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Appendix 9.4

Borrow Pit Assessment

Contents

A9.4.1 BORROW PIT APPRAISAL BACKGROUND 2
Introduction 2
Scope of assessment 2
Site Information 3
Location 3
Historical Setting 3
Geological Setting 3
Engineering Ground Conditions 4
Borrow Pit 4
Required Rock Volumes 5
Example Borrow Pit Working Methodology 6
Access 6
Borrow Pit Design 6
Soils Management 6
Extraction of Rock 6
Processing (Loading and Haulage Operations) 7
Reinstatement 7
Plant and Machinery Considerations 7
Drainage Considerations 7
Waste Management Strategy 7
References 8

Glossary

Term	Definition
Environmental Impact Assessment	Environmental Impact Assessment (EIA) is a means of drawing together by the developer, in a systematic way, a description of the development and information relating to the likely significant effects arising from a proposed development.
Environmental Impact Assessment Report	A document reporting the findings of the EIA and produced in accordance with the Electricity Works (Environmental Impact Assessment) (Scotland)
The Proposed Development	The Proposed Scawd Law Wind Farm development
The Proposed Development Area	The development area within the red line site boundary (application area) as shown in Volume 3a Figure 1.2: Site Layout

List of Abbreviations

Abbreviation	Description
BP	Borrow Pit
BGS	British Geological Survey
CEMP	Construction Environmental Management Plan
CMS	Construction Method Statement
DTM	Digital Terrain Map
ECoW	Environmental Clerk of Works
Ha	Hectare
HSE	Health and Safety Executive
NGR	National Grid Reference
Natural Power	Natural Power Consultants Ltd
PAN	Planning Advice Note
SEPA	Scottish Environment Protection Agency
T	Turbine
WTG	Wind Turbine Generator

A9.4.1 BORROW PIT APPRAISAL BACKGROUND

Introduction

A9.4.1.1 As part of the Proposed Development an assessment has been made into availability of site aggregate within proposed construction earthwork rock cuttings of the proposed access track supplemented by a single dedicated borrow pit area. The borrow pit location has been selected based on engineering suitability of the geological unit, topography and proximity to the proposed wind farm infrastructure.

A9.4.1.2 This search has taken account of hydrological, hydrogeological and wider environmental sensitivities as far as is possible at this stage. Rock fill requirements have been indicated based on the proposed scale of construction (eight wind turbines with supporting infrastructure). This study applies assumptions on the civil infrastructure design of the windfarm.

A9.4.1.3 The size and location of the proposed borrow pit at this stage is indicative. The search is based on a desktop assessment only and no site reconnaissance visits have been undertaken. The borrow pit search area will be confirmed following detailed intrusive investigation carried out during the post consent and pre commencement phase of the development.

Scope of assessment

A9.4.1.4 The potential borrow pit area was initially identified using British Geological Survey (BGS) map data and the onshore Geoindex[1]. This information was reviewed alongside analysis of aerial imagery from various online sources to confirm the most appropriate location.

A9.4.1.5 A specific site visit was not undertaken as part of this assessment however Natural Power has undertaken fieldwork as part of the wider scope of works involved in the Scawd Law Wind Farm and is familiar with the general terrain and topography of the site. Personnel involved in Peat Probing and Ecological surveys have been consulted as part of this study to ensure, as far as possible that this desktop assessment accurately reflects physical ground conditions of the site. Key Information sources used to inform the borrow pit assessment include the following:

- Google Earth Professional, imagery 1985- 2020;
- Bing Maps Aerial Imagery, © Microsoft 2021;
- Peat Survey - Interpolation Peat Depth Map (Figure 9.4, Volume 3a);
- Constraints Mapping including constraints over multiple sources;
- Water course data and available data from hydrological surveys undertaken by Natural Power;
- Slope assessment from high resolution (2m) topographic Digital Terrain Map (DTM) data;
- BGS Mapping[1];
- Historical Mapping from National Library of Scotland Online database[2];
- Photographic records of site from hydrological and peat surveys; and
- Scawd Law Ground Stability Desk Study June 2019 undertaken by Natural Power.

A9.4.1.6 The following parameters have been assessed:

- Geomorphological mapping and terrain feature identification including terrain aspect, slope, hydrology and anticipated bedrock conditions; and
- Slope analysis based on high resolution topographic data.

[1] https://mapapps2.bgs.ac.uk/geoindex/home.html

[2] https://maps.nls.uk/geo/

Site Information

Location

A9.4.1.7 The development will comprise eight wind turbine generators (WTGs), a sub-station, construction compound and associated infrastructure in the form of external wind turbine transformer housings, crane hardstand areas, underground electricity cables between the turbines, associated access tracks, met mast, battery storage infrastructure a temporary borrow pit, water crossings and drainage measures as necessary. On-site aggregate extraction is preferred in order to avoid importation of material on the public road network. Chapter 4: Project Description describes the Proposed Development in more detail.

