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INTRODUCTION

Under Regulation 18(4)(b) of the EIA Regulations an ES should provide a as a minimum “*a description of the proposed development comprising information on the site, design, size and other relevant features of the development*”. Schedule 4 indicates that, where relevant, the ES should provide a description of the development, including in particular:

- *a description of the location of the development;*
- *a description of the physical characteristics of the whole development;*
- *a description of the main characteristics of the operational phase of the development*
- *an estimate of expected residues and emissions and quantities and types of waste produced during the construction and operation phases.*

3.1 In addition, it is normal practice for planning applications for mineral development to be accompanied by a supporting statement that describes, inter alia, the development proposals. As such, there is an overlap in the requirements of an ES and what is considered good practice for the submission of planning applications. Accordingly, Volume 1 (Planning Statement) also includes a description of the development. This chapter sets the basis against which the EIA has been conducted.

OVERVIEW OF THE PROPOSED DEVELOPMENT

3.2 As set out in Chapter 1 the applicant is submitting two planning applications relating to land at its Carlton Main Brickworks:

- 1) a small lateral extension to the quarry workings to facilitate the extraction of around 375,000m³ of mudstone/siltstone (allowing for extraction losses)¹ for use in the brickworks.
- 2) An application pursuant to section 73 of the Town and Country Planning Act 1990 (as amended) to ‘vary’ the approved restoration scheme for the wider quarry workings, as authorised by planning permission ref. 2007/1784 (dated 4 January 2008).

¹ The gross volume to be extracted is around 500,000m³ and extraction losses range between 15% and 25%.

3.3 Overall, the applications address holistically the following aspects:

- the Southern Extension, to include *inter alia*
 - Re-alignment of the perimeter fence;
 - Tree clearance;
 - Soil stripping and storage/use within the quarry site for restoration;
 - Stripping of overburden from the development footprint and use in landform screening and restoration works;
 - Extraction of clay/shale and transfer to the stocking area.
- peripheral landscaping works and boundary treatment works (in the form of landscape planting) to create a landscaped corridor around the periphery of the quarry;
- amend the extant working scheme for the Quarry to assimilate the proposed Southern Extension; and
- amend the extant restoration scheme to remove the reliance on landfill of biodegradable (non-hazardous waste) to raise levels within the mineral void to re-create the hillside topography.

3.4 The planning applications do not make any changes to the existing brickworks, which are located to the west of the Quarry.

MINERAL DEVELOPMENT

General

- 3.5 The quarry at Carlton Main works mudstones and siltstone deposits from the Carboniferous (Westphalian) strata of the Middle and Upper Pennine Coal Measures lying close to the surface. Mineral extraction is undertaken on a campaign basis lasting typically twelve weeks per year as opposed to continuously throughout the year. The extracted material is then stockpiled adjacent to the brickworks.
- 3.6 The extension would encompass around 3.5 ha of land, which despite being in the ownership of the applicant comprises part of the neighbouring country park. Clay would be extracted in the same fashion as elsewhere in the quarry. Campaigns are principally undertaken during the drier summer months, as the weak and friable nature of the rocks forming the quarry benches (see below) can lead to problems in maintaining the integrity of haulage routes within the quarry during periods of wet weather. As such, there are periods of activity and periods when there are no operations within the quarry workings.
- 3.7 During annual excavation campaigns mudstone, siltstone, and sandstone are excavated and transferred to the stocking area adjacent to the brickworks. This material weathers (break down)

in the stockpile over the year; the material is blended during the load out process prior to feeding into factory for crushing and mixing. In view of the variable nature of the deposit, it is necessary to work several faces at once to ensure that a suitable raw material is available for the brickworks.

