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Tarmac Ltd

Stanninghall Quarry, Norfolk

Proposed Northern Extension and Consolidation Scheme

Environmental Impact Assessment Regulations 2017

Regulation 15: Request for Scoping Opinion

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CONTENTS

1.0 INTRODUCTION

1.1. This Report provides information in support of a request by Tarmac for Norfolk County Council (NCC) to issue a formal scoping opinion on matters which should be addressed as part of an environmental impact assessment (EIA). The EIA is to be undertaken in support of a planning application for a northern extension to Stanninghall Quarry as part of a consolidation scheme involving the existing quarry.

1.2. Plans showing the location and current situation at the existing Stanninghall Quarry, and the proposed planning northern extension area are produced as **Appendix 1** to this Scoping Report (plan ref KD.SH.D.001 Location Plan, and KD.SH.D.002 Current Situation).

1.3. Planning permission for the extraction of sand and gravel at Stanninghall Quarry was granted by the Secretary of State in January 2006. Quarrying commenced in early 2015, and operations are proceeding in accordance with the approved scheme. The quarry contains remaining reserves of some 1.8 m tonnes as at 1st January 2019, which will have reduced to some 1.5m tonnes by 1st January 2020. However, some 1m tonnes of the permitted reserve lies beneath the processing plant site area and will not be available until the processing plant and related infrastructure is removed. It would therefore be logical to exploit reserves present in land to the north of the existing quarry using the infrastructure at the existing plant site before the plant is removed.

1.4. The intention is thus to progress with the submission of a planning application by the summer of 2020 in the hope that permission will be in place by early 2021. This would provide for a smooth transition into the northern extension area as part of a revised overall working and restoration scheme. An application for a quarry extension and consolidation scheme is thus being prepared at this stage with the objective of dealing comprehensively with the future development and restoration of the overall quarry area, but also in recognition of the limited 'available' reserve at the existing quarry.

1.5. There are additional reserves of some 4.5 million tonnes in land adjoining the northern boundary of the quarry, which could be worked as a logical extension to the quarry, and which would provide continuity of production to serve established markets.

1.6. The northern extension area was included as part of a comprehensive proposal for sand and gravel extraction at Stanninghall, which was submitted by Tarmac to Norfolk County Council in March 2002. The scheme included both the existing quarry and the 'northern extension' area as one overall scheme covering some 106 hectares. The scheme would have involved the extraction of some 7.5 million tonnes over a period of 20 years, at an assumed rate of 400,000 tonnes per annum. The application was refused by Norfolk County Council in January 2003, solely on the basis that a reserve of that volume would have increased the landbank of permitted reserves in Norfolk to a level substantially above the minimum requirement of 7 years.

1.7. In response, Tarmac submitted a revised application in 2003, approved in 2006, confined to some 54 hectares within the southern area of the original site. This scheme involved the extraction of a reduced reserve of some 3 million tonnes which now comprises the existing quarry. The proposed northern extension and consolidation scheme would thus be similar in concept to the originally proposed 2020 scheme.

1.8. In July 2019, NCC published 'Preferred Options' for the Norfolk Minerals and Waste Local Plan (NMWLP). The document confirms a requirement for the release of additional reserves of some 20.3m tonnes of sand and gravel over the plan period to

2036, which it is proposed to meet by the release of reserves at 19 defined 'specific site allocations' for future extraction. The identified sites include the Stanninghall northern extension as Specific Site Policy MIN65. The allocation is the largest of the site allocations (4.5m tonnes), where the reserve represents over 22% of the overall supply requirement for Norfolk. The Stanninghall northern extension is thus a key component of the emerging mineral supply strategy for the county.

1.9. The NMWLP contains a site description and appraisal of planning issues for each of the proposed allocated sites. With respect to Stanninghall, the appraisal provides advice on the need for assessments of the effects of the development in terms of noise, dust, archaeology and the historic environment, landscape and visual amenity ecology, flood risk, hydrogeology, and bird strike hazard. This advice has been drawn upon in identifying the topics which it is proposed to address as part of the EIA, as discussed further in Section 6.0 below.

1.10. The planning application will be supported by an updated quarry development and restoration scheme for Stanninghall Quarry which will reflect the enlarged surface area associated with the northern extension. The scheme will integrate the proposed extension area into the remaining areas of the existing quarry which either remain to be worked or which will be required for operational purposes.

1.11. Subject to the spatial extent of these developments, there would be no material changes to the established operation at the quarry in terms of general working practices, hours of working, noise limits, dust controls, and ground and surface water controls.