A9.4.1.8 The centre of the Proposed Development is approximated to National Grid Reference (NGR) [336013,641679]. The development is located on an area of upland north-east of Innerleithen in the Scottish Borders. The main access track leads up from the A72, onto a series of elevated ridgelines.

Historical Setting

A9.4.1.9 Historical mapping from the National Library of Scotland presented historical ordnance survey maps published between 1843 to present day. Mapping shows the historical land use across the windfarm development and surrounding areas to be predominantly open grazing for sheep farming with several sheepfolds located around the site. Springs and small streams are features on the historical mapping. Old quarries and gravel pits are recorded along the western site boundary at Priesthope Sware and Priesthope Hilll.

A9.4.1.10 There is also an old quarry outwith the site boundary to the south of the windfarm at Purvis Hill which has since been fully restored and is now incorporated within an area of commercial forestry.

Geological Setting

Peat

A9.4.1.11 Surface soil types expected to occur within the site primarily include blanket peats, brown soils, peaty podzols and mineral podzols. A phase 1 site wide 100 m grid peat survey was undertaken in August 2019 and an Interpolation Peat Depth Map has been produced (Figure 9.4, Volume 3a). The peat survey shows the vast majority of the site to have no peat with 95% of tested locations across recording peat depth of ≤0.5m, a small area of deeper peat is observed between T3 and T6. A separate ground stability report (Technical Appendix 9.2) has been completed to consider in detail the geotechnical risks associated with peat.

Superficial Deposits

A9.4.1.12 The British Geological Onshore Geoindex shows limited superficial deposits present across the development area, these are presented in in Chapter, 9, Figure 9.5 of the EIAR. The majority of the site is mapped with no superficial deposits, there are localised deposits of alluvium – unconsolidated river deposits made up of silts, sands and gravels, and glacial till - Devensian Diamiction present along the identified drainage valleys of the site. Within the areas where no superficial deposits are mapped, including higher elevations and summits, it is expected that there will be a layer of weathered bedrock overlain by shallow peaty topsoil.

Bedrock Geology

A9.4.1.13 The bedrock geology underlying the site is presented in Chapter 9, Figure 9.6 of the main report and also discussed in the Scawd Law Ground Stability Report (TA9.3). The British Geological Survey (BGS) Onshore Geoindex indicate the site is underlain by the GALA Unit 7 and GALA Group which are both made up of typical wacke sandstones classically found in the Scottish Borders region. The BGS details the GALA group as sandstone, siltstone and mudstone found in variable proportions, interpreted as turbidites.

A9.4.1.14 There are small areas mapped as unnamed igneous intrusions of late Silurian to early Devonian – microgranite. According to BGS mapping, these do not have a significant presence across the overall site and the mapped locations are not in close proximity to the site infrastructure.

A9.4.1.15 BGS records indicate a reverse fault crossing the site in NE-SW orientation, this is located south of the wind farm and site tracks and does not intersect any of the wind farm site infrastructure.

A9.4.1.16 A geotechnical site walkover has not been carried out as part of this assessment however Natural Power's experience of the site following the phase one peat survey has noted an absence of significant outcrops or rock cuttings.

Landslides/Geohazards

A9.4.1.17 The BGS Onshore Geoindex shows no record of historic landslides located within the site boundary or surrounding local area. Preliminary peat studies have shown the peat deposits overlying the site to be shallow (<0.5m) in depth across the vast majority of the site and are therefore not expected to present a risk of peat slide, however given the steep slopes present across Scawd law wind farm it is recommended that a detailed slope stability assessment is carried out as part of future phases of site investigation (post consent).

A9.4.1.18 From the aerial photography review there was no evidence of major slope instability on site, there are some potential indicators of long-term soil creep, as previously highlighted in the Scawd Law Ground Stability Desk Study and presented in Figure A9.1.1 and Figure A9.1.2 below. Escarpment scars present on the surface show instability in the underlying soils, land slip movements should be thoroughly assessed during geotechnical site reconnaissance and future ground investigations.