- 3.8 The proposals would result in a small lateral extension to the footprint of the current form of the quarry (by around 18%); however, the proposals would not lead to any changes to processes undertaken at the site; or intensify any operations over those already approved.
- 3.9 As with the existing operations the proposed development can be divided into the following key stages:
- site preparation – including clearance of vegetation and stripping of soils and overburden;
 - mineral extraction;
 - mineral transfer and stockpiling; and
 - restoration.
- 3.10 To provide a holistic approach to the submission, the development scheme shows the progression of the quarry faces within the existing quarry (covered by planning permission 2007/1784) and how the workings would advance into the Southern Extension.
- 3.11 The extant planning permission for the quarry workings allows for the operations to continue until *circa* August 2043 by which time the site is to have been fully restored². Consequently, in the absence of the proposed development such authorised operations would continue.

Site Preparation

- 3.12 As an established mineral operation site infrastructure is already in place. This includes:
- site access (for bringing in plant and machinery, as well as importing restoration materials);
 - internal haul roads between working faces and stockpile;
 - surface water management infrastructure; and
 - stockpiling area.
- 3.13 The majority of the footprint of the extant extraction area has been stripped of soils, with a small area located at the south-eastern corner still to be stripped (currently stripped soils are stockpiled in this location). The site preparation works within the Southern Extension would be similar to other areas of the quarry. This would involve stripping of soils and overburden to expose the mineral deposit. There are small areas of immature woodland within the proposed extension, planted as part of the reclamation of the colliery tip and it would also be necessary to undertake felling works.

² In accordance with Fig. 5.13 Landscape Restoration Masterplan and Fig. 5.2 Proposed Post Settlement contours.

- 3.14 Both topsoil and subsoil would be stripped (as separate horizons where possible) using a hydraulic excavator (such as a CAT 375 or similar) and loaded into an articulated dump truck (such as a Volvo A40 or similar) for transportation to storage areas, where the soils would be formed into screen mounds and/or stockpiles. In view of the limited scale of the proposed extension, it is proposed to strip soils as a single unit; top soil and sub soil would be stripped and stored separately.
- 3.15 Soils would only be moved when they are dry and friable in order to ensure that their structures are not compromised. All soil stripping, handling and storage operations would be carried out in accordance with MAFF's Good Practice Guide for Handling Soils, published in 2000, as updated by the Institute of Quarrying "*Good Practice Guide for Handling Soils in Mineral Workings*"³. The key points being as follows:
- no topsoil would be removed from the site;
 - topsoil, subsoil and overburden would be stripped separately;
 - all soils would be handled when in a dry and friable condition by monitoring the lower plastic limit before works commence;
 - topsoil, subsoil and overburden would be stored "like on like", so that for example, overburden storage areas would be stripped of soils in advance;
 - loose-tipping and grading of soil materials, to specified restoration profiles, would be carried out using tracked excavator or low ground pressure bulldozer;
 - no heavy wheeled earthmoving vehicles or machines to run over un-stripped or replaced soils to minimise compaction;
 - during restoration, following mechanical de-compaction, all stones and rocks exceeding 0.15m in any dimension and other deleterious material would be removed from the topsoil; and
 - soils would be placed early enough in the year to allow grassland vegetation to be established before the winter and reduce the risk of erosion.
- 3.16 Following the removal of soils, the overburden can be stripped. The overburden is removed using an excavator and loaded onto dump trucks. Where possible, overburden is placed directly within the quarry void as part of the restoration works; the overburden is tipped within the void and then graded using a bulldozer. This helps to decrease the 'bulking' factor⁴ of the material. Where this is not possible, it is placed into store located on the base of the workings.

³ [Soils Guidance \(quarrying.org\)](http://SoilsGuidance.quarrying.org)

⁴ Extracted overburden and interburden increase in volume when tipped due to bulking as a result of handling. The percentage increase in volume required is known as the bulking factor.

