



# Planning Supporting Statement

## Temporary borehole drilling site

### Dove Nest Farm – North

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January 2012



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## Executive Summary

1. York Potash Limited is seeking to establish the extent, quality and quantity of potash deposits, as well as to provide information to inform the design of underground mining proposals. This is being carried out by the analysis of existing data from previous exploration activities and the provision of data for analysis by new exploration activities. These activities consist of the drilling of boreholes and the carrying out of vibration (non-percussive) seismic survey.
2. This application is for planning permission for the drilling of an exploration borehole. The information derived from this temporary operation will aid the understanding of the nature of the deposit and inform the design of underground mining proposals.
3. The operation is approximately 6 months from beginning of soil stripping to completion of restoration i.e. soil replacement. Sites have been selected through the need to close geological information gaps and the intention to minimise the surface environmental impacts. It has also been driven by the need to obtain access to the surface.
4. The Dove's Nest North Field site has been considered in terms of the potential impacts on ecology, the surface and sub-surface heritage environment, the noise environment, hydrogeology and landscape and visual impacts. The findings of these investigations show that there are temporary impacts that will be very short-lived and the archaeological study has not revealed any potential for harming important remains.
5. The proposals have also been considered, in the light of the study results, against the policy framework which constitutes the Development Plan for the North York Moors National Park and, where there are gaps in this regime reference has been made to the framework of national guidance against which development control decisions should be taken. The conclusion of the Policy review is that the proposals are in conformity with the existing framework and the national guidance.

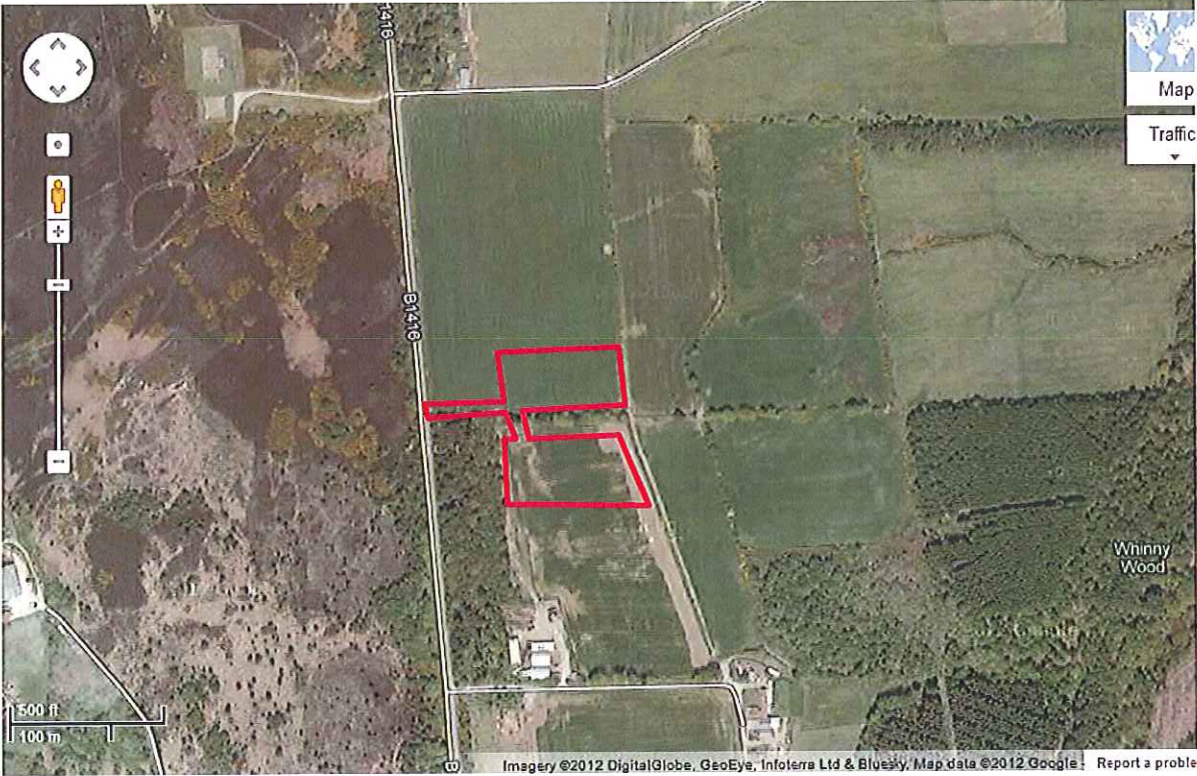


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**1. Site and Surroundings**

