

Norfolk Minerals and Waste Development Framework

Mineral Site Specific Allocations Development Plan Document



Norfolk Minerals and Waste Development Framework

Minerals Site Specific Allocations Development Plan Document

Adopted October 2013, amendments adopted December 2017

T. McCabe – Executive Director
Community and Environmental Services
Norfolk County Council
Martineau Lane
Norwich
NR1 2SG

www.norfolk.gov.uk



If you need this document in large print, audio, Braille, an alternative format or a different language please contact Norfolk County Council on 0344 800 8020 or 18011 0344 8020 (textphone) and we will do our best to help.

Contents

		Page
1	Executive Summary	5
2	Background	7
3	The Process So Far	13
4	The presumption in favour of sustainable development	18
5	The Mineral Site Specific Allocations	19
	Legend for Site Specific Allocations maps	19
	Breckland Sites:	
	Policy MIN 10 Beetley	21
	Policy MIN 51 Beetley	23
	Policy MIN 102 Snetterton	26
	Policy MIN 108 Shropham	29
	Policy MIN 109 Shropham	31
	Policy MIN 110 Shropham	33
	Broadland Sites:	
	Policy MIN 37 Frettenham & Buxton with Lammas	35
	Policy MIN 48 Felthorpe	37
	Policy MIN 55 Attlebridge	40
	Policy MIN 64 Horstead with Stanninghall	42
	Policy MIN 96 Spixworth, Horsham St Faith & Newton St Faith	44
	King's Lynn and West Norfolk Sites:	
	Policy MIN 6 Middleton	46
	Policy MIN 19 Pentney	48
	Policy MIN 40 East Winch	50
	Policy MIN 45 East Rudham	52
	Policy MIN 75 Watlington	56
	Policy MIN 76 Watlington	58
	Policy SIL01 Bawsey	60
	AOS E Land to the north of Shouldham	64
	AOS F Land to the north of Stow Bardolph	68
	AOS I Land to the east of South Runcton	71
	AOS J Land to the east of Tottenhill	73

Areas of Search Policy		75
North Norfolk Sites:		
Policy MIN 69	Aylmerton	77
Policy MIN 71	Holt	80
Policy MIN 84	East Beckham	83
Policy MIN 115	North Walsham	85
South Norfolk Sites:		
Policy MIN 79	Swainsthorpe, Swardeston & Stoke Holy Cross	88
Policy MIN 80	Swardeston	90
Policy MIN 81	Stoke Holy Cross	92
Policy MIN 83	Heckingham & Norton Subcourse	95
Policy MIN 90	Norton Subcourse	97
Policy MIN 91	Heckingham & Norton Subcourse	99
Policy MIN 118	Wymondham	101
6	Glossary	104

1 Executive summary

1.1 As part of its preparation of the Minerals and Waste Development Framework (MWDF), in accordance with the Planning and Compulsory Purchase Act 2004, the County Council has produced this Minerals Site Specific Allocations Development Plan Document (DPD). Its purpose is to set out specific, allocated sites where mineral extraction sites are considered acceptable in principle over the next 15 years.

1.2 The MWDF Core Strategy and Minerals and Waste Development Management Policies DPD was adopted by the County Council on 26 September 2011. The Core Strategy sets the context for the site allocations for minerals extraction and waste management facilities. The period of the MWDF runs to the end of 2026.

1.3 The following sites are allocated for sand and gravel extraction in the Minerals Site Specific Allocations DPD:

Parish	Site reference	Estimated resource (tonnes)
Breckland		
Beetley	MIN 10	2,400,000
Beetley	MIN 51	1,300,000
Shropham	MIN 108	150,000
Shropham	MIN 109	400,000
Shropham	MIN 110	150,000
Snetterton	MIN 102	1,500,000
Broadland		
Attlebridge	MIN 55	525,000
Buxton with Lammas & Frettenham	MIN 37	1,450,000
Felthorpe	MIN 48	1,900,000
Horstead with Stanninghall	MIN 64	950,000
Spixworth & Horsham St Faith & Newton St Faith	MIN 96	1,000,000
King's Lynn and West Norfolk		
Pentney	MIN 19	700,000
East Rudham	MIN 45	3,600,000
Tottenhill	MIN 76	285,000
Watlington	MIN 75	335,000

Parish	Site reference	Estimated resource (tonnes)
North Norfolk		
Aylmerton	MIN 69	750,000
East Beckham	MIN 84	1,600,000
Holt	MIN 71	1,100,000
North Walsham	MIN 115	1,100,000
South Norfolk		
Heckingham & Norton Subcourse	MIN 83	674,000
Heckingham & Norton Subcourse	MIN 91	1,146,000
Norton Subcourse	MIN 90	511,000
Stoke Holy Cross	MIN 81	955,000
Stoke Holy Cross, Swainsthorpe & Swardeston	MIN 79	1,750,000
Swardeston	MIN 80	760,000
Wymondham	MIN 118	600,000
TOTAL		27,591,000

1.4 The following sites and areas of search are allocated for silica sand extraction:

Parish	Site reference	Estimated resource (tonnes)
King's Lynn and West Norfolk		
East Winch	MIN 40	3,000,000
Bawsey	SIL01	1,200,000
Wormegay, Shouldham, Marham, Shouldham Thorpe	AOS E	unknown
Runcton Holme, Stow Bardolph	AOS F	unknown
Shouldham Thorpe, Runcton Holme, Tottenham	AOS I	unknown
Tottenham, Wormegay	AOS J	unknown
TOTAL		4,200,000

1.5 The following site is allocated for carstone extraction:

Parish	Site reference	Estimated resource (tonnes)
King's Lynn and West Norfolk		
Middleton	MIN 06	1,416,000

2 Background

2.1 The Minerals Site Specific Allocations Development Plan Document (DPD) covers the period until the end of 2026 and allocates specific sites considered suitable in principle and available for mineral extraction.

2.2 The Minerals Site Specific Allocations DPD is one of the documents within the Minerals and Waste Development Framework (MWDF), being prepared by Norfolk County Council in accordance with the Planning and Compulsory Purchase Act 2004. The MWDF comprises of a number of documents:

2.3 The Statement of Community Involvement (March 2007), which sets out the ways in which local stakeholders will be consulted in the production of the DPDs and in the determination of planning applications

Minerals and Waste Development Scheme (January 2012) The various documents within the framework are being prepared at different times through a continuous process, the timing of which is described in the Minerals and Waste Development Scheme.

Annual Monitoring Report This document describes the progress in producing the DPDs and implementation and performance of the policies within the DPDs. The most recent AMR was produced for the 2010/11 financial year.

Core Strategy and Minerals and Waste Development Management Policies DPD (the 'Core Strategy'), which contains policies for use in making decisions on planning applications for mineral extraction and associated development and for waste management development, and in the selection of site-specific allocations in Norfolk. The Core Strategy was adopted by the County Council on 26 September 2011.

Waste Site Specific Allocations DPD allocates specific sites which are available and acceptable in principle for waste management facilities, to meet the requirements of Core Strategy policy CS4, until the end of 2026.

Minerals Site Specific Allocations DPD allocates specific sites which are available and acceptable in principle for mineral extraction and associated development, to meet the requirements of Core Strategy policy CS1 until the end of 2026.

Policies Map (previously referred to as a Proposals Map) accompanies the adopted DPDs and is designed to act as a visual aid in interpreting the policies in the adopted DPDs. The Policies Map will be revised as each new DPD is adopted and will reflect the up-to-date minerals and waste planning strategy for Norfolk.

Need for mineral extraction

2.4 The background to the need for and the strategy for provision of sufficient mineral extraction in Norfolk is set out in the adopted Core Strategy and Minerals and Waste Development Management Policies DPD.

2.5 Policy CS1 of the Minerals and Waste Core Strategy sets out the quantity of mineral required to be allocated over the plan period (to the end of 2026), as follows. For sand and gravel, sites and/or Areas of Search delivering a total of approximately 28.24 million tonnes of sand and gravel is required to be allocated. For silica sand a minimum of 6.4 million tonnes of silica sand is required to be allocated; and for carstone, a site or sites to deliver a minimum of 1.475 million tonnes of resources is required to be allocated.

2.6 The apportionment figures in Policy CS1 run for 17 years from the beginning of 2010 until the end of 2026, but as the sand and gravel landbank as at 31/12/2011 is now known, the

apportionment figure can be updated to take this into account. In addition, there have been several new planning permissions granted, and the expiration of two planning permissions. The permitted reserve of sand and gravel in Norfolk was 16,079,157 tonnes at 31/12/11. As a result, the total minimum sand and gravel to be allocated is now 25,040,843 tonnes (covering the years 2012-2026). The 26 allocated sand and gravel extraction sites are estimated to contain 27,591,000 tonnes of sand and gravel. Therefore the allocated sites would enable Norfolk to meet its annual sand and gravel apportionment up to the end of 2026.

2.7 No new silica sand planning permissions were granted from 2010 to 2016 and therefore the landbank of reserves has reduced accordingly (the latest confirmed landbank figure is 2.62 million tonnes as at 31 December 2016). Therefore, the quantity of additional silica sand resource needed over the plan period is 4.88 million tonnes. The two allocated silica sand sites are estimated to contain 4.2 million tonnes of silica sand. This leaves a shortfall of 0.68 million tonnes in the quantity of silica sand allocated. However, this shortfall in allocated resources would only occur towards the end of the Plan period (about 2025).

To address this shortfall four areas of search for silica sand extraction have been allocated, covering 946 hectares of land, within which planning permission may be granted, particularly if there is a potential shortfall in supply. Planning applications for the extraction of silica sand are therefore directed to the allocated specific sites and Areas of Search and would be determined in accordance with the relevant specific site or Areas of Search Policy and the relevant policies of the Local Plan.

2.8 The carstone landbank as at 31 December 2011 was 1,723,632 tonnes, and the overall need for the remaining 15 years (2012-2026) is 1,276,638 tonnes. The carstone site that is to be allocated is estimated to contain 1,416,000 tonnes.

2.9 There is no landbank requirement for other minerals, such as clay, peat, topsoil and hoggin.

2.10 The illustrative diagram overleaf shows the spatial distribution of all the Mineral Site Specific Allocations, along with the locations of the existing mineral extraction sites and mineral infrastructure safeguarded under Policy CS16 of the adopted Minerals and Waste Core Strategy. These sites are shown in the context of the four largest settlements and Market Towns in Norfolk, as detailed in Policy CS2 of the adopted Minerals and Waste Core Strategy. The diagram also illustrates the key landscape and environmental constraints, trunk roads, A-roads and railway lines.

2.11 The Policies Map which accompanies this DPD is considered to be the most appropriate place to view information such as Mineral Safeguarding Areas, and safeguarded sites. The hardcopy of the Policies Map is at a scale suitable for the majority of uses, however if details of the site boundaries of safeguarded sites are required it is considered that use of the interactive version of the Policies Map is the most appropriate method. The interactive version of the Policies Map allows the user to view areas at greater levels of detail, and allows information such as environmental designations to be customised by turning these on or off. The Interactive version of the Policies Map can be found by following the link www.norfolk.gov.uk/nmwdf. The Policies Map also contains information on the methods used to define the Mineral Safeguarding Areas for Sand and Gravel, Silica Sand and Carstone.

Legend

Adopted Silica sand Areas of Search

- AOS J
- AOS F
- AOS I
- AOS E

Active extraction sites (May 2017)

- ★ Active Sand and Gravel workings
- ★ Active Silica sand workings
- ★ Active Carstone working
- ★ Active mineral infrastructure

Mineral allocations

- ◆ Silica sand allocations
- ◆ Carstone allocation
- ◆ Sand and gravel allocations

Mineral Sites in close proximity to Norfolk

- 🔥 Mineral Extraction
- 🚤 Marine Landing point

Transport Network

- Trunk Roads
- A Roads
- + + Rail lines

Buffer zones for Stone Curlews

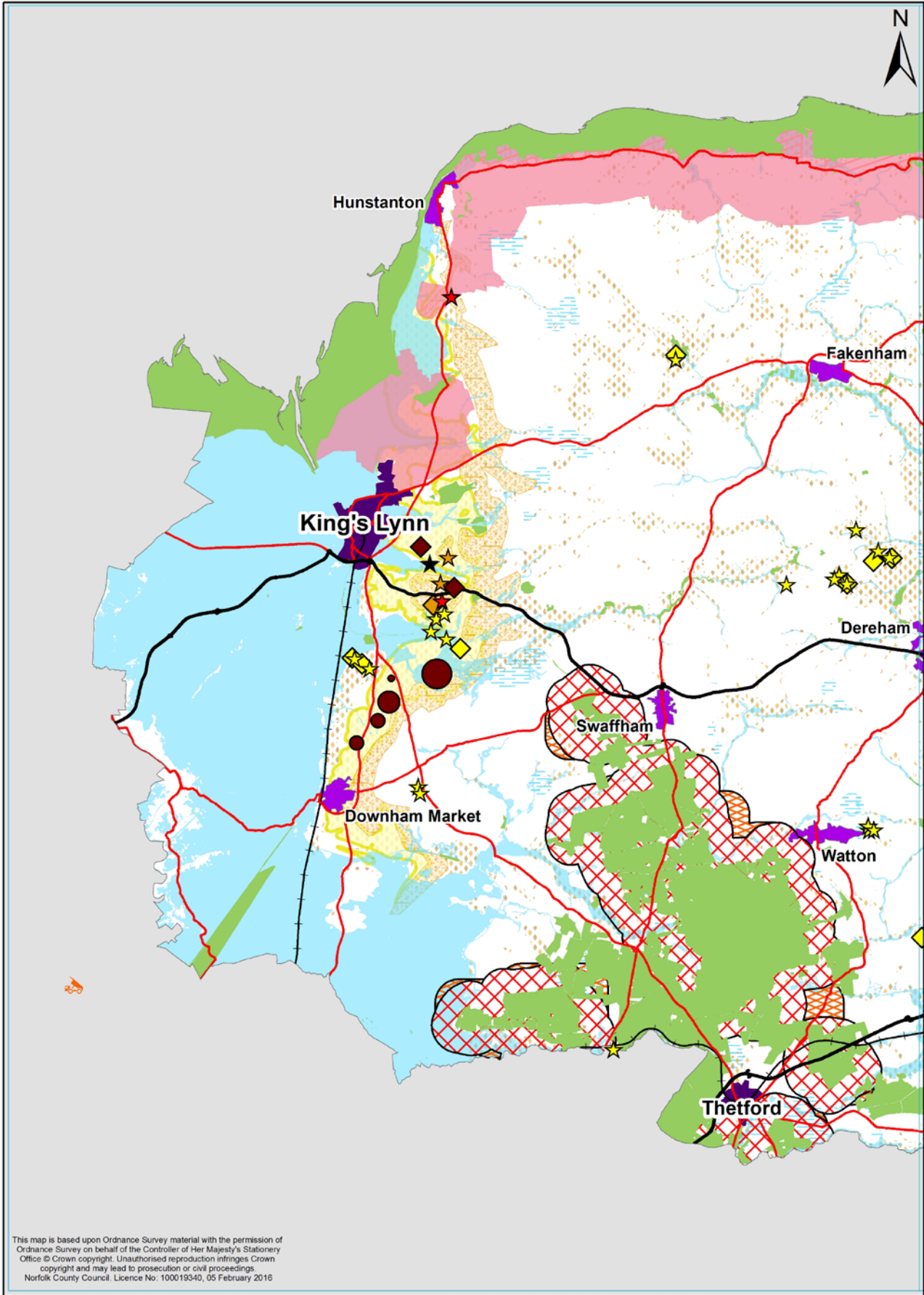
- ▨ Protection Zone
- ▨ Mitigation Zone

Settlements and other designations

- Norwich Policy Area boundary
- Major Settlements
- Service Centres /Market Towns
- Broads Authority executive area
- AONB (Area of Outstanding Natural Beauty)
- ▨ Heritage coast
- Environmental Designations (SSSI, SAC, SPA, Ramsar)
- ▨ Groundwater Source Protection Zone 1
- EA Flood Map Zone 2 and 3

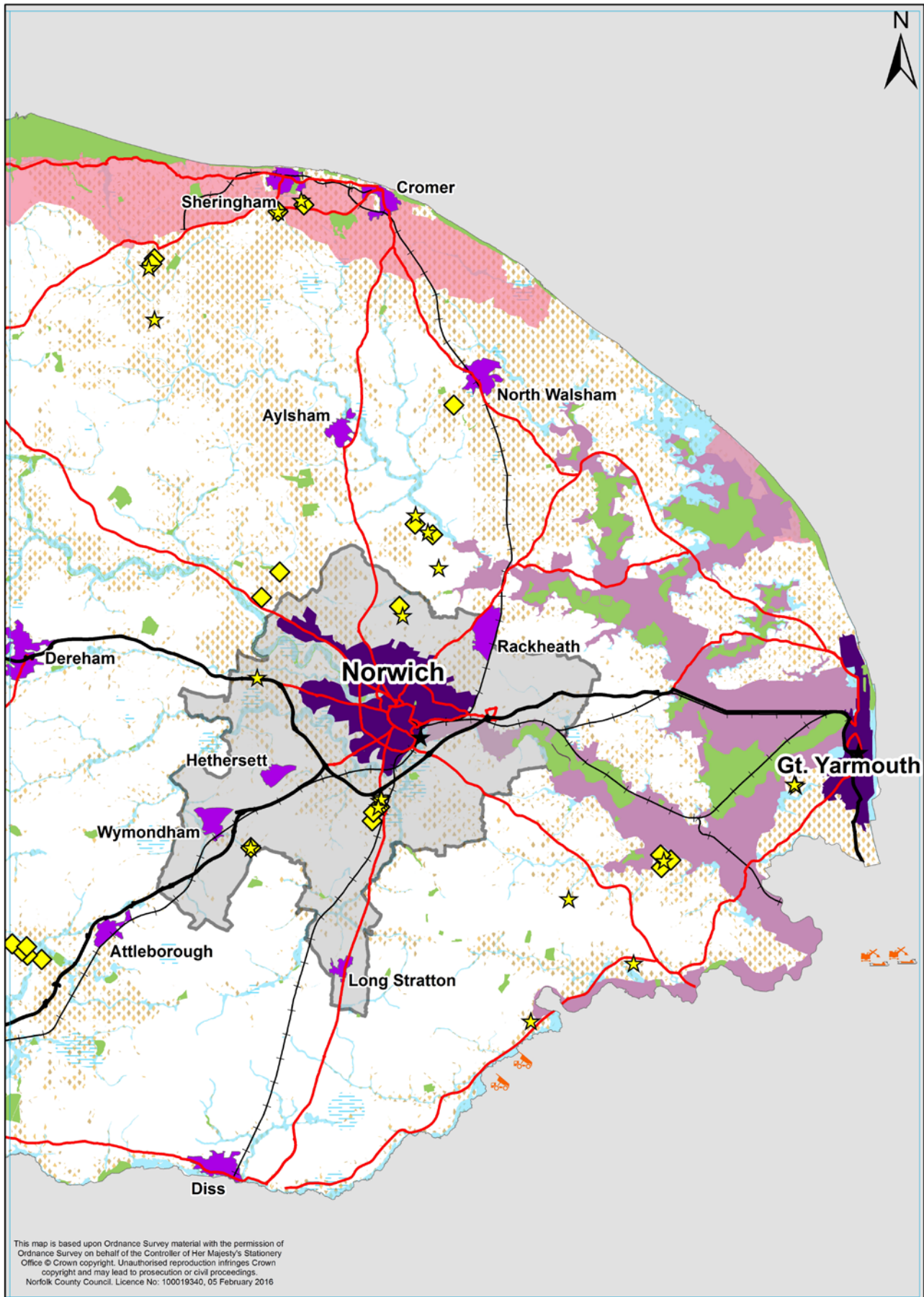
Mineral Safeguarding Areas

- Mineral Safeguarding Areas (Silica sand)
- ▨ Mineral Safeguarded Areas (Carstone)
- ▨ Mineral Safeguarded Areas (Sand & Gravel)



Existing mineral extraction sites, adopted mineral allocations and silica sand Areas of Search

Norfolk County Council
12 July 2017



Existing mineral extraction sites, adopted mineral allocations and silica sand Areas of Search

Supporting documents

2.12 Sustainability Appraisal is central to the planning system. The purpose of Sustainability Appraisal, which is mandatory under the *Planning and Compulsory Purchase Act 2004*, is to promote sustainable development through the integration of social, environmental and economic considerations into the preparation of new or revised Development Plan Documents. Sustainability Appraisal is an integral element of the preparation of the Minerals Site Specific Allocations DPD, informing in a comprehensive way of the likely impacts of the proposed site specific allocations policies.

2.13 At the Issues and Options stage in 2008, every proposed site was assessed in the initial Sustainability Appraisal. The initial Sustainability Appraisal was reviewed and updated in 2009 and the Sustainability Appraisal, along with the public consultation feedback, was taken into account when the preferred options were selected in 2009.

2.14 The Sustainability Appraisal was reviewed again in 2011 and the Sustainability Appraisal, along with the public consultation feedback, was taken into account in the conclusions of each site to be allocated or not allocated in the Revised Further Issues and Options document in 2011. A Sustainability Appraisal of the Single Issue Silica Sand Review of the Minerals SSA Plan was carried out in 2015 and reviewed in 2016. The Sustainability Appraisal assessed the approach to be used to define potential areas of search and also assessed the specific site and each defined area of search.

2.15 The site specific allocations and associated policy wording in this document have taken into account the findings of the Sustainability Appraisal. The Sustainability Appraisal forms part of the evidence base for the development of the Minerals Site Specific Allocations DPD.

2.16 Flood Risk: Sequential and Exception Tests. In accordance with paragraph 100 of the National Planning Policy Framework and Table 2 of the Technical Guidance to the NPPF, a sequential test has been carried out on the Mineral Site Specific Allocations. The County Council has concluded that the site selection process satisfies the Sequential Test and that no site has been identified for allocation where there would be a suitable alternative in an area in a lower category of risk of flooding. All of the proposals which are considered to be suitable comprise “less vulnerable” or “water compatible” development in the context of Table 2 of the Technical Guidance to the NPPF, and do not fall to be considered under the “exception test”. In accordance with Core Strategy Policy DM4 (flood risk) and the Technical Guidance to the NPPF, for all development over 1 hectare in size in flood zone 1, and all development within flood zones 2 and 3, a site specific Flood Risk Assessment (FRA) will be required at the planning application stage. The Site Specific FRA must identify and assess the risks of all forms of flooding to and from the development and demonstrate how these flood risks will be managed so that the development remains safe throughout its lifetime, taking climate change into account. The scale, nature and location of the proposed development will inform the scope of the FRA required.

2.17 An Equality Impact Assessment (EqIA) has been carried out on the Mineral Site Specific Allocations DPD. The need for an EqIA stems from the general duty placed on public authorities to eliminate unlawful discrimination in carrying out its functions, and promote equality of opportunity between men and women, different racial groups, and other equality groups. The EqIA has been prepared to satisfy all relevant legal and policy requirements for the assessment and has been completed in line with relevant guidance.

2.18 A Habitats Regulations Assessment has been carried out on the Minerals Site Specific Allocations DPD in accordance with the *Conservation of Habitats and Species Regulations 2010*. A Habitats Regulations Assessment is undertaken to assess the impacts of a land-use plan against the conservation objectives of a European -designated nature conservation sites and to ascertain where it would adversely affect the integrity of the site and, if so how to amend the plan to avoid any potential damaging effects. The Habitats Regulations Assessment forms part of the evidence base for the development of the Minerals Site Specific Allocations DPD.

2.19 Evidence Base An appraisal of each site was carried out by Norfolk County Council's landscape architects, ecologists, archaeologists and highways officers. The results of their site assessments have been collated as an evidence base for the Minerals Site Specific Allocations DPD.

3 The process so far

3.1 This Minerals Site Specific Allocations DPD was preceded by an original 'call for sites' and three public consultation stages, as follows:

3.2 The County Council made a 'Call for Sites' to land owners, developers and their agents to submit sites for mineral development, which resulted in 104 proposed mineral allocation sites being submitted.

3.3 The "Issues and Options" consultation took place over ten weeks from 15 February to 25 April 2008. This was a process to identify potential issues on the submitted site allocations (the options) to assist in identifying preferred sites at the next stage. 3,754 people and organisations responded to this consultation. A parallel consultation was undertaken on the Waste Site Specific Allocations DPD.

3.4 The "Further Issues and Options (Preferred Options)" consultation took place over eight weeks from 19 October to 11 December 2009. The potential mineral extraction sites were categorised in one of three ways. Those sites that based on the evidence available and planning officer's recommendation were deemed to be acceptable for allocation; those that might be potentially acceptable dependent on a modification to the scheme in some way or additional evidence, and those which were considered to be unacceptable for allocation. 1,160 people and organisations responded to this consultation. A parallel consultation was undertaken on the Waste Site Specific Allocations DPD.

3.5 The "Revised Further Issues and Options" consultation took place over eight weeks from 20 June to 15 August 2011. The potential sites were categorised as being either suitable or unsuitable for allocation, with a small number of sites deemed suitable for allocation but not required to meet the apportionment. 467 people and organisations responded to this consultation. A parallel consultation was undertaken on the Waste Site Specific Allocations DPD.

3.6 A Single Issue Silica Sand Review of the Minerals SSA was carried out during 2015 and 2016. An Initial Consultation took place for six weeks from 9 March to 20 April 2015. The purpose of the Initial Consultation was to determine the information that must be submitted with proposals for silica sand extraction sites to be considered through the Silica Sand Review and the methodology to be used to define areas of search for future silica sand

extraction. Comments were received from 18 organisations and one individual. In addition, 'no comment' responses were received from eight organisations.

3.7 A 'Call for sites' took place during June 2015, to enable land to be submitted for consideration for future silica sand extraction, to meet the identified shortfall. Sibelco UK is the only silica sand company operating in Norfolk and it was the only respondent to the 'call for sites'. The specific site proposed by Sibelco UK has an estimated mineral resource of 1.2 million tonnes. This is less than the 2.6 million tonnes of silica sand needed to meet the shortfall over the plan period. Therefore, as proposed in the Initial Consultation document, Norfolk County Council defined areas of search to meet the shortfall, within which planning permission may be granted for future silica sand extraction.

3.8 Areas of search are defined in the National Planning Practice Guidance as "areas where knowledge of mineral resources may be less certain, but within which planning permission for silica sand extraction may be granted on a smaller area of land". The areas of search were defined using the following methodology:

- a. The starting point for the areas of search is the extent of the Leziate Beds silica sand resource
- b. The Norfolk Coast Area of Outstanding Natural Beauty has been excluded
- c. All ancient woodland and 250 metres around them has been excluded
- d. All SSSIs and 250 metres around them has been excluded (except for Roydon Common and Dersingham Bog – see below)
- e. The hydrological catchment around Roydon Common and Dersingham Bog has been excluded
- f. Registered Common Land has been excluded
- g. Designated heritage assets (Listed Buildings, Scheduled Monuments, registered historic parks and gardens, Conservation Areas) and 250 metres around each heritage asset has been excluded
- h. Sensitive receptors to amenity impacts (residential dwellings, educational facilities, workplaces, healthcare and leisure facilities) and 250 metres around each sensitive receptor has been excluded
- i. Agricultural land grades 1 and 2 have been excluded
- j. Allocated, current and restored mineral extraction sites have been excluded
- k. The areas of the Leziate Beds silica sand resource that were remaining at this point were all potential areas of search
- l. Potential areas of search below 20 hectares in size have not been taken further
- m. The remaining ten areas of search are above 20 hectares in size and were included in the Preferred Options consultation document.

3.9 The Preferred Options Consultation took place over six weeks from 6 November to 21 December 2015 and included one potential specific site and ten defined areas of search for silica sand extraction in Norfolk. The document contained an initial assessment of the site and each area of search and described the County Council's suggested way forward in terms of which sites/areas were considered suitable for future silica sand extraction.

3.10 Comments on the Preferred Options Consultation were received from 18 organisations and 11 individuals. In addition, 'no comment' responses were received from eight organisations. The comments received were taken into account in the preparation of the Pre-Submission document, including the assessment of the proposed

specific site and areas of search considered suitable for allocation. Following the representations period on the Pre-submission publication version of the Silica Sand Review, officers assessed the representations made.

3.11 The purpose of the areas of search process was to allocate those parts of the silica sand resource which are least constrained; and where a suitable future planning application for silica sand extraction may be approved. Therefore, it was decided that AOS A should not be allocated as an area of search and the southern boundary of AOS D should be revised northwards. These modifications were incorporated into an Addendum to the Silica Sand Review Pre-submission document. This addendum was subject to a six week representations period during Autumn 2016.

3.12 The County Council has assessed all the submitted sites, having regard to:

- landscape, ecological, archaeological, highways and amenity implications of development at each site
- the responses received during all three Issues and Options consultations
- relevant planning policies, including those in the adopted Core Strategy and Minerals and Waste Development Management Policies DPD
- Sustainability Appraisal
- Habitats Regulations Assessment
- Sequential and Exception Test of Flood Risk
- Equalities Impact Assessment

3.13 This DPD contains policies for 29 allocated sites and four areas of search. Only sites and areas of search suitable for allocation are listed; unallocated sites or areas of search are excluded from this document.

When assessing the suitability of the allocated sites, the County Council had particular regard when dealing with landscape, ecology, highways and archaeology to the following matters.

3.14 Landscape

- a description of the site in its landscape context;
- any known landscape constraints (e.g. designated landscape areas);
- the presence of any landscape detractors (e.g. overhead power lines);
- comments on how existing landscape features or viewpoints might be affected by the proposed development;
- the landscape impact of the development (on residents, travellers/visitors, enjoyment of the countryside, light pollution etc and whether any potential screening would itself be intrusive); and
- consideration of whether a potential restoration scheme could be proposed which is feasible, suitable and offers opportunities for longer-term landscape gains.

3.15 Ecology

- details of any designated nature conservation sites nearby;
- whether the site could affect the drainage of any designated sites;
- details of any protected or BAP species and/or habitats which could be affected;
- details of whether a suitable restoration(s) schemes could be proposed; and
- whether there is any potential to create any target habitats (e.g. heathland).

3.16 It is important to note that the site summaries do not include details of any protected species found in or around the local area. New minerals sites, being located on rural, greenfield sites, are likely to need a biodiversity survey and report as required by Norfolk County Council's Local List for Validation of Planning Applications, or as part of an Environmental Statement accompanying a planning application. The results of the biodiversity survey and report may impact on the scheme of working, detail potential mitigation measures and might require planning conditions to be attached to any permission granted. However, if certain key species – especially bats and great-crested newts – are thought to be present on a site, a full survey with details of mitigation will need to be found appropriate in advance of a planning application being submitted.

3.17 In addition, those minerals sites which might impact on a European-designated nature conservation site (SAC, SPA and/or Ramsar site) have been subject to a Habitats Regulations Assessment (HRA) carried out by Norfolk County Council.

3.18 Highways

- the hierarchy level of the road used to access the site (e.g. HGV Access Route);
- if not on an HGV Access Route or better, the distance to the nearest suitable road;
- details of any significant access difficulties to the site; and
- details of any improvements required to make the site acceptable in highways terms (e.g. road widening, junction improvements etc) and whether such improvements are already planned.

3.19 The assessments of the sites and the conclusions in this document were made without the benefit of detailed information on potential traffic generation, and it is likely that a Transport Statement or (a more detailed) Transport Assessment will be required to accompany a planning application for each minerals site.