Clay Extraction

- 3.17 Once the overburden has been removed the mineral deposit can be worked. As previously noted clay is extracted on a 'campaign' basis typically lasting around twelve per annum. As such, there are periods of activity and periods when there are no operations within the quarry workings.
- 3.18 Clay is extracted from a series of 3m to 5m high faces using a back hoe hydraulic excavator, which loads the mineral into articulated dump trucks for transfer to the stockpiling area. Notwithstanding this, sandstone seams are pre-crushed adjacent to the face using mobile crushing plant prior to being loaded onto dump trucks. The quarry faces are being progressively advanced in an easterly direction, advancing up the slope. Each face is separated from the next by an access 'bench' upon which the excavator sits.
- 3.19 During annual excavation campaigns, approximately 50,000m³ to 60,000m³ of mudstone, siltstone, and sandstone are excavated and transferred to the stocking area adjacent to the brickworks. This material weathers (break down) in the stockpile over the year; the material is blended during the load out process prior to feeding into factory for crushing and mixing.
- 3.20 The Southern Extension would be worked in a similar fashion to the current workings and would be amalgamated into the wider quarry workings. To illustrate how the quarry would be developed, integrating the proposed extension, a series of drawings (reference **CM 3/1 to CM 3/4;**) have been prepared illustrating the progression of the quarry faces. The four 'phases' are not chronologically equal but represent key points in the overall development.
- Phase 1 shows the faces progressing in an easterly direction into the north-eastern corner of the quarry workings, gradually turning in a clockwise fashion to maintain long term access from the south. The phase also shows the deepening of the quarry workings to around 25m AOD. Quarry wastes would be placed into the north-western corner of the workings once it had been worked out.
 - Phase 2 shows the quarry faces advancing in a southerly direction towards the Southern Extension, with quarry wastes continuing to be placed into the north-western corner of the workings. This would also be the first area for the deposit of inert wastes as part of the progressive restoration of the workings. During this phase, soils would be stripped from the footprint of the Southern Extension in readiness for mineral extraction.
 - Phase 3 shows the quarry faces continuing to advance to the south, into the Southern Extension, with the establishment of a new access ramp from the base of the workings to the south-eastern corner of the Quarry. This new ramp would provide access to the working faces. Towards the end of the phase, stockpiles of soils located in the southern-eastern corner of the quarry would need to be relocated to the quarry floor pending use in restoration. During the phase, all clay reserves within the Southern Extension would be worked.
 - Phase 4 shows the extraction of the remaining reserves within the south-eastern corner of the Quarry. The upper working benches would continue to be accessed from the quarry floor via the ramp created in Phase 3. As development progresses the ramp is removed.

- 3.21 As previously noted, it is intended to restore the workings using imported inert materials. Where possible the infilling operations would be phased, following behind the advancing clay extraction. In this respect, infilling operations would commence within the north-western corner and advance in a general easterly and southerly direction.
- 3.22 It is anticipated that up to 150,000t of inert materials would be imported per annum as part of the restoration works. Unlike the clay extraction operations, infill operations would occur throughout the year much in the same way that the approved proposals for non-hazardous landfilling would.

Mineral Stockpiling

- 3.23 For the duration of the extraction operations the clay would continue to be stockpiled within the existing stocking area located on the western side of the quarry, adjacent to the brickworks. Access to the stocking area is gained via an established haul road on the southern side of the quarry.
- 3.24 Clay is removed from the stockpile throughout the year and transferred to the brickworks. The clay is removed from the stockpile using a Hyundai 520 360° Excavator and/or a CAT 950 Front End wheeled shovel loading into a small dump truck for transfer to the clay store within the main brickworks building.

Reserves, Outputs and Site Life

- 3.25 The proposed extension would yield around 375,000m³ of mudstone/siltstone (allowing for production losses). It is estimated that there would be around 444,000m³ of overburden and interburden (quarry waste) based on a recovery rate of 75%. Based on an extraction rate of 60,000m³ per annum, the proposed extension would increase the life of the site by around 6 years.
- 3.26 In terms of the reserves in the existing quarry, the total amount of mudstone/siltstone recoverable (net of quarry waste) would be around 950,000m³. This equates to a life of around 16 years (based on an extraction rate of 60,000m³ per annum).
- 3.27 Table 3-1 below provides a summary of the materials balance based on a recovery rate of 75%.