1.1. The area for the drilling platform covers an area of approximately 1.1 hectares. The total site area including car park and storage area is approximately 2.2 hectares. Both are relatively flat and situated to the east of the B1461. The site is currently used as arable farmland and forms part of Dove’s Nest Farm. It is shown edged red on the enclosed plan dated 17 January 2013 – “North Drilling Platform Planning Layout”. The site is flat in nature and does not experience any drop in levels.

1.2. The aerial plan below outlines the site and surroundings.



1.3. As can be seen from the above aerial view the site forms part of the wider Doves Nest Farm complex. The area consists of open fields with livestock sheds located adjacent to the B1416 at the entrance to the farm in the field to the south. The farm house and holiday cottage complex are located to the western part of the wider site. The holiday cottages are made up of three static caravans, which can accommodate up to six people each.

1.4. Access to the drilling site would be taken from a new access off the B1416 which has been constructed for the permitted temporary drilling site in the field to the south.



## 2. Proposals

2.1. There are three main phases to the proposed operation. These are the site preparation, the drilling operation and the site restoration. These phases are separately described below but in total are intended to last no more than six months, of which the drilling will take approximately eight weeks. The exact period of time will depend on the drill rig that is used and the progress being made, particularly with the retrieval of core samples.

### Phase 1 – Site Preparation

2.2. Prior to entry onto the site the consultant ecologist would re-visit the site to ensure that there has been no change to the ecological interest and that the area to be stripped, and the surrounding area to a distance of 50m, does not contain nesting birds or reptiles. When the ecologist has indicated that no additional ecological impacts will occur, the soil stripping would commence.

2.3. Consultation with the highways authority for the carrying out of the current drilling operations at Doves Nest indicated that signage was not required at the A171 due to the long straight view at the junction with the B1416 in both directions but temporary signs, indicating that lorries are turning, may be introduced. It is proposed that the current signage on the B1416 for the current drilling rig at Doves Nest South remains in place for this application as the same access road is to be used. Following advice from the highways authority, a Temporary Traffic Order has been applied for to reduce the speed limit along a section of the B1416 in the vicinity of the site entrance from 60mph to 40mph. This will be enforced for the duration of the development.

2.4. The drilling area will then be prepared by the removal of the pasture and the separate stripping and storage of topsoil and subsoil, if a distinction can be made, followed by the levelling of the site. During the soil stripping the consultant archaeologist will carry out a watching brief to identify any archaeological interest that has not been anticipated through the desk-based assessment. In the event that an archaeological find is located the stripping operation will be moved to another part of the site whilst the find is examined and recorded in accordance with a written scheme of investigation that has been agreed with the Mineral Planning Authority. Any finds will be logged and placed in a local museum.

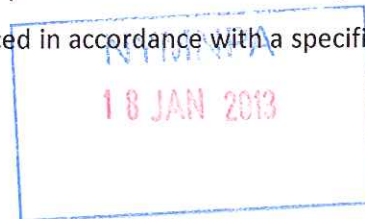
2.5. The soils would be handled, moved and stored in accordance with the 'MAFF Good Handling Guide for Soils' and will be placed around the perimeter of the compound area at no greater



than 5m in height. The location of soil bunds would be dictated by the intention to minimise noise and visual impacts.

2.6. The levelled site will then have terram and a geogrid membrane placed on the levelled area prior to the importation of approximately 2,915m<sup>3</sup> of single-size aggregate which will be spread to a depth of approximately 850mm. The importation would be carried out by 20 tonne loads resulting in approximately 327 vehicle movements in each direction over a five day period. This aggregate will be imported from the previous drilling sites that are being restored.

