
ES VOLUME 2

Technical Appendices

K - Health Impact Assessment





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Health Impact Assessment

In respect of

Proposed Sand and Gravel Quarry, Progressive Restoration Scheme to Agricultural Parkland,
Public Access and Nature Enhancement on Land

at

Lea Castle Farm, Wolverley Road

Nr Kidderminster, Worcestershire.

For

NRS Aggregates Ltd

September 2019

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Drawing No. KD.L/R.001	Location Plan
Drawing No. KD.L/R.002	Development Proposals
Drawing No. KD.L/R.003	Concept Restoration Scheme

1.0 INTRODUCTION

- 1.1 This is a Health Impact Assessment in respect of proposals for the phased extraction of 3 million tonnes of sand and gravel at Lea Castle Farm, Nr Wolverley, Kidderminster, Worcestershire. See Appendix A drawing No. KD.L/R.001 Location Plan. The proposed development also includes the progressive restoration of land using both in-situ material and the importation of 0.6million m³ of inert material.
- 1.2 The Health Impact Assessment was requested by the Worcestershire County Public Health Officer and Public Health England.
- 1.3 The scope of the assessment has been discussed with Worcestershire County Council Public Health Team and PHE and follows guidelines set out within the Health Impact Assessments in Planning Toolkit (Public Health, Worcestershire County Council) March 2016.
- 1.4 For this project the main sources for potential health effect are;
 - A. Quarrying and restoration activities and outcomes which could result in environmental change resulting from mineral extraction and restoration activities (i.e. noise, air quality, road safety, public access, visual amenity and water quality).
 - B. Social change associated with individual and community response to the possibility of development change (i.e. community use of land within the application boundary and surrounding land, understanding risks and community identity).
- 1.5 It is recognised that changes can affect both physical and mental wellbeing. The Royal Town Planning Institute within TCPA (20150 Public Health in Planning Good Practice Guide recognises that planners have an important role in tackling public health issues “from making streets safer and more attractive to walk in and locating housing where there are services to reduce car dependency and creating green spaces”.
- 1.6 In a National Planning Policy context, the National Planning Policy Framework, 2012 (NPPF) recognises the need to understand and “take account of the health status and needs of the local population including expected future changes, and any information about relevant barriers to improving health and wellbeing.
- 1.7 At the County level the ‘Planning Health in Worcestershire’ Technical Research Paper was published in 2015 summarises health issues and challenges and identifies the key determinants of health and how these impact on the population of Worcestershire.

2.0 THE PROPOSED DEVELOPMENT

2.1 The Planning Application Boundary measures 46 Hectares (Ha). The Proposed Development is for the extraction of sand and gravel and solid sand from ~26 Ha of this land, with the remaining 20 Ha linked to continued agricultural use and mitigation of the development and the overall enhancement of the Site, to be restored to an agricultural parkland setting with increased amenity uses and opportunities. Land within the Application Boundary forming part of the lost parkland setting of Lea Castle House, which was built around 1762 and demolished in 1945.

2.2 A total of 3 million saleable tonnes will be extracted across an initial works and five phases over the course of ~10 years. The mineral comprises ~ 1.57 million tonnes of sand and gravel and 1.43 million tonnes of solid sand. The mineral will be transported to the plant site for processing utilising both dump trucks and a short conveyor system. The scheme has been designed based on an annual processed tonnage of 300,000 saleable tonnes. To aid in the restoration of the site 0.6million m³ of inert materials will be imported to provide a fill material to create restoration formation levels onto which the site original soil profile will be replaced. No recycling operations will take place. There will be no blasting. The site would operate between 7am to 7pm on Monday to Friday and from 8am to 1pm on Saturday, with no Sunday or Bank Holiday working. The Planning Application makes provision for the initial work requirements to establish a new temporary access onto the A4189 Wolverley Road and Plant Site and subsequent phased extraction of sand and gravel and solid sand with concurrent restoration. The overall development proposals for phased mineral extraction are illustrated on Drawing Number KD.L/R.002 and the Concept Restoration Scheme on Drawing Number KD.L/R003 within Appendix A of this report. The detailed phased Working and Restoration for the scheme is illustrated and described on Planning Application Drawing Numbers 8-14 within the ES Volume 3 Drawings and Forms. These drawings illustrate and describe that the mineral extraction will be sequential with progressive restoration ensuring that the area of land required for operations/ disturbed land will be minimised.