Table 3-1
Materials Balance

	Total vol. (m ³)	Waste Vol. (m ³)	Mineral Vol. (m ³)	Years (#)
Phase 1	217,908	54,777	163,431	2.7
Phase 2	199,500	49,875	149,625	2.2
Phase 3	807,900	201,975	605,925	10.1
Phase 4	551,000	137,750	413,250	6.9
TOTAL	1,776,308	444,377	1,332,231	21.9

Based on annual extraction rate of 60,000m³

Operating Hours

3.28 It is proposed that operations would continue to follow the approved operating hours. In this respect, the following hours are observed for extraction operations:

- 0730 – 1800 hours Monday to Friday; and
- 0800 – 1300 hours on Saturday

3.29 Stripping operations are not allowed to commence until 0800 hours.

3.30 There are no workings on Sundays and Bank Holidays.

Vehicle Movements

3.31 The clay extraction does not result in any road vehicle movements save the delivery and removal of plant and machines to quarry workings.

3.32 The inert tipping proposals would not alter the number of HGVs delivering imported materials than already permitted as part of the Non-hazardous landfill. In this respect, the rate of infilling is governed by the void created through clay extraction.

Public Rights of Way

3.33 As noted from Chapter 2, there are no formal public rights of way within the Southern Extension; however it is crossed by a couple of informal paths associated with the country park. As these paths are not formal rights of way no stopping up or diversion orders need to be made. The scheme makes provision for the paths to be diverted around the periphery of the workings.

Surface Water Management

3.34 All surface water drainage would be managed using existing infrastructure within the confines of the quarry workings. Surface water would be directed towards the existing surface sump, located within the base of the quarry workings. Surface water is periodically pumped from the sump to a settlement pond located to the south of the stocking area prior to being discharged from the site

via a common outlet into the Grimethorpe Dyke at NGR SE4076 0805 under the authority of a discharge consent (Consent ref. 3774 dated 24 March 2004). This is considered further in Chapter 8 below.

- 3.35 The final restoration profile would provide for a free draining landform, with surface water draining to a low point located within the Southern Extension. Surface water would infiltrate into the sandstone strata underlying the extension.

Employment

- 3.36 Currently 63 people are directly employed at the brickworks and quarry site with a mixture of skills, age and experience. In addition, numerous other people rely on the indirect employment generated by the brick factory including suppliers of goods and services.
- 3.37 The proposals would not alter this.

RESTORATION

- 3.38 The approved restoration scheme is listed within Condition 3 of planning permission 2007/1784. The second planning application seeks to amend condition 3 by deleting the reference to the approved restoration plan and replace it with the plans within this submission along with the description in the following paragraphs. To provide a holistic approach to restoration, the new scheme encompasses both the proposed Southern Extension and the existing quarry workings.

Summary of Restoration Scheme

- 3.39 The approved restoration scheme envisaged that the void would be filled with biodegradable (non-hazardous) wastes; typically being sourced from household, commercial and industrial premises within the South Yorkshire area. However, in view of European and national policy drivers to divert such waste from landfill (in line with the 'Waste Hierarchy') landfill of non-hazardous wastes is no longer seen as a viable or sustainable means of restoring the site. In view of this, the second aspect of the scheme seeks to amend the restoration scheme, moving away from infilling with non-hazardous wastes and using inert construction and demolition wastes instead to create the restored landform. Moreover, it is proposed to amend the final profile of the restored landform; due to the change in waste type, it is no longer necessary to create a domed profile and so a lower level restoration scheme is being proposed.

Proposed Restoration Concept

- 3.40 The proposed development on **Drawing CM 3/5** would alter the approved final restoration scheme for the existing quarry, with a reduction in the volumes of imported waste and consequential lower-level final landform, retained steep slopes, rock faces and benches, along with the incorporation of the additional area of worked land to the south (the quarry extension area).
- 3.41 The brickmaking raw materials stockpiling areas to the west of the site would continue after the final restoration of the (existing and extended) quarry as it is intended this area would utilise imported materials to support the brickworks.