1.12. The resulting proposed application site boundary and relationship to the existing permitted quarry site boundary is shown on plan ref KD.SH.D.003, with the proposed restoration scheme shown on plan ref KD.SH.D.004, produced within **Appendix 1** to this Scoping Report.

2.0 ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

2.1. The EIA Regulations categorise a range of developments into either 'Schedule 1' where EIA will always be required, and 'Schedule 2' where EIA may be required if the development "*is likely to have significant effects on the environment by virtue of factors such as its nature, size or location*".

2.2. Schedule 1 includes "*quarries and open-cast mining where the surface of the site exceeds 25 hectares".* On the basis that the intended application site will include both the existing quarry and northern extension area as a consolidation application, and the northern extension area itself (circa 53 ha) will exceed the 25 hectare threshold, this indicates that EIA will be required.

2.3. Schedule 2 also includes "*quarries*", and the Planning Practice Guidance which accompanies the National Planning Policy Framework indicates that EIA is likely to be required for '*sand and gravel workings covering more than 15 hectares or involve the extraction of more than 30,000 tonnes per year*".

2.4. The circumstances at Stanninghall Quarry are that the quarry complex and proposed extension area covers an area substantially in excess of both the 15 and 25 hectare thresholds, and output is substantially in excess of 30,000 tonnes per annum. In terms of these thresholds, Tarmac thus accepts at the outset that the proposals to be set out in the northern extension and quarry consolidation application will need to be the subject of an EIA.

2.5. A formal request for an EIA 'Screening Opinion' (ref Regulation 6) to establish whether an EIA is required is thus not being sought from NCC and Tarmac will undertake a voluntary EIA in support of the forthcoming application.

3.0 THE SCOPE AND CONTENT OF AN EIA / ES

3.1. Regulation 15 (1) of the EIA Regulations sets out a procedure whereby Applicants can seek a formal 'Scoping Opinion' from the Planning Authority as to the scope and level of detail of the information to be provided in an Environmental Statement (ES). Such an opinion can also cover the methodologies to be adopted in undertaking the EIA, and the nature of scope of the respective studies.

3.2. Regulation 15 (2) requires that a request for a Scoping Opinion should be accompanied by:

(i) A plan sufficient to identify the land;
(ii) A brief description of nature and purpose of the development;
(iii) An explanation of the likely significant effects of the development on the environment; and
(iv) Such other information or representations as the person making the request may wish to provide or make.

3.3. The two main purposes of a scoping exercise are to:

(i) Focus the EIA on any "significant" environmental issues and potential impacts which require the most attention; and
(ii) Provide a means to discuss and agree the methodologies for the impact assessments

3.4. The scoping exercise may also be useful in identifying those issues which do not require detailed study but which, where appropriate, should nevertheless be considered for completeness.

3.5. The following sections are thus intended to provide NCC and the relevant consultees with the information necessary to reach an opinion on the issues which should be addressed as part of the EIA.

4.0 THE SCOPING REPORT

4.1. The remainder of this Report comprises of the following sections:

- **Section 5.0 – description of the development**, which provides a brief summary of the operations which will take place as part of the consolidation development;

- **Section 6.0 – potential environmental effects**, which provides an overview of the potential environmental effects which may be associated with the proposed development; the methodologies which it is intended to follow in undertaking the environmental studies; the topics which are deemed to warrant specific studies and, in contrast, the topics which are considered capable of being addressed in a straightforward way, without recourse to detailed studies; and

- **Section 7.0 – request for scoping opinion**, which represents the formal request for a scoping opinion from NCC.

5.0 QUARRY DEVELOPMENT SCHEME

5.1. The current circumstances at the quarry are illustrated on plan ref KD.SH.D.002. This illustrates the location of the processing plant site, the perimeter soil storage / screen bunds; the silt and fresh water lagoons; the current working and progressive restoration area, and the remaining area to be worked in the western area of the site as 'phase 4B'. The plan illustrates the constrained nature of the existing site and the area of mineral reserve currently sterilised by the plant site, bunds and related infrastructure.

5.2. The northern extension area represents the 'undisturbed agricultural land', as shown on the Current Situation Plan. The development would be integrated into the phasing scheme for the existing quarry, with a clockwise phased approach to extraction and progressive restoration progressing from the existing phase 4B in the existing site northwards in the western area of the extension site as phases 5 and 6 and then southwards towards the plant site as phases 7 and 8 (ref plan KD.SH.D.003 **Appendix 1**).

5.3. The phasing plan illustrates conceptual stand-off margins and temporary screen bunds to properties to the west of the site (The Hollies and Hill Farm), but the details of the margins and screen bunds would be advised by studies to be undertaken as part of the EIA.

