

J.G.PEARS LIMITED

SPICER HOUSE

PLANNING APPLICATION

SUPPLEMENTARY INFORMATION AND SUPPORTING STATEMENT

Contents

Section 1	Introduction
Section 2	Location
Section 3	Geology
Section 4	Planning Policy
Section 5	Working Method
Section 6	Restoration
Section 7	Aftercare
Section 8	Noise
Section 9	Dust

PREPARED BY

**FENNELL, GREEN & BATES
25 SMYTH STREET
WAKEFIELD
WF1 1ED**

**TEL: 01924 372197
FAX: 01924 385559**

December 2006

SPICER HOUSE QUARRY, INGBIRCHWORTH

APPLICANT – J G PEARS LIMITED

1 INTRODUCTION

J G Pears Limited wish to apply to work sandstone and the clays at Spicer House Farm and this mining report details the proposed design of the quarry in a field to the south of Spicer House Lane and near to the junction with Annat Royd Lane at grid coordinates 405100mN and 420800mE (SE20805100).

The site lies in a field that rises gently to the south south west at a level of 1025 feet (318 metres) above Ordnance Datum to 1100 feet (331 metres) aod. The area of the site is 200 metres by 140 metres and the extraction will take place within the field boundaries.

Topsoil and subsoil will be removed in each phase and placed outside the field boundary to provide screening and prevent contamination of the soils from the mineral working.

The volume of material is 660 000 tonnes recoverable of Grenoside rock of which 10% will be fines and discard which will be used to restore the site to a delph similar to the neighbouring disused Annat Royd Quarry.

The applicant has obtained reports produced by Hepworth for the clay and Marshall's Natural Stone for the Grenoside and Greenmoor Rock which included borehole logs. These reports have been used to assess the reserve and were provided to the owner of the land who is now the applicant.

The borehole information has been used to model the bottom of the Grenoside and the black shale, the pipe clay which is the blue shale and the underlying Greenmoor Rock.

It is proposed to extract 60 000 tonnes of sandstone over a ten year period to produce blockstone, flag rock, dry stone walling, roofing slate and rockery. Other stone will be utilised for security and landscape stone and there will be an element of aggregate produced for pipe bedding, 40 mm clean and sized cobble. This will provide a sustainable way of using primary product and not discarding materials that would have to be won elsewhere if it was left at the quarry.

To investigate the sustainability of the proposal the applicant has also looked at the lower beds of pipeclay and the Greenmoor rock and how the intervening black shale may be moved to restore part of the quarry as these lower beds of clay and dimension stone could be worked.

These minerals could be accessed from the proposed working but that will not take place until the stone quarry is opened out and certainly not within the timescale proposed in this application.

However the pipe clay manufacturers will know that this material could be available in the future as they plan reserves over a longer period of time up to 20 years in advance. The recent publications on Brick Clay and Stone provision with Mineral Planning Statement 1 for the market in England and Wales has been considered in this application

2 LOCATION

Refer to plan number - *JGP/SH/LOC - 01*

- 2.1 The site is located in an area on the eastern edge of the Pennines that has seen many small-scale quarries extracting sandstone, many of which were left unrestored to form naturally re-generated quarries or "delphs". The area is within an area exploited for the Grenoside and Greenmoor sandstones used for dimension stone and the blue clay used by the pipeworks at Clough Green and Crow Edge.
- 2.2 Quarries exist at Lane Head near Shepley, Cumberworth to the north, Greenley Carr to the immediate south west and at Crows Edge and Hartcliffe near Penistone. The wider area has been quarried for many years for the raw materials for the construction industry .
- 2.3 The site elevation ranges between 315m AOD on Spicer House Lane and 330m AOD at the South-Eastern end of the site
- 2.4 Geographically the site is positioned 3km North East of Thurlestone Moors, 4.5km North West of Penistone Village, 4.5 km South West of Denby Dale Village and approximately 7km South East of Holmfirth Town.
- 2.5 The site is also in close proximity to 3 reservoirs namely Broadstone Reservoir 3km to the North West with an elevation of approximately 93m AOD, Ingbirchworth Reservoir 1.5km to the North and Royd Moor Reservoir which is located 1.5km to the East both these are at an elevation of approximately 79m AOD. Ingbirchworth reservoir is located downstream of the quarry area and the water shed which flows north east parallel to the underlying geology.
- 2.6 The land falls gently northwards on a plinth of Grenoside rock towards the north east at a gradient of 1 in 15. The land is enclosed pasture with dry stone walls around each field. Roads criss-cross the pasture land in relatively straight lines as delineated in the Enclosure Acts between 1760 and 1830. The land was enclosed under the award for Ingbirchworth and the area to the north of the site is shown as Ingbirchworth Moor.
- 2.7 At the base of the gently sloping land is a watercourse that feeds into the reservoir known as Broadstone Dike and from the Reservoir is Ingbirchworth Beck which feeds another area of open water known as Scout Dike reservoir.