3.20 Archaeology

Most, if not all, proposed minerals sites will require a site investigation to be undertaken prior to the submission of a planning application, influencing the mitigation strategy (e.g. preservation *in situ*, watching brief and/or preservation by record). An appropriate and agreed programme of works is unlikely to lead to an archaeological objection to most sites, because extraction of mineral provides an opportunity for archaeological investigations to be undertaken where it would not normally be possible.

3.21 However, where a proposed minerals site contains, or affects the setting of, a site of national importance (e.g. a Scheduled Monument) the archaeology objection was included in the site description in the consultation documents and was taken into account in the site allocations process. SMs should not be damaged; therefore, in accordance with the NPPF, development of a mineral site which would cause substantial harm or loss would be wholly exceptional.

The Site Specific Allocations

3.22 The site allocations and their supporting text in this DPD describe the characteristics of each site and the particular requirements that will need to be addressed in addition to the relevant national and local policies.

3.23 Amenity issues will also need to be addressed in planning applications for the development of each site. Policies CS14 and DM12 of the adopted Norfolk Core Strategy and Minerals and Waste Development Management Policies DPD cover amenity issues generally. Particular attention will also need to be paid to air quality, dust, noise and lighting issues.

3.24 Air Quality and Dust

Policy DM13 covers air quality. The National Planning Practice Guidance (NPPG) (paragraphs 27-023 to 27-032) contains more detailed guidance on dust emissions and the control of dust generated by mineral workings, including the health effects of dust.

3.25 All planning applications – including those for allocated sites in this document – will be judged against the appropriate Core Strategy policies, with the NPPG providing greater details on, for instance, the preparation of a dust assessment study. Paragraph 023 indicates the scope of the dust assessment study (including mitigation) which would need to accompany any future planning application:

“There are five key stages to a dust assessment study:

- establish baseline conditions of the existing dust climate around the site of the proposed operations;
- identify site activities that could lead to dust emission without mitigation;
- identify site parameters which may increase potential impacts from dust;
- recommend mitigation measures, including modification of site design;
- make proposals to monitor and report dust emissions to ensure compliance with appropriate environmental standards and to enable an effective response to complaints.”

3.26 Paragraphs 025 to 028 of the NPPG provides further guidance on the stages and methodology of a dust assessment study.

3.27 Development Management policy DM13 ensures that all planning applications for mineral operations must ensure that they minimise harmful emissions to air, and would not impact negatively on existing Air Quality Management Areas, nor lead to the declaration of a new AQMA. Together with the site policies, Policies CS14, DM12 and DM13, form a set of criteria against which future developments will be considered in respect of air quality and dust.

3.28 Noise

Policies CS14 and DM12 of the adopted Norfolk Core Strategy and Minerals and Waste Development Management Policies DPD cover amenity issues generally. The National Planning Practice Guidance contains more detailed guidance on noise emissions and standards (paragraphs 019 to 022), including information on the preparation of noise emissions assessments, and the noise standards applicable to mineral operations.

3.29 Development Management policy DM12-Amenity ensures that all planning applications for mineral operations must consider the impacts of noise on the amenity for people in close proximity. Together with the site policies, Policies CS14, DM12 and DM13, form a set of criteria against which future developments will be considered in respect of noise.

3.30 Lighting

Policies CS14 and DM12 of the adopted Norfolk Core Strategy and Minerals and Waste Development Management Policies DPD cover amenity issues generally (including lighting) and the NPPG contains a policy (paragraph 125) encouraging good design to limit the impact

of light pollution from artificial light on local amenity. Together with the site policies, Policies CS14, DM12 and paragraph 125 of the NPPF form a set of criteria against which future developments will be considered in respect of lighting/light pollution.

4 The presumption in favour of sustainable development

4.1 Paragraph 15 of the National Planning Policy Framework states that Local Plans should be based upon and reflect the presumption in favour of sustainable development with clear policies that will guide how the presumption should be applied locally.

Policy SD1. The Presumption in Favour of Sustainable Development

When considering development proposals, the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework. It will always work proactively with applicants and statutory consultees jointly to find solutions which mean that proposals can be approved wherever possible, and to secure development that improves the economic, social and environmental conditions of the area.

Planning applications that accord with the policies in this Local Plan (and, wherever relevant, with policies in neighbourhood plans) will be approved without delay, unless material considerations indicate otherwise.

Where there are no policies relevant to the application or relevant policies are out of date at the time of making the decision, then the Council will grant planning permission unless material considerations indicate otherwise - taking into account whether:

- Any adverse impacts of granting planning permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the National Planning Policy Framework as a whole; or
- Specific policies in that Framework indicate that development should be restricted.




5 The Mineral Site Specific Allocations

Legend










Areas of Search and allocations

-  Areas of Search
-  Mineral site allocations
-  Consultation area for safeguarded mineral extraction - allocation
-  Waste site allocations
-  Indicative site screening
-  Indicative site buffers






Insets

-  allocation insets
-  AQMA insets
-  RIGS insets




Safeguarded existing Mineral and Waste sites

-  Safeguarded existing mineral extraction sites
-  Safeguarded existing waste management sites
-  Safeguarded existing mineral infrastructure
-  Safeguarded existing key wastewater treatment works
-  Consultation area for safeguarded waste management sites-existing
-  Consultation area for safeguarded mineral infrastructure-existing
-  Consultation area for safeguarded mineral extraction sites-existing
-  Consultation area for safeguarded key WWTW-existing
-  Air Quality Management Area (AQMA)





Road Network

-  Trunk Roads
-  A Roads
-  Mineral access route
-  Waste access route
-  Designated Lorry Routes in Norfolk



Safeguarded mineral resources

-  Mineral Safeguarding Area (Silica Sand)
-  Mineral Safeguarding Area (Sand and Gravel)
-  Mineral Safeguarding Area (Carstone)

Landscape designations

-  North Norfolk Heritage Coast
-  Core River Valleys
-  Area of Outstanding Natural Beauty (AONB)
-  Broads Authority Executive Area





Administrative boundaries

-  Norwich Policy Area
-  Districts
-  Norfolk Parishes




Environmental designations

-  Local Nature Reserves
-  National Nature Reserves
-  Special Protection Area (SPA)
-  Special Area of Conservation (SAC)
-  Site of Special Scientific Interest (SSSI)
-  Ramsar sites
-  County Wildlife Sites
-  Ancient Woodland
-  Regionally Important Geological Sites (RIGS)
-  Mitigation zone for stone curlews
-  Protection zone for stone curlews

Heritage designations

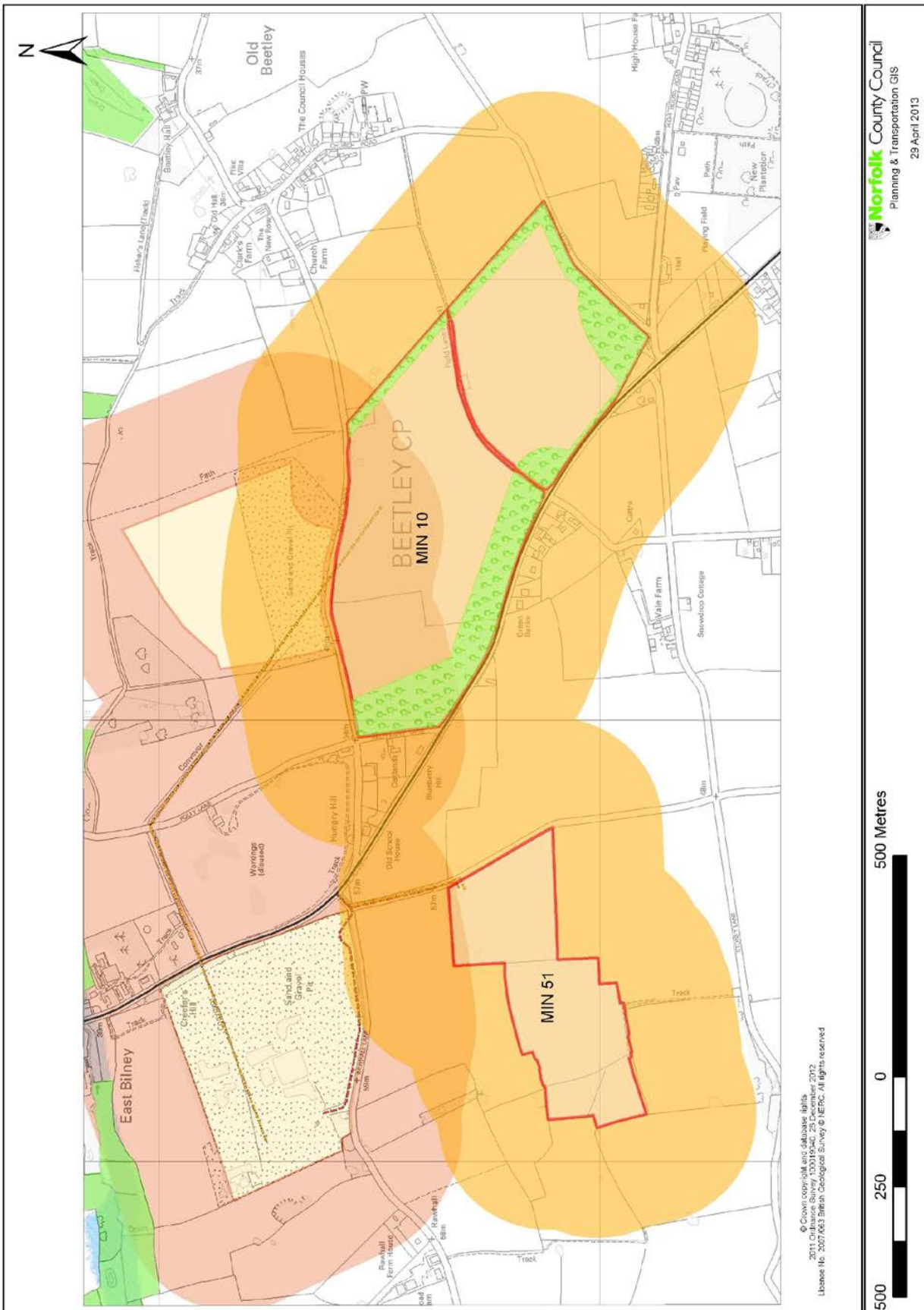
-  Registered Historic Parks and Gardens
-  Scheduled Monuments
-  Listed Buildings
-  Conservation Areas

Environment Agency designations

-  Groundwater Source Protection Zone 1
-  Flood zone 2 & 3
-  Flood zone 2

BRECKLAND SITES

Map of allocated sites at in the Parish of Beetley – MIN 10 and MIN 51



MIN 10 – Land off Fakenham Road, Beetley

10.1 Site Characteristics

- **The 44.4 hectare site is within the parish of Beetley**
- **The estimated sand and gravel resource at the site is 2,400,000 tonnes**
- The site is approximately 5km from Dereham and 6.5km to the A47
- The site lies close to an active mineral extraction site and would be worked as an extension, using a conveyor to transport material to the existing processing plant and then the existing access route for onward transport
- The site is currently in agricultural use and is on Grade 3 land
- The site is in Flood Zone 1
- Part of the allocation site is underlain by Groundwater Source Protection Zones II, and III
- The site is about 1km from Rawhall Wood CWS, about 1.1km from Beetley and Hoe Meadows SSSI, and about 1.5km from Dillington Carr SSSI
- The site is about 3.6km from the River Wensum SAC
- The nearest residential property is within 15 metres, and a number of dwellings are within 50 metres, of the site boundary
- The grade I listed church of St. Mary is approximately 530 metres from the site boundary

10.2 This site would form an extension to the existing East Bilney Quarry, which is run by the same operator (Middleton Aggregates). Material won in the existing quarry is transported to the processing site (north of Rawhall Lane and west of Fakenham Road) along a conveyor belt. Mineral then leaves that site by HGV, travelling along Rawhall Lane and then Fakenham Road (the B1146). As a large site, MIN 10 would be worked in a phased manner, with material transported to the processing site by an extension to the existing conveyor belt. A financial contribution to highways improvements to the Rawhall Lane/Fakenham Road junction will be necessary.

10.3 The Task 1 Habitats Regulations Assessment concluded that there would be no likely significant effects on the River Wensum SAC.

10.4 In order to protect the residential amenity of dwellings, appropriate screening/bunding and stand-off areas are required along the roads surrounding the site, as indicated on the Policies Map. The proposer has stated that bunding would not be envisaged to be positioned within stand-off zones, so the impact on longer views would be reduced.

10.5 It is imperative that all current field boundaries with mature oak trees and hedges are retained and enhanced with further planting, as they are important features within the surrounding landscape setting.

10.6 Restoration of the site will be back to agriculture, albeit with wider field margins than before, and additional landscaping in the form of copses and hedgerows.

Policy MIN 10

The site is allocated as a specific site for sand and gravel extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- A programme of mitigation measures to deal appropriately with any amenity impacts;
- The existing processing plant (at East Bilney Quarry), accessed via an extension to the current conveyor, must be used;
- A detailed landscaping and screening scheme must be developed, so that the impacts on residents of Fakenham Road specifically, and the landscape generally, are satisfactory and the setting of nearby listed buildings are protected;
- The lines and groups of mature oak trees and hedges across the site (marked on the Policies Map) will need to be retained, enhanced with further planting, and incorporated into the scheme of working (allowing for standoffs) during operations. Field boundaries would also need additional planting and to be incorporated into the scheme of agricultural restoration;
- Restoration will be at the lower level (with no importation of material) back to agriculture, but with wider field margins and additional copses and hedgerows;
- Appropriate financial contributions must be made to B1146 Fakenham Road/Rawhall Road junction improvements;
- There must be a 'watching brief' during the extraction phase in case features of potential geodiversity interest are discovered, and ensure appropriate scientific study is permitted during the operational stage; and
- A Hydrological Risk Assessment to identify any potential impacts to groundwater, and Beetley and Hoe Meadows SSSI, and appropriate mitigation included any scheme of working, to include mitigation/compensation for any private abstraction points affected by dewatering in relation to this development

MIN 51 – Land west of Bilney Road, Beetley

51.1 Site Characteristics

- **The 14.1 hectare site is within the parish of Beetley**
- **The estimated sand and gravel resource at the site is 1,300,000 tonnes**
- The site is approximately 5 km from Dereham and 6.5 km to the A47
- The site would also include aggregate processing and a concrete batching plant
- Rawhall Wood, designated as County Wildlife Site 2068, is approximately 550 metres to the north-west of the site. CWS 1023 'Blockpightle Plantation' and CWS 2137 'Beck Farm Meadows' are less than a kilometre to the north of the site.
- The site is approximately 2.2km from Dillington Carr SSSI, approximately 2.5 km from Horse Wood Mileham SSSI, 2.5km from Beetley and Hoe Meadows SSSI.
- The site is about 5km from the River Wensum SAC
- The site is currently in agricultural use and is on Grade 3 land
- The site is in Flood Zone 1
- The nearest residential property is approximately 230 metres from the site boundary.

51.2 Although this site is close to the existing Middleton Aggregates processing plant, it is proposed by another minerals operator (East Anglian Stone Ltd) and in addition to mineral extraction, aggregate processing and a concrete batching plant are also proposed on the site.

51.3 The Task 1 Habitats Regulations Assessment concluded that there would be no likely significant effects on the River Wensum SAC.

51.4 The closest dwellings to the site are about 230m to the north-east, with a farmhouse about 400m to the north-west. Subject to hedge-thickening on the site boundaries, the amenity impacts are likely to be acceptable. The working and restoration scheme will need to take this planting into account, alongside the protection of two small areas of woodland which exist on the site. It is not likely that working the site would have any adverse impacts on nearby designated nature conservation sites.

51.5 Highways access will need to be to Bilney Road, and then, via Rawhall Lane, to Fakenham Road (B1146). Bilney Road is narrow, and road widening or passing bays will be required, along with a financial contribution to highways improvements at the Rawhall Lane/Fakenham Road junction.

Policy MIN 51

The site is allocated as a specific site for sand and gravel extraction, concrete batching plant and aggregate processing. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- A programme of mitigation measures to deal appropriately with any amenity impacts;
- Satisfactory road-widening or passing bays on Bilney Road must be proposed;
- Appropriate financial contributions to B1146 Fakenham Road/Rawhall Road junction improvements must be made;
- A high-quality working and restoration scheme must be developed, including the thickening of boundary hedges, and safeguarding the two small areas of woodland on the site and using them as a focal point for the restoration; and
- There must be a 'watching brief' during the extraction phase in case features of potential geodiversity interest are discovered, and ensure appropriate scientific study is permitted during the operational stage

MIN 102 – Land at North Farm, south of the River Thet, Snetterton

102.1 Site Characteristics

- **The 58.2 hectare site is within the parish of Snetterton**
- **The estimated sand and gravel resource at the site is 1,500,000 tonnes**, although taking into account those parts of the site concluded to be inappropriate for extraction, the workable resource may be somewhat less than this
- The site lies approximately 2km from the A11 and 4km from Attleborough
- The River Thet (designated a Core River Valley) borders the northern and western boundaries of the site
- The site is almost all in Flood Zone 1, with only small parts in Zones 2 and/or 3 (which are not being allocated for mineral working)
- The site is currently in agricultural use and is on Grade 4 and 5 land
- The site is adjacent to 'Shropham Fen' CWS
- The site is adjacent to Swangey Fen SSSI, which is part of the Norfolk Valley Fens SAC. It is also about 4.8km to the Breckland SPA
- The nearest residential property is approximately 460 metres from the site boundary

102.2 This site is one of a number of 'extensions' to the current Shropham Quarry operations to be allocated. The current site being worked is Honey Pots quarry, which is being worked and restored in phases. In December 2011, planning permission was granted for an extension to the Honey Pots quarry (which formed part of an original, larger, MIN 109) and a site to the north of Spong Lane.

102.3 Swangey Fen SSSI (which is part of the Norfolk Valley Fens SAC) is currently in an 'unfavourable recovering' condition. The Habitats Regulations Assessment concluded that if hydrogeological changes, dust deposition and nitrogen deposition from quarrying operations were properly mitigated/controlled, there would be no adverse effects on the integrity of the SAC.

102.4 In the absence of clear evidence to the contrary, a further (new) road crossing of the River Thet could not be permitted. A hydrogeological risk assessment will be necessary to determine the exact workable areas and any required mitigation measures; a buffer zone which protects the integrity of Swangey Fen SSSI is therefore necessary. Groundwater level monitoring will need to take place in advance of a planning application, with a depth of unsaturated material above the water table required as a vertical buffer. This therefore means that the current processing and plant site could not be used for MIN 102, and would therefore need to be set up somewhere within the MIN 102 site, with a haul road to the south to Hargham Road also being needed.

102.5 The Breckland SPA is designated due to the presence of stone curlew, nightjar and woodlark. Due to the distance from MIN 102, and the consequent lack of disturbance to the birds' habitats, the Habitats Regulations Assessment concluded that there would be no adverse effects on the integrity of the SPA.

102.6 The landscape setting of MIN 102 is sensitive, with the River Thet classed as a Core River Valley. The Core Strategy seeks to protect the Core River Valley and development in this area will only be permitted where it can be demonstrated to enhance the local landscape and the natural environment. Since it has not been demonstrated that mineral extraction and

restoration would enhance the local landscape, at this stage the part of the site within the Core River Valley is shown as a buffer zone which is judged necessary to protect the Core River Valley from extraction pending consideration of any detailed proposals. A buffer zone will be required along the western boundary of the site to help protect against adverse impacts upon North of Red Bridge and Shropham Fen County Wildlife Sites.

102.7 A buffer zone which extends along the northern and eastern boundaries of the site is necessary to signal that measures would be necessary to protect against adverse impacts on Shropham Fen & Old Gravel Works County Wildlife Sites and Swangey Fen SSSI (part of Norfolk Valley Fens SAC). The buffer zone would also have landscape benefits. The eastern buffer zone would also be needed to protect the integrity of the adjacent Barnes Oak woodland.

102.8 The site has high potential for archaeological remains – finds have been made in the local area from a number of different periods, and so a programme of trial trenching will be required, in addition to a desk-based assessment and field survey work.

102.9 North Farm, which lies to the south of the site, trains racehorses, and uses ‘gallops’ around the agricultural fields of the area to exercise the horses. Appropriate noise reduction measures may therefore be necessary to avoid excessive levels of noise which might frighten horses. Adherence to operational hours will also be important to ensure that early morning gallops are not disturbed unexpectedly.

102.10 Previous excavations at minerals sites in Shropham have revealed features of national geodiversity importance (glacial and interglacial deposits, including buried terrace sediments and animal bones), and similar structures could also be present in the site.

102.11 It is important that the mineral sites at Shropham are worked and restored in a progressive and phased manner, to minimise the number of areas being worked at any one time, and the County Council would wish to see a progressive west-east working and restoration, with the 2011 planning permission area and the remaining area of MIN 109, MIN 110 and then MIN 108 worked (in that order), with MIN 102 the last to be worked.

Policy MIN 102

The site is allocated as a specific site for sand and gravel extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- This site should not be worked in advance of MIN 108, MIN 110 and the remaining parts of MIN 109 (assuming that acceptable planning applications are made);
- A programme of mitigation measures to deal appropriately with any amenity impacts;
- A buffer zone is needed along the northern and eastern boundaries to protect existing areas of woodland (as shown on the policies map), the integrity of Swangey Fen SSSI, Old Gravel Works and Shropham Fen County Wildlife Sites and Barnes Oak Wood;
- A buffer zone is needed along the western boundary to protect the Core River Valley of the River Thet, unless it can be demonstrated that development would enhance the form, local character and distinctiveness of the landscape and natural environment of the river valley. The western buffer zone is also necessary to help protect against adverse impacts upon North of Red Bridge and Shropham Fen County Wildlife Sites;
- In order to avoid any impacts on Swangey Fen SSSI/Norfolk Valley Fens SAC, only those parts of the site which could be extracted ‘dry’ (i.e. above the water table) could be worked, with a buffer of unsaturated material beneath the limit of working. In order to

inform this, a programme of groundwater level monitoring will be required before and during extraction (and upon restoration). Monitoring – which will be especially important along the boundary with the SSSI – should commence well in advance of the submission of a planning application in order to inform a hydrogeological risk assessment. A Scheme of Working based upon the HRA and groundwater level monitoring results should be submitted with any planning application.

- It must be demonstrated that levels of dust deposition and/or nitrogen deposition on Swangey Fen SSSI/Norfolk Valley Fens SAC would not have an adverse effect on the integrity of the SAC;
- Due to the Habitats Regulations Assessment findings of the potential impact on Norfolk Valley Fens SAC, a new vehicular bridge crossing the Thet to serve the current processing area will not be acceptable, unless it is demonstrated at the planning application stage that any vehicular bridge crossing proposed would not adversely affect the integrity of the Norfolk Valley Fens SAC.. A new processing area will therefore need to be set up on the MIN 102 site;
- Drainage from the site should be passed through a settlement lagoon before discharge, with use of Sustainable Drainage Systems (SuDS) preferably to outfall to the River Thet;
- Appropriate screening and/or bunding will be necessary to protect the amenity of the residents of North Farm (to the south), with the location of the processing plant considered carefully. The impact on racehorse ‘gallops’ will also need to be considered carefully;
- A haul road will need to run south of the site to Hargham Road (with an acceptable junction arrangement) and then to the A11 (no HGVs will be permitted to travel north-westwards along Hargham Road, save for occasional local deliveries), unless it is demonstrated at the planning application stage that any vehicular bridge crossing of the River Thet proposed would not adversely affect the integrity of the Norfolk Valley Fens SAC;
- A comprehensive working and restoration plan will need to be developed to take into account the points above, with wide field margins, hedgerows and woodland included;
- A desk-based archaeological assessment must be prepared, followed by field surveys and trial-trenching, with the results to be submitted with any planning application; and
- Some open faces must be retained for geological study during the operational stages and there must be a ‘watching brief’ during the extraction phase in case features of potential geodiversity interest are discovered

MIN 108 – Land to the north of Hargham Road, Shropham

108.1 Site Characteristics

- **The 16.6 hectare site is within the parish of Shropham**
- **The estimated sand and gravel resource at the site is 150,000 tonnes**
- The site lies approximately 3km from the A11 and 5km from Attleborough
- The site is currently in agricultural use, and is on Grade 4 and 5 land
- The eastern part of the site borders Shropham Fen CWS,
- The site is about 800m from Swangey Fen SSSI, which is part of the Norfolk Valley Fens SAC
- The site is in Flood Zone 1
- The nearest residential property is approximately 310 metres from the site boundary
- The grade I listed church of St. Peter is approximately 830 metres from the site boundary

108.2 This site is one of a number of ‘extensions’ to the current Shropham Quarry operations to be allocated. The current site being worked is Honey Pots quarry, which is being worked and restored in phases. In December 2011, planning permission was granted for an extension to the Honey Pots quarry (which formed part of an original, larger, MIN 109) and a site to the north of Spong Lane.

108.3 Swangey Fen SSSI (which is part of the Norfolk Valley Fens SAC) is currently in an ‘unfavourable recovering’ condition. The Habitats Regulations Assessment concluded that if hydrogeological changes, dust deposition and nitrogen deposition from quarrying operations were properly controlled/mitigated, there would be no adverse effects on the integrity of the SAC. Nonetheless, any planning application would need to address this, and in particular, a hydrogeological risk assessment will be necessary to determine the exact workable areas and any required mitigation measures. A buffer zone around Shropham Fen will also be needed.

108.4 The Breckland SPA is designated due to the presence of stone curlew, nightjar and woodlark. Due to the distance from MIN 102, and the consequent lack of disturbance to the birds’ habitats, the Habitats Regulations Assessment concluded that there would be no adverse effects on the integrity of the SPA.

108.5 A combination of a stand-off zone and some screening/bunding will be necessary to ensure that the impacts on properties to the south – in particular the Grade I listed St Peter’s Church – are not unacceptable.

108.6 The site has high potential for archaeological remains – finds have been made in the local area from a number of different periods, and so a programme of trial trenching will be required, in addition to a desk-based assessment and field survey work.

108.7 Previous excavations at minerals sites in Shropham have revealed features of national geodiversity importance (glacial and interglacial deposits, including buried terrace sediments and animal bones), and similar structures could also be present in the site.

108.8 It is important that the mineral sites at Shropham are worked and restored in a progressive and phased manner, to minimise the number of areas being worked at any one time, and the County Council would wish to see a progressive west-east working and restoration, with the 2011

planning permission area and the remaining area of MIN 109, MIN 110 and then MIN 108 worked (in that order), with MIN 102 the last to be worked.

Policy MIN 108

The site is allocated as a specific site for sand and gravel extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- This site should not be worked in advance of the remaining parts of MIN 109 and then MIN 110 (assuming that acceptable planning applications are made);
- A programme of mitigation measures to deal appropriately with any amenity impacts;
- Satisfactory screening and/or bunding must be provided on the southern boundary, with a 'stand-off' zone around Shropham Fen County Wildlife Site, and the setting of nearby listed buildings;
- In order to avoid any impacts on Swangey Fen SSSI/Norfolk Valley Fens SAC, only those parts of the site which could be extracted 'dry' (i.e. above the water table) could be worked. In order to inform this, a programme of groundwater level monitoring will be required before and during extraction (and upon restoration). Monitoring should commence well in advance of the submission of a planning application in order to inform a hydrogeological risk assessment. A Scheme of Working based upon the HRA and groundwater level monitoring results should be submitted with any planning application;
- It must be demonstrated that levels of dust deposition and/or nitrogen deposition (taking into account any mitigation measures) on Swangey Fen SSSI/Norfolk Valley Fens SAC would not have an adverse impact on the integrity of the SAC;
- Drainage from the site should be passed through a settlement lagoon before discharge, with use of Sustainable Drainage Systems (SuDS) preferably to outfall to the River Thet;
- The current haul road (Spong Lane) to the processing site and agreed routing to the A11 must be used. Some highway improvements to Swangey Lane (improvements to passing bays) may be needed;
- Restoration will be to agriculture (as existing) but given the site's boundary with Shropham Fen CWS, the opportunity should be taken to include conservation grassland, woodland and mixed hedgerows along that boundary;
- A desk-based archaeological assessment must be prepared, followed by field surveys and trial-trenching, with the results to be submitted with any planning application; and
- Some open faces must be retained for geological study during the operational stages, and ideally after restoration, and there must be a 'watching brief' during the extraction phase in case features of potential geodiversity interest are discovered

MIN 109 – Land to the south of Honey pots Quarry, Shropham

109.1 Site Characteristics

- **The 15.1 hectare site is within the parish of Shropham**
- **The estimated sand and grave resource at the site is 350-400,000 tonnes**
- The site lies approximately 3km from the A11 and 5km from Attleborough
- The site is currently in agricultural use and on Grade 3 agricultural land
- ‘Lower Stow Bedon’ CWS and ‘East of Lower Stow Bedon’ CWS lie a short distance to the north of the site
- It is about 2.2 km from the site to Swangey Fen SSSI, which is part of the Norfolk Valley Fens SAC
- The site is in Flood Zone 1
- The nearest residential property is approximately 150 metres from the site boundary
- The grade I listed church of St. Peter is approximately 1.2 kilometres from the site boundary

109.2 This site is one of a number of ‘extensions’ to the current Shropham Quarry operations to be allocated. The current site being worked is Honey pots quarry, which is being worked and restored in phases. In November 2011, planning permission was granted for an extension to the Honey pots quarry (which formed part of an original, larger, MIN 109) and a site to the north of Spong Lane (MIN 107, which has been withdrawn from the process).

109.3 Swangey Fen SSSI (which is part of the Norfolk Valley Fens SAC) is currently in an ‘unfavourable recovering’ condition. The Habitats Regulations Assessment concluded that if hydrogeological changes, dust deposition and nitrogen deposition from quarrying operations were properly controlled/mitigated, there would be no adverse effects on the integrity of the SAC. Any planning application would need to demonstrate this, however.

109.4 The Breckland SPA is designated due to the presence of stone curlew, nightjar and woodlark. Due to the distance from MIN 102, and the consequent lack of disturbance to the birds’ habitats, the Habitats Regulations Assessment concluded that there would be no adverse effects on the integrity of the SPA.

109.5 Some screening/bunding will be necessary to ensure that the impacts on properties to the south – in particular the Grade I listed St Peter’s Church – are not unacceptable.

109.6 The site has high potential for archaeological remains – finds have been made in the local area from a number of periods, and so a programme of trial trenching will be required, in addition to a desk-based assessment and field survey work.

109.7 Previous excavations at minerals sites in Shropham have revealed features of national geodiversity importance (glacial and interglacial deposits, including buried terrace sediments and animal bones), and similar structures could also be present in the site.

109.8 It is important that the mineral sites at Shropham are worked and restored in a progressive and phased manner, to minimise the number of areas being worked at any one time, and the County Council would wish to see a progressive west-east working and restoration, with the 2011 planning permission area and the remaining area of MIN 109, MIN 110 and then MIN 108 worked (in that order), with MIN 102 the last to be worked.