- 3.42 Some of the Coal Measures strata which has been exposed by the extraction of clay (and is subject to the Carlton Main SSSI designation) would be retained and available for inspection by interested parties for educational purposes.
- 3.43 The lower-level valley feature would be to elevations of 36m AOD, with an area of wetland (with waterbody and reedbed), surrounded by conservation grassland, open mosaic and woodland habitats.
- 3.44 New footpaths would also be introduced through the site to connect to the existing footpath network.

Restoration Areas

- 3.45 The proposed restoration scheme would be to a mix of habitats similar to the approved scheme and the mosaic of grassland, trees and shrubs in the adjacent areas to the north, east and south. This would include new areas of mixed native woodland planting (7.7ha) with retained woodland areas (1ha), areas of species-rich grassland (2.7ha), with retained existing grassland (1.7ha), open mosaic habitat (9.1ha) and the addition of rock faces and benches (4.7ha), which would support natural regeneration of grassland, trees and shrubs, as well as waterbody (0.8ha) and reedbed (0.2ha).
- 3.46 The 2.4ha brick-making raw materials stockpile would continue in the west of the site.

Soil Handling

- 3.47 All available soils / soil-forming materials would be stripped from the proposed extension area in accordance with the Institute of Quarrying's Good Practice Guide for Handling Soils in Mineral Workings. This would help the operator achieve a good standard of restoration when using various combinations of earth-moving machinery for soil stripping, temporary storage and replacement.
- 3.48 In accordance with the approved scheme, the depth of restoration soils to be spread on any specific completed landfill phase would be prior agreed with the Local Planning Authority and be dependent upon the amounts of soils available from the stripping areas, selected soil-making materials recovered from the imported inert landfill and the future end use.
- 3.49 Typically areas for woodland planting would have a minimum of 1.5m thickness, whilst grassland and reedbed would have a minimum 0.5m thickness of restoration soils.
- 3.50 The open mosaic habitat areas would be finished with a layer of suitable low fertility substrates, that would support sparse, early successional plant communities and areas of bare ground.
- 3.51 The waterbody would receive compacted clays or other suitable materials, in accordance with an engineers specification and following an assessment of ground conditions within the vicinity of the sandstone bedrock, to determine rates of infiltration and likely resting waterlevels.

- 3.52 All stones larger than 150mm would be picked and removed from the subsoil layers, whilst any stone larger than 75mm would be removed from topsoil layers.

Woodland Planting Specification

- 3.53 All plant handling and planting operations would comply with relevant clauses of CPSE 'Handling and Establishing of Landscape Plants'
- 3.54 The tree and shrub planting specification would match the previously approved scheme and include:
- 30% Grey Alder
 - 15% Oak
 - 15% Silver Birch
 - 10% Field Maple
 - 10% Rowan
 - 10% Wild Cherry
 - 10% Goat Willow
- 3.55 All specimens to be 45-60cm bare rooted transplants, planted at 2.0m spacing (2,500 plants/ha), with a random mixture. Trees and shrubs would be individually protected with guards and canes.
- 3.56 A 10m woodland edge mix around the periphery of woodland areas, to create a transitional zone into grassland areas, would comprise the following mixture planted at 1.5m spacing (4,400 plants/ha):
- 24% Hazel
 - 24% Guelder Rose
 - 24% Hawthorn
 - 24% Blackthorn
 - 4% Dog Rose
- 3.57 All planting would be carried out during suitable conditions, typically between Mid-October to April. The precise extent of planting block to be based on an assessment of safe standoffs to rock faces on an area-by-area basis. Unplanted areas for natural regeneration would provide opportunity for further diversity along the benches.

- 3.58 All plants would be planted using notch- or pit planting techniques. Soil amelioration is not proposed within areas to be planted at this stage, although an inspection would be carried out at the time of planting.
- 3.59 Stockproof fencing would be used to delineate all proposed woodland areas, with incorporation of field gates or stiles as appropriate to allow maintenance access.