5.4. Progressive restoration would be undertaken behind the advancing working phase using soils and overburden stripped from the advancing working area for direct placement behind the working area. This will ensure that only the minimum part of the site forms part of the operational area at any one time.

5.5. The proposed restoration strategy is illustrated on plan ref KD.SH.D.004 **Appendix 1**. The aim of the scheme is to re-create an agricultural landscape with enhanced wildlife habitat with the potential for increased biodiversity. The restoration strategy will be further informed by the results of the landscape and visual impact assessment and ecological studies which will form part of the EIA.

5.6. However, at this stage, the intention is that the local character of the landscape would be strengthened through native hedgerow and woodland planting. Wildlife buffer strips would help to protect and integrate agricultural production into the existing peripheral vegetation structure of the site. Restored land gradients would be appropriate for agricultural production along with the replacement of soil profiles.

5.7. All land would be subject to a minimum 5-year aftercare management period, under the control of the Applicants, to ensure the successful delivery of the restoration land uses.

5.8. The overall quarry development comprising reserves in the existing quarry (as a 1st January 2020),and proposed northern extension would provide a reserve of some 5.9 million tonnes of which some 0.5m tonnes represents the available reserve within the existing quarry; 4.4m tonnes the reserve in the northern extension area; and a maximum of 1m tonnes which would be recoverable from beneath the existing plant site area.

6.0 POTENTIAL ENVIRONMENTAL EFFECTS

6.1 Planning Practice Guidance to the National Planning Policy Framework (NPPF) notes in relation to EIA that the emphasis is on the "*main or significant*" effects to which a development is likely to give rise. It confirms that an ES "*should be proportionate and not be any longer than is necessary to assess properly those effects. Where, for example, only one environmental factor is likely to be significantly affected, the assessments should focus on that issue only. Impacts which have little or no significance for the particular development in question will need only very brief treatment to indicate that their possible relevance has been considered*" (reference Planning Practice Guidance ID4-033).

6.2 The forthcoming application and EIA benefits from an EIA undertaken in 2002 in support of a scheme incorporating the forthcoming northern extension site, and an updated EIA undertaken in 2003 in support of an application for what is now the current Stanninghall Quarry. Whilst these EIAs are considerably out of date, they are helpful in providing an insight into the environmental issues which were considered to be relevant to the area which will comprise the existing quarry and northern extension area. In particular, the 2002 EIA / ES covered the same site area as the forthcoming extension / consolidation application site area, and where the topics assessed as part of that 2002 EIA are likely to be relevant to the forthcoming EIA. The studies will thus build upon this established knowledge with updates tailored to the specific circumstances of the northern extension and consolidation application, and which reflect current guidance and standards.

6.3 The Applicants thus have a sound appreciation of the environmental topics which they consider will be relevant to the forthcoming EIA, and the issues which are likely to require attention as part of the respective studies. This appreciation has been further informed by the ongoing experience of environmental issues during the operation of the approved quarry development scheme at Stanninghall Quarry, and by experience of developments at similar quarries elsewhere.

Landscape Visual Impact Assessment (LVIA)

6.4 The Landscape and Visual Impact Assessment (LVIA) will be based on a proposed phased working and restoration scheme for the full quarry area, illustrated on the concept development plans which accompany this Scoping Request.

6.5 The LVIA will be produced in accordance with the Third Edition of The Guidelines for Landscape and Visual Impact Assessment issued by the Landscape Institute and the Institute of Environmental Management and Assessment in March 2013.

6.6 If possible, the potentially sensitive receptors within the local landscape will be agreed with NCC to ensure a comprehensive approach is employed.

6.7 The study will include plans illustrating the Zone of Theoretical Visibility (ZTV) and panoramic photographs to provide an aide memoir of the local landscape and the potential effect on views from within it. ZTV's are created utilising specialised digital terrain modelling software. The computer study helps to objectively define the magnitude of visual impact the proposed scheme might have on its surroundings. Due to the nature of the 3D models used to formulate the ZTV's this creates a worst case scenario based upon topographic levels and landform and does not account for intervening built structures and vegetation, trees or woodland blocks.

6.8 The LVIA study will provide an input into the design of the working and restoration scheme to ensure that landscape and visual mitigation measures are 'designed-in' to the scheme where appropriate.

6.9 The study will separately consider the potential landscape effects and visual effects and will reach conclusions regarding the significance of the effects. Recommendations will be made for landscape and visual mitigation measures as appropriate, which will then allow conclusions to be reached regarding the residual effects with mitigation in place.