2.3 The aim of the progressive restoration scheme is the creation of a “High Quality Agricultural Parkland” reflecting that of the lost/ demolished Lea Castle parkland grounds, contributing to and strengthening the local “Green Infrastructure”.

Restoration to comprise the following:

- **32.26 Ha of Productive Agricultural Land** – *a reduction of 11.88 Ha*
- **4.53 Ha of Woodland** – *an increase of 3.42 Ha*
- **1,018 linear metres of Hedgerows** – *increase of 579 linear metres*
- **8.1 Ha of Species Rich Acidic Grassland** – *newly formed habitat*

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- **200N° Avenue Trees/ Individual Trees** – *additional new tree planting*
- **5N° (~0.4 Ha) Pocket Parks** – *newly created publicly accessible community spaces*
- **3.78km of Public Rights of Way (Footpath/Bridgeway/Cycleway)** – *an increase of 2.3km*

3.0 METHODOLOGY

- 3.1 This desk-based Health Impact Assessment forms part of a full Environmental Impact Assessment and has been informed by relevant assessed topics of the Environmental Statement for the application. The topic chapters include;
- Landscape and Visual- ES Chapter 7
 - Highways- ES Chapter 12
 - Rights of Way- ES Chapter 16
 - Noise- ES Chapter 10
 - Dust and Air Quality- ES Chapter 11
 - Leisure and Recreation - ES Chapter 19
 - Sustainability – Planning Statement Chapter 8
- 3.2 The aim of the assessment being to assess the potential impact of the proposed development both negative and positive on local residents and users of the site/local areas. The geographical extent of the assessment takes account of immediate communities within an approximate 3km radius of the Site.
- 3.3 Potential users of the Site and local residents include;
1. Residents of Keepers Cottage/ Strong Farms 1988 Equestrian Centre
 2. The Bungalow/ Lea Castle Equestrian Centre
 3. Users of the local/ site PROW network within and adjacent to the Site
 4. Users of Brown Westhead Park Playing fields
 5. Wolverley Camping and Caravanning Club
 6. Residents of Castle Barns/ White House
 7. Residents of Sion Hill and Broadwater
 8. Residents of Cookley, Wolverley and Broadwaters Kidderminster
 9. Heathfield Knoll School and First Steps Nursery
 10. Other schools in the wider vicinity of the Site
 11. St Oswalds Nursery and Wrap Around Care
 12. Wolverley Seabright VA Primary School
 13. Wolverley CE Secondary School sixth Form
 14. Cookley Seabright Primary School

4.0 CONSULTATION AND ENGAGEMENT

- 4.1 Both formal and informal consultation in respect of the proposed development has taken place over the past two years. Formal consultation to establish the

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scope of the ES, with Worcestershire County Council and other statutory bodies including the Environment Agency, Natural England and Public Health England along with Wyre Forest District Council.

4.2 Community consultation has involved liaison with residents that are most local to the proposals, along with local schools and leisure and recreation providers. In addition, the Applicants agent has engaged with County and District Councillor(s) and the landowner and tenant farmer. Meetings with Wolverley and Cookley Parish Council, residents of Castle Barns and residents / owners of the Lea Castle Equestrian Centre, residents of Broom Cottage (property now under the control of the applicant), residents of Brown Westhead Park Road, tenants of South and North Lodges and representatives of Heathfield Knoll School and First Steps Day Nursery have also taken place to present the draft proposals and to listen to concerns and opinions as to the nature of the proposed mineral extraction and restoration scheme in respect of health and wellbeing and other matters and to receive comments and suggestions as to the proposal appropriateness and potential for inclusion of further mitigation and enhancement measures.

4.3 Public Consultation Events

In June 2019, NRS Aggregates ran a series of public consultation events to present draft proposals to local residents and the wider community. The public consultation events took place on;

- Friday 14th June 2019, Cookley and Wolverley Village Hall, Cookley
- Monday 17th June 2019, Wolverley Memorial Hall, Wolverley

Across the two events a total of 400 people attended. Please see Appendix A- Public Consultation Report.

