haddin
3. Nethershield Farm
4. West Town Farm
5. Daldinning

NOTES

DATE	REVISION	No.

Johnson Poole & Bloomer Consultants
GEO-ENVIRONMENTAL & MINERALS

CLIENT: BREEDON MAKING A MATERIAL DIFFERENCE

PROJECT TITLE: TINCORN HILL QUARRY

DRAWING TITLE: RESIDENTIAL PROPERTY LOCATION PLAN

DRAWN BY	APPROVED BY
MG	TL
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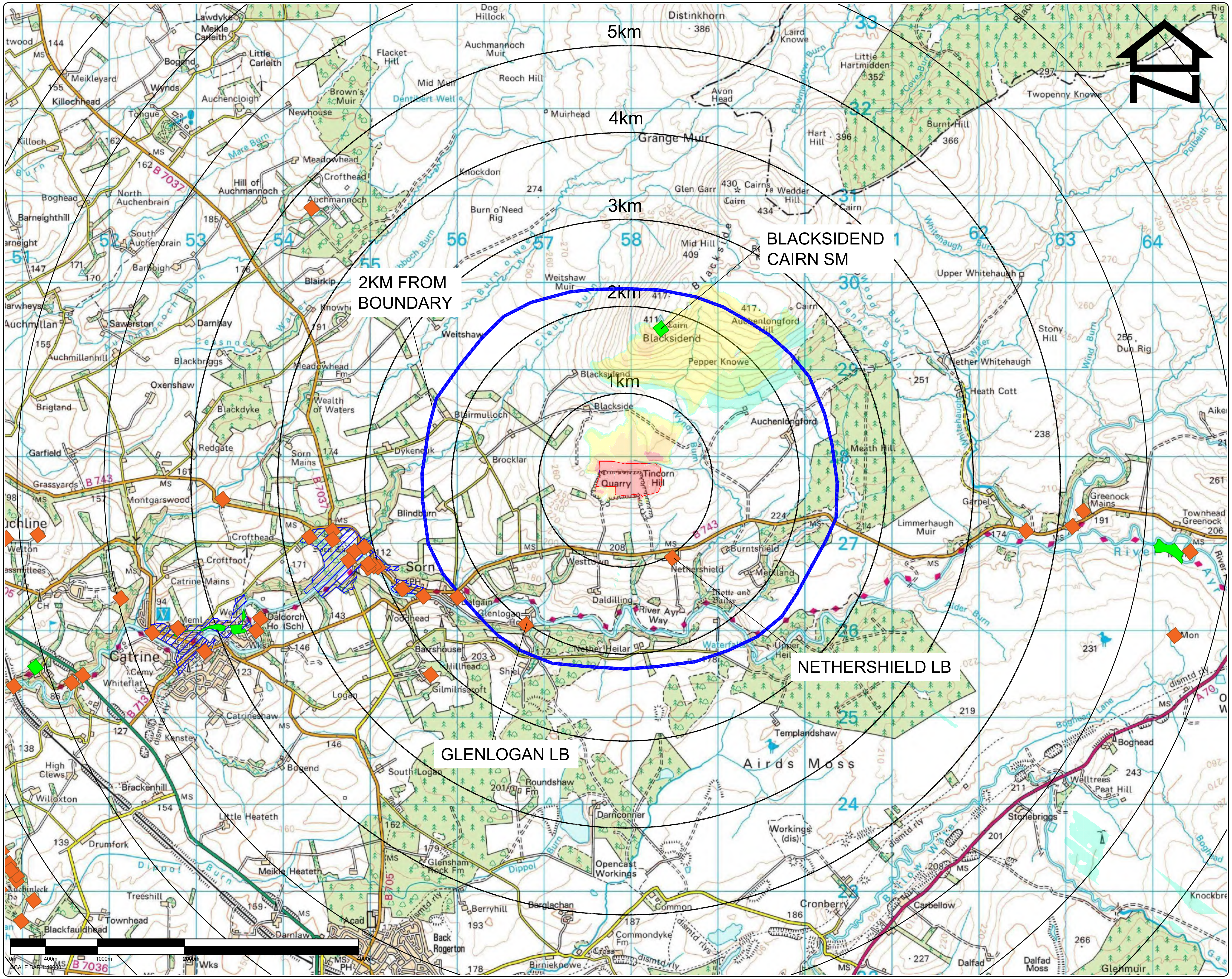
SEP 2023	WG853/SR/F/08



LEGEND

- Subject Area
- Listed Buildings
- Scheduled Monuments
- Conservation Area

NOTES

DATE	REVISION	No.

Johnson Poole & Bloomer Consultants
GEO-ENVIRONMENTAL & MINERALS

CLIENT

BREEDON
MAKING A MATERIAL DIFFERENCE

PROJECT TITLE

TINCORNHILL QUARRY

DRAWING TITLE

HISTORIC ENVIRONMENT DESIGNATIONS

DRAWN BY	APPROVED BY
AJ	TL
SCALES	ORIGINAL DRAWING SIZE
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DATE	DRAWING No.
SEP 2023	WG853/SR/F/09