Policy MIN 109

The site is allocated as a specific site for sand and gravel extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- This site should be the first Shropham site to be worked, with the other allocated sites following later (assuming that acceptable planning applications are made);
- A programme of mitigation measures to deal appropriately with any amenity impacts will be necessary;
- Satisfactory screening and/or bunding must be provided on the southern boundary of the site to protect views from Shropham, and the setting of nearby listed buildings;
- It must be demonstrated that levels of dust deposition and/or nitrogen deposition on Swangey Fen SSSI/Norfolk Valley Fens SAC would not have an adverse impact on the integrity of the SAC;
- Drainage from the site should be passed through a settlement lagoon before discharge;
- The site should be worked 'dry' (i.e. above the water table); if it would need de-watering, a hydrogeological risk assessment would need to be prepared to determine the potential for any impacts on Swangey Fen SSSI/Norfolk Valley Fens SAC, and any mitigation measures necessary;
- The current haul road (Spong Lane) to the processing site and agreed routing to the A11 must be used. Some highway improvements to Swangey Lane (improvements to passing bays) may be needed;
- Restoration should be to agriculture, with hedgerow improvements and additional tree planting;
- A desk-based archaeological assessment must be prepared, followed by field surveys and trial-trenching, with the results to be submitted with any planning application; and
- Some open faces must be retained for geological study during the operational stages, and there must be a 'watching brief' during the extraction phase in case features of potential geodiversity interest are discovered

MIN 110 – Land to the south of Spong Lane, Shropham

110.1 Site Characteristics

- **The 11.4 hectare site is within the parish of Shropham**
- **The estimated sand and gravel resource at the site is 150,000 tonnes**
- The site and lies approximately 3km from the A11 and 5km from Attleborough
- The site is currently in agricultural use and on Grade 3 agricultural land
- The site is approximately 350m from Shropham Fen CWS
- The site is 1.5km from Swangey Fen SSSI, which is part of the Norfolk Valley Fens SAC
- The site is in Flood Zone 1
- The nearest residential property is within 25 metres of the site boundary
- The grade I listed church of St. Peter is approximately 850 metres from the site boundary

110.2 This site is one of a number of ‘extensions’ to the current Shropham Quarry operations to be allocated. The current site being worked is Honeypots quarry, which is being worked and restored in phases. In November 2011, planning permission was granted for an extension to the Honeypots quarry (which formed part of an original, larger, MIN 109) and a site to the north of Spong Lane.

110.3 Swangey Fen SSSI (which is part of the Norfolk Valley Fens SAC) is currently in an ‘unfavourable recovering’ condition. The Habitats Regulations Assessment concluded that if hydrogeological changes, dust deposition and nitrogen deposition from quarrying operations properly controlled/mitigated, there would be no adverse effects on the integrity of the SAC. Any planning application would need to demonstrate this, however.

110.4 The Breckland SPA is designated due to the presence of stone curlew, nightjar and woodlark. Due to the distance from MIN 102, and the consequent lack of disturbance to the birds’ habitats, the Habitats Regulations Assessment concluded that there would be no adverse effects on the integrity of the SPA.

110.5 Some screening/bunding will be necessary to ensure that the impacts on properties to the south – in particular the Grade I listed St Peter’s Church and Manor Farm – are not unacceptable.

110.6 The site has high potential for archaeological remains – finds have been made in the local area from a number of periods, and so a programme of trial trenching will be required, in addition to a desk-based assessment and field survey work.

110.7 It is important that the mineral sites at Shropham are worked and restored in a progressive and phased manner, to minimise the number of areas being worked at any one time, and the County Council would wish to see a progressive west-east working and restoration, with the 2011 planning permission area and the remaining area of MIN 109, MIN 110 and then MIN 108 worked (in that order), with MIN 102 the last to be worked.

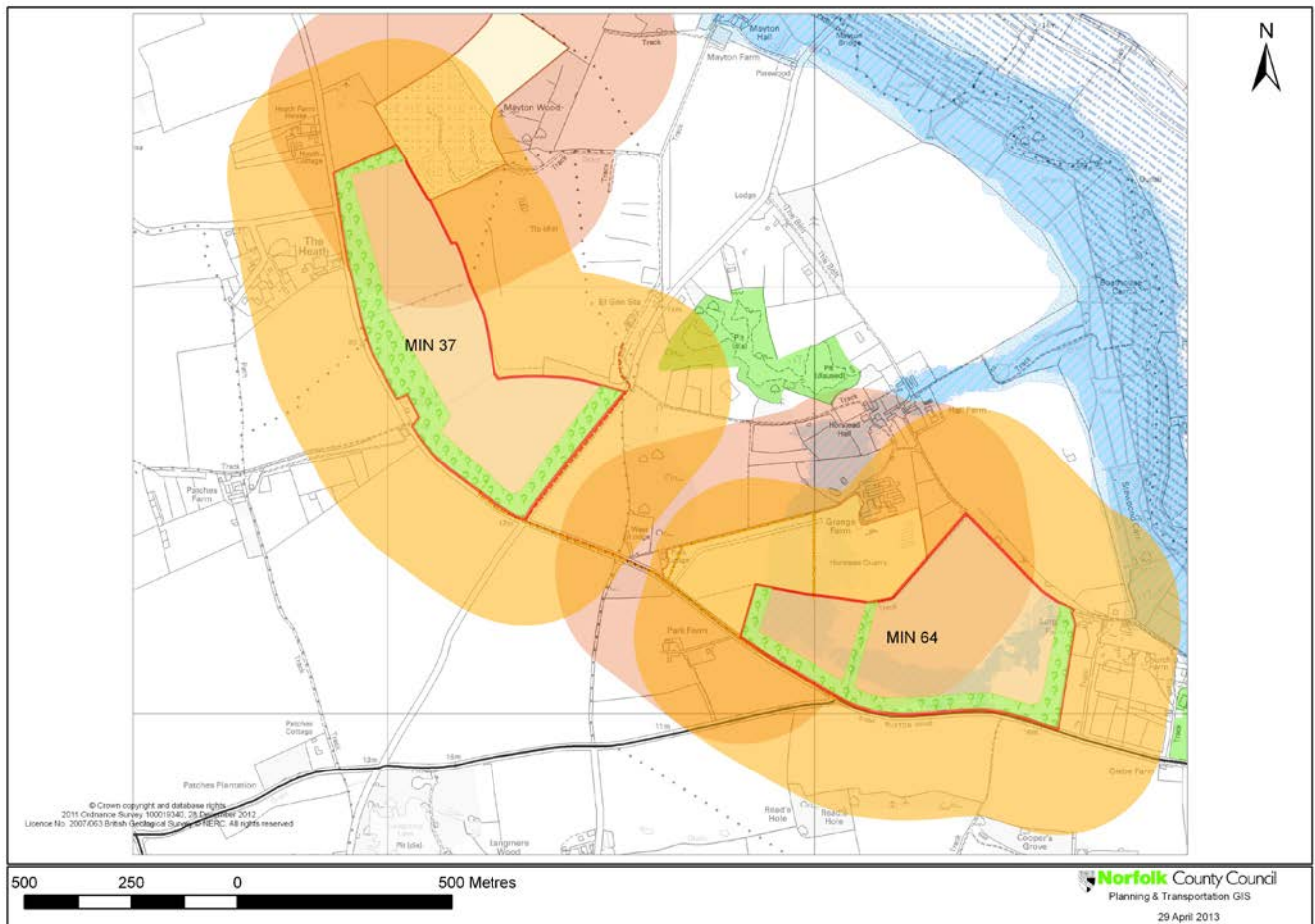
Policy MIN 110

The site is allocated as a specific site for sand and gravel extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- This site should not be worked in advance of the remaining parts of MIN 109 and then MIN 108 (assuming that acceptable planning applications are made);
- A programme of mitigation measures to deal appropriately with any amenity impacts;
- Satisfactory screening and/or bunding must be provided on the southern boundary of the site to protect views from Shropham, and the setting of nearby listed buildings;
- It must be demonstrated that levels of dust deposition and/or nitrogen deposition on Swangey Fen SSSI/Norfolk Valley Fens SAC would not have an adverse effect on the integrity of the SAC;
- Drainage from the site should be passed through a settlement lagoon before discharge, with use of Sustainable Drainage Systems (SuDS) preferably to outfall to the River Thet;
- In order to avoid any impacts on Swangey Fen SSSI/Norfolk Valley Fens SAC, only those parts of the site which could be extracted 'dry' (i.e. above the water table) could be worked. In order to inform this, a programme of groundwater level monitoring will be required before and during extraction (and upon restoration). Monitoring should commence well in advance of the submission of a planning application in order to inform a hydrogeological risk assessment. A Scheme of Working based upon the HRA and groundwater level monitoring results should be submitted with any planning application;
- The current haul road (Spong Lane) to the processing site and agreed routing to the A11 must be used. Some highway improvements to Swangey Lane (improvements to passing bays) may to be needed;
- A desk-based archaeological assessment must be prepared, followed by field surveys and trial-trenching, with the results to be submitted with any planning application;
- Restoration should be to agriculture, with strengthened mixed species hedgerows, more trees and wider field margins; and
- Some open faces are retained for geological study during the operational stages, and there is a 'watching brief' during the extraction phase in case features of potential geodiversity interest are discovered

BROADLAND SITES

MIN 37 – Land at Mayton Wood



37.1 Site Characteristics

- **The 23.5 hectare site is located in the parishes of Frettenham and Buxton with Lammas**
- **The estimated sand and gravel resource at the site is 1,450,000 tonnes**
- The site lies adjacent to an active mineral extraction site and would be worked as extension
- The site will use the existing access route, east from the site on the C494 and then onto the B1354 which is designated as a main distributor route in the route hierarchy
- The site lies adjacent to a closed and partially restored landfill
- The site is in agricultural use currently and is on Grade 3 land
- The site is in Flood Zone 1
- The site is approximately 12km from Norwich
- The nearest residential property on the Buxton Road is approximately 15 metres from the site boundary
- The site is 4.2km from Crostwick Marshes SSSI which forms part of the Broadland SPA/Ramsar, and the Broads SAC.

37.2 The site is located between the closed landfill at Mayton Wood and the B1354. The site is open and the landscape value of the area is reduced by the domed form of the landfill. The screening that is proposed to surround the mineral site will provide long term landscape gains if it is retained, which will help to mitigate and screen the differences in landform between the landfill and the mineral site specific allocation. Screening should take the form of tree belts with hedgerows closest to the edges of the site as shown on the Policies Map, with any amenity bunds placed behind these. Screen planting should make use of native species wherever possible.

37.3 The amenity impacts on the properties closest to the mineral working have been subject to an initial screening assessment by the proposer of the site and this has informed the indicative depth of the screening surrounding them.

37.4 The site is less than 5km from the Broadland SPA/Ramsar and The Broads SAC; however no likely significant effects are anticipated as long as the operations take place above the water table.

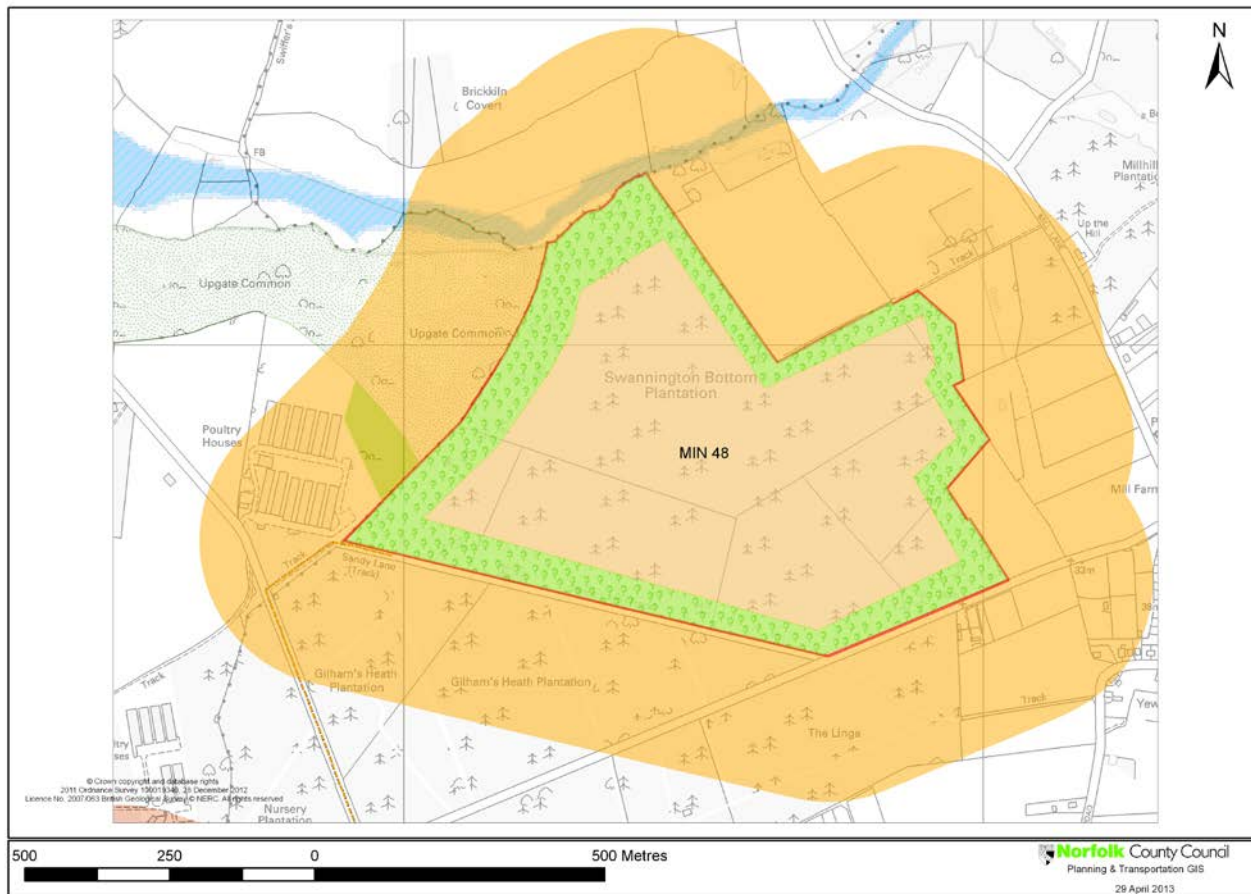
37.5 A restoration scheme which retained the planting around the site together with acid grassland or heathland would be preferred, to provide long term landscape and ecological gains.

Policy MIN 37

The site is allocated as a specific site for sand and gravel extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- A screening scheme which will include mitigation of views, by a combination of advance planting, and bunds, from the five properties along the Buxton Road, the PROW, and surrounding roads, and protection of the setting of nearby listed buildings;
- A programme of mitigation measures to deal appropriately with any amenity impacts;
- A scheme of working, to include, progressive restoration to a lower level with some inert fill, with final restoration to add ecological interest, and to mitigate landscape impacts, preferably by retention of the planting and creation of acid grassland/heathland;
- There must be a limit on the depth of extraction to ensure that the working is above the maximum level of the groundwater to protect the integrity of the Broadland Ramsar and The Broads SAC;
- Opportunities during working for any geodiversity assets to be studied, and if compatible with the landscape and ecology objectives an open face to be included within any restoration scheme for future scientific study; and
- Access to be along the existing route, and contributions to any highway improvements which would be required by the highway authority to ensure highway safety.

MIN 48 – Swannington Bottom Plantation, Felthorpe



48.1 Site Characteristics

- **The 51.6 hectare site is located in the parish of Felthorpe**
- **The estimated sand and gravel resource at the site is 1,900,000 tonnes**
- There is a Public Right of Way along the southern boundary
- The site lies adjacent to Upgate Common SSSI
- There is a round barrow (a scheduled monument) on the south-western boundary of the site
- The site is in commercial coniferous plantation use currently and its agricultural land classification is ungraded
- The site is in Flood Zone 1
- An Internal Drainage Board maintained watercourse runs along part of the northern boundary
- The site is approximately 2km from Norwich
- The site is 3.5km from the Buxton Heath SSSI which forms part of the Norfolk Valley Fens SAC and 2.5km from the River Wensum SAC
- The nearest residential property is approximately 170 metres from the site boundary.

48.2 This site is located within an area of coniferous plantation on what was originally a heathland area. It is adjacent to Upgate Common SSSI which is designated as a habitat for amphibians, and a buffer zone which would not be worked for mineral

extraction would be required to mitigate any adverse impacts as would a hydrogeological risk assessment to prevent unacceptable impacts as a result of any dewatering. The site is approximately 3.5 km from the Norfolk Valley Fens SAC and 2.5km from the River Wensum SAC; however no likely significant effects are anticipated.

48.3 The proposed access route would use an existing plantation track and turning left onto Swannington Upgate Road and right onto the Felthorpe Road both designated as C class roads and left onto the Reepham Road (a designated lorry route). The existing plantation track is lined by some deciduous trees which would have to be removed to permit HGV to travel along it, however there are a number of other potential access routes from the site to the highway network and it is considered that an acceptable access could be formed.

48.4 A restricted byway currently runs along the southern boundary. Screening will be required around the site and the deciduous belt surrounding the existing coniferous plantation should be retained and reinforced. The current woodland has a little in the way of an understorey and it will be necessary to provide advance planting of hedge species along the boundaries of the site, especially along the southern boundary to protect the amenity of users of the byway. Screen planting should make use of native species wherever possible. The exact depth of any buffer zone will need to be assessed as part of any future planning application. There is a property related to the poultry unit at the south-western corner of the site. This unit produces significant amounts of noise during some operations and with appropriate screening and buffering it is considered that this property will not be subject to unacceptable noise from any future working.

48.5 Norwich could provide a market for a significant amount of the material extracted.

48.6 Restoration should preferably be to a mixture of wet heathland, deciduous woodland and dry acid heathland, to provide both landscape and ecology gains.

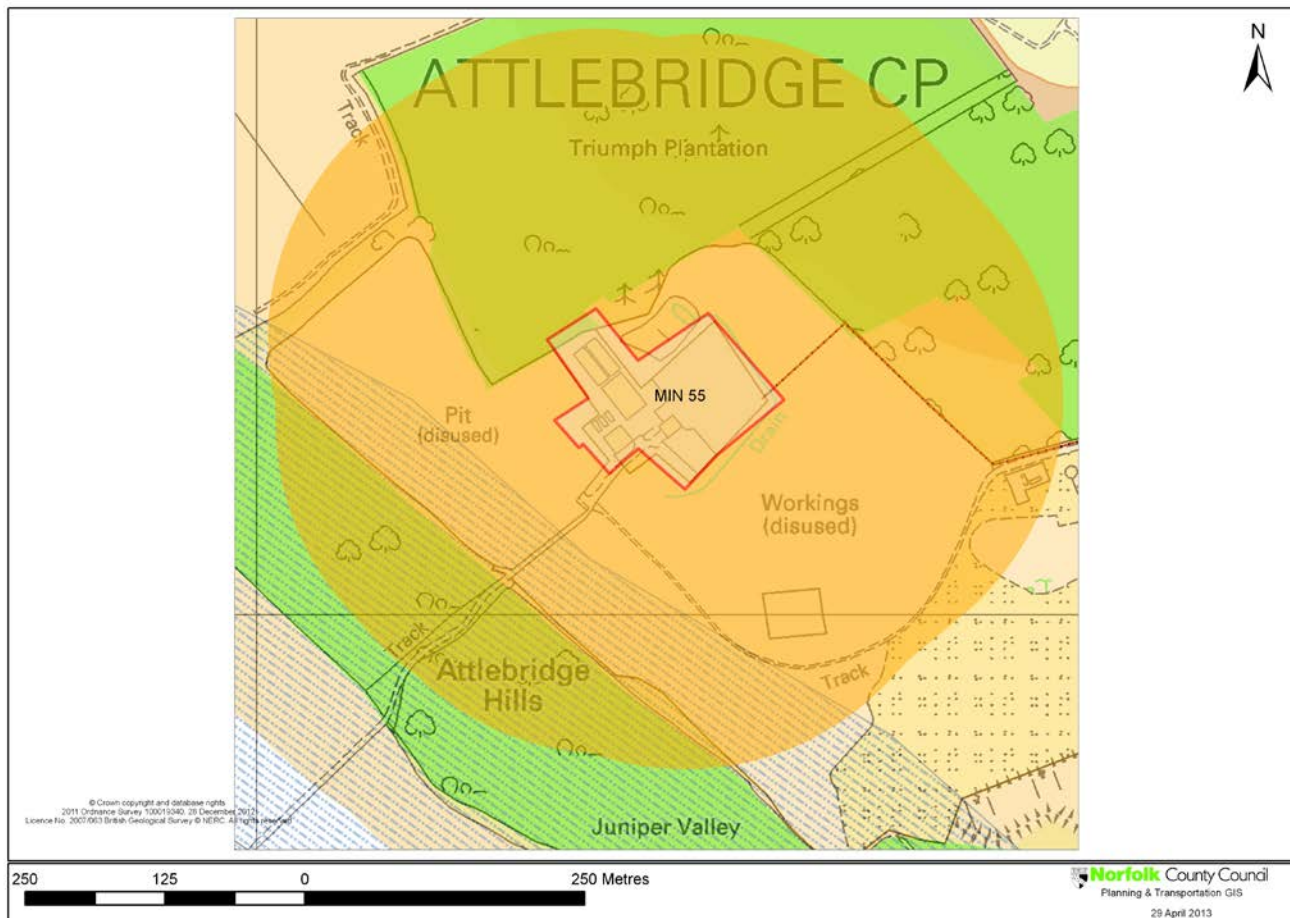
48.7 An Internal Drainage Board watercourse runs along part of the northern boundary of the site and any scheme of working will need to take this into account and ensure that no unacceptable impacts are caused to this or to habitats downstream. Any scheme of working which includes dewatering will need to provide evidence in the form of a hydrogeological risk assessment that potential impacts have been identified and appropriate mitigation put in place.

Policy MIN 48

The site is allocated as a specific site for sand and gravel extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- A screening scheme which will include mitigation of views from the PROW and surrounding roads;
- A survey to identify any protected species or habitats and provision of mitigation for any impacts identified;
- A programme of mitigation measures to deal appropriately with any amenity impacts;
- A scheme of working, to include mitigation of hydrogeological impacts (based on the findings of a hydrogeological risk assessment) on Upgate Common SSSI, the IDB maintained watercourse, and potential impacts on any protected species at all stages of the development, including a buffer zone between the working and Upgate Common SSSI;
- Opportunities during working for any geodiversity assets to be studied, and if compatible with the landscape and ecology objectives an open face to be included within any restoration scheme for future scientific study;
- A restoration scheme to a mixture of woodland and heathland which provides landscape, biodiversity gains;
- Contributions to any highway improvements which would be required by the Highway Authority to ensure highway safety, and a highway routing agreement to prevent HGV quarry traffic travelling through Felthorpe or Swannington Upgate; and
- A suitable approved buffer zone to protect the scheduled round barrow and its setting, including archaeological evaluation of the proposed extraction site.

MIN 55 – Land at Keepers Cottage, Attlebridge



55.1 Site Characteristics

- **The 1.9 hectare site is located in the parish of Attlebridge**
- **The estimated sand and gravel resource at the site is 525,000 tonnes**
- The site lies adjacent to an active mineral extraction site and adjacent to an active landfill
- The site is currently a residential dwelling and its curtilage, the next nearest residential property is approximately 490 metres from the site boundary
- The site is in Flood Zone 1
- The site is approximately 2km from Norwich
- The site is adjacent to “Triumph Plantation” County Wildlife Site 1344 and 275m from “Attlebridge Hills” County Wildlife Site 1343
- The site is within 700m of the River Wensum SAC

55.2 This site is currently a residential property adjacent to the existing Attlebridge landfill site and an existing mineral extraction site. Initial restoration is proposed to be to non-hazardous landfill (allocated waste site WAS 24), with the eventual restoration of this site providing an opportunity to link into the existing sites.

55.3 Norwich could provide a market for a significant amount of the material extracted. It is proposed that access to the allocation would be via the existing route to the landfill via King William’s Drive and then onto the Reephram Road, and the Highway Authority consider that this would be suitable.

55.4 The site has woodland close by and the buildings may provide bat roosts. A bat survey and appropriate mitigation may be necessary.

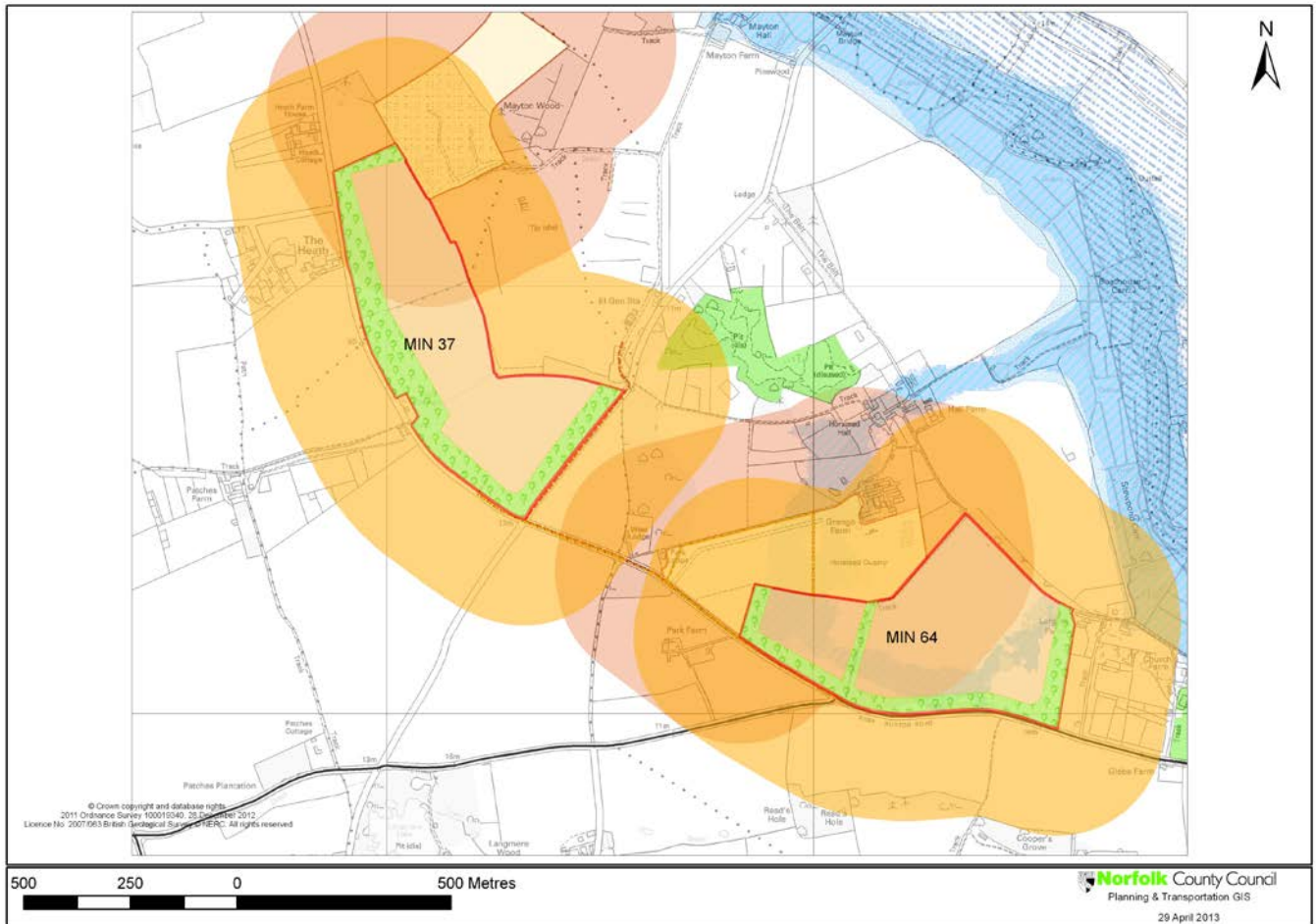
55.5 The site is in an elevated position in relation to the River Wensum and any working is therefore expected to be above the water table. Therefore although the site is relatively close to the River Wensum SAC it is considered that mineral extraction would result in no adverse effects on the integrity of the SAC

Policy MIN 55

The site is allocated as a specific site for sand and gravel extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- A survey to identify any protected species or habitats and mitigation for any impacts;
- A scheme of working which allows access for potential geodiversity features to be studied;
- A programme of mitigation measures to deal appropriately with any amenity impacts;
- A scheme of working and restoration, taking into account the potential for impacts on the River Wensum SAC from runoff and mitigating these, including a limit on the depth of extraction to ensure any working is above the maximum water table;
- Opportunities during working for any geodiversity assets to be studied, and if compatible with the landscape and ecology objectives an open face to be included within any restoration scheme for future scientific study;
- A restoration scheme which integrated with the surrounding mineral and waste sites and incorporated heathland would provide biodiversity and landscape gains;
- A scheme of working which takes into account the presence of high pressure gas transmission pipelines in the vicinity; and
- A routing agreement, to use the existing landfill access route to the Reepham Road.

MIN 64 – Horstead Quarry extension, Grange Farm, Horstead



64.1 Site Characteristics

- The 22 hectare site is located in the parish of Horstead with Stanninghall
- The estimated sand and gravel resource at the site is 950,000 tonnes
- Site lies adjacent to an active mineral extraction site and would be worked as extension, and will use the existing access route along the B1354
- The site is in agricultural use currently and is on Grade 3 land
- Part of the site is in Flood Zones 2&3
- The site is within a groundwater Source Protection Zone 3
- The site is approximately 12km from Norwich
- The nearest residential property is approximately 60 metres from the site boundary
- The site is just over 250m from “Land adjacent All Saints’ Church” County Wildlife Site 1409
- The site is 3.3km from Crostwick Marsh SSSI which forms part of the Broadland SPA/Ramsar and the Broads SAC

64.2 This site is two fields to the south of the existing Horstead mineral working and borders the B1354. The fields have a hedge running along the B1354, which already provides some screening; this will require reinforcement, with native species, with any amenity bunds being positioned behind these. Screening in the form of a tree belt will need to take place at the eastern end of the allocation, and it would be beneficial for any planting to be designed so as to provide a long term landscape enhancement as part of the mitigation of any future working. The indicative positioning of screening belts are shown on the Policies Map. A hedge containing two trees divides the two fields and this should be retained as it provides a significant landscape feature. A row of Poplar trees also provide a significant landscape feature and any scheme of working in a future planning application should aim to minimise disturbance to these, and compensatory tree plant should be considered for any which require removal. Although the site is contains an area of land which is within flood zones 2&3, evidence from the existing quarry is that this would be a working above the water table. The site is within a Source Protection Zone 3, and mineral workings would only be acceptable in principle if the maximum depth of working was above the water table. A restoration scheme to arable with wide margins to incorporate and retain the screen planting to provide biodiversity and landscape gains would be preferred.

64.3 The current working is limited by a condition within its planning permission to a maximum extraction volume of 50,000 tonnes per annum, it is considered that so long as any permission for this allocation is also limited to this value, together with some contribution to highway improvements and a routing agreement to continue the existing access route via the B1354 to the A140, no unacceptable traffic impacts are anticipated.

64.4 The site is less than 5km from the Broadland SPA/Ramsar and the Broads SAC however, no likely significant effects are anticipated.