Grassland and Open Mosaic Specifications

- 3.60 The species-rich grassland mixture is yet to be determined and would be based on the final soil conditions. Potential mix under consideration is as follows, sown at a seed rate of 50kg/ha:
- 20% Meadow Red Fescue;
 - 15% Smooth Meadowgrass;
 - 15% Sheeps Fescue;
 - 15% Slender Fescue;
 - 10% Rough Stalked Meadowgrass;
 - 10% Smaller Catstail;
 - 10% Crested Dogstail;
 - 5% Bentgrass
- 3.61 An assessment of the need to apply herbicide in advance of cultivations and sowing within grassland areas would be carried out to remove any weeds. Sowing would then be carried out when growing conditions are good and sufficiently warm and moist (not too early in the Spring before the soil is warm or late in Autumn) and once sown, areas would be rolled to ensure good soil-to-seed contact.
- 3.62 The open mosaic habitat areas would be left to natural regeneration.

Wetland (Waterbody and Reedbed)

- 3.63 The reedbed areas would be planted using Common Reed (*Phragmites australis*) pot-grown nursery seedlings. However, it would not be necessary to plant up all areas shown on the restoration plan, but to provide a source of reeds that can spread in subsequent years, for example planting initially only 5% of the area indicated.
- 3.64 Reed planting densities of 4/m² would be carried out in June, following the last frosts, with the protection of newly sprouting reed growth from natural grazing by way of appropriate fencing.
- 3.65 The waterbody itself would be left to natural regeneration.

Outline Aftercare

- 3.66 Aftercare would be carried out for a period of 5 years from final restoration in accordance with an Outline Aftercare Scheme, which shall be submitted for the approval of the Planning Authority.
- 3.67 The aftercare scheme would set out the overall objectives for the different habitat types, and guidance for the treatment of the vegetation to ensure desirable species are encouraged and undesirable species are prevented from becoming established. All areas would be closely monitored throughout the aftercare period so that the most suitable management regime can be defined on an area-by-area basis.
- 3.68 Annual, detailed schemes would then be submitted to the planning authority in the autumn of each aftercare year, recording actions undertaken and those proposed for the forthcoming year.
- 3.69 Typical aftercare of the woodland planting areas is as follows:
- Following the 1st growing season, a 'beating up' inspection would take place and replacement of dead / diseased or dying plant stock, to ensure an 85% overall stocking density by year 5;
 - Herbicide application to 1m diameter around the bases of the trees and shrubs would be required to reduce competing vegetation (typically 1 visit at beginning of the growing season);
 - Inter-row strimming as necessary to reduce competing vegetation (typically 1 or 2 visits a year for first 3 years);
 - Fertilisers may be used in Year 1 or 2 to aid establishment;
 - Tree/shrub ties, canes and guards would be checked, adjusted or replaced; and
 - In year 5, and if plants have grown to a suitable level, selective thinning of the planting block and coppicing of hazel may be carried out to encourage structural diversity. All protective tree / shrub guards to be removed during the winter of Year 5 unless agreed otherwise.
- 3.70 Management of the species-rich grassland areas would typically include the following:
- Mow all plant growth (sown grasses and weeds) regularly to 40-60mm throughout the first growing season to prevent weeds smothering the slower-growing grasses;
 - Species-rich grassland areas to be managed as a meadow allowing the grasses to grow tall, flower and seed from May through to July/August. The grass meadow should be cut back and mowing resumed in late summer; and
 - Requirements for artificial fertiliser to be reviewed, although assumed not necessarily required to encourage floristic diversity.