2.7. The aggregate will form a level working surface which will spread the load of the drilling rig and keep it in a stable position. The perimeter will then be fenced in accordance with a specification to be agreed with the Mineral Planning Authority.



#### Phase 2 - Drilling operation

2.8. The area of the compound would accommodate the drilling rig and spoil storage with car parking for six vehicles and site storage being provided on the existing temporary site to the south of the hedgerow. It is proposed that the same drilling rig be used for this site as the one which is being used on the permitted site at Doves Nest immediately to the south, once that drilling operation is complete. A single stage drilling programme is proposed with the whole operation being undertaken by a single drilling rig.

2.9. The plant and equipment would be moved from the current drilling site at Doves Nest South into the new position for this drilling operation. The movement of the plant and equipment is expected to take approximately 3 days. This will mitigate the impact on the local highway network for the setting up of the rig and associated equipment as it will reduce travel on the public highway. The drilling process is described in the Drilling Method Statement which will be submitted after the submission of this application, but before any drilling commences.

2.10. As the hole approaches the interface between non-aquifer and aquifer a steel casing is introduced and cemented into place to prevent the migration of drilling fluids into the adjacent strata. The borehole is anticipated to meet three seams of potash mineral and as each is reached the drill bit will be changed in order to retrieve core samples. These cores will be recovered to the surface, referenced and temporarily stored prior to being split for permanent storage and analysis. The terminal hole depth will be determined by the depth of the poymalite but is anticipated to be approximately 1700m from the surface.

- 2.11. The drilling operation would take place on a 24-hour basis and is anticipated to last in the region of 8 weeks. The drilling rig would be a maximum height of 33 metres and would have to be lit for health and safety purposes. The majority of the lighting is at low level. All lighting is cowled in order to direct the light down and into the compound with the exception of the red aircraft warning light at the very top of the rig.
- 2.12. In order to reduce the light pollution being emitted from the site the lights will be positioned in a downwards direction and be illuminated at a low level after dark. York Potash has undertaken a number of trials and can successfully operate the rig under the reduced lighting and will implement this scheme on the Dove's Nest North Site and any future exploration boreholes.
- 2.13. During drilling the borehole is lubricated and flushed out by the introduction of drilling 'muds' at pressure. The mud returns to the surface where it is filtered and reused through the borehole. At the completion of drilling the mud in the borehole is replaced with a concrete which pushes the mud out of the hole for collection at the surface.
- 2.14. All drilling muds and other liquids used for the drilling process will be stored in compliance with all current UK legislation.

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**Phase 3 – Restoration**

- 2.15. When each drilling phase is complete the drilling rig will be moved to the next site along with all of its accompanying plant and equipment. When the hole is completed it is filled with a concrete/bentonite concrete mix which will prevent the migration of water or other liquids from one horizon to another. The clean aggregate will be lifted and transported to the next drilling site that is being prepared in preference to being stored, to prevent double-handling. Any contaminated aggregate will be disposed of at a facility that is licensed to receive it. The terram and geogrid will also be lifted and removed off-site for re-use. Following the removal of the terram and geogrid the metal casing will be exposed to a depth of approximately 2m below ground level and cut.
- 2.16. The borehole itself would then be capped in accordance with a method which has been agreed with the Mines and Quarries Inspectorate, the Environment Agency and the MPA. Following the capping the operator will reinstate the water supplies that have been indicated by the landowner.

2.17. The soils would then be re-spread in sequence to achieve the previous contours and ripped to a depth of 200mm. Appropriate drains would then be incorporated, where necessary, and the site returned to the landowner so that it can be incorporated back into their planting programme.