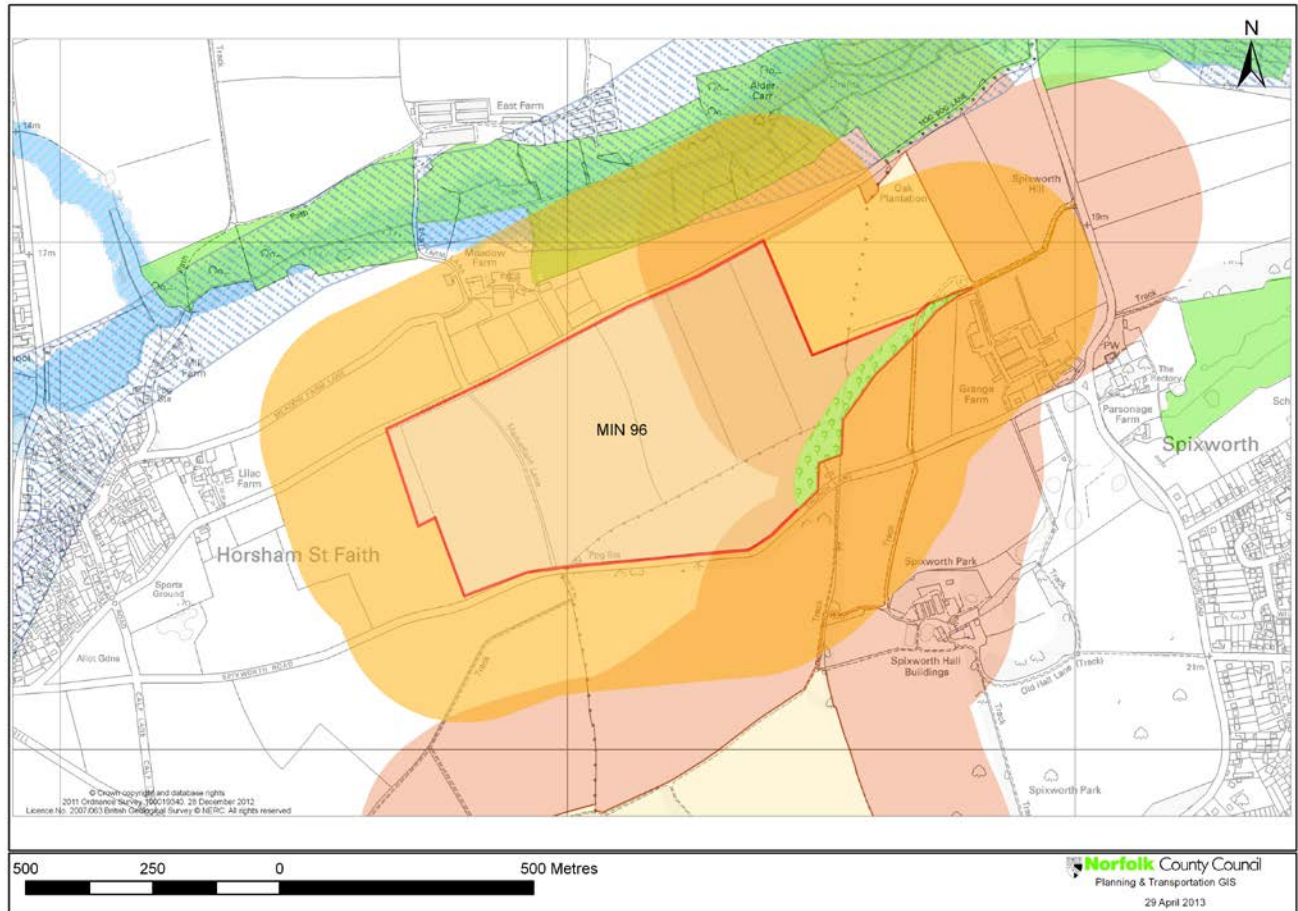
64.5 Norwich could provide a market for a significant amount of the material extracted, and the existing working provides a source of aggregate for a wide rural area northeast of Norwich.

Policy MIN 64

The site is allocated as a specific site for sand and gravel extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- A limit on the total annual extraction volume to a maximum 50,000 tonnes per annum;
- A screening scheme which will include mitigation of views from nearby properties, and surrounding roads;
- A programme of mitigation measures to deal appropriately with any amenity impacts;
- A maximum depth of working to be established to ensure the working is above the water table. The findings of a hydrogeological risk assessment would be required to establish the maximum depth of working;
- Opportunities during working for any geodiversity assets to be studied, and if compatible with the landscape and ecology objectives an open face to be included within any restoration scheme for future scientific study;
- A restoration scheme to arable with wide margins which incorporates the retention of screen planting to provide landscape and biodiversity gains; and
- Contributions to any highway improvements which would be required by the Highway Authority to ensure highway safety, and a routing agreement to ensure the continued use of the existing access route.

MIN 96 – Land at Grange Farm, Spixworth



96.1 Site Characteristics

- **This 48 hectare site is located in the parishes of Spixworth, Horsham St Faith and Newton St Faith**
- **The estimated sand and gravel resource at the site is 1,000,000 tonnes**
- The site lies adjacent to an active mineral extraction site and would be worked as extension
- The site is in agricultural use currently and is on Grade 3 land
- The site is in Flood Zone 1
- The site is approximately 12km from Norwich
- There are two residential properties adjacent to the site
- Marketfield Lane, a soft road, crosses the site
- The site is just under 500m from 'Spixworth Meadows' County Wildlife Site 1396; and
- The site is 2.2km from Crostwick Marsh SSSI which forms part of the Broadland SPA/Ramsar and the Broads SAC.

96.2 The site is adjacent to an existing permitted aggregate processing plant which is located to the northeast. The allocation would be worked as an extension to the current working which is to the south west and would use the existing access route which passes north through Frettenham along a designated lorry route to the A140. A limit would be placed on the annual extraction volume to no more than that permitted from the existing extraction site to ensure no intensification of mineral traffic.

The proposed route of the Norwich Northern Distributor Road passes close to the allocation site and could provide a potential alternative access route. Norwich and the construction of the NNDR could provide a market for a significant amount of the material extracted.

96.3 There are a number of listed buildings surrounding the site, with the closest being approximately 300m distant. It is considered that the setting of these buildings could be safeguarded through the use of screen planting. Screen planting, amenity bunds, and a standoff area will also be used to mitigate amenity impacts on the two properties at the south of the site, adjacent to the allocation.

96.4 A future planning application should consider phasing and the direction of working as part of the scheme of working, because the time of year and the precise manner in which extraction takes place can result in variations in amenity impacts on local residents. Extraction closest to properties should normally take place during the winter months, when residents tend to spend less time in their gardens, and have fewer windows open, so any noise which arises is less likely to give rise to potentially unacceptable amenity impacts.

96.5 The site is 2.2km from the Broadland SPA/Ramsar and the Broads SAC, however no likely significant effects are anticipated.

96.6 Due to the expected depth of extraction, it is recognised that any restoration to arable is likely to require the use of imported inert material to provide a suitable profile. The detailed assessment of restoration requirements would form part of any future planning application for mineral extraction, as indicated in Core Strategy Policy CS9.

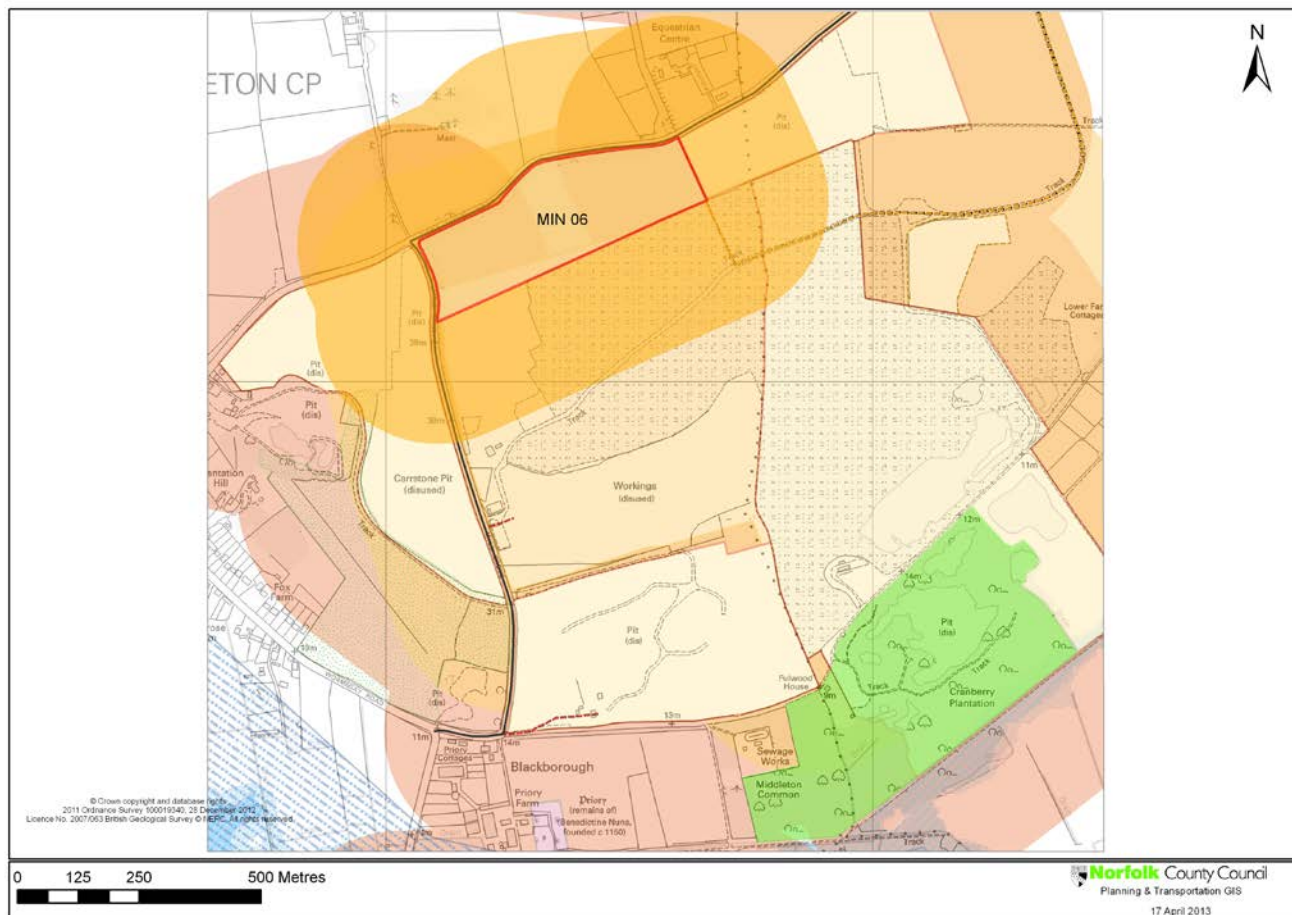
Policy MIN 96

The site is allocated as a specific site for sand and gravel extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- A screening scheme which will include mitigation of views from the nearby properties, Marketfield Lane, and surrounding roads, and provide protection of the setting of nearby listed structures;
- An programme of archaeological evaluation and appropriate fieldwork and preservation in situ if required;
- A programme of mitigation measures to deal appropriately with any amenity impacts
- A scheme of phased working and restoration including the direction of working (to assist in the mitigation of amenity impacts), landscaping, and progressive restoration to add ecological interest;
- Opportunities during working for any geodiversity assets to be studied, and if compatible with the landscape and ecology objectives an open face to be included within any restoration scheme for future scientific study;
- A sufficient stand off distance around the rising foul sewer that crosses the site or diversion of the sewer at the developers cost and to the satisfaction of Anglian Water;
- The site would be worked as an extension of the existing permitted working, with extraction commencing on this site after the completion of extraction on the existing site; and
- A traffic assessment would be required to assess the impacts of HGV traffic along the current access route, and appropriate mitigation which would include a limit to annual extraction volumes to no more than the maximum permitted volume for the existing Spixworth quarry.

KING'S LYNN AND WEST NORFOLK SITES

MIN 6 – Land off East Winch Road, Mill Drive, Middleton



6.1 Site Characteristics

- The 10.2 hectare site is located in the parish of Middleton
- The estimated carstone resource at the site is 1,416,000 tonnes
- The site lies adjacent to a large area of mineral extraction and waste management facilities
- The site is in agricultural use currently and is on Grades 4-5 land
- The site is in Flood Zone 1
- The site is in an area of high groundwater vulnerability.
- The site is approximately 6km from King's Lynn
- The site is just over 900m from "Disused Pit" County Wildlife Site 434, and 140m from "Blackborough End" SSSI, which is designated for its geological interest
- The site is more than 5km from any European designated environment site
- A water main runs along part of the site boundary
- The nearest residential property is approximately 120 metres from the site boundary.

6.2 Carstone is the only hard rock which occurs in Norfolk, and deposits are limited to a narrow band which runs north-south just to the east of King's Lynn. The quality of the deposit varies with the highest quality being used as a building stone in the vernacular architecture of the northwest part of Norfolk. However the majority of the carstone deposit including this allocation is unsuitable for this, and is used in construction for engineering fill.

6.3 The site is located on plateau land above the River Nar, and is a fairly flat agricultural field with a tree belt along its northern edge and some hedgerow trees along its southern edge, and any workings would be screened from public view. There are high groundwater levels present and it is considered likely that dewatering will be necessary for any mineral extraction. There are a number of other mineral extraction and waste management sites in the wider area including the current carstone working. Therefore phasing with the current carstone working will need to take place, to assist in mitigating any cumulative impacts.

6.4 The site is in an area of high ecological value and the restoration of this site to heathland or arable with wide field margins would provide opportunities to create biodiversity gains through improvements to the ecological network.

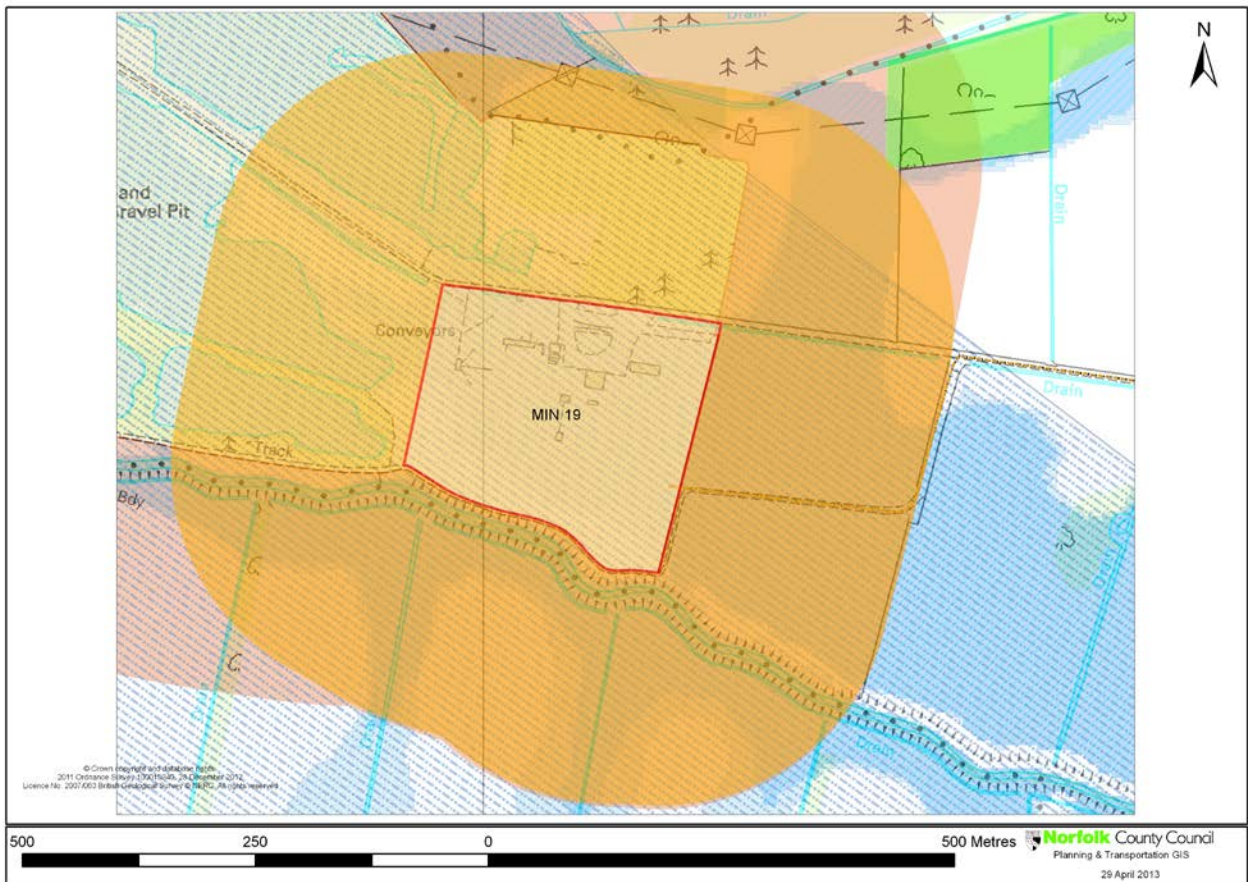
6.5 The site would make use of an internal haul route to the existing quarry entrance on the East Winch Road which is a short distance from the A47, however limited traffic may travel along the East Winch Road and Mill Drove as this is where workshop and storage facilities are located.

Policy MIN 6

The site is allocated as a specific site for carstone extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- Phasing of the site with the other carstone quarries nearby, so that extraction only commences on this site once extraction is completed on other workings;
- A programme of mitigation measures to deal with any amenity impacts;
- A scheme of working, which mitigates landscape impacts to include progressive restoration to a lower level with some inert fill, with final restoration to heathland or arable with wide field margins to provide biodiversity gains;
- Safeguarding of the gas transmission pipeline to the satisfaction of the statutory undertaker;
- A sufficient stand off distance around the water main which runs along part of the site boundary or diversion of the sewer at the developers cost and to the satisfaction of Anglian Water;
- Opportunities during working for any geodiversity assets to be studied, and if compatible with the landscape and ecology objectives an open face to be included within any restoration scheme for future scientific study;
- Highway access to be via an internal haul route to the adjacent existing quarry entrance on the East Winch Road, and traffic routing via East Winch Road to the A47;
- Contributions to any highway improvements which would be required by the Highway Authority to ensure highway safety;
- A Traffic Assessment to identify any capacity/safety issues at the East Winch Road/A47 junction and contributions towards any junction improvements required as a result; and
- A Hydrogeological Risk Assessment to identify any potential impacts to groundwater and appropriate mitigation, to include mitigation/compensation for any private abstraction points affected by dewatering in relation to this development.

MIN 19 – Eastern extension to Pentney Quarry



19.1 Site Characteristics

- **The 7.2 hectare site is located in the parish of Pentney**
- **The estimated sand and gravel resource at the site is 700,000 tonnes**
- Site lies adjacent to an active mineral extraction site
- A Public Right of Way runs along the River Nar
- The site is in use currently as an asphalt plant, and aggregate processing site and is on Grade 3 agricultural land
- The site is in Flood Zone 2&3
- The site is approximately 13km from King's Lynn
- The site is just under 1km from Pentney Priory (a scheduled monument)
- The site lies adjacent the River Nar SSSI
- The site is more than 5km from any European designated environment site
- The nearest residential property is approximately 650 metres from the site boundary.

19.2 The proposed site is currently occupied by an asphalt plant and processing plant. The allocation and working of this site would represent a natural conclusion to mineral working on this site. The site would be worked as an extension, and will use the existing access route along Common Road upto its junction with the A47

19.3 The height of the current asphalt plant on the site means that it can be seen from the PROW and there are long range views from Pentney Priory, its removal as part of any restoration scheme would result in a landscape gain.

19.4 The River Nar SSSI has suffered from degradation from silt ingress, which can occur from a number of sources including agricultural practices, road dust and mineral workings. It would be necessary for any working to prevent the ingress of silt from it into the River Nar, both from the extraction site itself and from the access route; it is considered that suitable safeguards, such as settlement lagoons, and wheel washing at the exit point could be incorporated into any future planning application to ensure this.

19.5 The working of sand and gravel is classified as a 'water compatible' use within Table 2 of the Technical Guidance to the National Planning Policy Framework. It is not anticipated that any adverse impacts would result from working the site, and there is the potential for a small positive contribution to flood risk through flood water storage on parts of the site.

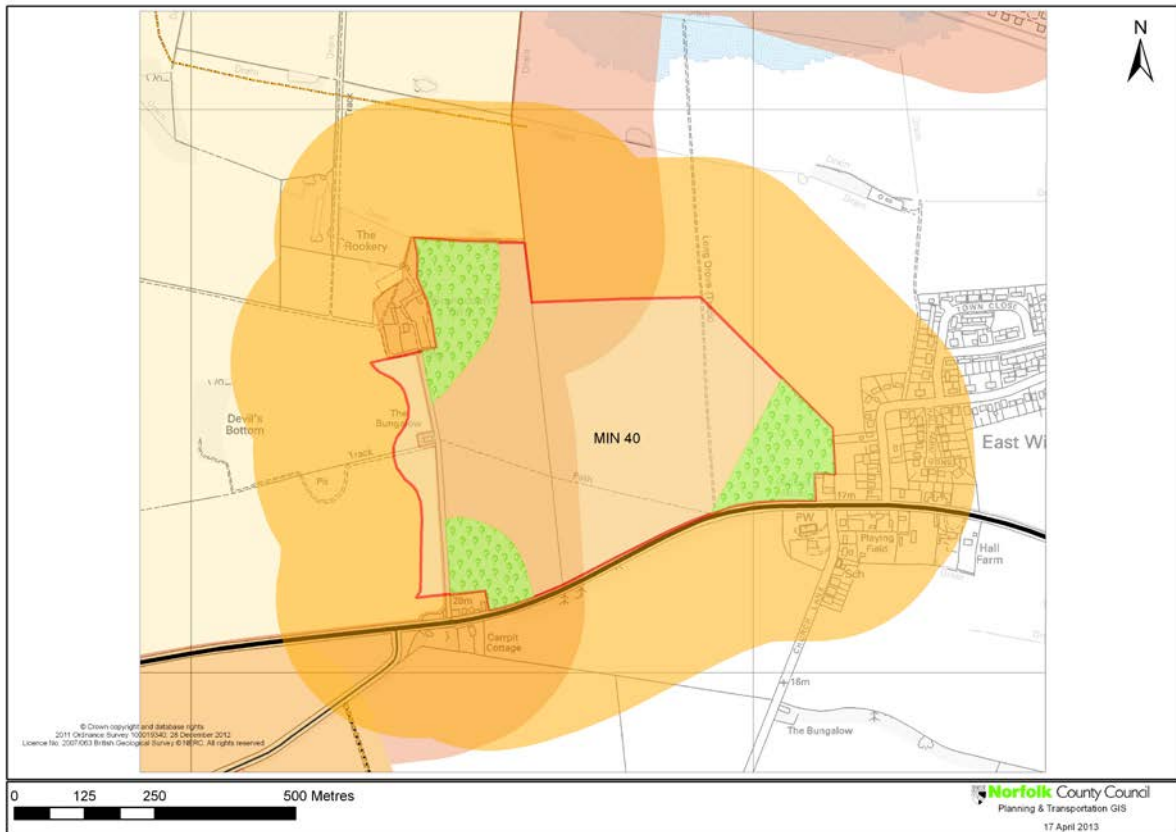
19.6 King's Lynn could provide a market for a significant amount of the material extracted. Significant national geodiversity features could be contained within this allocation site, in order to mitigate impacts on these features any operator would need to allow opportunities for scientific study both during the operational phases and if possible on restoration.

Policy MIN 19

The site is allocated as a specific site for sand and gravel extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- A scheme of working, to include phasing of the adjacent existing site and a limit on extraction volumes to no greater than the maximum permitted from the existing site, to ensure there is no increase in HGV traffic over the maximum levels from the existing site;
- A restoration scheme, to a wetland/reedbed habitat which could provide long term landscape and ecology gains over the current site use;
- A programme of mitigation measures to deal appropriately with any amenity impacts;
- A hydrogeological risk assessment will need to assess the potential for impacts to the River Nar SSSI from working the site, especially if dewatering is required. A scheme of working will need to ensure there are no unacceptable adverse impacts to groundwater or the River Nar;
- A scheme of working and restoration which prevents silt ingress to the River Nar;
- Opportunities during working for any geodiversity assets to be studied, and if compatible with the landscape and ecology objectives, an open face to be retained as part of the restoration scheme;
- A site specific Flood Risk Assessment to appropriately investigate the level of risk and to include any opportunities for restoration to provide a positive contribution to reducing flood risk in the wider area; and
- A screening scheme paying particular regard to the PROW adjacent to the site, and views from Pentney Priory.

MIN 40 – Land to the east of Grandcourt Farm, East Winch



40.1 Site Characteristics

- **The 32.8 hectare site is located in the parish of East Winch**
- **The estimated silica sand resource at the site is 3,000,000 tonnes**
- The site lies adjacent to an existing silica sand working, and would be worked as an extension
- The site is in agricultural use currently and is on Grade 4-5 land
- The site is in Flood Zone 1
- The site would provide mineral for the existing processing plant at Leziate
- The site is close to a number of residential properties on Gayton Road, the nearest residential property is within 10 metres of the site boundary
- The site is approximately 1.5km from East Winch Common SSSI
- The site is over 3.5km from East Walton and Adcock's Common SSSI which forms part of the Norfolk Valley Fens SAC, and 4.8km from Roydon Common Ramsar and the Roydon Common SSSI which forms part of the Roydon Common and Dersingham Bog SAC

40.2 Silica sand is nationally recognised as a scarce and valuable industrial mineral.

40.3 The proposed allocation is adjacent to part of the village of East Winch and the potential landscape and amenity impacts on the residents of these properties will require assessment, as part of any future planning application. An area of screen planting, amenity bunds and a standoff buffer zone would be necessary to mitigate landscape and amenity impacts as a result of the working of this site.

40.4 A future planning application should consider phasing and the direction of working as part of the scheme of working, because the time of year and the precise manner in which extraction takes place can result in variations in amenity impacts on local residents. Extraction closest to properties should normally take place during the winter months, when residents tend to spend less time in their gardens, and have fewer windows open, so any noise which arises is less likely to give rise to potentially unacceptable amenity impacts.

40.5 The roads surrounding the site are not acceptable for use as a haul route; the only acceptable solution is the use of an internal haul route or conveyor. There is an internal haul route which delivers material to the processing works from the existing working and it may be possible to utilise parts of this. Onward transportation of the majority of processed mineral would take place via the existing railhead as is currently the case.

40.6 The view of the Health and Safety Executive is that the working of silica sand does not represent a health risk to the general public.

40.7 A restoration to heathland or a mosaic of heathland/arable and blocks of woodland would offer opportunities for biodiversity gains; and would not result in an over concentration of open water in the wider area.

40.8 The site is less than 5km from the Norfolk Valley Fens SAC, and Roydon Common Ramsar and the Roydon Common and Dersingham Bog SAC; however no likely significant effects are anticipated.

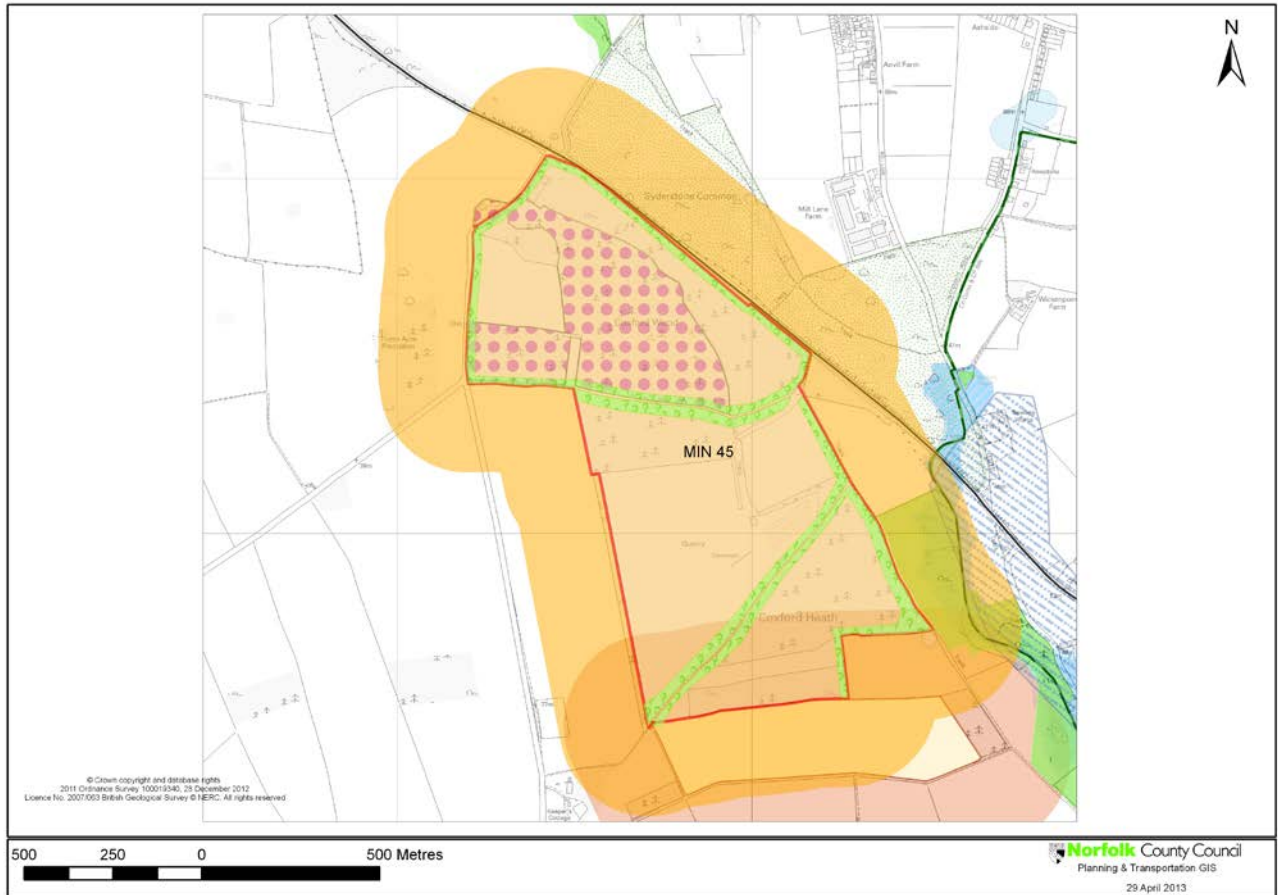
40.9 Information received from the Environment Agency indicates that there is the potential for a perched water table to occur in the carstone aquifer. A hydrogeological risk assessment to support any future planning application will need to investigate this, and if a perched water table exists, demonstrate how it can be ensured that there is no permanent dewatering of this aquifer.

Policy MIN 40

The site is allocated as a specific site for silica sand extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- A screening scheme which will include mitigation of views from the properties along Gayton Road, the PROW and surrounding roads, and protection of the setting of listed buildings, including All Saints' Church East Winch;
- A programme of mitigation measures to deal appropriately with any amenity impacts which might potentially include noise, dust, and air quality;
- Opportunities during working for any geodiversity assets to be studied, and if compatible with the landscape and ecology objectives, an open face to be retained as part of the restoration scheme;
- A scheme of phased working including the direction of working (to assist in the mitigation of amenity impacts);
- A restoration scheme incorporating heathland or a heathland/arable mix with blocks of woodland which provides biodiversity gains and does not result in permanent dewatering of a perched water table in the carstone aquifer if one is identified in a hydrogeological risk assessment;
- A hydrogeological risk assessment to identify any potential impacts on groundwater and appropriate mitigation to address any of these impacts, including the potential for a perched water table to occur in the carstone aquifer; and
- The use of a conveyor and/or internal haul routes to the current processing site.