Source: Google Earth

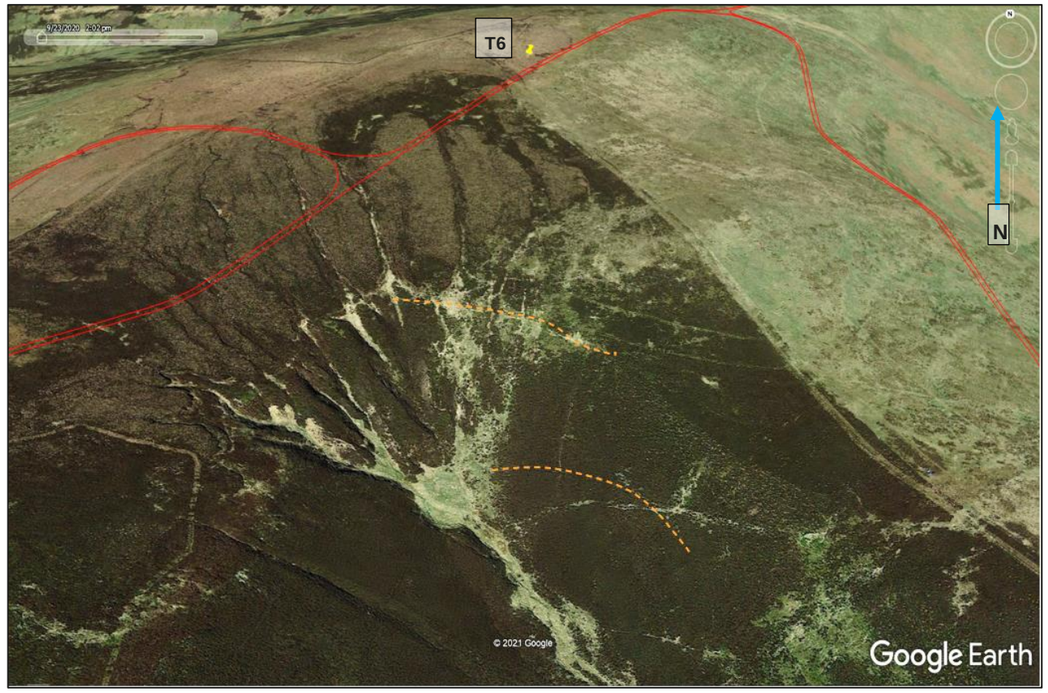


Figure A9.1.1: Aerial Photography from google earth shows possible evidence of long-term soil creep on steep slopes to the southeast of T6.

Source: Google Earth

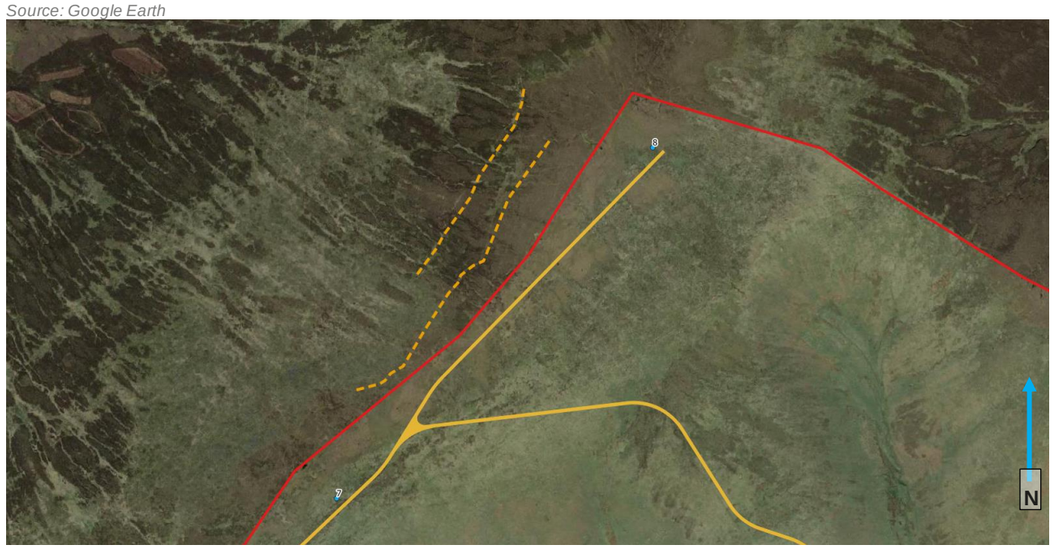


Figure A9.1.2: Aerial Photography from google earth shows possible evidence of long-term soil creep on steep slopes to the Northwest of T7 and T8

Engineering Ground Conditions

A9.4.1.19 The online BGS Engineering Geology Viewer describe the main rock unit on site and the engineering properties as:

A9.4.1.20 Medium strong to extremely strong medium to widely jointed thinly to thickly bedded fine to coarse-grained SANDSTONE; may contain slate or mudstone and siltstone beds. Weathers to a loose to very dense sand, gravel or silty/clayey sand. Low to high permeability; flow is through matrix and discontinuities.