#### Hours of working

Operation	Mon- Friday	Saturdays	Sundays, Bank Holidays, Public Holidays	Comments
Soil stripping	0700 - 1800	0700 - 1800	0700 - 1800	
HGV movements associated with site preparation and restoration	0700 - 1800	0700 - 1300	0700 - 1300	
Drilling operations	24 hour	24 hour	24 hour	
Restoration	0700 - 1800	0700 - 1300	Nil	





## Traffic Management

- 2.18. The works are located approximately 680m north of the 'Redgates' junction on the B1416, to the north of the Doves Nest Farm access. A new access will be formed to gain entry to the drill site from the B1416. The vehicle route will be via the B1416 and the A171 to the south. The approved traffic route for vehicles entering and exiting the site is shown on the attached plan, numbered 12015/004.
- 2.19. The contractor shall ensure that his workforce, sub-contractors and suppliers are aware of the approved traffic route. This route shall be used at the specified times by site vehicles and no other access routes shall be used.
- 2.20. Temporary road traffic signage is also shown on the attached plan. This signage scheme shall be erected prior to the commencement of the works and maintained as necessary for the duration of the contract. The signs shall then be removed at the end of the contract. All signage will be in accordance with Traffic Signs Manual Chapter 8 and the TSR & GD. None of the temporary signs shall be sited to obscure the existing permanent signs or sited where existing signs will obscure them.
- 2.21. In order to prevent mud, grit and other detritus from being carried onto the public highway from the site the site operators/contractors propose to use the same methods as have been successfully incorporated on the previous drilling sites. They will provide an electrically operated jet-wash so that drivers can clean the underside and wheels of the vehicles before they depart the site. The combination of a stoned compound, 10m of bound, hard-surfaced internal roadway and the jet wash will again prove to be sufficient to prevent material being carried out onto the public highway. However, the operator will employ a sweeper on an 'as required' basis to ensure that the highway remains clear of mud or other detritus from the site.



### 3. Heritage

- 3.1. A detailed Heritage Assessment has been undertaken to support this application. The full report can be found at Appendix 2 to this Planning Supporting Statement.
- 3.2. No World Heritage Sites or sites included on the Tentative List of Future Nominations for World Heritage Sites (January 2012) are located within the Study Area or its immediate vicinity. No Scheduled Monuments, Conservation Areas, Registered Parks and Gardens or Registered Battlefields are located within the Study Area.
- 3.3. The only designated assets identified within the Study Area comprise two Grade II Listed buildings, these being a drinking fountain (Fig. 2, 8) and a boundary stone (Fig. 2, 9). Both lie c.500m from the Proposed Development Area ("PDA") and neither they nor their settings, will be harmed by the proposed development.
- 3.4. There is no evidence to suggest previous occupation within the PDA, which would appear to have remained primarily in agricultural usage. Given the proximity of prehistoric moorland funerary landscapes, and the small number of prehistoric sites identified within the wider Study Area, there is a slight, though unconfirmed, potential for prehistoric activity within the PDA. Local conditions may also be conducive to the preservation of organic material, though there is presently no evidence for the survival of such remains.
- 3.5. In summary, it is considered unlikely that the proposed development will have a significant impact upon the heritage resource. The development does not conflict with local or national heritage policy and there are not considered to be any heritage constraints sufficient to preclude the proposed development.



3.6.



#### 4. Noise

- 4.1. Whilst the proposed drilling site is in a fairly remote location, and drilling works would be temporary in nature, it is proposed that the works would be undertaken 24 hours a day 7 days a week.
- 4.2. Accordingly, the noise assessment has been undertaken to determine the noise levels that are likely to be generated by such works at the closest local noise sensitive receptors (e.g. dwellings), and whether the resulting levels would be acceptable during the daytime, evening and night-time.
- 4.3. The nearest dwelling to the site is Doves Nest Farm. However, the owners of this property have a financial involvement in the development, accordingly, the assessment has identified the next closest receptors to the drilling site to be the most noise-sensitive. These are Thorn Hill, Moorside Farm, Moor House Farm, Park Down, Knaggy House Farm and Red Barn Farm.
- 4.4. In accordance with the result of consultation with the Environmental Health Department of Scarborough Borough Council (SBC), a series of noise level predictions have been undertaken in accordance with the methodology prescribed in International Standard Organisation (ISO) 9613: Attenuation of sound during propagation outdoors --Part 2: General method of calculation, to determine the noise levels that are likely to be generated at the closest identified receptors to the drilling site. The noise level predictions have been based on the results of noise emission data which have previously been determined for the drilling rig proposed for use at this site.
- 4.5. The results of the noise level predictions have been assessed based on noise level criteria applicable to the night-time period (a worst case, with less stringent criteria being applicable to evening and daytime periods).
- 4.6. The noise level criteria adopted within the completed assessment are in full accordance with the guidance contained within the National Planning Policy Framework (NPPF) and supporting technical guidance, as well as the former Minerals Policy Statement 2: Controlling and Mitigating the Environmental Effects of Mineral Extraction in England - Annex 2: Noise which the NPPF has superseded. The adopted noise level limits are also concordant with a worst case