MIN 45 – Coxford Abbey Quarry, Syderstone



45.1 Site Characteristics

- **The 121.5 hectare site is located in the parish of East Rudham**
- **The estimated sand and gravel resource at the site is 3,600,000 tonnes**
- Site lies adjacent to an active mineral extraction site and would be worked as extension, and will use the existing access route on to the B1454 and then onto the A148
- The site is in agricultural and forestry use currently and is on Grade 3 agricultural land
- There is a scheduled round barrow located close to the eastern boundary of the site
- The site is in Flood Zone 1
- Part of the site is within the consultation area of a key Wastewater Treatment Works
- The site is approximately 9km from Fakenham
- The site is adjacent to Syderstone Common SSSI, separated by the B1454
- The site is approximately 2km from the River Wensum SAC
- The nearest residential property is approximately 315 metres from the site boundary

45.2 This site is located in a rural area and it is only relatively close to a few properties. It is considered that screening is required to make extraction at this site acceptable, with indicative screening shown on the site map. The allocation contains areas which are wooded; a section of the northern part of the allocation is identified as a Plantation on Ancient Woodland Site (PAWS).

45.3 The site is close to Syderstone Common SSSI, and as a result of generally high groundwater levels in the area and that the natterjack toad is found on the SSSI, it is important to ensure that the working does not adversely affect the condition of the designated site or species found there. The existing working has been worked 'dry', and it is likely that the proposed allocation would also be worked above the water table. Any application for planning permission will need to demonstrate that there will be no unacceptable impact on the SSSI from mineral extraction, including where necessary, appropriate mitigation.

45.4 The site is approximately 2km from the River Wensum SAC, however no likely significant effects are anticipated.

45.5 The allocation contains areas in which minerals have already been partially worked, so it is considered preferable that these areas are worked and restoration commenced prior to new areas being opened up for extraction. Working and restoration should be through a greater number of smaller sub-phases to ensure the areas open for extraction/restoration at any one time are minimised. It is considered that it would be preferable for the new areas to the south and east to be worked prior to any areas deemed acceptable to the north of the existing quarry. Restoration should take place progressively, and should provide biodiversity gains, with a mosaic of heathland/ arable with wide field margins and deciduous woodland.

45.6 Fakenham could provide a market for a proportion of the material extracted, although it is likely that a significant proportion of the material would be used in the wider rural area surrounding the site.

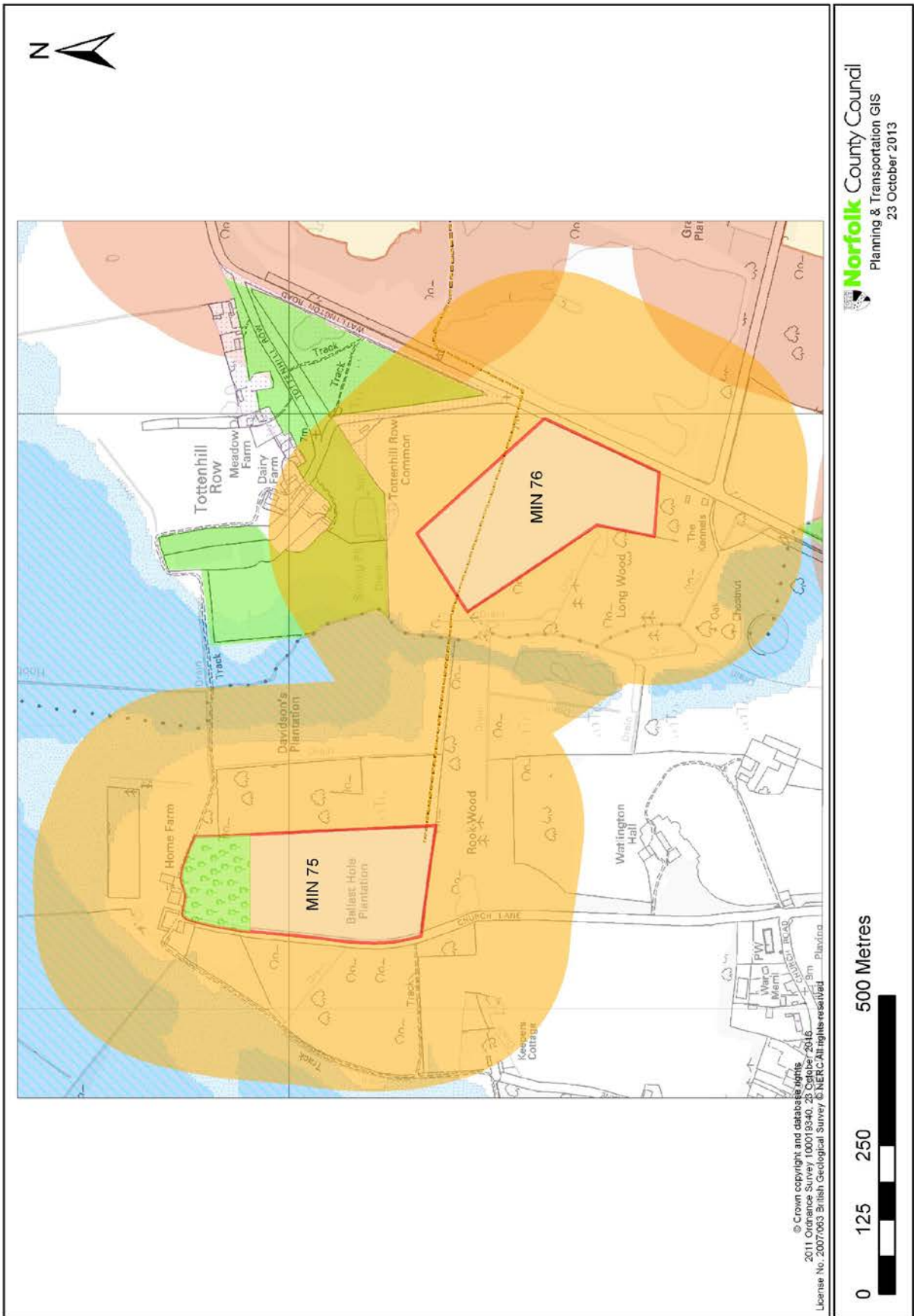
45.7 The northern part of the allocation comprises a commercial coniferous plantation with scattered mature/early mature broadleaved trees alongside the B1454 and a small agricultural field on the western boundary. A section of the plantation is identified as a Plantation on Ancient Woodland Site (PAWS) and in line with the requirements of Paragraph 118 of NPPF, any application for extraction from this area will need to demonstrate that the benefits of extraction clearly outweigh the loss of the PAWS, and include a survey to determine the presence or absence of any ancient woodland features, including soils. Ancient Woodland soils are recognised as being important and may remain on a PAWS. A planning application should also include appropriate protection/mitigation, such as a soil handling scheme, with the overall objective of the scheme being to maximise the potential for the regeneration of the ancient woodland from the seedbank which may exist.

Policy MIN 45

The site is allocated as a specific site for sand and gravel extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- A survey to identify any features, including soils, that remain of the ancient woodland and protection/mitigation for any features identified;
- A programme of mitigation measures to deal appropriately with any amenity impacts;
- Opportunities during working for any geodiversity assets to be studied, and if compatible with the landscape and ecology objectives an open face to be included within any restoration scheme for future scientific study;
- A scheme of phased working and restoration including landscaping, enhancement of biodiversity, and protection for the setting of the scheduled monument;
- Due to part of the site being within the consultation area of the Wastewater Treatment Works, a scheme of working is required that is acceptable to Anglian Water;
- A survey to identify any protected species and/or habitats on site and appropriate mitigation to protect any species and habitats identified; and
- The maximum depth of the mineral working must be above the water table, as determined by hydrogeological information. If dewatering was proposed, a hydrogeological risk assessment must be carried out, and subject to its findings, mitigation measures proposed to address any adverse impacts identified, with particular reference to Syderstone Common SSSI.

Map of site allocations at Tottenhill and Watlington: MIN 75 & MIN 76



MIN 75 – Home Farm, Watlington

75.1 Site Characteristics

- **The 7.1 hectare site is located in the parish of Watlington**
- **The estimated sand and gravel resource at the site is 335,000 tonnes**
- Site lies close to an active mineral extraction site and an established processing plant
- The site is in agricultural use currently and is on Grade 3 land;
- The site is in Flood Zone 1
- The site overlies a secondary aquifer of high vulnerability
- The site is approximately 7km from King's Lynn and 10km from Downham Market
- The site is adjacent to a residential property
- The site is 350m from "Tottenham Row Common" County Wildlife Site 387 and approximately 1km from Setchey Common SSSI
- The site is more than 5km from any European designated environmental site

75.2 This site would be worked as an extension to the existing quarry complex with processing taking place at the existing plant site. The site will use an off-highway haul route to the plant and then the existing plant access, which follows Watlington Road for about 150m before reaching the A10, for onward transport.

75.3 The site is partially enclosed by existing woodland which will provide a degree of existing screening, although it will be necessary to plant screening on the northern part of the site to provide appropriate mitigation of views from Home Farm. It will also be important to develop screening for the internal haul route which will take material to the existing processing plant, and alternatives such as a conveyor should be considered. Screen planting should be carried out with native species wherever possible, and this should be retained as part of any restoration scheme with improved hedgerows and tree belts to improve biodiversity.

75.4 A future planning application should consider phasing and the direction of working as part of the scheme of working, because the time of year and the precise manner in which extraction takes place can result in variations in amenity impacts on local residents. Extraction closest to properties should normally take place during the winter months, when residents tend to spend less time in their gardens, and have fewer windows open, so any noise which arises is less likely to give rise to potentially unacceptable amenity impacts.

75.5 King's Lynn and Downham Market could provide a market for a significant amount of the material extracted.

75.6 The site should be phased with MIN 76 and the existing operations to ensure that extraction has been completed on one site prior to work commencing on the next, to mitigate any cumulative impacts.

Policy MIN 75

The site is allocated as a specific site for sand and gravel extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- A screening scheme which will include mitigation of views from the property to the north, and surrounding roads, with particular reference to the haulage route to the existing processing works;
- A programme of mitigation measures to deal appropriately with any amenity impacts;
- A scheme of phased working and restoration including the direction of working (to assist in the mitigation of amenity impacts), landscaping, and enhancement of biodiversity;
- Opportunities during working for any geodiversity assets to be studied, and if compatible with the landscape and ecology objectives an open face to be included within any restoration scheme for future scientific study;
- Phasing of the site will need to be taken into account, along with the site MIN 76, and the existing permitted extraction, to ensure that only one extraction site is active at any one time; and
- A Hydrogeological Risk Assessment which identifies any potential impacts on groundwater and appropriate mitigation to address any impacts identified.

MIN 76 – West Field, Watlington

76.1 Site Characteristics

- The 6.7 hectare site is located in the parish of Tottenhill
- The estimated sand and gravel resource at the site is 285,000 tonnes
- Site lies close to an active mineral extraction site and an established processing plant
- The site is in agricultural use currently and is on Grade 3 land
- The site is in Flood Zone 1
- The site is approximately 7km from King's Lynn and 10km from Downham Market
- The site is close to Tottenhill Row Common Conservation Area
- The site is just over 350m from 'Tottenhill Row Common' County Wildlife Site 387 and is just over 1km from Setchey Common SSSI
- The site is more than 5km from any European designated environmental site
- The nearest residential property is approximately 75 metres from the site boundary

76.2 This site would be worked as an extension to the existing quarry complex with processing taking place at the existing plant site. The site will use an off-highway haul route to the plant and then the existing plant access, which follows Watlington Road for about 150m before reaching the A10, for onward transport.

76.3 The site is bordered partly by woodland, and relatively close to the Tottenhill Conservation Area. Although it is partially screened by hedges, further screening to include advance planting would be required on the boundaries closest to the Conservation Area. Screen planting should be carried out with native species wherever possible, and this should be retained as part of any restoration scheme with improved hedgerows and tree belts to improve biodiversity.

76.4 A future planning application should consider phasing and the direction of working as part of the scheme of working, because the time of year and the precise manner in which extraction takes place can result in variations in amenity impacts on local residents. Extraction closest to properties should normally take place during the winter months, when residents tend to spend less time in their gardens, and have fewer windows open, so any noise which arises is less likely to give rise to potentially unacceptable amenity impacts.

76.5 King's Lynn and Downham Market could provide a market for a significant amount of the material extracted.

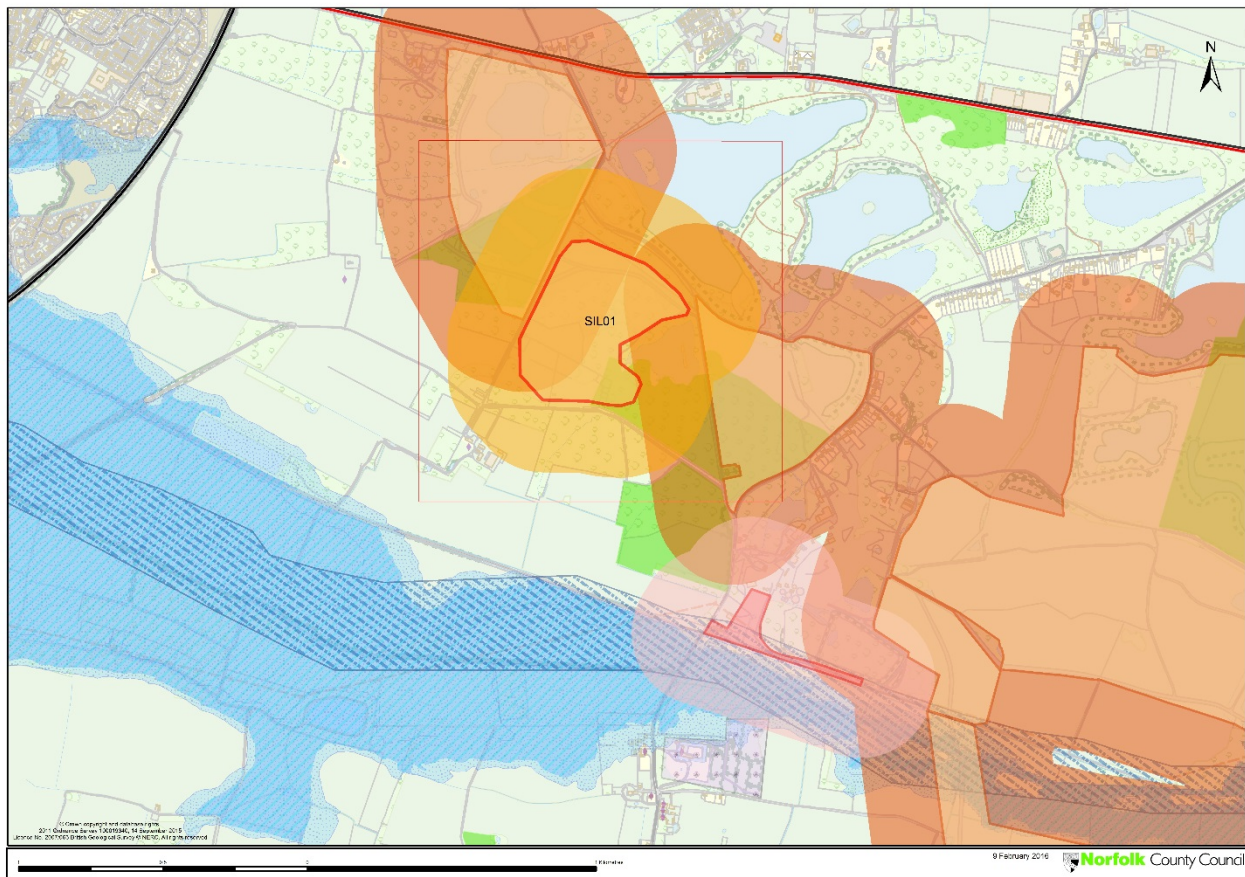
76.6 The site should be phased with MIN 75 and the existing operations to ensure that extraction has been completed on one site prior to work commencing on the next, to mitigate any cumulative impacts.

Policy MIN 76

The site is allocated as a specific site for sand and gravel extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- A screening scheme which will include mitigation of views from properties, the Conservation Area, and surrounding roads;
- A programme of mitigation measures to deal appropriately with any amenity impacts;
- A scheme of phased working and restoration including the direction of working (to assist in the mitigation of amenity impacts), landscaping, and enhancement of biodiversity;
- A restoration scheme which incorporates arable with wide field margins and enhanced deciduous woodland belts to provide landscape and biodiversity gains;
- Opportunities during working for any geodiversity assets to be studied, and if compatible with the landscape and ecology objectives an open face to be included within any restoration scheme for future scientific study;
- Phasing of the site will need to be taken into account, along with the sites MIN 75, and the existing permitted extraction, to ensure that only one extraction site is active at any one time;
- An archaeological evaluation of the site would be required and additional fieldwork may also be needed if features are identified, with preservation in-situ if this is considered to be appropriate; and
- A Hydrogeological Risk Assessment which identifies any potential impacts on groundwater and appropriate mitigation to address any impacts identified.

Specific Site: SIL01 – Mintlyn South



SIL01 - Site Characteristics

- The 21 hectare site is within the parish of Bawsey
- The estimated silica sand resource at the site is 1,200,000 tonnes
- The site is part of a former mineral working which was partially extracted.
- The site is located in an area which has a history of mineral working and is adjacent to restored and permitted workings.
- The Agricultural Land Classification scheme classifies the land as being in 'Non-Agricultural' use.
- The nearest residential property is approximately 280 metres from the site boundary.
- The site is in Flood Zone 1 (low risk) of flooding from rivers and the sea. 4% of SIL01 is at low risk of flooding from surface water and less than 1% is at medium risk of flooding from surface water.
- The site is approximately 700 metres from the Leziate processing plant and the proposer of the site has indicated that it is intended that mineral will be transferred by conveyor to the processing plant.

S.1 The site is set within a landscape which has evidence of former settlements. The Ruins of Church of St Michael (Grade II*) sits just under 650 metres to the west of site SIL01. The majority of the site is screened from the ruins of the Church of St Michael by established woodland. Any future planning application would need to consider whether additional screening would be required for the southern part of the site to ensure that the setting of the church is not affected. The site is just under 1.4km from the Scheduled Monument, Remains of St James' Church and surrounding Saxon and Medieval Settlement. Any future planning application for site SIL01 would need to include a Heritage Statement assessing the setting

of heritage assets, addressing the potential for impacts and suggesting potential mitigation measures such as bunding and screen planting.

S.2 SIL01 contains a series of cropmarks related to undated ditches and banks, together with a possible Bronze Age barrow. A detailed assessment of the significance of archaeological deposits will be required by field evaluation at the planning application stage, in order to protect and mitigate the impact of mineral extraction in this area of search.

S.3 Site SIL01 is set within a landscape which has been modified over time by the extraction of mineral, particularly silica sand and carstone. Extraction in the 19th and 20th century has resulted in a number of lakes and previously worked areas and the restored workings are important for biodiversity and recreation in the area.

S.4 The site is on a flat topped ridge between the valleys of the Gaywood River and the Mintlyn Stream (Middleton Stop Drain). The Gaywood River valley is just to the north of the site and the valley of the Middleton Stop Drain is to the south. The southern boundary of the site starts to gently fall away to the Middleton Stop Drain.

S.5 The site is within a landscape characterised as 'Farmland with woodland and wetland'. This creates a landscape with different scales of enclosure created by the interaction between woodland blocks, agricultural fields and wetlands. Viewpoints of the site are generally limited by hedgerows and woodland over large parts of the area. It is considered that bunding and screen planting could provide successful mitigation if well designed. Any future planning application for site SIL01 will need to ensure that any proposed extraction is appropriately screened through the use of a Landscape and Visual Impact Assessment and appropriate mitigation.

S.6 There is a County Wildlife Site partly within site SIL01 (CWS 416 '70 & 100 Plantations'), therefore part CWS 416 would be directly affected by mineral extraction. There is also a CWS adjacent to this site (CWS 418 'Haverlesse Manor Plantation') on an area which has been subject to previous mineral working. Due to the proximity of these County Wildlife Sites to site SIL01, there is the potential for adverse impacts to be caused by mineral extraction which will need to be assessed as part of a planning application and mitigation measures proposed.

S.7 SIL01 is located 2.8km from Roydon Common SSSI (which forms part of Roydon Common and Dersingham Bog SAC and is also designated as Roydon Common Ramsar. SIL01 is 2.6km from Leziate, Sugar and Derby Fens SSSI. However, the majority of SIL01 is outside the hydrological catchment for both of these SSSIs and is down gradient of these sites. In addition, Bawsey Lakes are located between SIL01 and these SSSIs. Therefore, no adverse impacts are expected on these SSSIs and no likely significant effects are expected on the qualifying features of the SAC or Ramsar site. A project level Habitats Regulations Assessment would need to be carried out as part of the determination of any future planning application for silica sand extraction within specific site SIL01.

S.8 Site SIL01 is within the hydrological catchments of the Gaywood River and Middleton Stop Drain. The proposed site is located over a principal aquifer and partially over a secondary B aquifer; but it mainly overlays an unproductive secondary aquifer. There are no Groundwater Source Protection Zones within the proposed site. If extraction below the watertable and/or dewatering is proposed a hydrogeological risk assessment will be necessary to identify potential risks and appropriate mitigation.

S.9 Site SIL01 is approximately 910 metres from the Mintlyn Stream (Middleton Stop Drain) which is a Water Framework Directive waterbody. The groundwater level in this area is several metres below ground level and therefore, overland flows are not expected from the site towards the stream. SIL01 and the existing processing plant at Leziate, which the silica

sand would be transported to by conveyor, are both located north of Mintlyn Stream so the silica sand would not be transported across the Mintlyn Stream. Therefore it is not expected that there would be a pathway for silt ingress into the Mintlyn Stream from future silica sand extraction within site SIL01.

S.10 There is the potential for this site to contain examples of geodiversity priority features. Potential impacts to geodiversity would need to be assessed and appropriate mitigation identified as part of any future planning application. There would be a preference for restoration to provide opportunities for further geological research of suitable exposures.

Specific Site Allocation Policy SIL01:

The site is allocated as a specific site for silica sand extraction. Development will be subject to compliance with the adopted Core Strategy and Development Management policies, national legislation, policy and guidance, and will require any planning application to address, as appropriate, the requirements below:

- A programme of mitigation measures (e.g. standoff areas, screening and/or bunding) to deal appropriately with any potential amenity impacts, including noise and dust, to comply with the requirements of policy DM12;
- A Landscape and Visual Impact assessment to identify potential landscape impacts. The LVIA will include Scheduled Monuments, Listed Buildings, archaeological assets and non-designated assets as affected and their settings, together with suitable mitigation measures to address the impacts and conserve the significance of those assets. The completed assessment will comply with the requirements of policies CS14, DM2 and DM8;
- A Heritage Statement to identify heritage assets and their settings, assess the potential for impacts and identify appropriate mitigation if required. As a result of the historically complex and significant environment in which the mineral resource is present, applicants should consider the potential for early engagement with Historic England, the Norfolk Historic Environment Service and Conservation Officers in the preparation of the Heritage Statement. The completed statement will comply with the requirements of policies CS14, DM8 and DM9;
- An appropriate archaeological assessment must be prepared; this may initially be desk-based but may need to be followed up with field surveys and trial-trenching. The archaeological assessment will be compliant with Policy DM9 and will be used by Norfolk County Council/Historic Environment Service to agree appropriate mitigation measures;
- A Hydrogeological Risk Assessment, based on proportionate evidence,
 - to identify potential impacts to groundwater quality, quantity and levels;
 - to propose appropriate mitigation to protect any abstraction points, ecosystems and surface water features that are reliant on groundwater, in particular SSSIs, SACs and SPAs.

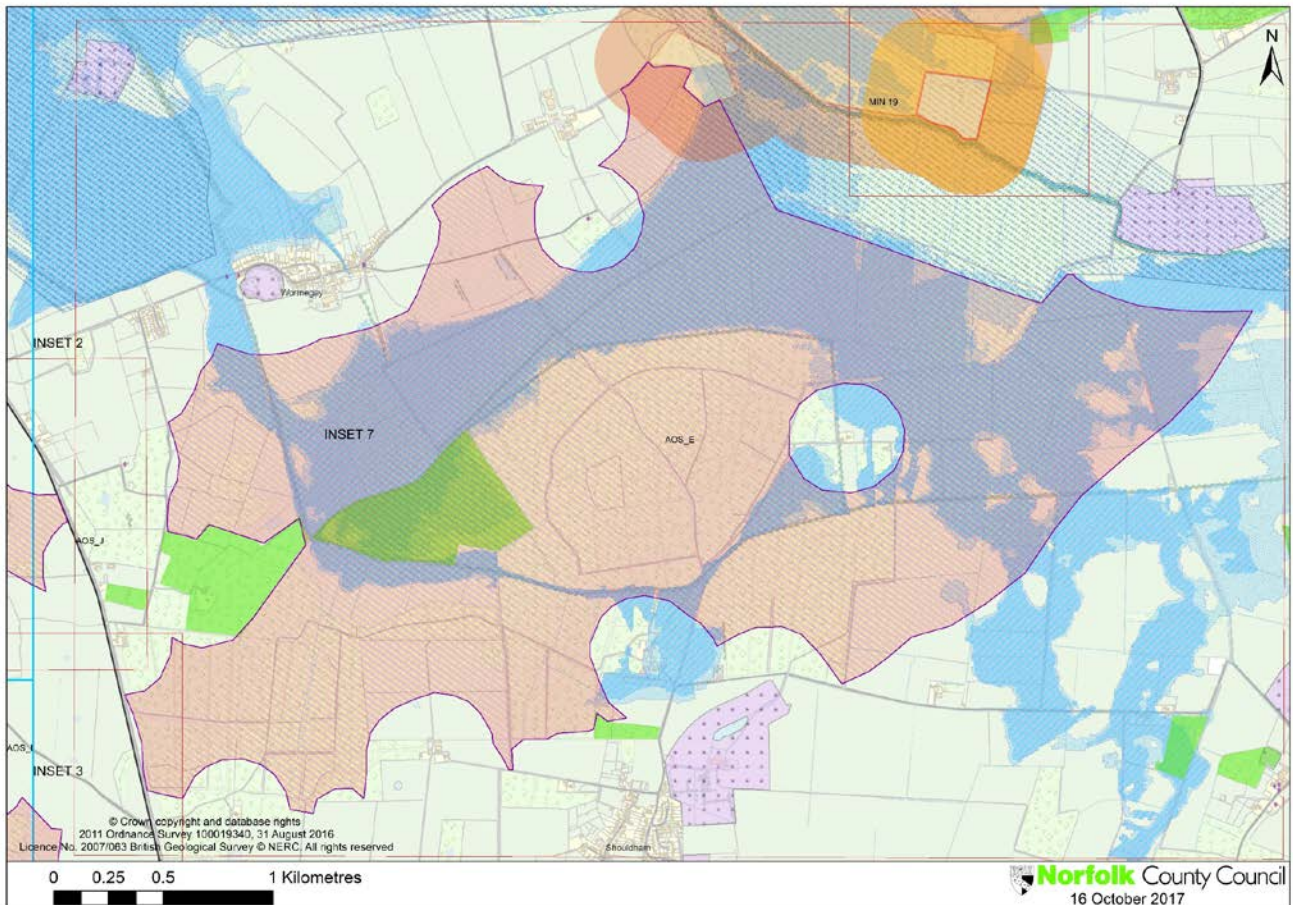
The assessment will need to consider the precautionary principle as it relates to European designations. The assessment should include a programme of mitigation measures to address identified potential impacts, and comply with the requirements of policies CS14, DM1 and DM3;

- An assessment to consider the potential for impacts on environmental designations, and suggest suitable mitigation, to comply with policies CS14 and DM1;
- An assessment to consider the potential for impacts on the Mintlyn Stream and Gaywood River, including from silt ingress and modification, and appropriate

mitigation to prevent unacceptable adverse impacts.

- A Transport Assessment or Statement which considers the potential for transport impacts and identifies appropriate mitigation measures, including highway improvements where appropriate, to address these impacts. There will be a preference for a transport route which minimises amenity impacts through the use of off-highway haul routes from the B1145 to the processing plant. The assessment or statement will comply with policy DM10;
- A comprehensive working and restoration plan which is compliant with Policy DM14, in particular considering the opportunities, on restoration, for ecological enhancement, the improvement of public access and geological exposures for future study;
- An air quality assessment of the potential for any emissions, including dust, together with suitable mitigation measures to address these potential impacts on humans, flora and fauna. The Air Quality Assessment will need to be compliant with Policy DM13;
- Information demonstrating how proposals comply with Policy DM15.

AOS_E: Land to the north of Shouldham



Area of Search Characteristics

- The area of search covers 815 hectares within the parishes of Wormegay, Shouldham, Marham and Shouldham Thorpe.
- The AoS is an area of agricultural use with commercial plantation and other woodland.
- The area of search is adjacent to areas of previous and current mineral workings and close to a sand and gravel allocation.
- The area of search is a mixture of forestry and agricultural uses and the area is split between non-agricultural, Grade 3 and Grade 4.
- The nearest residential property is approximately 250 metres from the AOS boundary. The settlements of Shouldham and Wormegay are 250 metres from the boundary of the AoS. A planning application for mineral extraction within AoS E would need to include mitigation measures to deal appropriately with any amenity impacts.
- The area of search is approximately 15 kilometres from the Leziate processing plant and it is considered likely that any extraction site would transfer mineral to the processing plant by road.

E.1 The area of search is located on the A134 which is a principal route and designated HGV route in the route hierarchy. Access via West Briggs Lodge is unsuitable. Preferred access would be via the A134. Existing access roads to the A134 should be used subject improvement and junction improvements. The Highway Authority considers that the area of search is suitable subject to network improvements.

E.2 The route from the area of search to the Leziate processing plant would be expected to be north along A134 and A10 and A149, before turning east onto the B1145. From the

B1145 the preferred access to the Leziat processing plant would be an off-road route turning right off the B1145 before Bawsey and utilising the existing track and/or conveyor route through the existing mineral workings at Mintlyn to access Station Road and the processing plant south of Brow of the Hill. A right turn lane at the junction with the B1145 would probably be required to provide a suitable junction. Utilising an off-road haul route would avoid lorries accessing the processing plant via Brow of the Hill, Fair Green or Middleton and therefore mitigate amenity impacts.

E.3 AoS E is within a historic environment which contains numerous high value heritage assets from multiple time periods starting in early prehistory. There are four Scheduled Monuments located less than 400 metres from the area of search. They are the Remains of Pentney Priory at Abbey Farm (267 metres), the Motte and Bailey Castle in Wormegay village (250 metres), Shouldham Priory (250 metres), and Village Cross 330 metres south of Cross Hill Farm (250 metres). In addition there are five Listed Buildings located less than 300 metres from the area of search. They are the Church of St Michael (Grade II*), the Church of St Botolph (Grade I), Castle Meadow (Grade II), Castle Road Bridge (Grade II) and Village Cross (Grade II). Any future planning application within the AoS would need to include a Heritage Statement assessing the setting of heritage assets, addressing the potential for impacts and suggesting potential mitigation measures such as bunding and screen planting, recognising that there may be locations where these may be intrusive in themselves.