A9.4.1.21 This rock type usually provides very good foundation conditions, depending on nature and thickness of the weathered zone.

A9.4.1.22 Highly weathered rock may be excavatable by hard digging. In fresher material ripping or blasting is required depending on joint/bedding spacing and orientation. Where fresh to slightly weathered excavated slopes may maintain long-term stability.

Engineered fill: GALA Group Greywacke sandstone may be suitable as selected granular fill if care is taken in selection and abstraction.

A9.4.1.23 With all developments it is important to determine intact rock strength, spacing, orientation and nature of discontinuities (including water flows) and nature/depth of weathered zone materials during a thorough intrusive site investigation during the post consent phase.

A9.4.1.24 The steep slopes leading up to the main plateau where the wind turbines are situated on the Proposed Development present a significant challenge for the design and construction of the main access track approaching the site from the west. The majority of the access track will require significant cutting to enable a suitable gradient at track level.

A9.4.1.25 Where possible it is preferential to reuse excavated material from the road and crane pad construction within the wind farm to reduce construction footprint of the wind farm and the number and extent of borrow pits required.

A9.4.1.26 A detailed assessment of the quantity and quality of the rock excavated during the road construction should be considered during the ground investigation and detailed geotechnical design phase as this will provide a significant proportion of the site won material.

A9.4.1.27 Following the desktop assessment, a designated borrow pit area has been selected to supplement material produced from road cuttings. Borrow Pit BP1 is located within the main wind farm infrastructure to provide aggregate for use in the construction of turbines and hardstanding. The location is shown on Fig 1.2 and below.

Borrow Pit

A9.4.1.28 A single borrow pit location has been identified as part of this study, as shown in Figure A9.1.3 below.

Source: Google Hybrid WMS Layer

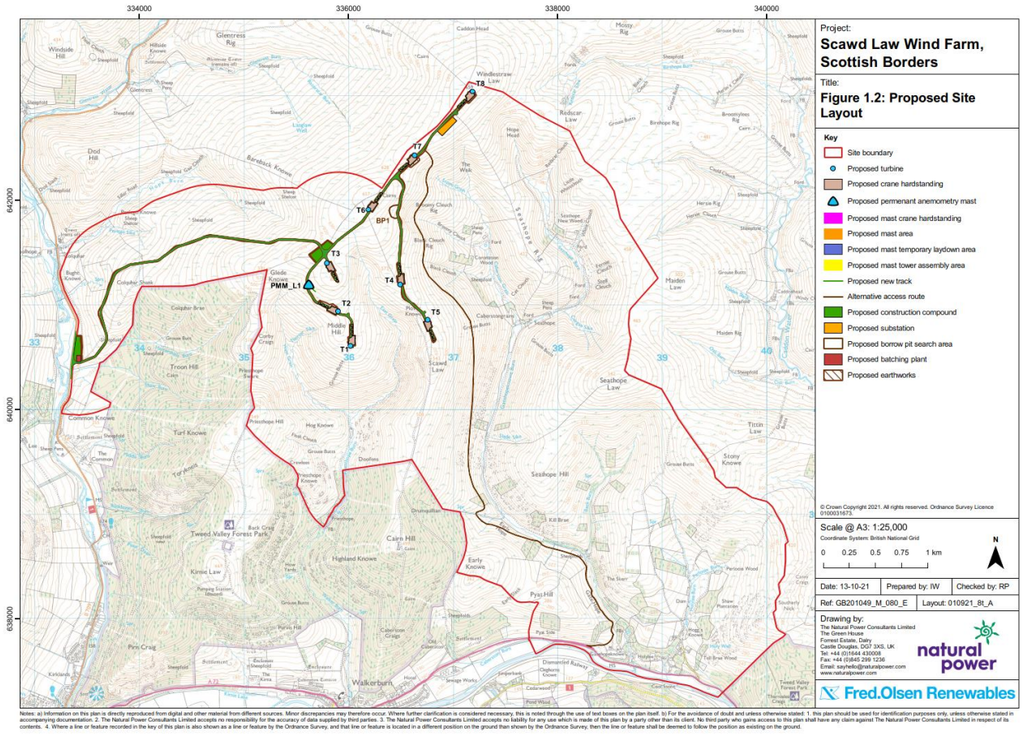
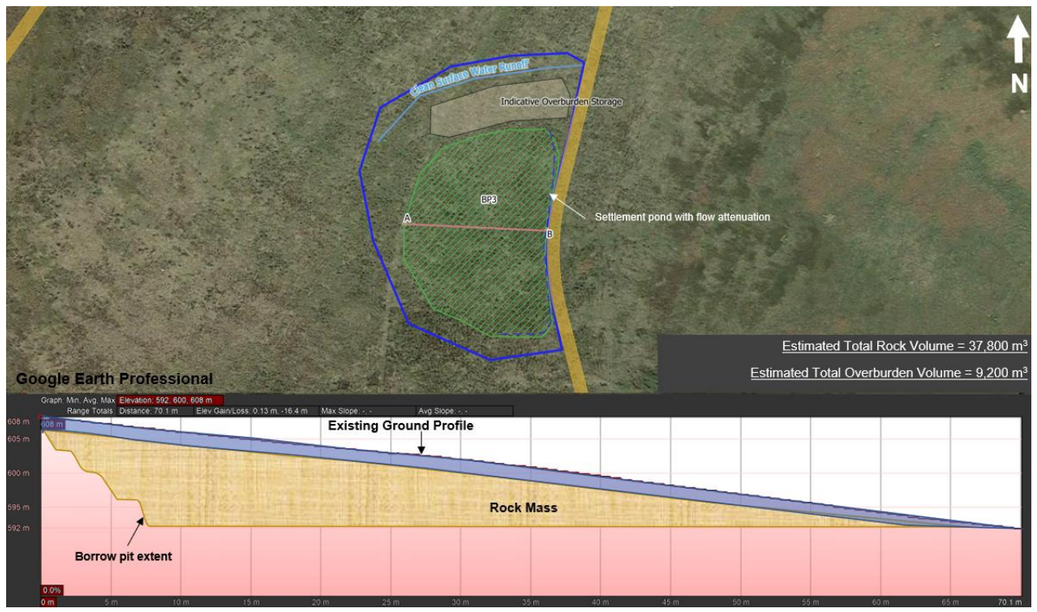