6.10 Further details of the conventional methodology to be adopted in undertaking the LVIA is produced as **Appendix 2.**

Ecology

6.11 The ecology study will be undertaken in accordance with the Ecological Impact Assessment (EcIA) guidelines, as set out by the Chartered Institute of Ecology and Environmental Management (CIEEM). It will also draw upon, inter alia:

- BSI British Standards Publication 2013. BS 42020 Biodiversity – Code of practice for planning and development. The British Standards Institution;

- CIEEM 2012. Guidelines for Preliminary Ecological Appraisal. Chartered Institute of Ecology and Environmental Management; and

- IEEM 2006. Guidelines for Ecological Impact Assessment in the United Kingdom. Institute of Ecology and Environmental Management.

EcIA stages

6.12 Eight EcIA stages have been defined to suit the context of a quarry development, and comprise:

1. Identification of the likely Zone(s) of Influence;
2. Scoping and evaluation of Valued Ecological Receptors (VER);
3. Identification of potential impacts;
4. Identification of VER likely to be affected by potential impacts;
5. Assessment of the significance of potential impacts upon VER within the Zone of Influence;
6. Avoidance, mitigation, compensation and enhancement;
7. Monitoring; and
8. Summing-up.

6.13 The EcIA should only describe those characteristics relevant to understanding the ecological effect of the impacts to determine their significance (CIEEM 2018). Every attempt will therefore be made to ensure brevity in all eight stages.

Stage 1 – Identification of the likely Zone(s) of Influence

6.14 The 'Zone of Influence' (ZoI) is the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities (CIEEM 2018). The definition of a reliable ZoI is required in order that the assessment of effects consider the full geographical scale of possible effects, and their significance.

Stage 2 – Scoping and evaluation of Valued Ecological Receptors (VER)

Scoping

6.15 Scoping is the identification of the on- and off-site VER which are potentially present within the ZoI. Scoping usually involves the following:

1. Collation and review of historic accounts of past botanical and faunal surveys and monitoring;

2. Any Preliminary Ecological Appraisal; and

3. Any protected species assessments and/or surveys.

Evaluation of VER

6.16 The scale against which the ecological resources and features will be evaluated will be decided by planning policy and British Standard BS42020 which value biodiversity on three levels:

1. VER of recognised International importance;

2. VER of recognised National importance; and

3. VER of perceived County importance.

6.17 The VER at each level of importance are then further stratified into: a) those VER which are legally protected; and, b) those VER which are not legally protected. This ensures that mitigation, compensation and enhancements are proportionate and can be effectively implemented in line with relevant compelling mechanisms.

6.18 The value of a VER within the EcIA will therefore be determined within a defined geographical context as one of the following:

International (i.e. European) importance: -

- Legally protected:
  - ▪
- European Statutory Wildlife Sites; ▪
- Habitats which are listed under Annex I of the EC Habitats Directive; ▪
- Species which are listed as:

• European Protected Species (EPS) under Schedules 2 and 5 of the Conservation of Habitats and Species Regulations 2017; and

• Annex II, IV and V species of the EC Habitats Directive and Annex I species of the EC Birds Directive. •

National (i.e. UK) importance: -

- Legally protected: -

- Statutory Wildlife Sites legally protected under the Wildlife & Countryside Act 1981 (& as amended); ▪
- Species which are: -

- Legally protected under the Wildlife & Countryside Act 1981 (& as amended); and •
- Badgers and their occupied setts legally protected under the Protection of Badgers Act 1992.

- Not legally protected: -

  - Ancient Semi-Natural Woodland (ASNW) sites; ▪
  - Plantation on Ancient Woodland Sites (PAWS); ▪
  - Section 41 Habitats of Principal Importance (S41 Habitats);
  - • Section 41 Species of Principal Importance (S41 Species); and

  County (i.e. Norfolk) importance: -

- Legally protected:
  -
- ▪ Hedgerows that qualify as 'important' under the Hedgerows Regulations 1997;

- Not legally protected:

- Non-Statutory Wildlife Sites; and ▪
- Local BAP Priority Habitats & Species (LBAP Habitats & LBAP Species).

6.19 All legally protected VER will be considered in full within the framework of the EcIA, to identify residual effects that will compel the need for mitigation and compensation in line with legislative mechanisms. This approach will also satisfy the requirements of ODPM Circular 06/2005 which states that:

"The presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat."

And:

"It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision."

6.20 VER which are not legally protected will be considered to identify opportunities for enhancement in accordance with the spirit of the NERC Act 2006 and the NPPF where every attempt should be made to provide enhanced habitat for S41 Species and LBAP Species within the restoration. This approach satisfies both the need for proportionality, and the requirement to consider Section 40 of the NERC Act 2006 by ensuring the Mineral Planning Authority has "...regard, so far as is consistent with the proper exercise of [its] functions, to the purpose of conserving biodiversity."