- 3.71 Open mosaic habitat areas would be monitored for weeds, however the management would be in frequent cutting or disturbance of the surface to create bare ground and early successional plant communities.
- 3.72 The requirements for secondary treatments would be reviewed on an annual basis, in order to identify and remedy any localised problems. The following conditions would be assessed:
- Poor Drainage - would be assessed by recording areas of standing water in the winter, with possible remedy to be moling, subsoiling or installation of land drainage, subject to severity Drainage would be reviewed generally and any existing field drainage or replacement ditches would be maintained as required to control surface water;;
 - Compaction - would be assessed by recording areas of standing water in winter, with possible remedy to be subsoiling or other mechanical means, subject to severity;
 - Settlement - would be assessed by visual inspection or topographical survey where necessary, with possible remedy to be localised re-grading, subject to severity;
 - Vegetation Failure - would be assessed by visual inspection, with possible remedy to be cultivation and re-seeding, subject to severity;
 - Stone-picking - would be assessed by visual inspection and any stones lying on the surface that are larger than 75 mm diameter, together with other objects likely to obstruct future cultivation, would be removed from the site; and
 - Weed control may include spot spraying using a suitable herbicide, as necessary.
- 3.73 The general aims of aftercare management for the waterbody would be to provide general biodiversity value. Monitoring of the waterbodies would be by visual inspection, to include erosion, odour, plant and animal deaths. Freshwater algae would also be monitored for excessive accumulations of foams, scums and discolouration of the water.
- 3.74 Stability and erosion would also be assessed during the aftercare period. The quarry faces and banks would be checked to establish their overall condition and attempt to identify any loose / unstable areas that may be liable to collapse. If any such areas are identified that may endanger subsequent operations then further investigation works would be carried out to establish an appropriate response / mitigation measures.

ALTERNATIVES

Legislative Requirement

- 3.75 Alternatives are considered in the context of Regulation 18(3)(d) and paragraph 2 of Schedule 4 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017. In this respect an ES should include:

“a description of the reasonable alternatives studied by the developer, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment.”

- 3.76 Paragraph 2 of Schedule 4 expands upon this by adding that the information to be provided (where appropriate⁵) should include *“A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.”*
- 3.77 Guidance contained in the Planning Practice Guidance portal comments⁶ that *“the 2017 Regulations do not require an applicant to consider alternatives. However, where alternatives have been considered, paragraph 2 of Schedule 4 requires the applicant to include in their Environmental Statement a description of the reasonable alternatives studied (for example in terms of development design, technology, location, size and scale) and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects”*.
- 3.78 The main purpose of considering alternatives within an EIA is to consider whether any alternative designs have been considered as part of the process. This could relate to operational practices or phasing of the development for example. Whether a site/land is suitable for clay extraction is a fundamental consideration of the Development Plan; as such the consideration of alternative sources of clay is set out in the Planning Statement.

Alternatives Considered

- 3.79 As an extension to an operational quarry, the nature of the development is such that very few alternatives present themselves for consideration as part of the EIA.
- 3.80 One option would be to continue to develop the quarry workings with restoration by landfill with non-hazardous wastes. Given the drivers to treat waste as a resource and move away from landfill, then this is not considered to be a sustainable option. Moreover, the volume of residual non-hazardous waste arising is diminishing with more treatment facilities coming on line. For example, two large energy from waste facilities have been developed at Ferrybridge, Selby. This would result in either waste being transported over greater distances (and thus increasing carbon emissions associated with transportation) or require a much longer timeframe for completing the restoration scheme. In view of this, continuing with the approved restoration scheme has been dismissed.
- 3.81 At the other end of the spectrum, the option exists to restore the workings without importing any waste materials. It is anticipated that ground water levels would rebound to around 36m AOD and so would result in the creation of a large waterbody in the base of the workings. In places, the waterbody would be 11m deep and so the ability to increase biodiversity would be hampered.

⁵ Regulation 18(3)(f) indicates that information contained in Schedule 4 is to be provided where relevant to the specific characteristics of the development.

⁶ Paragraph: 041 Reference ID: 4-041-20170728

- 3.82 Finally, there is always the alternative of not carrying out the development (i.e. the 'do-nothing' scenario). This would result in the land associated with the Southern Extension remaining in the country park, being used for recreational purposes. However, some 375,000m³ of reserves would not be realised and the quarry would continue to develop in line with the extant planning permission for the next 16 years.