4.4 In summary of those who provided feedback, 45% were retired, 39% were in full time employment, 13% part-time, 2% student and 1% self-employed.

4.5 Age;

- Over 79 – 6%
- 60-79 – 42%
- 40-59 – 35%
- 20-39 – 15%
- 0-19 – 2%

4.6 Sentiment and Frequency of comment/concerns (negative concerns)

- Traffic and Transport 98
- Dust and Air Quality 81
- Noise 61
- Trust 48
- General Health 46
- Other 30

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- 4.7 The main comments received being;
- Traffic- Concern for congestion, possible increase in accidents, increased emissions from HGV's
 - Dust and Air Quality- concern for potential increase in air pollution particularly in relation to school children and those with respiratory problems, adverse impact on health from quarrying
 - Noise – levels of noise in the area will increase
 - Trust- Concern that the operator would not perform the agreed standards as had been observed at other quarries, lack of trust in consultation process, lack of trust in landowner
 - General Health- two levels of concern;
 - a) General concern about health and the potential of the quarry and its restoration degrading, physical and mental health of local residents and the wider community
 - b) Specific- local residents and an action group had been told by a third party that sand and gravel quarries result in silicosis
 - Other;
 - a) Public Access- concern that the quarry would result in the closure of local footpaths and bridleways and/or result in a change in the nature and ambience of the local PROW network
 - b) Concern that property prices would fall which could lead to stress of residents who may wish to leave the area during the quarry operations (10-11 years)
 - c) Respondents expressed concerns about the operations happening at the same time as the delivery of the new permitted housing development (cumulative impact).

5.0 PROPOSED MITIGATION AND ENHANCEMENT MEASURES

5.1 To mitigate direct environmental change associated with the proposed development the following aspects have been integrated within the scheme.

Issue	Mitigation Measures
To mitigate against potential noise, dust and air quality	<ol style="list-style-type: none"> 1. Standoffs to extraction areas of a minimum of 75m to the Bungalow, 120m to the northern edge of Castle Barns and 110m to the north west of the occupied South Lodge (which is under the control of the applicant). 2. Temporary grass seeded and maintained soil screening boards to be in place in-between the residential properties above and the limit of mineral extraction. 3. Tree and shrub planting is to be established between Phase 5 of the proposed development, temporary attenuation bund and Castle Barns/ White House.

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	<p>Planting to take place ~7years in advance of working behind the temporary bund.</p> <ol style="list-style-type: none"> 4. The quarry plant site will be located a minimum of 7m below adjacent ground levels and further contained by a temporary bund and existing topography landform. 5. The plant site has been located in proximity to the Wolverley Road to limit traffic movements within the Site. 6. HGV's visiting and leaving the Site will meet emission standards- checked and monitored by the operator. 7. The scheme will be worked progressively i.e. only relatively small areas of the landscape, will be required for quarry operations (mineral extraction and plant site). Less than 10Ha at any one end of phase period.
To mitigate against a potential loss of public access	<ol style="list-style-type: none"> 1. Two sets of PROW will be temporarily diverted. FP 626 (B) for 2 weeks and FP ref 62 4(B) for ~ 2 years. Advanced notice of the proposed diversions and alternative routes will be in place before the temporary diversions are instigated. These PROW's will be reinstated along their current routes post the specific reasons for the temporary diversions.

5.2 Three perceptual/ social aspects of physical and mental health were raised.

Issue	Mitigation Measures
A fall in house prices	<p>This aspect is generally common to all changes associated with new development. We could not find any direct evidence of this change in house prices resulting from quarry activities. It is acknowledged that the perception is unsettling. Broom Cottage was placed on the market for sale after details of the proposed quarry were announced and known. Although interest appeared to decline the property was sold for the asking price with two parties interested to proceed.</p> <p>Mitigation measure include the short-term nature of the overall scheme, limiting mineral extraction in location and duration, screening proposals and progressive restoration.</p>
An identified lack of trust in the landowner	<p>A relatively large number of people have mentioned through the consultation process that they did not have trust in the landowner to carry out the proposals in accordance with the proposed scheme and to maintain the restoration landscape and community enhancement elements of it</p>