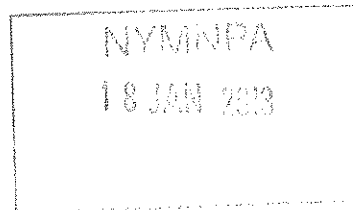
interpretation of the guidance contained with British Standard 5228: 2009: Code of practice for noise and vibration control on construction and open sites – Part 1: Noise. The guidance contained within the 1999 World Health Organisation publication: Guidelines for community noise and British Standard 8233: Sound insulation and noise reduction for buildings - Code of practice has also been referenced with respect to the LAmax noise index.

- 4.7. In accordance with these documents, the night-time assessment criteria which have been adopted are emission levels of 42dB LAeq,T and 57dB LAmax, external, free-field (equivalent to 30dB LAeq,T and 45dB LAmax internal assuming partially open windows).
- 4.8. The results of the completed noise level predictions have identified that the adopted criteria will be met at the most sensitive local receptors, and by margins of between 5 and 31dB. Accordingly, it can be concluded that the resulting noise levels will be acceptable during the night-time period, and also during the daytime and evening periods for which applicable criteria would be achieved by even greater margins.
- 4.9. As the applicable criteria are expected to be achieved, no further consideration to noise mitigation measures is considered warranted. Nonetheless, advice has been provided regarding good practice in the design and setup of the drilling rig, and also with regards to additional attenuation that could be afforded by the formation of earth bunds for soil storage around the drilling site.
- 4.10. In summary, the completed assessment has identified that the noise levels predicted to be generated by the proposed drilling works will be acceptable and will meet appropriate daytime, evening and night-time assessment criteria determined in accordance with a stringent interpretation of applicable national guidance, including the National Planning Policy Framework (NPPF) and Minerals Policy Statement 2: Controlling and Mitigating the Environmental Effects of Mineral Extraction in England - Annex 2 (which the NPPF has superseded). It is therefore concluded that noise need not be considered a determining factor in granting planning approval for 24 hour drilling works at this site.

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## 5. Landscape and visual

- 5.1. A landscape and visual impact assessment has been carried out using the 'Guidelines for Landscape and Visual Impact Assessment 2nd Ed. (2002)' on the proposed temporary drill rig site at Dove' Nest. The site lies within the North York Moors National Park and its landscape character therefore is of national significance. The National Park covers a large area and within it there are many different Landscape Character Types (LCT). These have been assessed as part of the North York Moors Landscape Character Assessment (2003) which has been used in this assessment. The most widespread and distinctive LCT is the Moorland itself, which attracts large numbers of visitors.
- 5.2. The site lies within the local character area 'Coast & Coastal Hinterland', specifically LCT '4(b) Whitby - Cloughton'. The site's character is typical of this area as it lies in one of the many agricultural fields that form a mosaic across the area.
- 5.3. The site does not lie within the Moorland, but there are numerous views of the site from this LCT. The Coastal areas, unlike the Moorland, are not open access land, which greatly restricts locations from where the site is likely to be seen within this character area. The settlement of Sneaton lies roughly 2.5km to the north.
- 5.4. The rig site can be seen from a relatively large number of points nearby, due to this LCT's flat, open character and the high density of minor roads and public rights of way and the associated spoil mound is uncharacteristic. The landscape impact of the development will be noticeable because of its nature; it is tall and uncharacteristic of the Coast & Coastal Hinterland LCT.
- 5.5. Some views are obtainable from close to the site, where the impact of the rig will be high and adverse. However, there are plantations to the east, south and west (the Belt Plantation along the B1416 and Haxby Plantation/ Whinny Wood) that act as screens from a majority of views from those areas. The extensive and tall spoil mound would be visible from Greystone Hills.
- 5.6. The local area has many public rights of way, with views being obtainable from a number of them. However the route of notable significance is the Moor-to-Sea cycle route. From this, most views towards the rig site are around 90 degrees to the direction of travel, if not screened by the surrounding plantations, reducing the effect.