3.0 GEOLOGY

Reference Sheets;

Yorkshire County Sheet Series No. 273

Refer to the Geological Plans - **JGP/SH/GEOL-01 to 03**

- 3.1 The site is situated within the outcrop of the Grenoside Rock, on the northern flank of the Don valley, at Spicer House. The land use is pasture that slopes to the valley and below this, the strata dips to the northeast on a gentle gradient which has caused the relatively uniform gradient of the pasture. The rock has been examined at Annat Quarry and at Greenley Carr and the blocks of stone are seen to be widely spaced and thickly bedded from 0.5 metres up to 2 metres, with thinner beds of laminated gritstone.
- 3.2 The deposit is described on the geological sheet as a gritty sandstone and extends eastwards beyond the site, towards Ingbrichworth Reservoir. The rock is covered by a coal measures mudstone towards the valley and the Grenoside Crow Coal seam. The Grenoside rock is exposed at the site with a thin covering of topsoil and subsoil with weathered skegs trending to the larger beds of unweathered rock. The base of the sandstone is underlain by blackshale and beneath this is the pipeclay and the Greenmoor Rock.
- 3.3 Drilling has indicated that the base of the sandstone horizon is gritty and weak, which is possibly due to the action of water. The sandstone appears to be freely draining due to it being heavily jointed and the underlying shale will act as an impermeable plane. It is possible that at this interface, groundwater has weakened the matrix that holds the sandstone particles together.
- 3.4 There is a fault 0.5 kilometre to the southeast of the site that downthrows the strata to the southeast but the general trend of the fault system is southwest to northeast. There is no evidence of any faults in the application area and hence the area should provide blockstone for the natural stone market.
- 3.5 The boreholes are included in this report together with a location plan.

4.0 PLANNING POLICY

- 4.1 The area is denoted as a mineral search area in the unitary development plan for Barnsley Metropolitan Council and is designated for stone and clay extraction. The Council recognise there are few blockstone or aggregate quarries in the Metropolitan area and most stone quarrying is related to the clay extraction associated with the brickworks at Carlton and Stairfoot and the pipe works at Banks Wood Quarry near Cawthorne.
- 4.2 Stone quarrying has been granted permission recently at Hillside on Thurlstone Moor for a research and development centre for rock cutting equipment but this operation is fairly modest at 18000 tonnes of output per year.
- 4.3 The area used to provide mill stones for export from stone quarries to the western extremity around Dunford Bridge and Snittlegate Moor but these quarries have been closed due to their proximity to the Dark Peak and objections from the Peak National Park Planning Board.

- 4.4 Recently the Department of Communities and Local Government have produced Mineral Planning Statement 1 and annexes on mineral guidance relating to the provision of building stone in England and Wales, in annex 3, and the use of Brickclay in annex 2.
- 4.5 Both these annexes identify the problems of securing long term supplies of these minerals and advise the Mineral Planning Authorities on how to liaise with all stakeholders to provide a steady source of supply to both the local market to maintain the character of the area and nationally to create an aesthetic and durable product for town centre redevelopment whether it be in sandstone or brick.
- 4.6 Both products are sustainable in that they last many hundreds of years if used correctly in the construction of building or to clad a building to prevent ingress of the weather. They can be re used as well if the building is demolished and further stone taken from the quarry for repairs or the bricks matched.
- 4.7 There is also a sustainable use of resources as the stone is near to the market in Yorkshire for Yorkstone as it is now been imported from Northumberland and the Peak District around Stanton Moor to satisfy the market. Yorkstone is also used far afield in London and the South and has been exported overseas to America and Japan.
- 4.8 Many of the towns and cities within the United Kingdom used Yorkstone for building between the 1750's and the 1880's and these buildings require new stone to repair the blockwork.
- 4.9 Houses are also built in Yorkstone around the western area of Barnsley and to maintain the character of those village Planning Officers invariably insist upon materials that are conducive to the area. At this present time the stone is imported and is either too yellow or has a pinkish tinge to it which is easily distinguishable from true grey buff Yorkstone. Some stone is brought from India and China and whilst a close match has not been subjected to the rigours of a wet and icy winter in the United Kingdom for years as has the Yorkstone in the built environment.
- 4.10 Each County or Local Authority is also required to meet the demand for aggregate provision and this is outlined in annex 1 of the Mineral Planning Statement . Whilst it is Government Policy to encourage the use of alternatives to primary aggregate the Mineral Planning Authority should maintain a landbank of 10 years for hard rock quarries and this blockstone quarry will provide some aggregate over that 10 year period. The quantity will be between 180 000 and 300 000 tonnes over the period of the proposed working period. The provision of aggregate from building stone quarries is discussed in paragraph 3.13 in Annex 3.