Stage 3 – Identification of potential impacts

Definition and identification of impacts and effects

6.21 An 'impact' is taken to mean an action which results in changes to an ecological feature or VER (i.e. removal of a hedgerow). An 'effect' is taken to mean the outcome of the impact upon an ecological feature or VER (i.e. common dormouse population displacement and potentially decline resulting from the removal of a hedgerow that provides an important food resource and/or connectivity between two otherwise isolated parcels of habitat).

6.22 The impacts which will be considered within this EcIA are those pertinent to quarry developments. These typically comprise habitat losses and gains and potentially, alterations in existing conditions in relation to hydrology, dust, noise and lighting.

6.23 The impacts and effects will be assessed with reference to type, extent, direction, timing, duration, frequency, magnitude, certainty and reversibility.

Stage 4 – Identification of Valued Ecological Receptors likely to be affected by potential impacts

6.24 The combination of: a) the ZoI; b) the results of scoping and evaluation; and, c) the identification of potential impacts, will be designed to scope-out those species for which there is no certain (i.e. specific), identifiable and real potential for a likely effect that would be significant (or even perceptible/measurable).

Stage 5 – Assessment of the significance of potential impacts within the Zone of Influence

6.25 An ecologically significant impact is defined as an impact resulting in a significant effect (positive or negative) upon the integrity of a specific site and/or the conservation status of habitats or species within a given geographical area (IEEM 2006). For the purposes of EcIA, a 'significant effect' is an effect that either supports or undermines biodiversity conservation objectives for important ecological features or for biodiversity in general (CIEEM 2018).

6.26 The significance of an effect upon a VER (in the absence of avoidance, mitigation, compensation and enhancement measures) is then described in a geographical context balancing the value (i.e. perceived importance) of a VER with the magnitude of the effect.

Stage 6 – Avoidance, mitigation, compensation and enhancement

6.27 In order that the quarry does not have significant negative effects upon biodiversity, the 'mitigation hierarchy' is applied. The key principles of the mitigation hierarchy are:

1. Avoidance of significant negative effects to ecological features through the quarry design;

2. Mitigation to minimise the significant negative effects of impacts through the quarry design in such as a way as they can be guaranteed (i.e. through a Planning Condition in respect of due-diligence safeguarding);

3. Compensation within the restoration design to address any significant residual negative effects that cannot be reduced to an acceptable level through avoidance or mitigation; and

4. Enhancement by a suitable restoration design to provide a net gain for biodiversity in the longer term, above that required for avoidance, mitigation or compensation.

Stage 7 – Monitoring

6.28 Monitoring may be used to determine:

• Whether avoidance, mitigation, compensation and enhancement measures have been implemented as agreed;

• The success / efficacy of the measures;

• Early warning of measures that are not proving effective; and

• How to remedy a situation where avoidance, mitigation, compensation or enhancement measures fail (CIEEM 2018).

6.29 This issue will be considered as par of the EcIA and an Ecological Management and Monitoring Plan may be deemed appropriate depending on the findings of the assessment and mitigation measures which may be recommended.

Stage 8 – Conclusions

6.30 The final stage in the assessment process is to provide a frank, realistic and reasoned conclusions of the ecological effects (both positive and negative) of the project upon VER, following the application of avoidance, mitigation, compensation and enhancement measures.

6.31 Thus far, the following ecological assessments have been indertaken:

(i) a Preliminary Ecological Assessment (PEA) which included Phase 1 habitat mapping;
(ii) a reptile assessment which included a survey of all habitat on the land proposed for the extension; and,
(iii) a bat assessment, which included a survey of roosting and foraging habitat.

6.32 The preliminary conclusions drawn from these surveys are that:

a) the Application Site area contains one S41 & LBAP Habitat (hedgerows: 1.92 ha);

b) three of the 22 hedgerows within the Application Site are ‘important’ and two have the potential to qualify as ‘important’ under the criteria of the Hedgerows Regulations 1997;

c) the site holds a moderately diverse flora but no legally protected or uncommon plant species have been recorded, nor are there grounds to predict they might occur;

d) NCC are satisfied that the findings of an invertebrate survey performed in 2002 will still be relevant in the context of this EIA, and serve to demonstrate there will not be any significant negative effect;

e) there are no grounds to predict the presence of great crested newts in the locality, but it is accepted that common toads may occur;

f) a reptile survey of the agricultural land in the proposed extension proved negative;

g) evidence thus far collated is sufficient to inform the potential for impacts upon wild birds;

h) a badger sett is present within woodland that is to be retained; and,

i) ongoing bat roost survey has established the presence of three roosts in trees, occupied by an individual Natterer's bat, noctule, and brown long-eared bat. However, there are no grounds to predict a significant negative effect on any bat species as the result of commuting or foraging habitat loss.