E.4 AOS E is adjacent to a large area of fen edge, parts of which were studied as part of the Fenland Survey. The Fenland Survey recorded evidence of prehistoric and later land use and occupation across the fen within the AoS, including a probable Iron Age settlement and some significant palaeoenvironmental deposits. The northern edge of the AoS contains the southern fringe of the early medieval settlement at Wormegay, a Bronze Age barrow, the site of a former windmill, several finds of metalworking remains and several isolated instances of human skeletal remains. The place-name Shouldham Warren suggests that earthworks along the north edge could be remnants of a medieval warren, although no definitive research has been carried out; and there is the potential for the area to contain further earthworks. Shouldham Warren was used as a military training area in the Second World War, and there are surviving earthworks relating to this period.

E.5 Given the constrained nature of this AoS with regards to the historic environment, any proposal for extraction here should pay particular attention to the setting of the designated heritage assets. The Norfolk Historic Environment Service recommend that proposals for extraction avoid areas of palaeoenvironmental potential, the former barrow and the areas of former settlement. The Norfolk Historic Environment Service would not support proposals that result in the destruction of historic earthworks. Therefore, a detailed assessment of the significance of archaeological deposits will be required by field evaluation at the planning application stage, in order to protect and mitigate the impact of mineral extraction in this area of search. In addition, the relevant assessments in support of any planning application will need to have regard to the historic landscape character of the wider area, with specific regard to the medieval landscape, to an extent agreed with Norfolk County Council/Historic Environment Service.

E.6 The AoS falls under two different landscape character areas, with the north-east classified as 'fen, open inland marshes' and the south-west as a landscape of 'Settled Farmland with Plantations'. This is a transitional landscape between the Fens to the west and the Brecks to the east. Generally, the AoS slopes gently away to the west but at a rate where many parts of the area would be perceived as flat. In the AoS viewpoints are limited by field boundaries and woodland over large parts of the area, however in some northern and

eastern parts drainage dykes form a more significant landscape component as boundary features.

E.7 There are a number of viewpoints in the AoS from roads and Public Rights of Way. Within the AoS Shouldham Warren is a significant woodland plantation managed by the Forestry Commission as a commercial forestry operation and the landowner allows the Forestry Commission to permit access throughout Shouldham Warren. Additionally, the Warren is crossed by a number of PRowS and has some picnic areas within it. Any future planning application within the area of search will need to ensure that any proposed extraction is appropriately screened through the use of a Landscape and Visual Impact Assessment and appropriate mitigation.

E.8 There is one County Wildlife Site within the area of search, CWS 425 'Mow Fen'. CWS 424 'Westbrigg's Wood', and CWS 373 'Adjacent Adams Plantation' are adjacent to the AoS boundary. AOS E is a large area of search; therefore the effect on any of these County Wildlife Sites from mineral extraction would depend on the location of mineral extraction within the area of search. The potential for adverse impacts to be caused to County Wildlife Sites by mineral extraction will need to be assessed as part of a planning application and mitigation measures proposed if necessary.

E.9 AOS E is located just less than 2.5km from Setchey SSSI. Whilst the southern part of the AoS is within the hydrological catchment (Polver Drain) of Setchey SSSI, due to the land being artificially drained to multiple outlets, the AoS does not drain towards Setchey SSSI. The land in the AoS that is within the catchment of Mow Fen IDB Drains does not drain to Setchey SSSI. Therefore there are no likely adverse impacts on Setchey SSSI from mineral extraction within AOS E.

E.10 AOS E is located 250 metres from the River Nar SSSI. However, due to the land within AOS E being artificially drained to multiple outlets (within the catchments of the Polver Drain and Mow Fen IDB Drains), none of the land in the AoS drains to the River Nar. Therefore there are no likely adverse impacts on the River Nar SSSI from mineral extraction within AOS E.

E.11 AOS E is within the hydrological catchment (Polver Drain) for Bowl Wood Ancient Woodland and there is the potential for hydrological impacts if mineral extraction operations cause changes in the water table. If extraction below the watertable and/or dewatering is proposed a Hydrogeological Risk Assessment will be necessary to identify potential risks and appropriate mitigation.

E.12 52% of the area of search is in Flood Zones 2 and 3 (medium and high risk) for flooding from rivers. Silica sand extraction is considered to be a 'water compatible' land use which is suitable in all flood zones. Silica sand extraction would be a temporary non-residential use, which exposes relatively few people to risk as only a small number of employees are required. Residual risk can be addressed through the use of a site evacuation plan. 7% of AOS E is at low risk of flooding from surface water and 2% is at medium or high risk of flooding from surface water.

E.13 AOS E is within the hydrological catchments for the Mill Fen IDB Drains, Mow Fen IDB Drains and Polver Drain. The AoS is located over a principal aquifer and partially over secondary B and secondary undifferentiated aquifers; however there are no Groundwater Source Protection Zones within the area of search. If extraction below the watertable and/or dewatering is proposed a Hydrogeological Risk Assessment will be necessary to identify potential risks and appropriate mitigation.

E.14 The northern part of the AoS (within the catchment of Mill Fen IDB Drains) drains to the River Nar. The River Nar is a Water Framework Directive waterbody which runs to the north

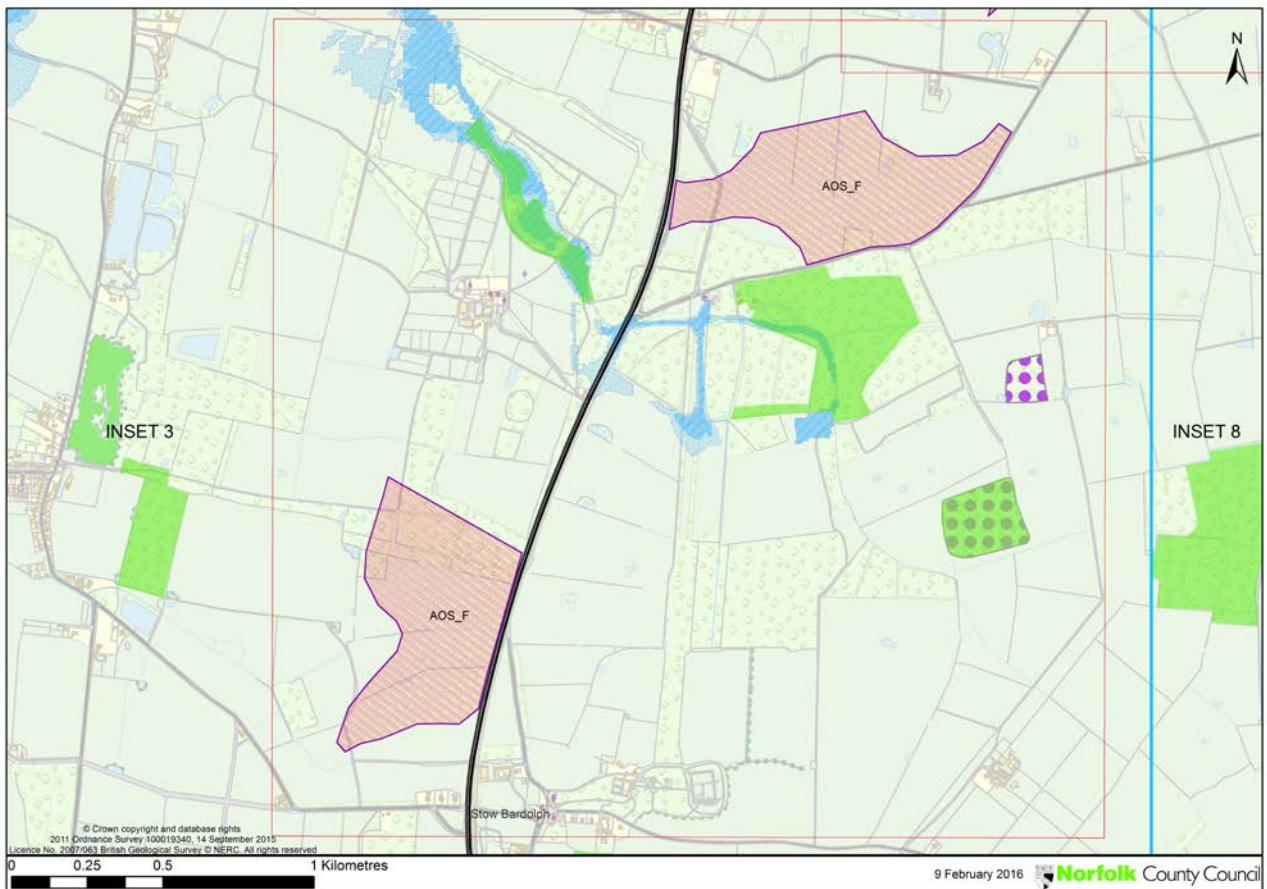
of the AoS. A future planning application within the AoS will need to assess the potential for impacts on the River Nar, including from silt ingress and modification, and propose appropriate mitigation to prevent unacceptable adverse impacts.

E.15 The AoS contains geodiversity priority features in the form of paleo-environmental deposits, and Setchey SSSI, north of the site, is designated for its geological features related to successive periods of marine inundation and retreat. There is the potential for a mineral extraction site within this area to contain other examples of geodiversity priority features. Potential impacts to geodiversity would need to be assessed and appropriate mitigation identified as part of any future planning application. There would be a preference for restoration to provide opportunities for further geological research of suitable exposures.

E.16 There are public water mains within the boundary of AOS E. Anglian Water would require the standard protected easement widths for the water mains and for any requests for alteration or removal to be considered in accordance with the Water Industry Act 1991.

E.17 AOS E is allocated as an Area of Search for silica sand extraction. Development will be subject to compliance with the Core Strategy and Development Management Policies and the Areas of Search Policy.

AOS_F: Land to the north of Stow Bardolph



Area of Search Characteristics

- The AoS consists of two parcels of land covering approximately 31 and 30 hectares respectively within the parishes of Runcton Holme and Stow Bardolph.
- The AoS is a mixture of forestry and agricultural uses with the agricultural land in grades 3 and 4.
- The nearest residential property is approximately 250 metres from the AOS boundary. The settlement of Stow Bardolph is 250 metres from the AOS boundary and South Runcton is less than 400 metres from the AOS boundary. A planning application for mineral extraction within AoS F would need to include mitigation measures to deal appropriately with any amenity impacts.
- The area of search is in Flood Zone 1 (low risk) for flooding from rivers. 4% of AOS F is at low risk of flooding from surface water and less than 1% is at medium or high risk of flooding from surface water.
- The area of search is approximately 17 kilometres from the Leziate processing plant and it is considered likely that any extraction site would transfer mineral to the processing plant by road.

F.1 The area of search is located on the A10 which is a principal route and designated HGV route in NCC route hierarchy. The Highway Authority considers that access to parts of AOS F from the Runcton Road is suitable, subject to improvements to the junction onto the A10. The route from AOS F to the Leziate processing plant would be expected to be north along the A10 and A149, before turning east onto the B1145. From the B1145 the preferred access to the Leziate processing plant would be an off-road route turning right off the B1145 before Bawsey and utilising the existing track and/or conveyor route through the existing mineral workings at Mintlyn to access Station Road and the processing plant south of Brow of

the Hill. A right turn lane at the junction with the B1145 would probably be required to provide a suitable junction. Utilising an off-road haul route would avoid lorries accessing the processing plant via Brow of the Hill, Fair Green or Middleton and therefore mitigate amenity impacts.

F.2 The historic environment in which the AoS is located has features and land use patterns which are related to the formation of parkland and estates related to high status buildings in particular the wider setting of Stow Hall (now demolished) and Wallington Hall, a Listed Building (Grade I). Both parts of AOS F are separated from Wallington Hall by areas of woodland. The northern part of AOS F is separated from the setting of Stow Hall by woodland and the southern part of AOS F is separated from the grounds of Stow Hall by the A10. The AoS is 385 metres from the nearest Listed Building, The Cottage (Grade II). Any future planning application within the AoS would need to include a Heritage Statement assessing the setting of heritage assets, addressing the potential for impacts and suggesting potential mitigation measures such as bunding and screen planting.

F.3 Area AOS F is largely unstudied in terms of archaeology. Therefore, a detailed assessment of the significance of archaeological deposits will be required by field evaluation at the planning application stage, in order to protect and mitigate the impact of mineral extraction in this area of search.

F.4 This is a transitional landscape between the Fens to the west and the Brecks to the east. Generally, the AoS slopes gently away to the west but at a rate where many parts of the area would be perceived as flat. Any future planning application within the area of search will need to ensure that any proposed extraction is appropriately screened through the use of a Landscape and Visual Impact Assessment and appropriate mitigation.

F.5 There is a County Wildlife Site adjacent to the area of search (CWS 365 'Broad Meadow Plantation'). CWS 361 'north-east of Wallington Hall' is 280 metres from the AoS, and consists of a series of four mesotrophic lakes which could be adversely affected if mineral extraction operations cause changes in the water table. If mineral extraction in the AoS were to go below the watertable and/or dewatering is proposed a hydrogeological risk assessment will be necessary to identify potential risks and appropriate mitigation.

F.6 There are three ancient woodlands (Chiswick's Wood and two unnamed ancient woodlands) located between 500 to 1,000 metres from AOS F. AOS F is within the hydrological catchment (War Bank Drain) for these ancient woodlands, however, the land within the AoS drains away from the ancient woodland sites and therefore adverse hydrological impacts are not likely. Due to the distance of the AoS from the ancient woodland sites other adverse impacts are also unlikely.

F.7 AOS F is within the hydrological catchments for the Mill Fen IDB Drains, Mow Fen IDB Drains and Polver Drain. The AoS is located over a principal aquifer and partially over a secondary undifferentiated aquifer; however there are no Groundwater Source Protection Zones within the area of search. If extraction below the watertable and/or dewatering is proposed a hydrogeological risk assessment will be necessary to identify potential risks and appropriate mitigation.

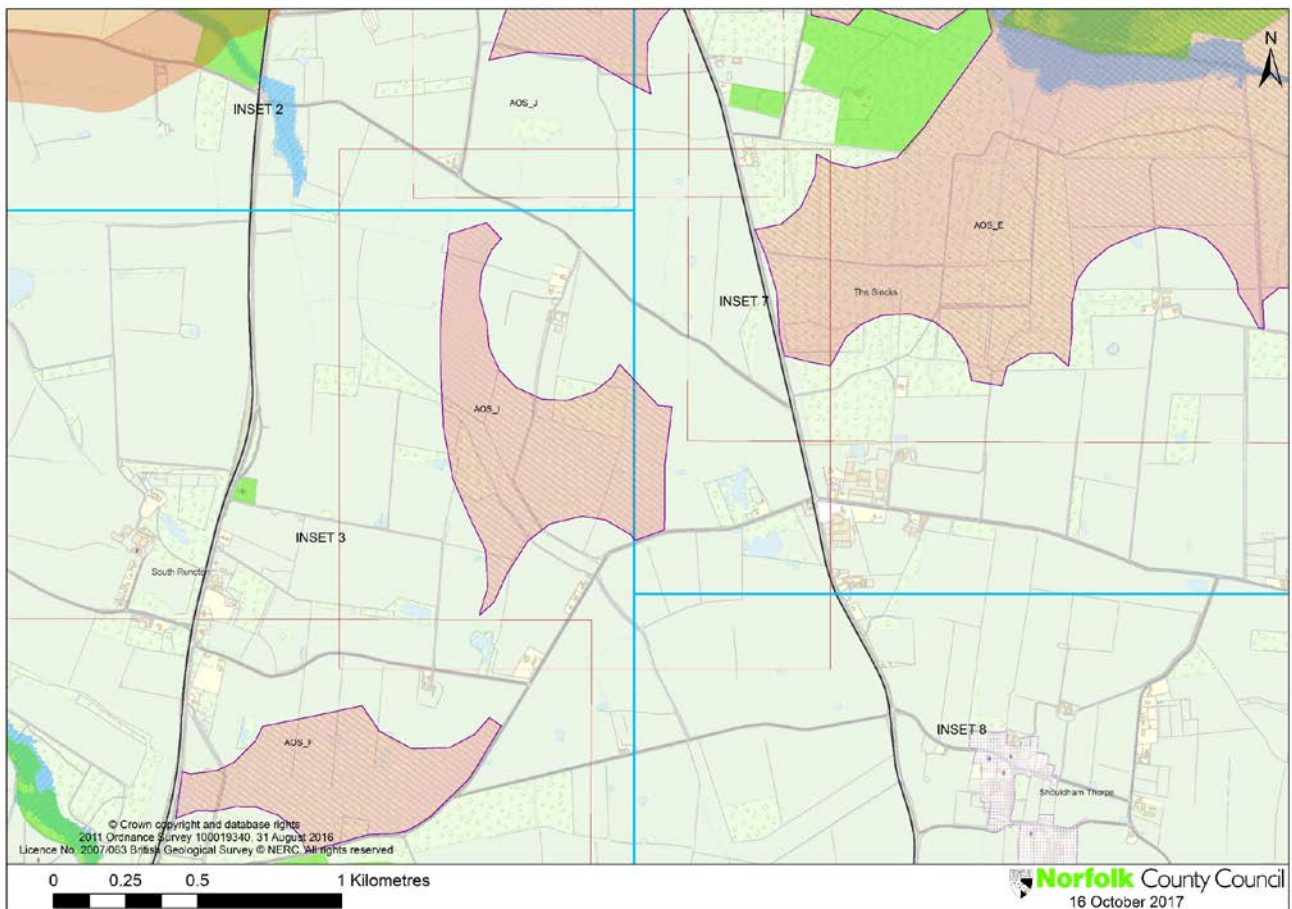
F.8 There is the potential for a mineral extraction site within this area to contain other examples of geodiversity priority features under more recent deposits. Potential impacts to geodiversity would need to be assessed and appropriate mitigation identified as part of any future planning application. There would be a preference for restoration to provide opportunities for further geological research of suitable exposures.

F.9 There is a public water main within the boundary of AOS F. Anglian Water would require the standard protected easement widths for the water main and for any requests

for alteration or removal to be considered in accordance with the Water Industry Act 1991.

F.10 AOS F is allocated as an Area of Search for silica sand extraction. Development will be subject to compliance with the Core Strategy and Development Management Policies and the Areas of Search Policy.

AOS_I: Land to the east of South Runcton



Area of Search Characteristics

- The area of search covers just over 47 hectares within the parishes of Runcton Holme, Shouldham Thorpe, and Tottenhill.
- The area of search is in an agricultural landscape between the A10 and A134.
- The area of search is a mixture of small blocks of woodland and agricultural uses and the area is classified as Grade 3 land.
- The nearest residential property is approximately 250 metres from the AOS boundary and a planning application for mineral extraction within AoS I would need to include mitigation measures to deal appropriately with any amenity impacts.
- AOS I is in Flood Zone 1 (low risk) for flooding from rivers. 8% of AOS I is at low risk of flooding from surface water, 4% is at medium risk and 3% is at high risk of flooding from surface water.
- The area of search is approximately 16 kilometres from the Leziat processing plant and it is considered likely that any extraction site would transfer mineral to the processing plant by road.

I.1 Access to the area of search is suitable subject to improvements to the junction onto the A10 from Runcton Road, and if a route using the A134 was proposed this may also require junction improvements. If Watlington Road was proposed, junction improvements may be necessary to allow access to the A10 or A134. The Highway Authority considers that the area of search is suitable to subject to network improvements.

I.2 The route from AOS I to the Leziat processing plant would be expected to be north along the A10 and A149, before turning east onto the B1145. From the B1145 the preferred

access to the Leziate processing plant would be an off-road route turning right off the B1145 before Bawsey and utilising the existing track and/or conveyor route through the existing mineral workings at Mintlyn to access Station Road and the processing plant south of Brow of the Hill. A right turn lane at the junction with the B1145 would probably be required to provide a suitable junction. Utilising an off-road haul route would avoid lorries accessing the processing plant via Brow of the Hill, Fair Green or Middleton and therefore mitigate amenity impacts.

I.3 Historic England have no immediate concerns regarding this area of search if the site proposed is well contained, although the setting of the Church of St Andrew (Grade II*) and Church of St Mary the Virgin (Grade II*) and a number of Grade II Listed Buildings and should be taken into consideration at an early stage. Any future planning application within the AoS would need to include a Heritage Statement assessing the setting of heritage assets, addressing the potential for impacts and proposing mitigation measures such as bunding and screen planting.

I.4 Area AOS I is almost entirely unstudied in terms of archaeology. Therefore, a detailed assessment of the significance of archaeological deposits will be required by field evaluation at the planning application stage, in order to protect and mitigate the impact of mineral extraction in this area of search.

I.5 The AoS is characterised as a landscape of 'Settled Farmland with Plantations'. This is a transitional landscape between the Fens to the west and the Brecks to the east. Generally, the AoS slopes gently away to the west but at a rate where many parts of the area would be perceived as flat. Viewpoints are limited by field boundaries and woodland over large parts of the landscape area. However, hedgerows are intermittent in the area surrounding the AoS opening up views across open fields often to tree lined horizons. There are a number of viewpoints in the AoS from roads and Public Rights of Way, and any future planning application in the area of search will need to ensure that any proposed extraction is appropriately screened through the use of a Landscape and Visual Impact Assessment and appropriate mitigation.

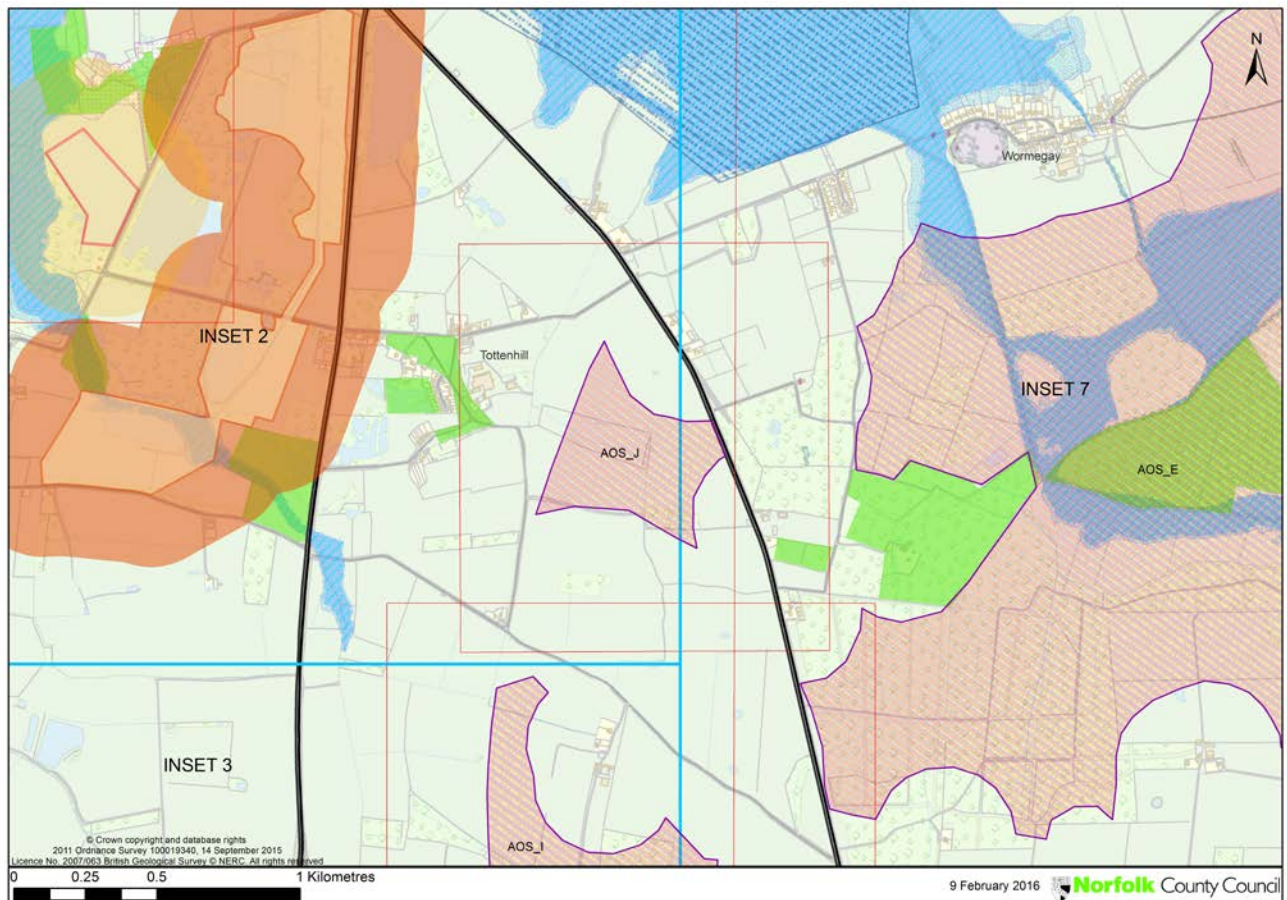
I.6 AOS I is within the hydrological catchments for the Polver Drain. The AoS is located over a principal aquifer and partially over secondary A and B aquifers. However, there are no Groundwater Source Protection Zones within the area of search. If extraction below the watertable and/or dewatering is proposed a hydrogeological risk assessment will be necessary to identify potential risks and appropriate mitigation.

I.7 There is the potential for a mineral extraction site within this area to contain examples of geodiversity priority features. Potential impacts to geodiversity would need to be assessed and appropriate mitigation identified as part of any future planning application. There would be a preference for restoration to provide opportunities for further geological research of suitable exposures.

I.8 The nearest County Wildlife Site to the AoS is over 600m away (CWS 366 'St Andrews Churchyard'). Due to the distance of the CWS from the area of search, no adverse impacts are expected from mineral extraction within the AoS.

I.9 AOS I is allocated as an Area of Search for silica sand extraction. Development will be subject to compliance with the Core Strategy and Development Management Policies and the Areas of Search Policy.

AOS_J: Land to the east of Tottenhill



Area of Search Characteristics

- The area of search covers just less than 23 hectares within the parishes of Tottenhill and Wormegay.
- The area of search is in an agricultural landscape between the A10 and A134.
- The area of search is a mixture of small blocks of woodland and agricultural uses and the area is classified as Grade 4 land.
- The nearest residential property is approximately 250 metres from the AOS boundary and the settlement of Tottenhill is less than 300 metres from the boundary of the AOS. A planning application for mineral extraction within AoS J would need to include mitigation measures to deal appropriately with any amenity impacts.
- AOS J is in Flood Zone 1 (low risk) for flooding from rivers. 9% of AOS J is at low risk of flooding from surface water, 4% is at medium risk and 1% is at high risk of flooding from surface water.
- The area of search is approximately 15 kilometres from the Leziat processing plant and it is considered likely that any extraction site would transfer mineral to the processing plant by road.

J.1 Access from AOS J could be via the southern track onto the A134 which is a principal route in the NCC route hierarchy, subject to junction improvements. A dedicated access could also be created to the A134, or the A10 to the west with junction improvements to the existing network. The area of search is acceptable to the Highway Authority subject to highway improvements.

J.2 The route from AOS J to the Leziat processing plant would be expected to be north along the A10 and A149, before turning east onto the B1145. From the B1145 the preferred

access to the Leziat processing plant would be an off-road route turning right off the B1145 before Bawsey and utilising the existing track and/or conveyor route through the existing mineral workings at Mintlyn to access Station Road and the processing plant south of Brow of the Hill. A right turn lane at the junction with the B1145 would probably be required to provide a suitable junction. Utilising an off-road haul route would avoid lorries accessing the processing plant via Brow of the Hill, Fair Green or Middleton and therefore mitigate amenity impacts.

J.3 There is a Listed Building, the Church of St Botolph at West Briggs (Grade I), within 325 metres of the area of search. The AoS is approximately 1.2km from the motte and bailey castle in Wormegay village and 1.6km to Wormegay Priory Scheduled Monuments. Any future planning application within the AoS would need to include a Heritage Statement assessing the setting of heritage assets, addressing the potential for impacts and proposing mitigation measures such as bunding and screen planting.

J.4 AOS J contains a number of cropmark sites, including a series of late prehistoric to Romano-British enclosures, and medieval banks (including a parish boundary bank). The cropmarks are accompanied by finds of Bronze Age, medieval and post medieval date. Therefore, a detailed assessment of the significance of archaeological deposits will be required by field evaluation at the planning application stage, in order to protect and mitigate the impact of mineral extraction in this area of search.

J.5 The AoS is characterised as a landscape of ‘Settled Farmland with Plantations’. This is a transitional landscape between the Fens to the west and the Brecks to the east. Generally, the AoS slopes gently away to the west but at a rate where many parts of the area would be perceived as flat. However, it is considered that there are areas within the AoS where bunding and screen planting could provide successful mitigation if well designed. Viewpoints are limited by field boundaries and woodland over large parts of the landscape area. However, hedgerows are intermittent in the area surrounding the AoS opening up views across open fields often to tree lined horizons. There are a number of viewpoints in the AoS from roads and Public Rights of Way, and any future planning application in the area of search will need to ensure that any proposed extraction is appropriately screened through the use of a Landscape and Visual Impact Assessment and appropriate mitigation.

J.6 AOS J is within the hydrological catchments for the Polver Drain. The AoS is located over a principal aquifer and partially over secondary A and B aquifers. However, there are no Groundwater Source Protection Zones within the area of search. If extraction below the watertable and/or dewatering is proposed a hydrogeological risk assessment will be necessary to identify potential risks and appropriate mitigation.

J.7 There is the potential for a mineral extraction site within this AoS to contain examples of geodiversity priority features. Potential impacts to geodiversity would need to be assessed and appropriate mitigation identified as part of any future planning application. There would be a preference for restoration to provide opportunities for further geological research of suitable exposures.

J.8 There are two County Wildlife Sites within 300 metres of the area of search: CWS 385 ‘Tottenham Village Green’ (250 metres) and CWS 424 ‘Westbrigg’s Wood’ (271 metres). If mineral extraction in the AoS were to go below the water table or involve dewatering, then there could be impacts on the ponds in CWS 385. In that instance, a hydrogeological risk assessment would be necessary to identify potential risks and appropriate mitigation.

J.9 AOS J is allocated as a Area of Search for silica sand extraction. Development will be subject to compliance with the Core Strategy and Development Management Policies and the Areas of Search Policy.

The following policy applies to all of the allocated areas of search for silica sand extraction.

Areas of Search Policy:

AOS E, AOS F, AOS I and AOS J are allocated as areas of search for silica sand extraction. It is considered that a planning application for silica sand mineral extraction could be submitted for part/s of the area of search. Development will be subject to compliance with the adopted Core Strategy and Development Management policies, national legislation, policy and guidance, and will require any planning application within the Area of Search to address, as appropriate, the requirements below:

- To address the shortfall in silica sand supply to meet the requirements of the existing processing plant (as set out in the NPPF);
- A programme of mitigation measures (e.g. standoff areas, screening and/or bunding) to deal appropriately with any potential amenity impacts, including noise and dust, to comply with the requirements of policy DM12;
- A Landscape and Visual Impact assessment to identify potential landscape impacts. The LVIA will include Core River Valleys, Scheduled Monuments, non-designated heritage assets of archaeological interest, Listed Buildings and Conservation Areas and their settings where appropriate, together with suitable mitigation measures to address the impacts and manage change in ways that will best sustain heritage values. The completed assessment will comply with the requirements of policies CS14, DM2 and DM8;
- A Heritage Statement to identify heritage assets and their settings, assess the potential for impacts and identify appropriate mitigation to sustain heritage values if required. As a result of the historically complex and significant environment in which the mineral resource is present, applicants should consider the potential for early engagement with Historic England, the Norfolk Historic Environment Service and Conservation Officers in the preparation of the Heritage Statement. The completed statement will comply with the requirements of policies CS14, DM8 and DM9 and DM15;
- An appropriate archaeological assessment must be prepared in consultation with Norfolk County Council; this may initially be desk-based but may need to be followed up with field surveys and trial-trenching. The archaeological assessment will be compliant with Policy DM9 and will be used by Norfolk County Council/Historic Environment Service to agree appropriate mitigation measures;
- A Hydrogeological Risk Assessment; based on proportionate evidence,
 - to identify potential impacts to groundwater quality, quantity and levels; and
 - to propose appropriate mitigation to protect any abstraction points, ecosystems and surface water features that are reliant on groundwater, in particular SSSIs, SACs and SPAs.