5.0 WORKING METHOD

- 5.1 Mineral extraction will be carried out in six phases working out from the existing ground levels. The first 4 phases where soils are to be stripped and the greside rock extracted are of equal width and length 48m x 135m, approximately **6,480 sq.m.**

Each phase is designed to be independent so that, at any time, the quarry workings can be closed down and restored within a relatively short period, should the research and development project prove to be unsustainable.

- 5.2 Soils from the first 4 phases to be excavated, will be lifted and stored in soil bunds. These will act to screen the developing quarry from the road and surrounding areas.
- 5.3 **Phase 1 Extraction (Plan - JGP/SH/WS-02)** – Approximately **1,300 cu.m** of topsoil to be stripped and used to construct 3m high bunds on the north eastern side of the quarry against Spicer House Lane to screen the quarry from oncoming traffic. Approximately **1,950 cu.m** of subsoil will then be stripped to expose the top of the Grenoside Rock. This will be used to construct 3m high bunds adjacent to Spicer House Lane 1m beyond the north and south boundaries of the site, again these will act to screen the quarry from traffic present on road. The **55,500 cu.m** of Grenoside Rock can then be extracted in a south-easterly direction leaving insitu a 1:10 slope 10m wide haul road with appropriate edge protection running north then west along the quarry boundaries until the top of the underlying blackshale is reached.
- 5.4 **Phase 2 Extraction (Plan - JGP/SH/WS-03)** - Approximately **1,300 cu.m** of topsoil to be stripped and used to construct a 3m high bund along the edge of Spicer House Lane beyond the Southern boundary of the Quarry to further screen the quarry from oncoming traffic. Approximately **1,950 cu.m** of subsoil will then be stripped to expose the top of the Grenoside Rock and will be added in a south-westerly direction to the existing subsoil bund to the south of the quarry constructed in Phase 1. The **78,000 cu.m** of Grenoside Rock can then be worked in a south-westerly direction.
- 5.5 **Phase 3 Extraction (Plan - JGP/SH/WS-04)** - Approximately **1,300 cu.m** of topsoil to be stripped and used to construct a 3m high bund along the edge of Spicer House Lane beyond the Northern boundary of the Quarry to further screen the quarry from oncoming traffic. Approximately **1,950 cu.m** of subsoil will then be stripped to expose the top of the Grenoside Rock and will be added in a south-westerly direction to the existing subsoil bund to the north of the quarry constructed in Phase 1. The **78,300 cu.m** of Grenoside Rock can then be worked in a south-westerly direction.
- 5.6 **Phase 4 Extraction (Plan - JGP/SH/WS-05)** - Approximately **1,300 cu.m** of topsoil to be stripped and used to construct a 2.5m high bund beyond the South Western boundary the full width of the quarry. Approximately **1,950 cu.m** of subsoil will then be stripped to expose the top of the Grenoside Rock and used to construct a 3m high bund beyond the South Western boundary the full width of the quarry. Then the final **78,200 cu.m** of Grenoside Rock can then be worked in a south-westerly direction.
- 5.7 **Phase 5 Extraction – Future Development (Plan - JGP/SH/WS-06)** – The haul road can now be extended down through the 59m x 137m blackshale box cut shown on plan.

The **101,600 cu.m** of blackshale from the box cut is then placed in the south eastern half of the quarry at least 3m away from the box cut battered up at a minimum 1:2 slope and not to exceed the original ground levels prior to extraction.