Soils and Agricultural Land Classification (ALC)

6.33 The 2002 ES was accompanied by a report produced by Reading Agricultural Consultants, based upon over 100 soil profiles from hand augers and inspection pits which were used to characterise the soil resources and land quality. This confirmed that the site contains a mixture of predominantly grade 3A and 3B land quality, with a small proportion of grade 2. Overall, the land quality is poorer than the predominant grade 2 and grade 3A quality within the original Stanninghall Quarry area

6.34 No material changes are likely to have occurred to the soil resources and land quality over the intervening period, and it is intended to rely upon this base data for the purposes of the forthcoming EIA. In particular, the information is considered to be sufficient to identify the type, depth and nature of the different soil resources present across the site, which in turn can be used as part of the detailed material balance calculations upon which the restoration scheme will be based.

6.35 It is thus not intended to commission an updated ALC and soil resources study as part of the forthcoming EIA, but the topic will be addressed in the ES drawing upon the above mentioned historical base data.

Hydrology and Hydrogeology

6.36 A hydrological and hydrogeological impact assessment (HIA) was undertaken as part of the 2002 and 2003 EIAs, and these studies will form a useful context for the updated HIA which will be undertaken.

6.37 The key elements of the HIA will comprise:

1. Baseline Study

This will include:

- review of citation documentation for statutorily protected sites.
- search of EA licensed abstraction database and source protection zones.
- search of Council register of private water supplies
- updating the 2002-2003 water features survey to include review of surface water and groundwater features within a 1km radius of the proposed Site (undertaken with cognisance of the EA / Council searches).

2. Characterisation of Baseline Hydrogeological and Hydrological Conditions

Update of conceptual hydrogeological model of the proposed development area and environs:

- review of available groundwater and surface water level/quality data for the locality.
- review of previous assessment reports supporting the 2002-2003 Planning Applications.
- review of EA landfill database.
- review of EA groundwater protection policy.
- review of Environment Agency/Meteorological Office rainfall data.
- review of permeability values for *in situ* strata.

3. Impact Assessment

Assessment of the potential impacts of the proposed development will involve:

- assessment of likely direct effects upon the water environment of the proposed extension and subsequent restoration. This will include examination of potential increased runoff volumes/storage requirements, consideration of water quality issues and assessment of potential alteration to surface water & groundwater flow patterns.
- assessment of potential indirect effects of alteration in groundwater flow patterns (i.e. upon ecologically sensitive receptors, water supplies etc.) & refinement of the current mitigation / monitoring programme should this prove to be necessary.

6.38 The baseline assessment will include liaison with the EA to agree the criteria for subsequent assessment. Based upon site experience, it is considered that the likely impacts of the proposed development upon the water environment may be satisfactorily addressed by deployment of standard analytical techniques, using the field data obtained both historically for the site and during this investigation. It is thus assumed that computer based numerical modelling will not be required.

6.39 A Flood Risk Assessment will also be undertaken, but initial assessment indicates this will primarily be focused towards ensuring provision of sufficient temporary storage within the extension area, to allow for controlled dissipation of stored water to maintain the status quo at receptors.

Noise

6.40 The noise study will review the advice relating to noise set out in National Planning Policy Framework (NPPF 2019) and the more detailed advice on noise at mineral working sites set out in the Planning Practice Guidance accompanying NPPF (PPG 2014, updated as web-based resource).

6.41 Existing noise levels will be measured at up to 6 properties in the vicinity of the site deemed to be representative of noise sensitive residential properties in the vicinity of the site. The parameters reported will be the background noise level $L_{A90,T}$ together with the equivalent continuous noise level, $L_{Aeq,\,T}$. Reference will also be made to the routine (6-monthly) noise monitoring which has been undertaken since August 2015 in relation to the existing quarry.

6.42 Average background noise levels at the sample locations / properties will be defined (LA90), and noise criterion levels will be set at a maximum of L90 plus 10dB or an upper limit of 55dB $L_{Aeq, T}$ as defined in PPG, with a limit of 70dB $_{LAeq,T}$ for temporary operations (again as defined in PPG).