Figure A9.1.3: Borrow Pit Search Area Locations

A9.4.1.29 The chosen location has been selected for preferential slope angles, proximity to site infrastructure and visual assessment based on aerial photography. The strategy to reuse rock won from the construction of the access track means the suggested borrow pit has been kept to a minimal size and is expected to be used only to supplement rock extracted from requisite road cuttings. This approach identifies there to be sufficient potential for site-won rock to supply the needs of the project.



*Source: Natural Power / Bing Maps Base Map*Figure A9.1.4: BP1 Proposed Location (0.46 Ha) located on the upper flanks of the plateaux between T6 and T7, to provide supplementary material for use in the construction of the main wind farm infrastructure, turbines and crane pads.

Figure A9.1.4: BP1 Proposed Location

A9.4.1.30 Figure A9.4.4 is indicative only. No detailed design has been carried out. The following assumptions and criteria would be applied to the proposed borrow pit developments:

- Overburden shall be stored in peripheral bunds at a safe distance from the working area. Bunds shall be no more than 1m in height with 1:1.5 slope batters. The final location and geometry of temporary storage bunds shall be confirmed by a qualified geotechnical engineer during construction.
- Cut rock faces shall not exceed 70° and further may need to be shallower where weathered material or unfavourable discontinuity orientations are encountered.
- Cut rock faces shall not exceed 10 m height without a horizontal bench 5 m wide.
- The slope stability of borrow pit workings (cut faces, storage bunds and backfilled materials) would be verified and monitored by a qualified geotechnical engineer during opening, working and restoration phases.
- The perimeter of the borrow pit shall incorporate appropriate edge protection suitable personnel and vehicles when adjacent or downslope from access tracks;
- The floor of the borrow pit shall slope away from the working face at a grade of 1in100.

Required Rock Volumes

A9.4.1.31 An initial estimate of required rock volumes has been prepared in order to ascertain an overall indication of the scale of required on-site extraction. It should be noted that blade laydown and work areas around crane hardstands have been included within the hardstanding footprint. The volumes shall be further assessed during the detailed design phase. Table A9.4.1 below summarises the volume assumption and calculations. All volumes are rounded to nearest 100 m³.