- 5.8 **Phase 6 Extraction Future Clay Extraction (Plan - JGP/SH/WS-07)** – The haul road can now be extended further through the 7m of blue shale, then the **25,800 cu.m** of blue shale can be extracted in a north-westerly direction to expose the top of the underlying Greenmoor Rock.

- 5.9 The proposals have been calculated to provide for 10 years at a rate of 60,000 tonnes of stone product per annum. This represents some 15 vehicles per day leaving the quarry. The nature of the product is such that most of the product will be transported using, flat-bed vehicles such 6 wheel HGVs to carry blockstone chained onto the wagon, flag rock on pallets, loose dry stone walling, blocks and rockery on tipper trucks and aggregate will be carried on 8 wheeled tippers trucks that can be sheeted up. Occasionally, larger stone products may require slightly larger transport such as an articulated wagon to transport blocks away to be sawn. A separate report provides details of the traffic assessment.

6.0 RESTORATION

- 6.1 The restoration proposal would be a "delph" type scheme using scree and quarry faces to naturally regenerate, aided by establishing areas or pockets of grassland, trees, shrubs etc.
- 6.2 These proposals have been designed by specialist landscape designers to provide a comprehensive restoration scheme for the site. The enhanced proposals include details of the aims and objectives primarily to restore the quarry in keeping with similar delphs in the area, but also to enhance the variety of wildlife habitats.
- 6.3 Restored soils will be seeded and managed to establish a grass sward enhanced with wild flower and heath species. Where available, seed of a local provenance will be used to establish ground cover.
- 6.4 Tree planting will take place in small groups on benches constructed across rock faces, scree slopes and the quarry floor. Alder and Birch will provide the nurse species, while Ash and Beech (chosen for its presence in the locality) will form the climax trees. Willow and thorn species will enhance the wildlife habitat, with Broom and Bramble establishing ground cover.

7.0 AFTERCARE

- 7.1 Following mineral extraction, soil restoration and landscaping, a full 5 year aftercare scheme will be implemented as discussed in the Mineral Planning Guidance Note 7. This will ensure careful and appropriate management of the meadow grass and wild flower areas.

- 7.2 The aftercare scheme will ensure maintenance of the trees and shrubs throughout the period while the tree canopy is being established. This will control competitive weed growth and ensure the success of healthy trees and shrubs. Diseased, dying or dead trees will be removed and replaced to ensure a successful establishment of at least 75% after five years, with scope to extend this for a further period.

8.0 NOISE

- 8.1 Any quarrying operation will cause noise, due to the excavation of the rock, the type of machines used and the stripping of soils and screen construction.
- 8.2 Noise has been defined as sound that is undesired by the recipient. The affects of noise on the neighbourhood are varied including interference with speech and communications, and disturbance of work, leisure and sleep. A further complicating factor is that in any one neighbourhood, some individuals will be more sensitive to noise than others.
- 8.3 In general, the level of noise in the local environment that arises from a development site will depend upon a number of factors. The more significant are :-
- i. the sound power levels (SPLs) of the plant or equipment used on site;
 - ii. the periods of operation of the plant on site;
 - iii. the difference between the source noise and the receiving position;
 - iv. the presence or absence of screening effects due to barriers or ground absorption;
 - v. any reflection effects due to the facades of buildings, etc.

In considering potential noise impact, it is necessary to take account of the existing noise climate of the area, together with the number and position of properties in close proximity to the development.

The only properties in close proximity to the site are those located on Spicer House Lane namely the farm which is 500 metres to the west and Annat Royd which is 500 metres to the east. The screen bunds of topsoil will attenuate noise from the quarrying operations for passers by.

8.4 NOISE LEVEL PREDICTION

Prediction Methodology

The prediction methods which are generally used, are based upon that outlined within British Standards (BS) 5228: 1997 'Noise and vibration control on construction and open sites'.

The maximum barrier attenuation of 10 dB(A) quoted within BS 5228 can be conservative and is recognised as such in section D.3.2.2.1 where it states 'High topographical features and designed and positioned noise barriers could provide greater attenuation'.

Examples of the former are overburden mounds and excavation high walls whilst baffle banks and acoustic fences are examples of the latter.

8.5 MITIGATION MEASURES

Introduction

Noise attenuation (or reduction) features are either normally occurring or are engineered as part of the overall operations. J.G.Pears will instigate the following measures to ensure that noise levels are kept to a minimum.