6.43 The study will undertake noise calculations which considers the sound power levels of the plant and machinery to be used at the site and will assess the ability to comply with the noise criteria set out the defined locations. Recommendations for mitigation measures designed to ensure adherence to the defined criteria levels will be made as appropriate.

6.44 Conclusions will be reached as to the ability of the development to progress in accordance with the defined criteria, and the study will make recommendations for noise limits which could reasonably be imposed as planning conditions in the event that permission is granted for the development.

Air Quality

6.45 In relation to air quality, the key issues that require consideration are impacts from fugitive particulate emissions and road vehicle emissions.

6.46 The assessment of particulate emissions on human and ecological receptors would be undertaken using the recommended approach within the Institute of Air Quality Management (IAQM) 'Guidance on the Assessment of Mineral Dust Impacts for Planning' (2016).

6.47 An initial screening assessment of operational phase vehicle movements would be undertaken in accordance with the Environmental Protection UK (EPUK) & IAQM guidance 'Land-Use Planning and Development Control: Planning for Air Quality' (2017). On the basis that the anticipated future extraction rates would continue as per existing, the proposed extension is not expected to generate any additional traffic movements on the local road network and therefore a detailed assessment of road vehicle emissions would be screened out of the assessment. However, this would be reviewed further as part of the EIA in conjunction with the traffic assessment.

6.48 The exact requirements of the Air Quality Assessment would be confirmed following communications with NCC and other relevant consultees and the content of the requested Scoping opinion.

6.49 However, at this stage, it is considered the scope of the Air Quality & Dust Assessment would incorporate:

- a review of the site location with respect to sensitive properties and other sensitive receptors;

- a review of baseline conditions (including local air quality monitoring data and Local Air Quality Management (LAQM) reports);

- an assessment of dust impacts (nuisance, health and ecological effects) using the IAQM Guidance on the Assessment of Mineral Dust Impacts for Planning, incorporating existing sources to ensure a cumulative assessment approach;

- recommendations for dust controls and monitoring schemes on site, where required;

- a screening assessment of off-site traffic emissions.

6.50 A review of baseline air quality would be undertaken by:

- consultation with Pollution Officer within Broadland District Council (BDC);
- reference to LAQM reports and monitoring data in the public domain; and
- DEFRA background air quality maps.

6.51 Potential effects associated with fugitive dust emissions will be assessed using relevant research and best practice guidance (e.g. IAQM's 'Guidance on the Assessment of Mineral Dust Impacts for Planning', Mineral Industry Research Organisation (MIRO), and LAQM.TG(16)).

6.52 The dust assessment will incorporate:

- a review of the site location with respect to sensitive properties and other sensitive receptors (i.e. ecological);
- a review of existing and proposed site layout and operations in respect to emissions to air;
- a review of baseline conditions based on the information already provided by desk top review of published data;
- identification of sources of dust emissions;
- qualitative assessment of impact using IAQM methodology; and
- identification of additional dust control or monitoring proposals, where required.

6.53 An initial screening assessment of predicted operational phase movements would be undertaken against the criteria within the EPUK and IAQM guidance, specifically:

A change of HDV flows of

- more than 25 AADT within or adjacent to an AQMA; or
- more than 100 AADT elsewhere.

6.54 On the basis that the proposed development would not seek to increase existing average extraction rates with no predicted increase in HDV movements on the local road network, no further assessment of road vehicle emissions is considered to be required. However, as noted above, this would be reviewed further as part of the EIA in conjunction with the traffic assessment, including existing and anticipated future HDV routing in relation to the AQMA within the Norwich City Council area.

Traffic

6.55 By way of background it is noted that the northern extension area forms part of the original 2002 larger site, which was assessed in the 2002 EIA based on an output of 400,000 tonnes per annum. At the time this larger proposal was assessed, the traffic impact of this projected rate of output raised no objection from the Highway Authority.

6.56 The 2003 scheme, which forms the basis of the current quarry development was assessed on the basis of an output of 200,000 tonnes per annum. However, there is

no output restriction in place at the site via planning conditions imposed on the 2006 permission.

6.57 Tarmac has confirmed that demand has increased to above these projected levels, and the forthcoming application is to be assessed on the basis of an average output of 350,000 tonnes per annum (tpa). The July 2019 NWMLP 'Preferred Options' document makes the same assumption regarding a 350,000 tpa future output.

6.58 It was agreed with the Highway Authority that the previous study area could be limited to the B1150 corridor between the site and the A1042 Norwich Ring Road to the south. However, as a result of local concerns, the assessment extended north to North Walsham.

6.59 It is assumed that the study area for the extension application would consider the same road network, taking into account the Norwich Northern Distributor Road / A1270 Broadland Northway, which bypasses much of the City and avoids the need for a proportion of the quarry traffic to pass along the A1042.

