

ESS/29/20/TEN

**ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR:**

**PROPOSED WESTERN EXTENSION TO MARTELLS QUARRY FOR THE EXTRACTION, PROCESSING, SALE AND DISTRIBUTION OF SILICA SAND AND GRAVEL, AND SUBSEQUENT RESTORATION USING INERT MATERIALS ALONG WITH THE CREATION OF A NEW ACCESS.**

**REF NO: ESS/29/20/TEN.**

**LAND AT MARTELLS QUARRY, SLOUGH LANE, ARDLEIGH, ESSEX, CO7 7RU**

An Environmental Statement (ES) has been submitted with the application and examines the potential impact of the proposal on the natural and built environment and considers, where necessary, ameliorative measures to reduce and minimise that potential impact. The EIA process has been undertaken with respect to that part of the site where there are proposed changes. The assessment has been undertaken according to the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2017 and through the consultation process the ES has been revised as required and mitigation measures introduced either by amendments to the proposal or as suggested planning conditions. The assessment covers the following: -

Soils and Agriculture  
The Water Environment  
Landscape and Visual Impact  
Ecology  
Cultural Heritage  
Noise  
Dust  
Transport

A summary of the potential effects assessed in the ES are set out below.

**Soils and Agriculture**

The assessment found the application land to exhibit two separate soil profiles with the first exhibiting a medium sandy loam topsoil and upper subsoil with a heavy clay loam lower subsoil below half a meter depth. The second soil type being shallower with a medium sandy loam topsoil and upper subsoil above stone and gravel.

Both soil types have common stones in the topsoil, with the shallow soil being slightly stonier and having a greater presence of larger stones.

Where present the heavy clay loam lower subsoil impedes drainage of excess water down through the soil profile, however, the combination of the depth to this slowly permeable horizon, and the low rainfall experienced by the Site result in no soil wetness limitation.

A soil droughtiness limitation restricts land in the Site to ALC Grade 3b. The light texture of the topsoil and upper subsoil with their common stones, limits the volume of crop available water retained by the soil, which in conjunction

with the low rainfall experienced by the Site, results in the soil droughtiness limitation.

Comments: Appropriate management of the soil material through striping, storage and replacement could optimise the success of the land restoration, minimise the cost and duration of the aftercare required and conserve the soil resource for ecosystem functions in addition to agricultural production.

## **The Water Environment**

The assessment addressed the existing surface water drainage; the overlying hydrological regime; the underlying hydrological conditions and historic flooding records.

The assessment found the application land as being within Flood Risk Zone (FRZ) 1.

The proposed activities being classified as “Appropriate Activities” by Table 3 of the Technical Guidance to NPPF.

There is considered to be negligible potential for significant flooding of the Proposal Site from rainfall runoff from adjacent lands and that risk posed by groundwater flooding is considered acceptable and controllable through industry-standard practice (i.e., sump dewatering operation).

Comment: Surface water management for the restored land could be addressed through appropriate conditions.

## **Landscape and Visual**

The assessment undertaken included a landscape and visual impact assessment (LVIA) of potential effects on the local landscape character and quality, together with an assessment of the sites visibility from the surrounding area.

The assessment considered the baseline with a description of the landscape noting the Natural England’s Joint Character Area number 11 Northern Thames Basin, the East of England Landscape Typology of Plateau Estate Farmlands, Essex County Councils Landscape Character Area E3 Tendring Plain and within the Area7 Heathland Plateau-7a Bromley Heaths Landscape Type.

The land is not defined within a nationally designated landscape. There are no recorded Sites of Special Scientific Interest (SSSI) located on the land although there are two SSSI’s located ~0.3km to the south east of the Site relating to interglacial exposed deposits and being named as Ardleigh Pit. The setting of these SSSI’s would not be affected by the proposals.

There is a relatively high concentration of Listed Buildings within 2km of the Site but none within its immediate proximity or setting. There is a relatively dense network of local PROW within the local landscape. None run through the Site, but one section of PROW Ref 158-51 runs adjacent to the south eastern boundary.

The assessment considered various viewpoints from outside vantage points.

The assessment confirmed that site boundary vegetation would be retained and strengthened in additional planting at various points.

Mitigation within the initial works and progressive restoration, would accommodate a linked wildlife buffer / corridor around the whole site periphery comprising a mix of native tree / shrub species, species rich grassland, ditches, and water bodies with shallow margins. The new wildlife/landscape area would equate to ~1.9Ha at final restoration.

Comments: Conditioning the proposal to the proposed working programme together with a long-term Landscape Management Plan could be secured.

## **Ecology**

The assessment identified the baseline conditions and included a desk top study; site visit and habitat survey including Protected species and faunal surveys.

It was noted that the application area did not contain, adjoin, or include any statutorily designated sites of ecological interest, such as Sites of Special Scientific Interest (SSSI), National Nature Reserves, Special Protection Areas (SPAs) or other sites designated under European Directives. Neither does the Site contain, adjoin, or include any non-statutorily notified sites of ecological interest at the County level (Local Wildlife Sites-LWSs), or Local level, of importance.

The assessment considered there to be scope for ecological enhancements to be implemented on the Site periphery to meet the following objectives:

- to create new and enhanced habitat for wildlife and increased site and local biodiversity, providing enhanced ecological connectivity and a diverse mosaic of aquatic and terrestrial habitats of nature conservation value:
- including new and enhanced hedgerow habitat along Slough Lane and an ecotone of habitat around the periphery of the Site.