Site Operations

Noise emissions from a site are highest when plant is operating at the surface. The guidance in Mineral Planning Guidance 11 now the Noise Annex to the Mineral Planning Statement still allows 70 dB(A) for stripping operations over an eight week period and 55dB(A) for the quarrying operation. Most of the quarrying operations will take place in the quarry void and will therefore be below ground level with the quarry face acting as a noise attenuation barrier. To assist with this abatement, all internal access ramps have been designed with easier gradients thus reducing high revolution engine noise.

Site Plant

Measures will also be taken to minimise noise emitted from the plant itself, as listed below :-

All vehicles and plant will be fitted with efficient silencers.

Pumps or generators at semi permanent or permanent locations will be acoustically clad.

Wherever practical, all plant engines will be operated with doors or cowls in the closed position.

- iv. All undue revving of engines will be avoided.
- v. All plant will be efficient and well maintained.
- vi. All plant will meet current EC standards relating to noise emission.

8.6 Summary of Noise Mitigation

It is considered that the proposed mitigation measures that have been implemented, will adequately protect the surrounding area, minimising the environmental impact of quarrying and plant generated noise, for the duration of the proposed scheme.

- 8.7 Due to the location of the site and the screening of the workings from the surrounding pasture which are away from the noise source from working the stone any noise nuisance will be mitigated by the level where the machines are and the location of the nearest noise sensitive properties.

The nearest properties are along Spicer House Lane near to Spicer House and Annat Royd Farm. These properties are above the working horizon of the quarry and it is unlikely that the noise levels will exceed 55 dbA during quarry extraction or 70 dbA when soils are stripped. The soils will be stored around the perimeter of the site and these will attenuate any noise from the site.

9.0 DUST ISSUES

- 9.1 A Dust Report has also been commissioned and is appended as part of this application statement. There is potential to generate dust from the proposed activities within the quarry, such as excavating, overburden tipping, soil lifting and replacement etc.
- 9.2 The nature of the proposals and short distances for vehicles to travel within the confines of the quarry will mean that internal traffic generation of dust will be low. Furthermore, much of the operational activity will take place within the quarry area located below the surrounding surface and sheltered from prevailing winds by the seeded topsoil bunds.
- 9.3 Mitigation measures to control dust emissions will be undertaken to include dampening haul road surfaces, vehicle speed restriction and upward facing exhaust positioning, and wetting of stone and clay excavating where necessary.
- 9.4 The nature of the splitting system for cutting and dressing stone will greatly reduce dust emissions from these sources as it is likely to be plug and feather, black powder or hydraulic excavator.
- 9.5 As a last resort, in adverse weather conditions comprising dry, strong winds, site operations may be temporarily suspended.

10.0 Provision of Stone

- 10.1 The Grenoside rock will provide a wide range of stone products including roofing slate, flag and ashlar block for sawing, walling for house construction, drystone walling and security lump stone for the landscaping of offices and industrial and retail premises. The quarry will provide work for 6 or 7 men to dress the stone and remove the block with machines to load and deliver to local saw sheds in Huddersfield and Halifax.
- 10.2 The local stone has been difficult to source and stone is being imported from the Peak District to satisfy demand. The stone around Penistone and Barnsley, south Huddersfield is mainly from the Grenoside and Greenmoor rock sequence which will allow the character of the area to be maintained.
- 10.3 The Government and the Local Authority realise the importance of the local stone quarries and clay pits being able to provide employment and provide naturally won products for the area. The materials to be won from the quarry are sustainable in that they will last for a considerable number of years even centuries. Stone will provide a durable and aesthetic building material for the area which is borne out by the character of the west of Barnsley and the Pennine region as a whole.

- 10.4 The applicant has also considered the pipe clay in the mineral extraction area so as not to sterilise this reserve before restoration takes place. The pipe clay can be used by the two local vitrified clay pipe manufacturers or the brick industry for the construction of houses and other buildings used for commercial and industrial purposes.
- 10.5 The quarry will provide stone product and no material will be wasted in the process to ensure a sustainable operation. The site is within a mineral area of search in the Barnsley Unitary Development Plan and the design of the quarry has considered expansion of the workings in the future subject to planning approval.

Signed

Eur Ing JOHN CARLON BEng (Hons) CEng MIMM MRICS MIQ MCIWM
Chartered Mineral Surveyor

19 January 2007