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	<p>The mitigation to provide certainty that the scheme will be adhered to will come from both monitored and enforceable planning conditions and secondly via legal agreement between the landowner and Worcestershire County Council where by the landowner will be legally committed to provide long term After Care and Management to establish, manage and maintain all aspects of the restoration scheme.</p> <p>It is also proposed to establish a local community liaison group who will be updated on the progress of the Site and who will be able to help design the detailed public land use elements and features and monitor the scheme.</p>
<p>A rumour emanated at the public consultation that Sand and Gravel quarries can result in Silicosis to members of the local community</p>	<p>The extraction of silica sand does not generate significant quantities of dust. The sand is generally damp on extraction and there are not large quantities of smaller particles within the sand.</p> <p>Silica dust is usually generated from operations which work stone, such as masonry, demolition or blasting operations at hard rock quarries, where stone is pulverised. None of these operations will take place at Lea Castle Farm.</p> <p>The Health and Safety Executive have stated that <i>“no cases of Silicosis have been documented among members of the general public in Great Britain, indicating that environmental exposure to silica dust are not sufficiently high to cause this occupational disease”</i> (Source: HSE Guidance: http://www.hse.gov.uk/quarries/silica.htm)</p>

5.3 Proposed Enhancement Measures

As part of the scheme the following enhancement measures have been integrated into the proposals as part of a Green Infrastructure Strategy.

Issue	Mitigation Measures
<p>Public Access</p>	<p>Approximately 1.8km of new public access will be provided within the Site in advance of any other development activities to be used as footpaths, bridleways and cycleways. On the completion of restoration this figure will rise to 2.3km. The new routes will connect with the wider PROW network, linking routes both north to south and east to west through the Site. It is also proposed to upgrade a further 12km of existing footpaths within the ownership of the application to bridleways/ cycleways.</p>

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Pocket parks	5 new public use open spaces (pocket parks) are to be created across the Site. The parks are to be designed with local input from the proposed Community Liaison Group and subject to conditional details. The parks will be accessed from both the existing and proposed new PROW routes. They will include activities and information on play, health and wellbeing, historic and educational material, as well as places to sit.
Agriculturally managed parkland	<p>The Site will be progressively enhanced and restored to reflect the Lea Castle House Parkland (house demolished c1945). This will include replanting ~200 Avenue Trees, 8500 native parkland trees and shrubs and ~3500 new hedgerow plants</p> <p>This planting/ landscaping will create a strong visual character and increase the overall visual amenity to users/receptors of the Site.</p>
Habitat Creation Biodiversity	It is proposed to restore land within Phase 1 and around the periphery of the Site to species rich acidic grassland. This habitat being a Biodiversity Target Habitat. It will not only form a buffer to agricultural operations it will be concentrated to form a simple strong management unit. This new resource will also provide wellbeing and education opportunities.

6.0 ASSESSMENT

The following assessment has utilised to identify the baseline of potential individual people, schools, businesses and communities who may be affected by the proposed development. It has considered the actual development proposals along with the integrated mitigation and enhancement measures. The potential resulting physical and perceived social changes have been considered on a community and individual basis and the potential impacts/effects considered. The type and level of potential impact has been assessed both during the operational period of the scheme and post restoration. To do this we have adapted the Public Health, Worcestershire County Council Health Impact Assessment Matrix for Planning. The assessed results are contained within Table 1.

7.0 CONCLUSION

7.1 The scheme has been designed to deliver needed sand and gravel and solid sand in a sustainable location. Integral to the scheme are measures which consider Health and Wellbeing aspects and aim to mitigate changes in the environment which may result in adverse physical and /or mental health and wellbeing issues.

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- 7.2 Individual and communities have been identified and assessed in respect of the potential impact of the development. It is considered that the development is temporary, it is contained geographically, and it is limited through a combination of progressive extraction and sequential restoration.
- 7.3 Concerns regarding health and wellbeing have been identified through both the specialist Environmental Impact Assessment process and through consultation with local individuals and communities. The main potential concerns highlight traffic, noise, dust, air quality and the potential risk of silicosis from extracting and processing sand and gravel. Specialist consultants have been employed to consider and address the impact of the concerns. The Health Impact Assessment concluded that with standard good practice, mitigation and standard working practices that significant adverse effects to population health would not occur due to the environmental changes.