The assessment recommends that:

- the Slough Lane boundary hedges are to be subject to comprehensive reinstatement including gapping up the sections of hedgerow removal

(required to enable the access) and to replace former sections of hedgerow, now defunct, along the extensive lengths of unvegetated roadside verge and will also be planted with at least 8 no. new hedgerow oaks. The new sections of hedgerow along the eastern Site boundaries (see Concept Restoration drawing) to consist of locally indigenous, native tree and shrub planting, including hawthorn, blackthorn, field maple, dog rose, holly and hazel. This will effectively reinforce the site margins as ecological corridors linking with the surrounding area. A major part of the new hedgerow planting will be undertaken in the first planting season following planning consent, with a further second stage, to infill the gaps caused by the access route crossing Slough Lane, will be undertaken at the earliest opportunity following scheme completion;

- an appropriate species-rich acid grassland mix to be used as the major component of a substantial (approx. 1.9ha) new wildlife buffer around the entire perimeter of the restored agricultural field. A more diverse woodland edge type of species-rich flora / ecotone, to be sown / planted in the peripheral retained ecotone habitat areas between the retained woodland to the west and the restored field, as appropriate and to be agreed with the LPA;
- the wildlife buffer to contain swathes of new native tree and shrub planting (as described in the LVIA and shown on the Concept Restoration drawing) and will also contain several new areas of wetland, designed both to provide water management and wildlife habitat. These will comprise attenuation ponds, with shallow margins, to be located at the low points of the site periphery, fed by land drains, and will be linked by seasonally wet ditches / scrapes, designed to control rainfall derived runoff from the Site, following restoration (to 100-year storm event as discussed in the Flood Risk Assessment, Appendix 6 of the HHIA);
- optimise the biodiversity value of these peripheral parts of the Site, as effective wildlife corridors linking with existing woodland, hedgerows, and wetland habitats in the environs of the Site. Use of these areas by a range of wildlife including nesting birds, brown hare and other small mammals, invertebrates, herptiles and bat foraging, will be encouraged post restoration through appropriate management, to promote a varied and potentially valuable habitat mosaic, comprising a matrix of wetland, grassland, scrub, and native trees, effectively complimenting the adjacent areas of woodland, water course and hedgerow.

Appropriate conditions could be imposed to secure the mitigation and enhancement aspects through long term management plans.

### **Cultural Heritage**

The assessment undertaken included desk-based assessment, geophysical survey, and trial trenching.

The assessment confirmed that there were no designated assets of cultural heritage importance in the search area of the application land. One Scheduled Monument and 5 Grade II listed buildings are within 1km.

The assessment found that whilst the application land lies within area of moderate-high archaeological potential, based upon the evidence in the Essex HER. However, results of the evaluation, coupled with evidence of intensive ploughing would point to much lower potential than anticipated.

The trenching report concluded that the results confirmed the accuracy of the geophysical survey.

Comments: Conditioning the proposal to the proposed working programme and a scheme of archaeological investigation/evaluation could be secured.

## **Noise**

The assessment calculated the predicted noise levels for the proposed development. A noise survey was undertaken to assess the change in noise levels from site activities on the baseline conditions. Account was also taken of the extant quarrying activities within the overall quarry complex.

Several surrounding properties identified were taken as being the representative sensitive locations around the application land.

Calculations were undertaken to consider the proposed activities against the receptors to determine appropriate standoff/bunding and extraction limits.

Mitigation –

- a) Noise monitoring undertaken at locations representative of sensitive premises surrounding the site.
- b) Noise mitigation measures in the form of separation distances and bunding identified for the individual properties in close proximity to the site.

Comments:

Site working layout and provision of appropriate mitigation measures together with a scheme for undertaking monitoring at locations representative of adjacent residential properties could be secured through condition.

## **Dust**

The assessment considered the potential impacts of the development, including cumulative impacts, and proposed several mitigation strategies for the Proposed Development.

Mitigation

- a) A phased restoration of the Site is proposed which will reduce the potential area over which fugitive emissions may be released at any one time.
- b) Screening bunds and existing vegetation which will be retained, will effectively block the pathway for dust emissions towards sensitive

- receptors. The primary method of remedial mitigation will be the application of water to wastes and surfaces.
- c) The use of water sprays on haul roads has been documented as a very effective dust control measure, being able to reduce dust emissions by over 90% depending upon the degree of wetting and the frequency of application.
  - d) In accordance with the requirements of the planning application, no waste operations shall be carried out outside the following times, other than with the prior written permission of the Mineral Planning Authority (MPA):
    - 07.00 to 18:30 hours Monday to Friday; and
    - 07.00 to 13.00 hours Saturdays.And, at no other times on Sundays, Bank Holidays or Public Holidays”.
  - e) It is proposed that these hours of operation remain the same in respect of the Proposed Development.
  - f) Dust Monitoring
    - Visual inspections will be undertaken by the Site Manager or his nominee during each working day at the following locations:
      - Site boundaries;
      - Slough Farm;
      - Site access roads and haul roads; and
      - Public highway.
  - g) Dust Action Plan

The assessment recommended that dust mitigation practices would be implemented.

Comments:

Appropriate conditions could be imposed to secure dust management.

## **Transport**

The assessment considered the existing situation of the quarry complex, its existing and proposed new access arrangements and existing traffic flows with Automatic Traffic Counters being employed.

The assessment undertook speed survey data confirming the visibility provision at the proposed new haul road crossing of Slough Lane to accord with current design standards for safe access.

The assessment considered the impacts arising from the potential uplift in the traffic generation could be accommodated on the local highway.

Comments: Appropriate conditions could be imposed to address site entrance improvements; landscaping; traffic generation and a routing plan.