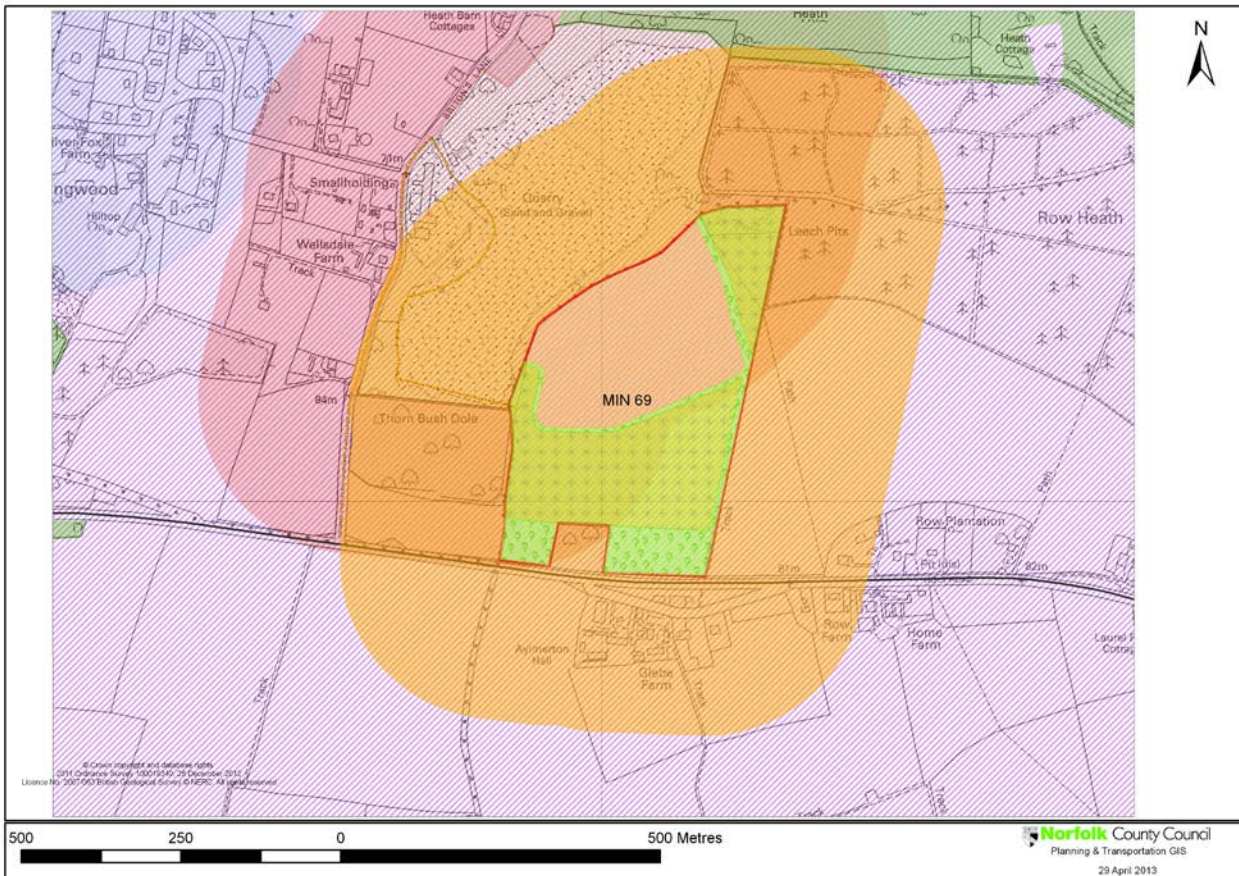
The assessment will need to consider the precautionary principle as it relates to European designations. The assessment should include a programme of mitigation measures to address identified potential impacts, and comply with the requirements of policies CS14, DM1 and DM3;

- An assessment to consider the potential for impacts on environmental designations, and suggest suitable mitigation, to comply with policies CS14 and DM1;
- A protected species assessment will be required and if protected species are found on the proposed extraction site then appropriate mitigation will be required.
- An assessment of the potential for impacts on Water Framework Directive waterbodies, including from silt ingress and modification, and appropriate mitigation to prevent unacceptable adverse impacts;

- If the application area contains Grade 3 agricultural land then a detailed agricultural land survey will be required to identify subgrades. Land identified as being within the Best and Most Versatile classification (grades 1, 2, 3a) will require a working scheme which incorporates a soil management and handling strategy which is compliant with Policy DM16;
- A Transport Assessment or Statement which considers the potential for transport impacts and identifies appropriate mitigation measures, including highway improvements where appropriate, to address these impacts. There will be a preference for a transport route which minimises amenity impacts through the use of off-highway haul routes from the B1145 to the processing plant. A right-turn lane at the junction with the B1145 would probably be required to provide a suitable junction. The assessment or statement will comply with policy DM10;
- A comprehensive working and restoration plan which is compliant with Policy DM14, in particular considering the opportunities, on restoration, for ecological enhancement, the improvement of public access and geological exposures for future study;
- An air quality assessment of the potential for any emissions, including dust, together with suitable mitigation measures to address these potential impacts on humans, flora and fauna. The Air Quality Assessment will need to be compliant with Policy DM13;
- Within the allocated areas of search, the development of mineral extraction sites should follow a sequential approach to flood risk;
- Information demonstrating how proposals comply with Policy DM15.

NORTH NORFOLK SITES

MIN 69 – Land at Holt Road, Aylmerton



69.1 Site Characteristics

- **The entire site is 16.86 hectares, but only 6.8 hectares is allocated in the plan period. The site is within the parish of Aylmerton**
- **The estimated sand and gravel resource of the site is 3,200,000 tonnes; however, only 750,000 tonnes is expected to be extracted during the plan period (the end of 2026)**
- The site is approximately 1.5km south of Sheringham and 4km from Cromer
- The site lies wholly within the Norfolk Coast Area of Outstanding Natural Beauty (AONB)
- The site is currently in agricultural use and is on partly grade 3 land, partly non-graded land
- The site is about 700m south-east of Sheringham and Beeston Regis Common SSSI (which is part of the Norfolk Valley Fens SAC)
- The site is adjacent to an existing mineral working and concrete production plant, part of which is also designated as Briton's Lane Gravel Pit geological SSSI
- The site is about close to three County Wildlife Sites: about 250m from Roman Camp & Beeston Regis Heath; about 800m from Sheringham Old Wood; and about 900m from Pretty Corner & The Plains
- The site is in Flood Zone 1
- The nearest residential property is approximately 210 metres from the site boundary.

69.2 This site would form an extension to the existing quarry site, which has been operational since the 1940s and has an Interim Development Order (IDO) planning permission (which does not expire until 2042), with few conditions and limited control over restoration (notwithstanding an ongoing Renewal of Minerals Permission application to update the conditions). In addition, the current site contains a concrete production plant with a permanent planning permission.

69.3 Based on the expected future annual extraction rate, and the estimated remaining lifetime of the existing permitted quarry, a maximum of 750,000 tonnes could be extracted from MIN 69 by the end of the plan period (the end of 2026).

69.4 The site is close (about 750m) to Sheringham and Beeston Regis Common SSSI (part of the Norfolk Valley Fen SAC), but as the water table is significantly below the likely depth of extraction, the site would be worked 'dry'. The Habitats Regulations Assessment concluded that if site drainage and dust deposition from quarrying operations were properly controlled/mitigated, there would be not be any adverse effects on the integrity of the SAC. Any planning application would need to demonstrate this, however.

69.5 Roman Camp & Beeston Regis Heath CWS – designated for its heathland – lies about 250m to the north-east. Restoration of both the existing site and MIN 69 to heathland (a BAP habitat) could enable the eventual expansion of the CWS.

69.6 Briton's Lane Gravel Pit SSSI (delineated around the boundaries of the current quarry site) is designated for its glacial and glacio-fluvial sediments, and it is exposures of the Cromer Ridge which express this geology. Existing strata could be lost, so long as it is re-exposed elsewhere, and is accessible for scientific study.

69.7 The whole of the site lies within the Norfolk Coast AONB, and significant new minerals sites in the AONB would normally be unacceptable. However, the current site is well 'hidden' from wider public views, and the extension would likewise also appear hidden, so the local landscape impacts would be less significant than might be expected.

69.8 The site restoration would require a mosaic of heathland and woodland to maintain the character of the surrounding landscape setting of this part of the AONB. This would include providing additional woodland planting to widen the existing screening belt along the A149 and additional planting would also be required along northern, western and eastern site boundaries, with a central core of the site restored to heathland.

69.9 Given that an existing footpath bisects the existing site and MIN 69 immediately south, it is also important that temporary screen bunds are formed immediately south of the existing footpath; ensuring that the visual impacts are mitigated from the footpath during the period of operations. Improving public access to the restored site and linked with habitat creation would form an important part of site restoration.

69.10 A very high quality restoration proposal for both the existing site, and MIN 69, could offer the possibility of developing a large new area of heathland, with greatly improved public access, together with information boards (conveying information about the ecology, geology and geomorphology of the site). Taking into account:

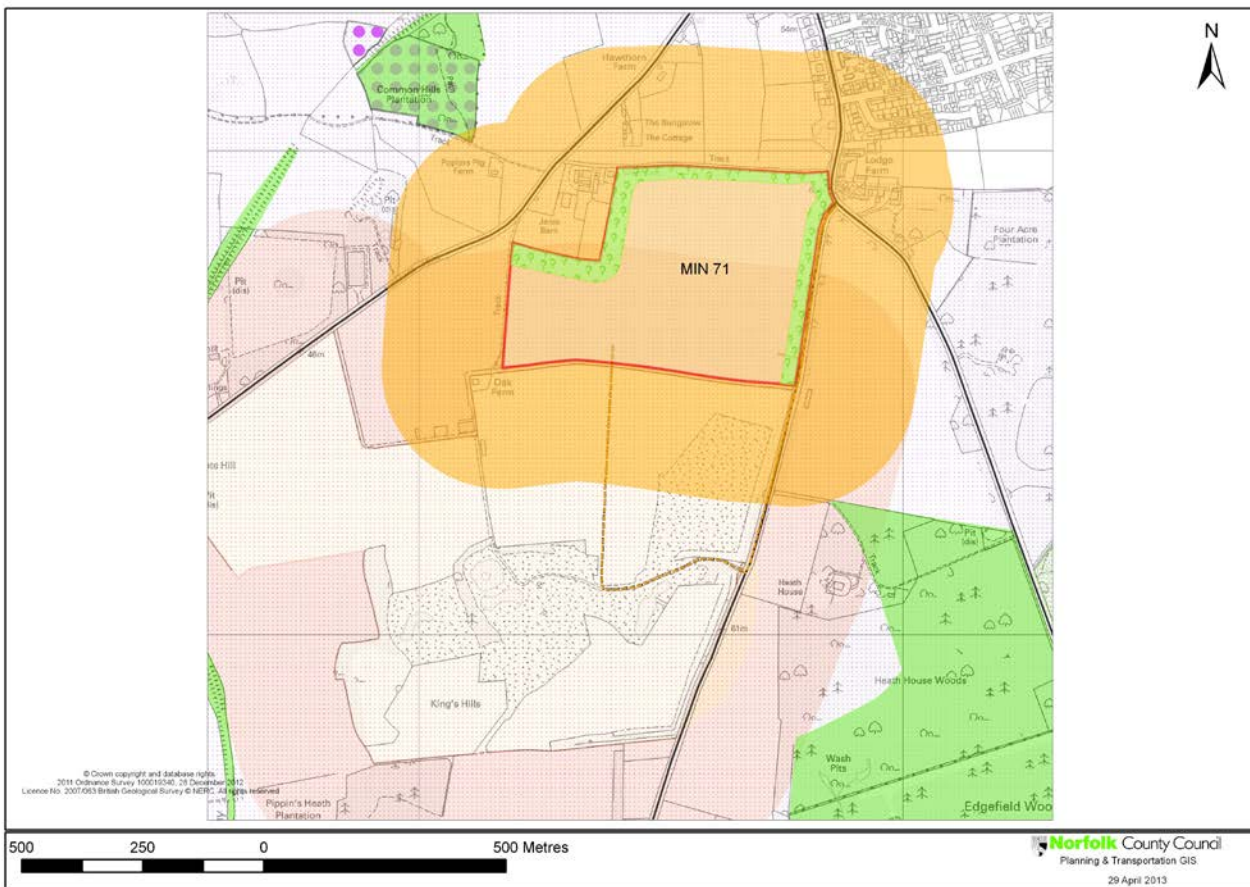
- the presence of the existing site, with its permanent concrete plant (with the employment levels that go with it);
- the good access to the A148 and the towns of Cromer and Sheringham;
- the limited local landscape and amenity harm; and
- the opportunity to facilitate a much-improved working and restoration scheme for the existing site, and a high-quality biodiversity-led restoration for MIN 69; it is concluded that there are exceptional circumstances for allowing a major minerals development in the Norfolk Coast AONB.

Policy MIN 69

The site is allocated as a specific site for sand and gravel extraction and aggregate processing. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- The development of a very high quality working and restoration scheme for MIN 69 and the existing site is needed, showing clearly how the two sites could be worked and progressively restored together to minimise landscape and amenity harm during the operational stages and to maximise the benefits on restoration. In particular, excessively steep ‘walls’ on the quarry boundary (a feature of the existing site) should be avoided, with gentler gradients necessary (but see bullet point 4 below). The other nine requirements below must all be considered in the context of the overarching requirements of the first bullet point;
- The restoration must be heathland-led (with some woodland), with a range of different habitats and micro-habitats being included (e.g. a variety of slope angles and aspects), to maximise the potential for plants, invertebrates, reptiles, birds and mammals. No importation of waste materials to assist with restoration will be permitted;
- Improved public access is a key consideration. During the operation stage, footpaths should only be diverted when necessary (e.g. for public safety reasons), and both during the operational stage and on restoration the footpaths should be of appropriate gradients to facilitate relatively easy access. Interpretation boards showing details of the glacial and peri-glacial geology of the site (the reason for the designation of the Briton’s Lane Gravel Pit SSSI), heathland ecology and the AONB should be placed at suitable points in the site;
- A section of the Cromer Ridge should be retained, if at all practicable, for geological study. The condition of the current geological SSSI (Briton’s Lane Gravel Pit) should also be maintained or, where possible, improved. The arrangements at the current site – where academic and student study of the site’s geology (by arrangement) is welcomed and facilitated by Carter Concrete – should continue, with the Norfolk Geodiversity Partnership being contacted in the event of interesting finds being made by the site operators;
- The site must be worked ‘dry’ (i.e. above the water table), there should be no discharges into ground water, and site drainage should be via a settlement lagoon. Effective dust management will also need to be proposed (and be secured by a planning condition). It must therefore be demonstrated that water use and the drainage regime and dust production would not have an adverse effect on the integrity of the Norfolk Valley Fens SAC;
- Some advanced planting (or allowing current trees and hedges to thicken up) along the southern and eastern boundaries of land in the applicant’s ownership (some of which would be outside the area of MIN 69) will be necessary;
- A buffer zone to the north-east of MIN 69 (as shown indicatively on the Policies Map) must be left to protect the setting and ecology of the woodland owned by the National Trust;
- The current highways access along Briton’s Lane to the A148 must continue to be used, with the A148 junction being upgraded with a right-turn lane; and
- A formal aftercare agreement (through a section 106 legal agreement) for at least 25 years after extraction has ceased must be agreed. These arrangements will need to include regular clearance of scrub vegetation (to maintain heathland habitat) and footpath maintenance.

MIN 71 – Land to the west of Norwich Road, Lodge Farm, Holt



71.1 Site Characteristics

- The 22.73 hectare site is within the parish of Holt, and is just to the south-west of the settlement of Holt
- The estimated resource of the site is 2,500,000 tonnes of sand and gravel (but only 1,100,000 tonnes is concluded to be acceptable for allocation)
- The site is currently in agricultural use and on grade 3 agricultural land
- The site lies north of a current sand and gravel quarry (Hunworth Quarry), and immediately north of a permitted (but not yet operational) extension to this quarry
- The site is located approximately 600 metres from the Holt Lowes SSSI, part of the Norfolk Valley Fens SAC
- The site lies within the Glaven Valley Conservation Area
- The site is in Flood Zone 1
- The nearest residential property is within 10 metres of the site boundary.

71.2 This site lies very close to the southern edge of Holt, and although not being currently promoted by a minerals company, this site could form a logical extension to Cemex's current Hunworth Quarry, which lies to the south. As shown on the site plan, should MIN 71 be worked as an extension to Hunworth Quarry, material won from MIN 71 should be transported (by conveyor or internal haul road) to the current plant site for processing, with the current entrance/exit to Hunworth Road used. In the event that MIN 71 was worked by a different minerals company, satisfactory road access would need to be delivered.

71.3 Given the site's proximity to dwellings at the north-west and north-east corners of the site specifically, and Holt generally, it is important that suitable buffer zones and/or screening

is provided to protect the amenity of residents, and minimise any impacts on the townscape of Holt. Improved screening will also be necessary on the western boundary of the site (to mitigate any impacts on longer views towards Thornage) and also the eastern boundary, alongside the road.

71.4 Appropriately graded screen bunds would be required on site boundaries during the period of operations. Restoration to agricultural at a lower level would be appropriate, although the restored slopes leading to the restored agricultural fields (at the lower level) would require sympathetic grading to ensure that the restored landform does not appear artificial and incongruous with the surrounding landscape setting. Former field boundaries should be restored/recreated (creating smaller field sizes) and providing woodland and copses would be appropriate. There is a well established hedge between the proposed site and existing permission immediately south that should be retained.

71.5 The site is not far from Holt Lowes SSSI (part of the Norfolk Valley Fens SAC), which is a groundwater-dependent wetland. MIN 71 can only be worked if it would not affect groundwater flows (i.e. it must be worked 'dry'); in line with the Habitats Regulations Assessment findings, and in the absence of detailed hydrogeological information, only the top (of three) layers of sand could be worked safely (approximately 1.1 million tonnes of sand and gravel). The Habitats Regulations Assessment also concluded that site drainage should be via a settlement lagoon to avoid adverse effects from surface water runoff, therefore any future planning application will need to address this. Normal dust suppression measures will also be necessary to ensure that dust deposition would not adversely affect the SSSI. Any planning application would need to demonstrate that there would be no adverse effects on the integrity of the SAC.

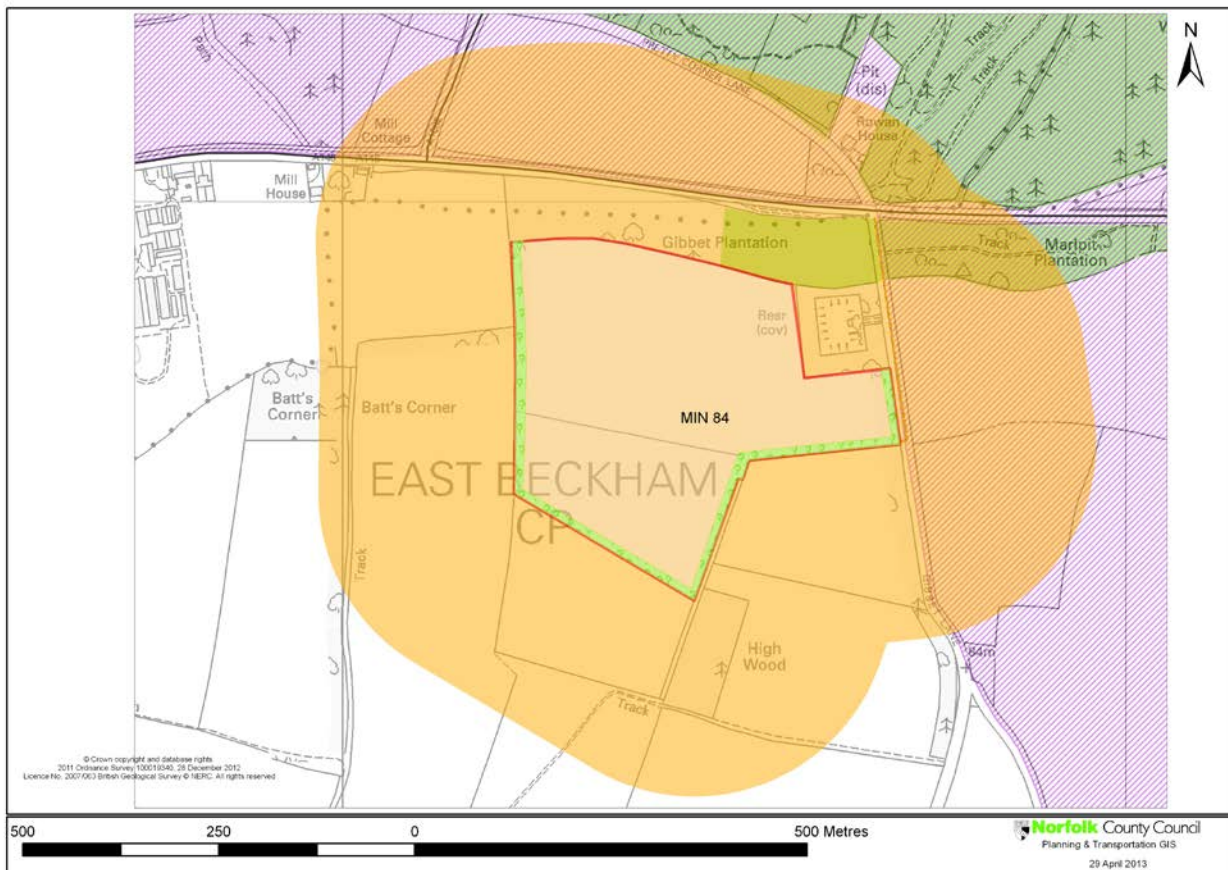
71.6 The B1149/Hunworth Road junction would benefit from improvements to increase the visibility to/from the Holt direction.

Policy MIN 71

The site is allocated as a specific site for sand and gravel extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- Due to the site's proximity to Holt Lowes SSSI (part of the Norfolk Valley Fens SAC), only 'dry' working (i.e. above the water table) will be permitted. A hydrogeological risk assessment will be necessary, which will show how deep the site can be worked, with any mitigation measure necessary to enable that working to take place. The presumption is that only the top layer of mineral (1.1 million tonnes) is suitable for extraction. In addition, dust suppression measures will also be necessary to ensure that dust deposition would not affect the integrity of the SAC, and surface water runoff must also be appropriately managed to avoid adverse effects on the SAC;
- Suitable stand-off/buffer zones at the north-east and north-west corners of the site, and along the western boundary of the site, will be needed to protect residential amenity and longer views to Thornage. A wider buffer zone in the north of the site may also be necessary to minimise impacts on Holt itself;
- The site should be subject to appropriate low-level restoration (with no importation of material) to agriculture, incorporating some additional areas of habitat (e.g. woodland and maybe grassland). The restoration of field boundaries within the site (as hedgerows) will also be important;
- An appropriate financial contribution to improvements to the B1149/Holt Road junction will need to be made; and
- Some open faces should be retained for geological study during the operational stages, and ideally after restoration, and there is a 'watching brief' during the extraction phase in case features of potential geodiversity interest are discovered

MIN 84 – Land off Gibbet Lane, East Beckham



84.1 Site Characteristics

- **The 13.8 hectare site is within the parish of East Beckham and lies about 500m south of Sheringham**
- **The estimated resource is 1,600,000 tonnes of sand and gravel**
- The site is currently in agricultural use and on grade 3 agricultural land
- Gibbet and Marlpit Plantations CWS lies adjacent to the north and north-east of the site
- Sheringham & Beeston Regis Common SSSI – which is part of the Norfolk Valley Fens SAC – lies approximately 1300m north-east of the site.
- The Norfolk Coast AONB lies to the east of the site (starting on the eastern boundary of Gibbet Lane) and also to the north (to the north of the A148)
- The site is in Flood Zone 1
- The nearest residential property is approximately 190 metres from the site boundary

84.2 The Norfolk Coast AONB begins immediately north and east of MIN 84, and the site is well screened from the roads to the north (the A148) and east (Gibbet Lane) by existing hedges and woodland. However, there are longer views to the south (to attractive countryside around East Beckham and East Beckham Hall) and to the north (from the Cromer Ridge, within the AONB). Providing landscape enhancement as advanced planting will be important given the proximity to the AONB and views from scattered properties and from East Beckham. This site is only acceptable in landscape terms subject to advance planting strengthening the existing landscape features and an appropriate scheme of carefully controlled phased working and site restoration.

84.3 The site is well located in relation to the north Norfolk settlements of Cromer, Sheringham and Holt, and the proximity of the site to the A148 and the strategic highway network is a benefit. Access to the A148 Holt Road from the site would be via Gibbet Lane, which joins the A148 at a staggered junction. Road widening to Gibbet Lane, between the site entrance and the A148 junction, and a full improvement to the A148/Gibbet Lane junction, including satisfactory visibility splays, will be required.

84.4 With appropriate mitigation measures, such as boundary planting and dust suppression, the amenity impacts of working the site are likely to be minor, with the nearest dwelling (Mill House) a reasonable distance away (300m) to the west.

84.5 The Habitat Regulations Assessment concluded that, so long as the site would, as proposed, be worked 'dry' (above the water table), and standard dust control measures were in place, there would be no adverse effects on the integrity of the Norfolk Valley Fens SAC.

84.6 As cropped agricultural fields, there is little current ecological interest on the site itself, but the presence of the existing hedges bordering Gibbet Lane, the Gibbet and Marlpit Plantations CWS to the north, and High Wood to the south-east, and the number of other copses in the wider area, indicate that restoration including some deciduous woodland would seem appropriate.

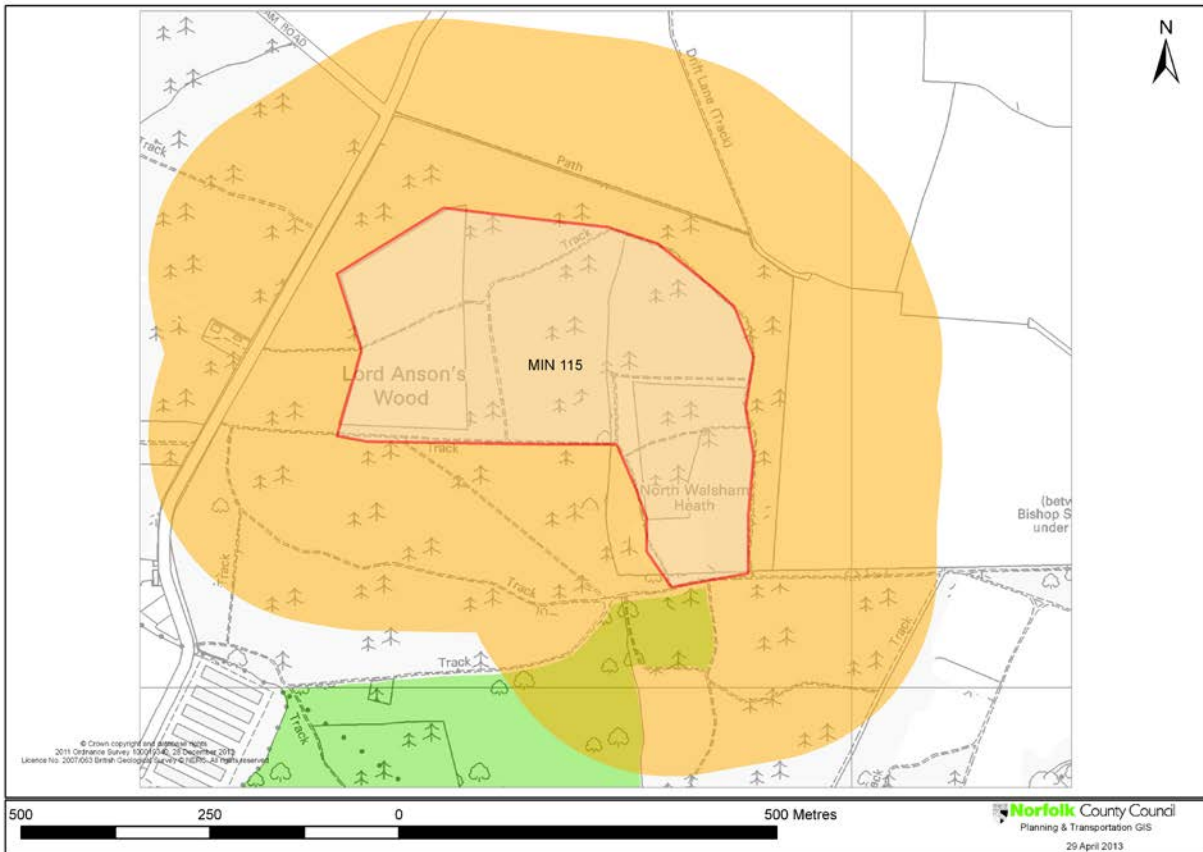
84.7 The mixed-habitat restoration proposed by the landowner (detailed in Policy MIN 84) would be required to create a sympathetic undulating landform with a mosaic of woodland, scrub-sown and naturalised acid grasslands and sympathetically profiled exposed faces to provide a wide variety of habitats and landscapes, and is acceptable in principle. Some public access across the site would also be beneficial.

Policy MIN 84

The site is allocated as a specific site for sand and gravel extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- A detailed assessment of the potential landscape impacts on the Norfolk Coast AONB, and the potential impacts on Sheringham Park, will need to be made in advance of a planning application, partly because advanced planting to strengthen existing landscape features will be necessary;
- Suitable screening along the southern edge of the site will be necessary to protect the long views towards East Beckham, East Beckham Hall and beyond. Screening along the western boundary of the site will also be necessary to safeguard the amenity of Mill House and Mill Farm to the west;
- Satisfactory road widening to Gibbet Lane itself and a full improvement to the Gibbet Lane/A148 junction will be required, including satisfactory visibility splays;
- In order to ensure that there would be adverse effects on the integrity of the Norfolk Valley Fens SAC, the site must be worked above the water table, with effective dust suppression measures put in place;
- The restoration, as proposed by the landowner, should be followed (a mosaic of woodland, scrub, sown and naturally colonised acid grasslands with some exposed geological faces), and the opportunity for public access across the site should be explored fully; and
- Some open faces are retained for geological study during the operational stages, and ideally after restoration, and there is a 'watching brief' during the extraction phase in case features of potential geodiversity interest are discovered

MIN 115 – Land at Lord Anson’s Wood, near North Walsham



115.1 Site Characteristics

- The 16.8 hectare site is within the parish of North Walsham and is about 1100m from the edge of North Walsham itself
- The estimated resource is 1,100,000 tonnes of sand and gravel
- The site is currently largely coniferous woodland, although there are some deciduous trees along the eastern part of the site in particular. MIN 115 sits within a much larger area of generally coniferous plantation woodland, although there are deciduous trees on the edge of this larger woodland
- The site is adjacent to Lord Anson's Wood CWS and about 500m from Westwick Lakes SSSI (which is to the south-east)
- The site is more than 5km from any SAC/SPA/Ramsar site
- Highways access is proposed to be to the B1150 Norwich Road to the east of the site, along an existing track
- The site is in Flood Zone 1
- The nearest residential property is approximately 150 metres from the site boundary.