Table A9.1.1: Indicative construction aggregate volumes

Item	Development Footprint Area calc.		Total Site Area	Material Requirements	Total Volumes
8 Turbines	Hardstanding	Hardstand of estimate 3,000 m² per turbine	24,000 m²	Hardstandings are designed to provide a cut/fill balance. A maximum of 0.55 m of fill has been assumed, sourced from borrow pits.	~13,200 m³
8 Turbines	Turbine Foundations	Assumption of 8no. turbines with 27.5 m diameter base, 1 m depth of structural fill below concrete. Assume concrete components sourced offsite.	n/a - within hardstanding	Each turbine base needs ~600 m³ of structural fill.	~4,800 m³
Site Roads	New tracks Estimate ~9 km	5.0 m running surface with around 9.0m footprint. (assumption that cut track construction is adopted).	3.85 m² track cross section	0.55 m depth road makeup material sourced from borrow pits.	~34,650 m³
Site Roads	Passing places. Assuming a spacing of 500 m between spaces. (Approximate 25 spaces)	Each place has a running width of 5.0 m a base width of 6.0 m and a length of 26.0 m.	3 m² cross section 78 m³ each	0.55 m depth road makeup material sourced from borrow pits.	~2,000 m³
Temporary Construction Compound	x2 Compounds	50 x 150 m Search area used for calculations	15,000 m²	Assuming 0.55 m of overburden material to be replaced by fill material from borrow pits.	8,300 m³
Ancillary Facilities	Sub-station	50 x 100 m Search area used for calculations	5,000 m²	Assuming 0.55 m of overburden material to be replaced by fill material from borrow pits.	2,800 m³
Indicative requirements of stone to be won on-site					65,750 m³
Indicated minimum yield (25% fragmentation loss during extraction assumed)					**82,000 m³**
Materials imported					(capping materials) (concrete component) (reinforcing steel)

Source: Natural Power

A9.4.1.32 An initial estimate for the potential volume of rock excavatable from the proposed on-site borrow pits has been calculated. The results from this are shown in Table A9.4.2.

Table A9.1.2: Borrow Pit Volumes

Borrow Pit	Maximum working Area (m^2)	% of indicative working area	Longest Dimensions (m)	Depth (m)	Indicative rock yield (m^3)
BP1	4,586	50	70 x 90	12*	37,800
Road Cutting**					~80,000
					Total: 135,300

** Approximation of height based on topographical profile from DTM data.*

*** Exact track location and design are ongoing re-assessment at time of reporting. Figures above are based on the following assumptions: 50% of the road requires cutting, average cut depth of 8m, average overburden depth of 1.5m.*

Source: Natural Power

A9.4.1.33 The size and geometry of the final excavation will be defined post consent with a comprehensive intrusive geotechnical site investigation.

A9.4.1.34 The approximate working area (%) represents the scale of borrow pit excavation that is required to meet the minimum yield rock fill requirements. The working areas are smaller than the initially defined borrow pit extent. Therefore, there is likely going to be an optimisation of the borrow pit design within the confines of the identified area. Final proposed borrow pit designs would be subject to individual local planning authority mineral extraction license applications.

A9.4.1.35 The steep sloping gradients of the Scawd Law terrain require the access tracks and crane pads to have significant sections of cutting. The material management strategy will reuse the volume of stone won from track cuttings in preference to stone extracted from onsite borrow pits to reduce the footprint and impact of the wind farm on the natural landscape. Approximate volumes extracted from the track cuttings have been estimated to demonstrate that this volume is substantial on Scawd Law and may avoid the need for an onsite borrow pit.

A9.4.1.36 During the ground investigation phase is it important that intrusive investigation is targeted both at potential borrow pit locations and at key points along the access track to ensure the thickness of the weathered layer, depth to engineering rock head and rock quality from the road cuttings are confirmed to be adequate for reuse on site.

A9.4.1.37 Volume calculations shown in Table A9.4.2 demonstrate that the potential volume of rock available from road cuttings is approximately sufficient to provide rock for the construction the turbines, access tracks and associated infrastructure on the site. Stone won from road cuttings will require careful handling, transportation, and re-grading for use as engineering fill which will require a designated area of the site for storage and material processing and heavy plant operations.

A9.4.1.38 During ground investigation if the track cutting earthworks are proven to be inadequate, this assessment shows the volumes available from the potential on site borrow pit is sufficient to provide supplementary site-won stone for the construction of the windfarm.

Example Borrow Pit Working Methodology

Access

A9.4.1.39 Access to the borrow pit locations during construction will be from within the wider wind farm development site. Therefore, no public roads are to be used during the proposed borrow pit development.

Borrow Pit Design

A9.4.1.40 Detailed borrow pit designs will be required to be completed by the appointed contractor prior to commencing operations. The final geometry of the borrow pits will be dictated by the bedrock geological conditions, with benching and rock cuttings designed to ensure stability. General recommendations for borrow pit design would specify a maximum single lift face height of 10 m with a maximum face angle of 70°. This would be subject to inspection by a suitably experienced geotechnical engineer.

A9.4.1.41 The borrow pit floor will be designed for a shallow gradient to allow adequate drainage away from the working area. A perimeter fence and/or adequate edge protection will be erected around each borrow pit working area, and a cut-off drain also installed. This shall reduce the surface water accumulation within the borrow pit excavation and safeguard against sediment loaded run-off.