- 5.7. The visual impact of the development has been assessed to be substantial and adverse, chiefly because of the size and form of the drilling and especially the mound. The large steel structure will contrast with the visual character of the area, but in many instances it is partially or fully screened by plantation. Many of the achievable views are from a long distance away, generally over 1km, reducing the rig's visual presence.
- 5.8. The landscape impacts have been assessed to be substantial and adverse. The landscape character will be adversely affected where the site can be seen or where it is apparent there are uncharacteristic works taking place in the landscape as a result of mechanical activity, lighting or artificial soil mounding for example. The associated site buildings also contribute to the overall adverse impact.
- 5.9. The combined effects are substantial and adverse overall, however it must be considered that the development is temporary and will be apparent for only around 12 months in total. Once drilling has been completed, all visual evidence of the development will be removed and the effects of the mast in particular, will have disappeared completely.
- 5.10. It is anticipated that following mitigation measures, removal of all site material and restoration back to arable farmland, the effects on landscape will be reversed or the works would form part of earthworks for a subsequent minehead application. Because of the length of time that the mound would be extant, it is suggested that this be graded and seeded to reduce visual impact and soil runoff.
- 5.11. The removal of a short portion of the existing hedgerow is necessary for the site access. The site access should be constructed to minimise damage; existing pine species should be retained with the breach being made by removing only fast growing shrub species such as goat willow.
- 5.12. The hedgerow removed can be replaced with similar species. It is anticipated that this can be secured by planning condition.
- 5.13. The short term and temporary nature of the development means that all adverse impacts will be removed providing vegetation is replaced as indicated above. The exploratory borehole development would therefore accord with guidance set out in PPS7 (2004) Sustainable



Development in Rural Areas and as a temporary and entirely reversible development would not conflict with National Park Policy or Guidance.

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5.14.

## 6. Hydrology

6.1. A Hydrological Risk Assessment will be carried out using similar methods to that which has been previously submitted for the earlier borehole applications. The final document will be submitted to the North York Moors National Park Planning Department and Environment Agency when complete.

6.2. It is suggested that a condition be placed on the decision notice, should the application be approved, which states that no drilling will take place on site until the Hydrological Risk Assessment has been submitted and approved. This is the same process as was implemented through Condition 2 of decision NYM/2012/0601/FL.





## 7. Ecology

- 7.1. The application site has been subject to an extended Phase 1 habitat survey by a qualified ecologist. This methodology involves surveying the habitats that are present as well as the recording of field signs/evidence indicating the presence/potential presence of species that could constitute a material consideration in planning terms. The final scope of the ecological survey was defined on the basis of known and potential ecological interest in the local area and giving due consideration to potential ecological impacts associated with the temporary drill site. The resulting Ecological Impact Assessment Report is included at Appendix 5 to this document.
- 7.2. The proposed borehole site and temporary access route site supports an extremely limited range of species typical of an improved pasture field. In terms of individual species, no nationally or regionally rare or scarce plants were encountered during the surveys and all species are common or very common in the habitats encountered on the site.
- 7.3. No breeding birds were noted from the application site. Whilst arable fields in the wider local area provided a habitat for Skylark, only very small numbers of birds were noted.
- 7.4. Whilst the range of species recorded was typical of the habitats found locally, several of the species are declining and therefore of conservation concern. In particular, Song Thrush, Skylark, Starling and Yellowhammer, are UK BAP Priority Species which are also included on the British Trust for Ornithology (BTO) Red List of birds of high conservation concern. The presence of these species is indicative of a locally important farmland bird population in the wider local area. Tree Pipit which was recorded from moorland to the west is also a BTO Red List species.
- 7.5. On the basis of the current survey there is nothing to suggest that the survey area is of any value to any other individual species or species group.
- 7.6. Given the low value of the habitats in and adjacent to the proposed drill site and the absence of sensitive receptors in the relevant zone of influence, there are unlikely to be any significant adverse impacts as a result of the drilling operations.