6.60 In the context of the above, it is considered that the following tasks would be appropriate in terms of preparing the Transport Statement:

- Visit the site.
- Review the planning history of permitted operations.
- Review the existing quantum and distribution of development traffic using client supplied data.
- Review the existing access arrangement relative to current design standards.
- Consider the suitability of the existing access to serve the proposed development.
- Review the highway network between the site and the A1042 and North Walsham.
- Review baseline traffic flows on the local road network based on available information (as appropriate).
- Review recent highway safety using Personal Injury Accident data recorded over the last 5 years.
- Quantify the predicted number of traffic movements associated with the proposed development.
- Identify the impact of the proposed development traffic on the local highway network in terms of safety and link flow/capacity.
- Detail the findings of the above including constraints and recommended improvements if / as appropriate.

Cultural Heritage

6.61 A Cultural Heritage Desk Based Assessment (DBA) was produced by Entec in 2001 as part of the 2002 ES (which thus included the northern extension area). This DBA was updated in July 2003 as part of the 2003 ES (current quarry area).

6.62 The DBA will be updated including a new the Historic Environment Record (HER) search, in accordance with the standard and guidance for such issued by the Chartered Institute for Archaeologists. This will assimilate known baseline information on the historic resource and identify any heritage sensitivities to the proposals. Key elements will comprise:

- Production of a Written Scheme of Investigation (WSI) which sets out the assessment scope and method, for the approval of NCC;
- Compilation of the baseline evidence (all standard sources including the Historic Environment Record; the Norfolk Sites and Monuments Record; other published and documentary sources; aerial photographs; and the results of previous archaeological studies, including those undertaken as part of an agreed Written Scheme of Investigation (WSI) for the existing permitted quarry area.)
- Site inspection and inspection of the surrounding area with regard to the 'settings' of historic assets (most notable the Roman Scheduled Marching Camp to the nrth and nearby listed buildings.
- Assessment of heritage significance, sensitivities, potential issues and potential strategies.

6.63 Consultation will be undertaken with Historic England and NCC archaeologists throughout the EIA process.

6.64 The assessment will address the northern extension area, together with a wider 'study area' to provide suitable archaeological and historic context.

6.65 The requirement and scope of any further survey work will be informed by the results of the DBA / historic environment assessment. However, it is anticipated that further work will comprise a geophysical survey, focused on potential features identified from aerial photographs and other sources, and a field evaluation which itself can be informed by the geophysical survey in terms of evaluation trenching coverage.

6.66 The assessment will include all aspects of the historic environment and examine both potential physical and non-physical effects (including the 'setting' of historic assets). This will include:

- Assessment of below-ground archaeological remains (known/potential)
- Assessment of any 'historic landscape value' of field systems and landscape
- Assessment of whether the site contributes to the setting of designated historic assets.

6.67 The assessment work will inform the production of the Cultural Heritage Environmental Statement chapter of the Environmental Statement. This will identify:

- The significance of historic assets
- Physical development effects
- Non-physical development effects.

6.68 The study will then, where appropriate, identify measures to mitigate impacts and make recommendations as appropriate; and reach conclusions as to the significance of impacts on cultural heritage assets.

7.0 SCOPING REQUEST

7.1 The purpose of this Report is to outline the nature of the proposed development, and to identify topics and issues which, at this preliminary stage, appear to be appropriate for consideration as part of an EIA. In particular, the Report has sought to provide a considered and proportionate approach to identifying those issues which are deemed to warrant particular attention, and those other environmental topics, which, in the particular circumstances of the site and development, appear to be capable of being addressed in a more straightforward way. The information will hopefully be of assistance to NCC in producing a formal opinion on the scope of the EIA.

7.2 The approach is considered to be consistent with the requirements of the EIA Regulations, where Regulation 15 (6) requires the Planning Authority in adopting its scoping opinion, to have regard to the specific characteristics of the particular development and the environmental features likely to be affected by the development. The identification of the topics listed in Section 6.0 above and the intended approach to the assessment has thus been prepared in this context.

7.3 It is therefore hoped that this Scoping Report will be considered in the constructive way in which it is intended, and the Applicants look forward to the formal Scoping Opinion of NCC within the time period of 5 weeks required by regulation 15 (4).

7.4 In addition, in accordance with Regulation 17 (4) the Applicants request NCC (and all consultees notified) to make available any baseline information considered relevant to the EIA.

APPENDIX 1:

SITE LOCATION PLANS

APPENDIX 2: LVIA METHODOLOGY

SLR

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