Soils Management

A9.4.1.42 All soil and spoil management will be carried out in line with the Construction Environmental Management Plan (CEMP). The upper most vegetated shallow soil layer will be stripped from the borrow pit excavation in a progressive movement up the slope as the excavation extends. As the excavation becomes larger and expands laterally into the terrain, the shallow soils and overburden shall be stripped and stored to build up the peripheral bunds. These bunds will also provide a cut off for water coming down the slope to be diverted to ensure no ingress of additional water into the excavation area. The bunds shall be limited in their height and side slope angle such that they are stable for the duration of the operations, typically 1 m height and 1:1.5 side slopes. The stability of bunds should be monitored or on terrain where slope failure could be triggered. This should be reviewed by an experienced geotechnical engineer throughout the construction of the borrow pit. The bund will also provide limited screening to the area on the three sides whilst the excavation is taking place. The placement area for the material will need to be assessed and confirmed as suitable for loading by a suitably experienced and qualified geotechnical engineer. The stockpiles and bunds should not be in the vicinity of any water courses peripheral drains or wet flushes, to prevent erosion, pollution and instability.

A9.4.1.43 The underlying sub-soils will be removed in strips ahead of the working face and placed a minimum of 3 m back from the excavated face or if required will be stripped and stored separately in a secure area until the excavation is complete and the overburden soils can be utilised for the restoration of the borrow pit area. Any peat excavated will be stored separately from overburden, separated and moisture content preserved.

A9.4.1.44 Where possible stockpiled overburden materials would be used in re-instating the site borrow pits and tracks. It is also highlighted that spoil from other working areas such as turbine bases may also be used to achieve the restoration profile. Overburden shall only be removed over the area necessary for safe removal of the rock to prevent affecting land out-with the extraction area. It should be noted that overburden volumes can only be estimated following intrusive site investigation works.

A9.4.1.45 A suitable fence and or protection barrier will be installed around the proposed borrow pit excavation areas on the slope to ensure the safety of both people working within the excavation area and anyone who may be within the proposed development area. Full details will be provided as part of the detailed Construction Method Statement.

Extraction of Rock

A9.4.1.46 Due to the nature of the rock the excavation is likely to be achieved through ripping, hydraulic breaking and possible blasting. An assessment of blasting times should be undertaken to allow adequate notice of on-site vibrations.

Typical pattern of blasting includes the use of drilled holes on a grid layout. A progressive system of blasting could be adopted from the borrow pit proposed entrances towards the rock face created. Blasting operations where required will be specified by an appointed specialist contractor.

A9.4.1.47 All workings should conform to relevant legislations including PAN 50, the principles of The Quarries Regulations 1999, the Groundwater Regulations 1998, HSE and Scottish Environment Protection Agency (SEPA) codes of practices and guidelines. The site drainage should consider any possible negative effects on site tracks and surrounding infrastructure.

A9.4.1.48 Where appropriate temporary interception bunds and drainage ditches shall be constructed upslope of the borrow pit to minimise surface run-off ingress. These cut off ditches shall be of minimal length, depth and gradient, and silt traps and buffer strips shall be utilised to minimise erosion, sedimentation and peak flows.

A9.4.1.49 Once the rock material has been excavated forming a working face the borrow pit can be extended by continued advancing face excavation. This would usually be at approximately 70° to the horizontal to maintain a stable working face whilst maximising rock recovery. This angle may need to be changed if unstable rock is encountered or alternatively if the rock is of good stability and the face can be made steeper.

Processing (Loading and Haulage Operations)

A9.4.1.50 Rock extracted from the borrow pit or road cuttings is likely to require crushing for secondary fragmentation and screening to gain a suitable aggregate size and prevent weathered material from sterilizing the pay rock. Primary fragmentation shall be used to achieve a suitable material size. This would be utilised for direct truck loading straight to the point of use. In this way the effects of a processing plant may be minimised.

A9.4.1.51 Where processing is required a mobile in borrow pit plant setup should be positioned close to the working face to allow direct loading. Load and haul methodology shall then be used to transport the stone to the required point of use.

Reinstatement

A9.4.1.52 The proposed borrow pit reinstatement would be to generate a rough vegetated slope profile grading into the existing ground level of the surrounding terrain. The borrow pit face would be reinstated to blend with the existing topography. The re-instated profile shall be at an acceptable level with as minimal change as possible from the existing profile using materials produced from on-site excavations leaving no more than 2 m “sub-vertical” exposed rock faces visible around the margins.

A9.4.1.53 Restoration blasting may be implemented following appropriate design and stability considerations. This includes inclined blasting at the borrow pit face edges to achieve a shallower restoration rock face profile to a maximum top slope angle of 35°. This angle shall become increasingly gentle towards the borrow pit entrance, typically achieving slopes of 10° – 15°.