- 7.7. Impacts associated with the works are essentially associated with the temporary loss of habitat, i.e. a section of an improved grass field. Given that this habitat can be readily reinstated on completion of the works, there would be no permanent impact.
- 7.8. In terms of impacts on individual species, these are likely to be restricted to localised disturbance to birds and other species in the immediate wider local area. Whilst some disturbance is inevitable, this is not regarded as a significant impact, there being significant areas of alternative habitat for any displaced birds/animals in the wider local area. Paths which are utilised by the local Badger population may be subject to some disturbance although these are distant from main setts and access would be maintained during the operation of the borehole site.
- 7.9. Whilst it is very likely that the works on the borehole would be started prior to the 2013 nesting season, in the event that this is not the case, some precautionary bird scaring measures may be appropriate within the application site footprint. This can be achieved by utilising a combination of plastic red/white barrier tape and Hummingbird bird scaring tape at selected sites. The former is a visual deterrent whilst the latter is an audible deterrent.
- 7.10. On a purely precautionary basis, it is recommended that the site and its immediate surrounds is subject to a further general walkover survey. This is essentially to re-confirm the continued validity of the baseline and to ensure that no additional potential ecological constraints have become relevant in the intervening period between this survey and site establishment.
- 7.11. The report concludes that the proposed drill site is a poor habitat of negligible ecological value. The site will quickly be restored to its previous farmland use on completion of the operations. Residual effects of the use of this area as a temporary drill site are therefore considered to be negligible.

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## 8. Flood Risk

- 8.1. A Flood Risk Assessment (FRA) consisting of data collection, review and desk based research has been undertaken for the Doves Nest North Field site. The study provides a risk based assessment of potential flooding to the proposed development from all sources, including fluvial, tidal, surface water / pluvial, groundwater, surcharged sewers and other man made sources. Concept mitigation measures were identified to address the flood risk to the site and any potential increase in flood risk to other land.
- 8.2. The report identifies residual risk and those who will be responsible for the future management of the residual risks. The impact of climate change on flood risk and drainage requirements is also considered.
- 8.3. The nearest watercourses are local field drains and upper tributaries of Sneaton Thorpe Beck, which are approximately 300m south east of the site. There are two covered reservoirs 400m north east of the site. The site is in Flood Zone 1, low risk, on the EA flood mapping.
- 8.4. The report suggests methods for surface water run-off which will provide mitigation against flooding to the works and other land and will provide pollution management and run-off treatment measures. These include locally diverting land drainage by new pipework or grips to maintain flows and providing grips for stockpiled spoil to manage run-off and prevent water ponding / trapping with the local topography.
- 8.5. The report concludes that flood risk to the site is low and the impact of the site on flood risk to other land is low. Residual risk remains in relation to any local shallow groundwater dewatering and surface water run-off.
- 8.6. Implementation of some or a combination of the measures recommended should manage surface water run-off and provide treatment for any suspended solids and silts, thereby mitigating against any increase in flood risk. The full FRA is provided in Appendix 6.

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## 9. Conclusions

- 9.1. The applicant will implement the mitigation procedures outlined in the Appendices to this document. In doing so the proposal becomes Policy compliant.
- 9.2. The exploration phase is temporary and there will be no long-term impacts of the development.
- 9.3. It is recommended therefore that the planning application for a temporary borehole is approved by the Local Planning Authority.