A9.4.1.54 Shallow soils and overburden from the relevant borrow pit locations would then be used to reinstate the final surface of the excavation to allow natural re-vegetation with local vegetation. Loosened rock from the restoration blasts shall be used to partially buttress against the lower few metres of the resultant rock face to form a blended transition with the borrow pit floor.

A9.4.1.55 The reinstatement would take place immediately following completion on the borrow pit but this should be completed within the construction period of the wind farm. All restoration works should be carried out to the approval of an appointed Environmental Clerk of Works (ECoW).

A9.4.1.56 The geological interest of potential bedrock exposures should not be discounted. Where possible opportunities for local and national bodies with interest in the geological setting of the site should be provided with access to study and document any significant features uncovered by the borrow pit workings.

Plant and Machinery Considerations

A9.4.1.57 To extract the rock a large excavator with a ripping tooth and rock breaker attachment is anticipated to be required. This is likely to be supported by a fleet of articulated dumper trucks to load out the rock to the construction areas. A bulldozer may be required for grading and levelling, and an articulated loading shovel may also be used to feed dumper trucks and crushers from stockpiles.

A9.4.1.58 Dependent on the material excavated a mobile crushing plant is likely to be required and will be located within or adjacent to the borrow pit working area, close to the point of extraction for processing and grading as necessary.

A9.4.1.59 The plant and labour will be provided by the chosen construction contractor who would also be responsible for the safe operation and maintenance of machinery. The construction contractor may re-deploy these resources across the wind farm site and rock extraction sites as required. The contractor will provide full method statements and risk assessment to personnel with respect to safe methods of working and emergency procedures.

Drainage Considerations

A9.4.1.60 Surface drainage shall be diverted around the working area wherever possible to prevent contamination of natural runoff by suspended solids. Temporary low bunding and/or catch ditches shall be created as required. Any peat storage bunds shall provide a source of particulates from which runoff may temporarily pick up sediment, catch ditches should be created as necessary with the drainage feeding into the drainage design of the wind farm. Detailed mitigation measures to prevent siltation shall be included in the final design.

A9.4.1.61 Rainfall, surface and groundwater entering the borrow pit shall be contained in a temporary sump location within the excavation. The borrow pit floor should be graded appropriately to aid drainage. Excess water should be pumped out of the pit and discharged to local drainage channels with appropriate silt removal measures prior to discharge. A SEPA discharge consent should be sought with respect to this element of the borrow pit development. All on site surface water discharges should be carried out in an environmentally compliant manner.

A9.4.1.62 All drainage shall be in accordance with The Water Environment (Controlled Activities) (Scotland) Regulations 2005 which provides best practice guidelines for a number of activities to prevent pollution of groundwater sources. If authorisations are required for process plant operation or consents to discharge then applications will be made by the principal contractor to SEPA.

Waste Management Strategy

A9.4.1.63 It is anticipated that there will be minimal waste materials produced by the borrow pit development. Any un-useable rock and superficial deposits shall be temporarily stockpiled during construction and utilised as part of the borrow pit restoration scheme.

A9.4.1.64 Any solid waste items associated with the development e.g. those materials associated with plant maintenance and operation or blasting (if required), shall be removed from the site and disposed of at a licensed waste disposal facility. The principal contractor shall be responsible for all waste generation and procedures in response to ground contamination from the construction project. Construction method statements shall be issued by the principal contractor detailing procedures in the event of a fuel or oil spillage.

A9.4.1.65 Where appropriate, given the semi-remote nature of the site, PAN 50: Controlling the Environmental Effects of Surface Mineral Workings will be adhered to. There are to be no movements of material away from the wind farm area as all material is solely for use in the wind farm construction.

A9.4.1.66 Operational impacts form noise and dust should be controlled by the specification of appropriate extraction methods and processing plant. Best Practice Guidance – The Control of Dust and Emissions from Construction and Demolition Sites (2006) shall be considered as part of the CMS.

References

The Institute of Quarrying. http://www.quarrying.org/.html

The Scottish Government (2000). PAN 50 Annex D: Controlling the Environmental Effects of Surface Mineral Workings. February 2000.

British Geological Survey Onshore GeoIndex[1] https://mapapps2.bgs.ac.uk/geoindex/home.html

British Geological Survey Engineering Geology Viewer: http://mapapps.bgs.ac.uk/engineeringgeology/home.html

British Geological Survey Lexicon of Named Rock Units: https://webapps.bgs.ac.uk/lexicon/lexicon

National Library of Scotland online viewer: https://maps.nls.uk/

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