115.2 This site lies a short distance south of the town of North Walsham, and within a large area of mixed-leaved woodland. The site itself is within a wider area of coniferous woodland (Lord Anson's Wood). Although much of the area comprises only scrubby regrowth vegetation, there are some more mature deciduous trees, particularly on the eastern edge of MIN 115. Much of the wider woodland – including the adjacent Lord Anson's Wood CWS – is mixed-leaved, and thus of more significant ecological value.

115.3 By leaving a 'screen' of existing trees around the site, the landscape impact on surrounding areas would be negligible.

115.4 The haul road would need to be to Norwich Road (B1150) to the east, because Skeyton Road to the west is unsuitable to accommodate HGVs. This haul route would follow an existing track along the northern edge of the woodland before reaching Norwich Road. The surrounding landscape setting along the access road is characterised by mature hedgerows field boundary mature oak trees and the woodland edge of mixed coniferous and deciduous species. It is imperative that these existing landscape features are retained (and safeguarded with stand-off zones) and enhanced with advanced planting as part of the landscaping requirements. Appropriate junction arrangements with the B1150 would need to be proposed at the time of any planning application, with a right-turn lane potentially required. The amenity impacts on Heath Cottage (which lies at the eastern end of the woodland, near the B1150) will need to be acceptable, which might involve additional screening and bunding.

115.5 Information provided is that the site would be worked 'dry' (above the water table), and therefore there would not be any likely impact on Westwick Lakes SSSI, which lies to the south-east.

115.6 Restoration of the site to a mixture of heathland and deciduous woodland would provide significant ecological benefits.

115.7 One of the fields to the north of the haul road route was the location of a Peasants' Revolt battle in 1381. In addition, there was an aeroplane crash in the area during World War II (1945), with a US Liberator military aircraft crash-landing in or close to Lord Anson's Wood. Both these sites would need to be investigated as part of the initial desktop archaeological assessment.

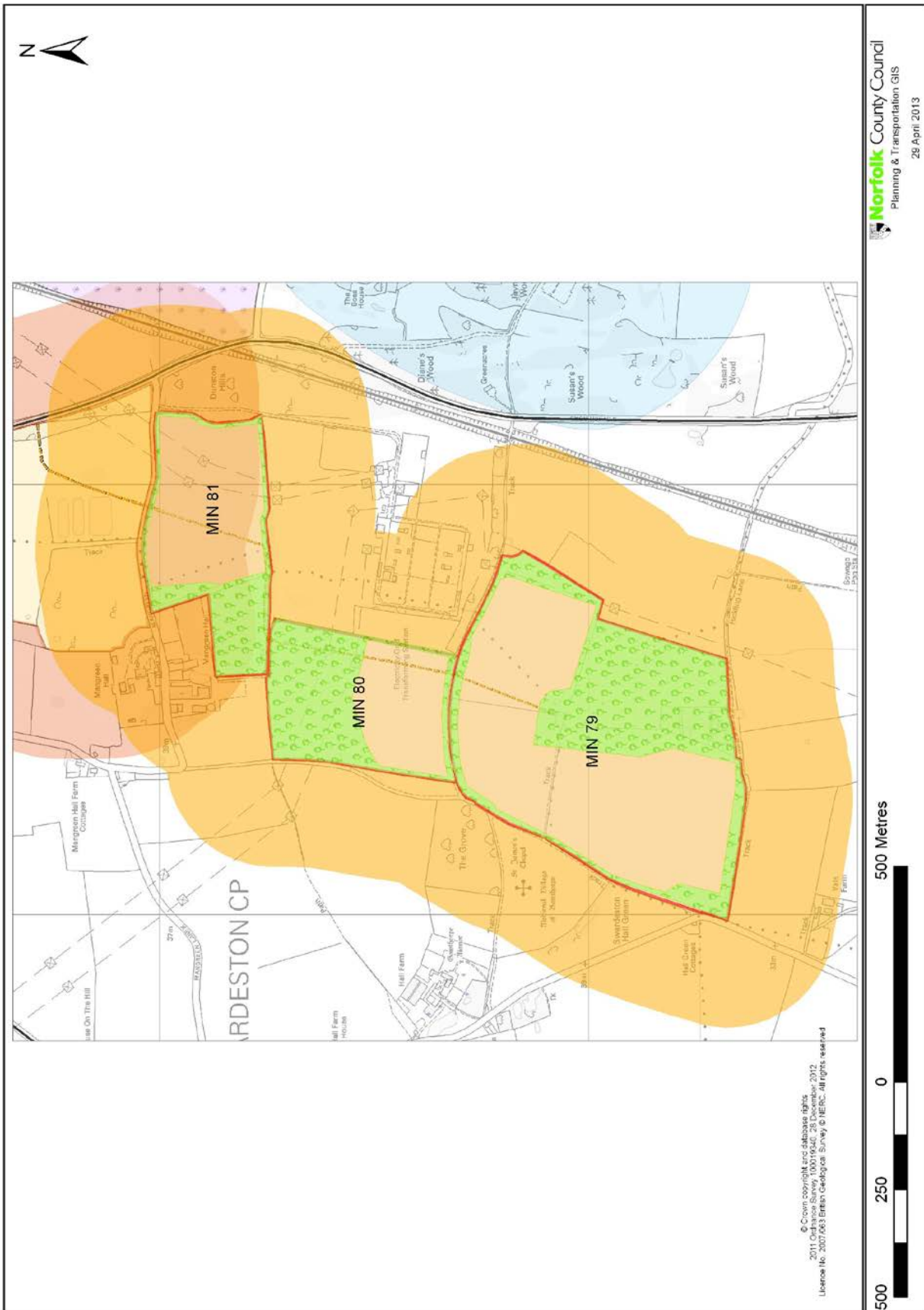
Policy MIN 115

The site is allocated as a specific site for sand and gravel extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular:

- Development of a satisfactorily screened haul road to the B1150 to the east. The impact on Heath Cottage will need to be assessed carefully, with screening/bunding as appropriate to mitigate any amenity impacts;
- A junction to the B1150 with appropriate visibility splays will be necessary; depending on the results of a Transport Assessment, a right-turn lane may be needed;
- A full ecological survey will be necessary, in particular for bats and badgers. Depending on the results of the survey, various mitigation measures may be necessary to ensure that there would be no adverse impacts on protected species;
- An appropriately wide screen of trees will need to be left around the site to minimise amenity impacts on users of the footpath passing close to the north-west corner of Lord Anson's Wood;
- The site would need to be worked 'dry' (above the water table) to ensure there would be no adverse impacts on Westwick Lakes SSSI;
- Restoration to a mix of deciduous woodland and heathland will be required;
- The initial desktop archaeological assessment would need to assess any potential impacts on the wartime military crash site and the Peasants' Revolt battle site, with further field work and trial trenching as required; and
- Some open faces are retained for geological study during the operational stages, and ideally after restoration, and there is a 'watching brief' during the extraction phase in case features of potential geodiversity interest are discovered

SOUTH NORFOLK SITES

Map of site allocations at Mangreen (Swainsthorpe, Swardeston and Stoke Holy Cross parishes) – MIN 79, MIN 80 and MIN 81



MIN 79 – land north of Hickling Lane, Swardeston

79.1 Site Characteristics

- **The 38.6 hectare site is located in the parishes of Swainsthorpe, Swardeston, and Stoke Holy Cross**
- **The estimated sand and gravel resource at the site is 1,750,000 tonnes**
- The site lies close to an active mineral extraction site
- The site is in agricultural use currently and is on Grade 3 land
- The site is in flood zone 1
- The site is approximately 4km from Norwich
- The nearest residential property is within 30 metres of the site boundary
- A Public Right of Way is located on the southern boundary of the site
- The site is close to three listed buildings (Gowthorpe Manor, Mangreen Hall and Mangreen Hall Farm Barn)
- The site is approximately 1km from “Dunston Common” County Wildlife Site 268
- The site is more than 5km from any European designated environmental site

79.2 This site is one of three allocations which will provide a southern extension to the existing permitted Mangreen Quarry. It is envisaged that material will be processed at the existing processing plant, and that the movement of material to the plant will be achieved through the use of a conveyor to reduce impacts. The existing access route from the processing plant, directly onto the A140 a short distance from the A47 Norwich Southern bypass, would be used for onward transport. Norwich could provide a market for a significant amount of the material extracted.

79.3 It is proposed that working would commence at the southern most point of the extension and then proceed northwards with progressive restoration taking place as the area of active extraction moves. Due to the expected depth of extraction, it is recognised that restoration to arable is likely to require the use of imported inert material to provide a suitable profile. The detailed assessment of restoration requirements would form part of any future planning application for mineral extraction, as indicated in Core Strategy Policy CS9.

79.4 There has been advance planting around the site and this is starting to become established although some reinforcement may be required if any gaps are present, with any amenity bunds being located behind this planting. Screen planting should be with native species wherever possible. A standoff buffer zone and enhanced planting will be required to provide protection and mitigation for the area surrounding Spro’s Pit leading the way for restoration which should provide long term ecological gains in this area. Screen planting, amenity bunds, and a standoff buffer zone will be required around Hall Green cottages and the PROW’s, the exact extent of these should be determined as part of any future planning application. Indicative areas are shown on the Policies Map.

79.5 A future planning application should consider phasing and the direction of working as part of the scheme of working, because the time of year and the precise manner in which extraction takes place can result in variations in amenity impacts on local residents. Extraction closest to properties should normally take place during the winter months, when residents tend to spend less time in their gardens, and have fewer windows open, so any noise which arises is less likely to give rise to potentially unacceptable amenity impacts.

Policy MIN 79

The site is allocated as a specific site for sand and gravel extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- A screening scheme which will include mitigation of views from the surrounding properties, the PROW, surrounding roads, and protection of the setting of the listed buildings/structures;
- A hydrological risk assessment will be required to assess any potential impacts on the nearby private groundwater abstraction at Dunston Hall, with any appropriate mitigation measures incorporated in any planning application;
- A programme of mitigation measures to deal appropriately with any amenity impacts;
- A scheme of phased working including the direction of working (to assist in the mitigation of amenity impacts), and landscaping;
- A progressive restoration scheme which incorporates arable with wide field margins and enhanced deciduous woodland belts to provide landscape and biodiversity gains;
- The site will need to be phased with other sites in the area, before MIN 80 and MIN 81; so that only one site is worked for extraction at a time;
- An archaeological evaluation of the site would be required and additional fieldwork may also be needed if features are identified, with preservation in-situ if this is considered to be appropriate;
- Opportunities during working for any geodiversity assets to be studied, and if compatible with the landscape and ecology objectives an open face to be included within any restoration scheme for future scientific study; and
- That the material extracted would be removed by conveyor for processing at the existing processing plant at Mangreen Quarry.

MIN 80 – land south of Mangreen Hall Farm, Swardeston

80.1 Site Characteristics

- **The 13 hectare site is located in the parish of Swardeston**
- **The estimated sand and gravel resource at the site is 760,000 tonnes**
- The site lies close to an active mineral extraction site;
- The site is in agricultural use currently and is on Grade 3 land
- The site is in flood zone 1
- The site is located on a major aquifer and is in groundwater source protection zone 3
- The site is approximately 4km from Norwich
- The nearest residential property is approximately 210 metres from the site boundary
- There are Public Rights of Way on the western and southern boundaries
- The site is close to three listed buildings (Gowthorpe Manor, Mangreen Hall, and Mangreen Hall Farm Barn)
- The site is more than 5km from any European designated environmental site

80.2 This site is one of three allocations which will provide a southern extension to the existing permitted Mangreen Quarry. It is envisaged that material will be processed at the existing processing plant, and that the movement of material to the plant will be achieved through the use of a conveyor to reduce impacts. The existing access route from the processing plant, directly onto the A140 a short distance from the A47 Norwich Southern bypass, would be used for onward transport. Norwich could provide a market for a significant amount of the material extracted.

80.3 It is proposed that working would commence at the southern most point of the extension and then proceed northwards with progressive restoration taking place as the area of active extraction moves. Due to the expected depth of extraction, it is recognised that restoration to arable is likely to require the use of imported inert material to provide a suitable profile. The detailed assessment of restoration requirements would form part of any future planning application for mineral extraction, as indicated in Core Strategy Policy CS9.

80.4 There has been advance planting around the site and this is starting to become established although some reinforcement may be required if any gaps are present, with any amenity bunds being located behind this planting. Screen planting should be with native species wherever possible, and this should be retained as part of any restoration scheme with improved hedgerows and tree belts.

80.5 Screen planting, amenity bunds, and a standoff buffer zone will be required to protect the setting of Mangreen Hall farm, and the PROW's, although some screen planting is already established, it may require some reinforcement. The statutory safeguarding area surrounding the High Tension electricity cables that run across the site will need to be maintained as a standoff buffer zone. The exact extent of the screen planting and buffer zones should be determined as part of any future planning application. Indicative areas are shown on the Policies Map.

80.6 Restoration should be to arable with wide field margins and enhanced woodland blocks which would provide landscape and biodiversity gains.

80.7 A future planning application should consider phasing and the direction of working as part of the scheme of working, because the time of year and the precise manner in which extraction takes place can result in variations in amenity impacts on local residents. Extraction closest to properties should normally take place during the winter months, when residents tend to spend less time in their gardens, and have fewer windows open, so any noise which arises is less likely to give rise to potentially unacceptable amenity impacts.

Policy MIN 80

The site is allocated as a specific site for sand and gravel extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- A screening scheme which will include mitigation of views from the surrounding properties, the PROW, surrounding roads, and protection of the setting of the listed structures/buildings;
- A hydrological risk assessment to identify any potential impacts to groundwater and appropriate mitigation will be required to address any identified impacts;
- A programme of mitigation measures to deal appropriately with any amenity impacts;
- A scheme of phased working including the direction of working (to assist in the mitigation of amenity impacts), and landscaping;
- A progressive restoration scheme which incorporates arable with wide field margins and enhanced deciduous woodland belts to provide landscape and biodiversity gains;
- Opportunities during working for any geodiversity assets to be studied, and if compatible with the landscape and ecology objectives an open face to be included within any restoration scheme for future scientific study;
- An archaeological evaluation of the site would be required and additional fieldwork may also be needed if features are identified, with preservation in-situ if this is considered to be appropriate;
- The site will need to be phased with other sites in the area, after MIN 79, and before MIN 81 so that only one site is worked for extraction at a time; and
- That the material extracted would be removed by conveyor for processing at the existing processing plant at Mangreen Quarry.

MIN 81 – land south of Mangreen Lane, Stoke Holy Cross

81.1 Site Characteristics

- **The 13.9 hectare site is located in the parish of Stoke Holy Cross**
- **The estimated sand and gravel resource at the site is 955,000 tonnes**
- The site lies close to an active mineral extraction site
- The site is in agricultural use currently and is on Grade 3 land
- The site is in flood zone 1.
- The site is approximately 4km from Norwich
- The nearest residential property is approximately 100 metres from the site boundary
- The site is close to three listed buildings (Gowthorpe Manor, Mangreen Hall, and Mangreen Hall Farm Barn)
- The site is more than 5km from any European designated environmental site.

81.2 This site is one of three allocations which will provide a southern extension to the existing permitted Mangreen Quarry. It is envisaged that material will be processed at the existing processing plant, and that the movement of material to the plant will be achieved through the use of a conveyor to reduce impacts. The existing access route from the processing plant, directly onto the A140 a short distance from the A47 Norwich Southern bypass, would be used for onward transport. Norwich could provide a market for a significant amount of the material extracted.

81.3 It is proposed that working would commence at the southern most point of the extension and then proceed northwards with progressive restoration taking place as the area of active extraction moves. Due to the expected depth of extraction, it is recognised that restoration to arable is likely to require the use of imported inert material to provide a suitable profile. The detailed assessment of restoration requirements would form part of any future planning application for mineral extraction, as indicated in Core Strategy Policy CS9.

81.4 There has been advance planting around the site and this is starting to become established although some reinforcement may be required if any gaps are present, with any amenity bunds being located behind this planting. Screen planting should be with native species wherever possible, and this should be retained as part of any restoration scheme with improved hedgerows and tree belts.

Screen planting, amenity bunds, and a standoff buffer zone will be required to protect the setting of Mangreen Hall farm, and although some screen planting is already established it may require some reinforcement. The statutory safeguarding area surrounding the High Tension electricity cables that run across the site will need to be maintained as a standoff buffer zone. The exact extent of the screen planting and buffer zones should be determined as part of any future planning application. Indicative areas are shown on the Policies Map. Restoration should be to arable with wide field margins and enhanced woodland blocks which would provide landscape and biodiversity gains.

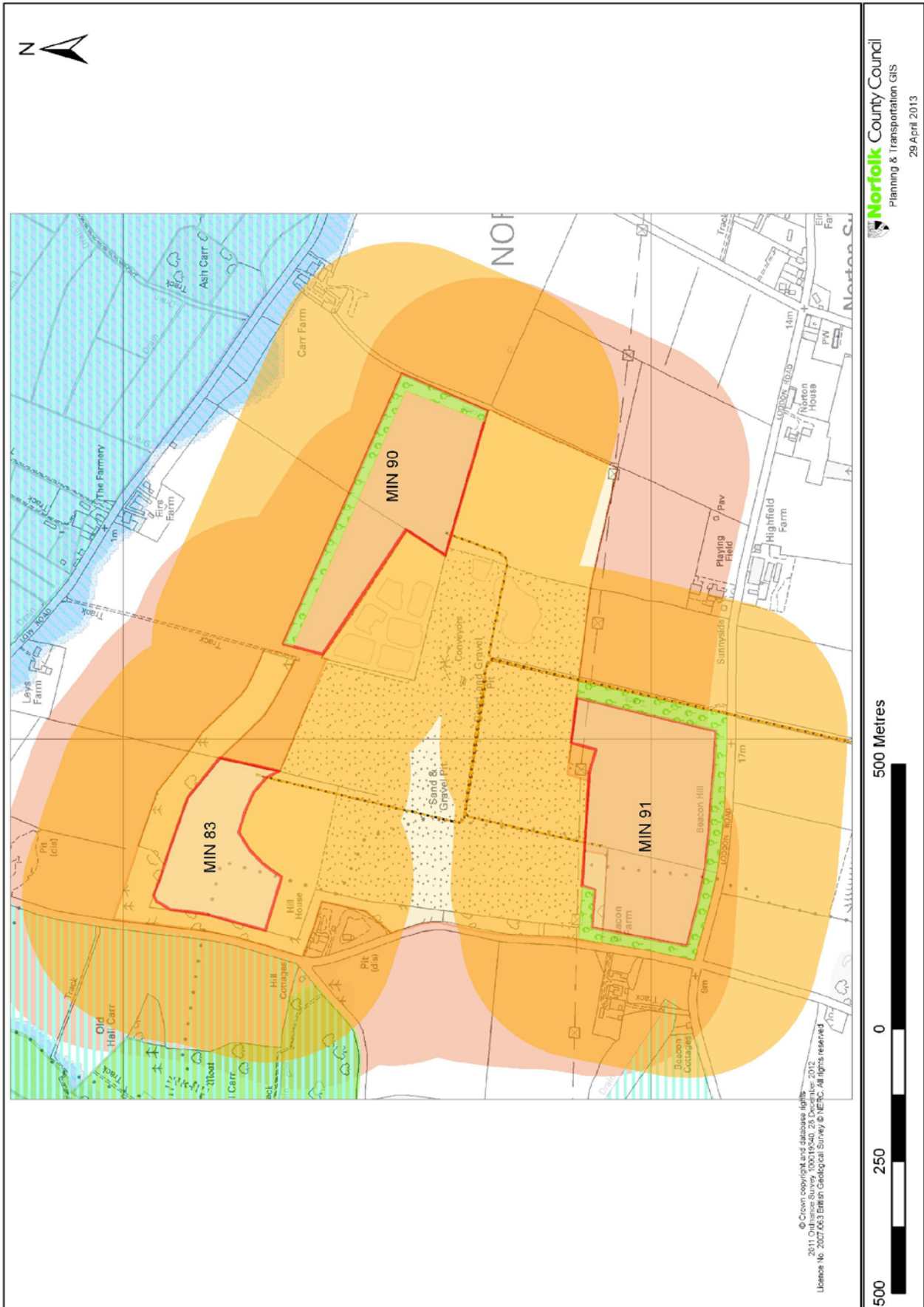
81.5 A future planning application should consider phasing and the direction of working as part of the scheme of working, because the time of year and the precise manner in which extraction takes place can result in variations in amenity impacts on local residents. Extraction closest to properties should normally take place during the winter months, when residents tend to spend less time in their gardens, and have fewer windows open, so any noise which arises is less likely to give rise to potentially unacceptable amenity impacts.

Policy MIN 81

The site is allocated as a specific site for sand and gravel extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- A screening scheme which will include mitigation of views from the surrounding properties, the PROW, surrounding roads, and protection of the setting of the listed structures/buildings;
- A hydrological risk assessment will be required to assess any potential impacts on the nearby private groundwater abstraction at Dunston Hall, with any appropriate mitigation measures incorporated in any planning application
- A programme of mitigation measures to deal appropriately with any amenity impacts;
- A scheme of phased working including the direction of working (to assist in the mitigation of amenity impacts), and landscaping;
- A progressive restoration scheme which incorporates arable with wide field margins and enhanced deciduous woodland belts to provide landscape and biodiversity gains;
- Opportunities during working for any geodiversity assets to be studied, and if compatible with the landscape and ecology objectives an open face to be included within any restoration scheme for future scientific study;
- An archaeological evaluation of the site would be required and additional fieldwork may also be needed if features are identified, with preservation in-situ if this is considered to be appropriate;
- The site will need to be phased with other sites in the area, after MIN 79 and MIN 80; so that only one site is worked for extraction at a time; and
- That the material extracted would be removed by conveyor for processing at the existing processing plant at Mangreen Quarry.

Map of site allocations at Norton Subcourse – MIN 83, MIN 90 and MIN 91



MIN 83 – Extension to Norton Subcourse Quarry, Loddon Road

83.1 Site Characteristics

- The 4.7 hectare site is located in the parishes of Heckingham and Norton Subcourse
- The estimated sand and gravel resource at the site is 674,000 tonnes
- Site lies adjacent to an active mineral extraction site
- The site is in agricultural use currently and is on Grade 3 land
- The site is in flood risk zone 1
- The site is located on a major aquifer
- The site is approximately 18km from Great Yarmouth
- The site is close to two residential properties, the closest is approximately 100 metres from the site boundary
- The site is approximately 50 metres from the Broads Authority Executive Area
- The site is approximately 1km from Hardley Flood SSSI, which forms part of the Broadland SPA/Ramsar and the Broads SAC, and approximately 4km from Halvergate Marshes SSSI, which forms part of the Breydon Water SPA/Ramsar.

83.2 This site is one of three allocations which will provide extensions to the existing permitted Norton Sub-Course working. The site comprises an unworked area within the existing sand and gravel working. It is envisaged that material will be processed at the existing processing plant. The existing access route from the processing plant, via an off-highway haul route to the B1136 and then onto A143, would be used for onward transport. Great Yarmouth could provide a market for a significant amount of the material extracted. The Highway Authority has indicated that the use of the existing access route would only remain acceptable if the maximum annual extraction volume was limited to the maximum volume permitted from the current working.

83.3 The site is enclosed within a well established tree belt which would provide appropriate screening from the Broads Authority Executive Area.

83.4 The site may contain geodiversity features of national importance, to mitigate impacts on these close cooperation between the operators and the Norfolk Geodiversity Partnership will be required during all phases of the operation, to give opportunities for scientific study, and the restoration scheme should provide an open face to allow future scientific study.

83.5 The site is less than 5km from the Broadland SPA/Ramsar, the Broads SAC, and the Breydon Water SPA/Ramsar however, no likely significant effects are anticipated, so long as in any future planning application the following are dealt with.

- A lighting scheme is agreed by Norfolk County Council in consultation with Natural England.
- A noise and dust assessment is carried out with particular reference to the designated sites and for any potential impacts appropriate mitigation is identified and conditioned by Norfolk County Council in consultation with Natural England.

83.6 A restoration scheme which provided acid grassland and deciduous woodland blocks would be acceptable in landscape terms and would provide biodiversity gains.

Policy MIN 83

The site is allocated as a specific site for sand and gravel extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- The use of the haul route from the existing processing plant;
- A limit on maximum extraction volumes of the quarry to no more than the maximum volumes permitted for the existing Norton sub-course extraction;
- A programme of mitigation measures to deal appropriately with any amenity impacts;
- A scheme of working, and restoration which provides landscape, and biodiversity gains and does not impact adversely on the Broads Authority Executive Area;
- A noise and dust assessment to be carried out and mitigation put in place for any identified impacts, with particular reference to the designated sites, to the satisfaction of Norfolk County Council in consultation with Natural England;
- A lighting scheme to be agreed with Norfolk County Council in consultation with Natural England;
- An archaeological evaluation of the site would be required and additional fieldwork may also be needed if features are identified;
- Opportunities during working for any geodiversity assets to be studied, and if compatible with the landscape and ecology objectives an open face to be included within any restoration scheme for future scientific study; and
- A Hydrological Impact Assessment to identify any potential impacts to groundwater and provide appropriate mitigation for those impacts identified.

MIN 90 – extension to Norton Subcourse Quarry, Loddon Road

90.1 Site Characteristics

- **The 8.1 hectare site is located in the parish of Norton Subcourse**
- **The estimated sand and gravel resource at the site is 510,950 tonnes**
- The site lies adjacent to an active mineral extraction site
- The site is in agricultural use currently and is on Grade 3 land
- The site is in flood zone 1
- The site is approximately 18km from Great Yarmouth
- The site is relatively close to a number of properties on Low Road, the closest of which is approximately 350 metres from the site boundary
- The site is just over 300 metres from the Broads Authority Executive Area
- The site is approximately 1.5km from Hardley Flood SSSI, which forms part of the Broadland SPA/Ramsar and the Broads SAC, and approximately 4km from Halvergate Marshes SSSI, which forms part of the Breydon Water SPA/Ramsar.

90.2 This site is one of three allocations which will provide extensions to the existing permitted Norton Sub-Course working. The site would form an extension to the current permitted sand and gravel working. It is envisaged that material will be processed at the existing processing plant. The existing access route from the processing plant, via an off-highway haul route to the B1136 and then onto A143, would be used for onward transport. Great Yarmouth could provide a market for a significant amount of the material extracted. The Highway Authority has indicated that the use of the existing access route would only remain acceptable if the maximum annual extraction volume was limited to the maximum volume permitted from the current working.

90.3 Advanced planting of a tree belt has already taken place and is starting to become established. It is considered that this tree belt together with amenity bunds located behind the tree belt would provide appropriate mitigation of amenity and landscape impacts from the Broads Authority Executive Area.

90.4 The site may contain geodiversity features of national importance, to mitigate impacts on these close cooperation between the operators and the Norfolk Geodiversity Partnership will be required during all phases of the operation, to give opportunities for scientific study, and the restoration scheme should provide an open face to allow future scientific study.

90.5 The site is less than 5km from the Broadland SPA/Ramsar, the Broads SAC, and the Breydon Water SPA/Ramsar however, no likely significant effects are anticipated, so long as in any future planning application the following are dealt with.

- A lighting scheme is agreed by Norfolk County Council in consultation with Natural England.
- A noise and dust assessment is carried out with particular reference to the designated sites and for any potential impacts appropriate mitigation is identified and conditioned by Norfolk County Council in consultation with Natural England.

90.6 A restoration scheme which provided acid grassland and deciduous woodland blocks would be acceptable in landscape terms and would provide biodiversity gains.

Policy MIN 90

The site is allocated as a specific site for sand and gravel extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- A screening scheme which will include successful mitigation for views from the properties along Low Road, the PROW and surrounding roads;
- A programme of mitigation measures to deal appropriately with any amenity impacts;
- A noise and dust assessment to be carried out and mitigation put in place for any identified impacts, with particular reference to the designated sites, to the satisfaction of Norfolk County Council in consultation with Natural England;
- A scheme of working, and restoration which provides landscape, and biodiversity gains and does not impact adversely on the Broads Authority Executive Area;
- Opportunities during working for any geodiversity assets to be studied, and if compatible with the landscape and ecology objectives an open face to be included within any restoration scheme for future scientific study, close cooperation between the operators and the Norfolk Geodiversity Partnership will be required during all phases of the operation;
- The use of the haul route from the existing processing plant to the highway network;
- A lighting scheme to be agreed with Norfolk County Council in consultation with Natural England;
- An archaeological evaluation of the site would be required and additional fieldwork may also be needed if features are identified;
- A limit on maximum extraction volumes of the quarry to no more than the maximum volumes permitted for the existing Norton sub-course extraction; and
- A Hydrological Impact Assessment to identify any potential impacts to groundwater and provide appropriate mitigation for those impacts identified.

MIN 91 – Extension to Norton Subcourse Quarry, Loddon Road

91.1 Site Characteristics

- **The 9.7 hectare site is located in the parishes of Heckingham and Norton Subcourse**
- **The estimated sand and gravel resource at the site is 1,146,170 tonnes**
- Site lies adjacent to an active mineral extraction site
- The site is in agricultural use currently and is on Grade 3 land
- The site is in the flood zone 1
- The site is located within groundwater source protection zone 3
- The site is approximately 18km from Great Yarmouth
- The nearest residential property is approximately 75 metres from the site boundary
- The site is about 80 metres from the Broads Authority Executive Area
- The site is approximately 1km from Hardley Flood SSSI, which forms part of the Broadland SPA/Ramsar and the Broads SAC, and approximately 4.5km from Halvergate Marshes SSSI, which forms part of the Breydon Water SPA/Ramsar

91.2 This site is one of three allocations which will provide extensions to the existing permitted Norton Sub-Course working. The site would form an extension to the current permitted sand and gravel working. It is envisaged that material will be processed at the existing processing plant. The existing access route from the processing plant, via an off-highway haul route to the B1136 and then onto A143, would be used for onward transport. Great Yarmouth could provide a market for a significant amount of the material extracted. The Highway Authority has indicated that the use of the existing access route would only remain acceptable if the maximum annual extraction volume was limited to the maximum volume permitted from the current working.

91.3 Advanced planting of a tree belt has already taken place and is starting to become established. It is considered that this tree belt together with amenity bunds located behind the tree belt would provide appropriate mitigation of amenity and landscape impacts from the Broads Authority Executive Area.

91.4 The site may contain geodiversity features of national importance, to mitigate impacts on these close cooperation between the operators and the Norfolk Geodiversity Partnership will be required during all phases of the operation, to give opportunities for scientific study, and the restoration scheme should provide an open face to allow future scientific study.

91.5 The site is less than 5km from the Broadland SPA/Ramsar, the Broads SAC, and the Breydon Water SPA/Ramsar however, no likely significant effects are anticipated, so long as in any future planning application the following are dealt with.

- A lighting scheme is agreed by Norfolk County Council in consultation with Natural England.
- A noise and dust assessment is carried out with particular reference to the designated sites and for any potential impacts appropriate mitigation is identified and conditioned by Norfolk County Council in consultation with Natural England.

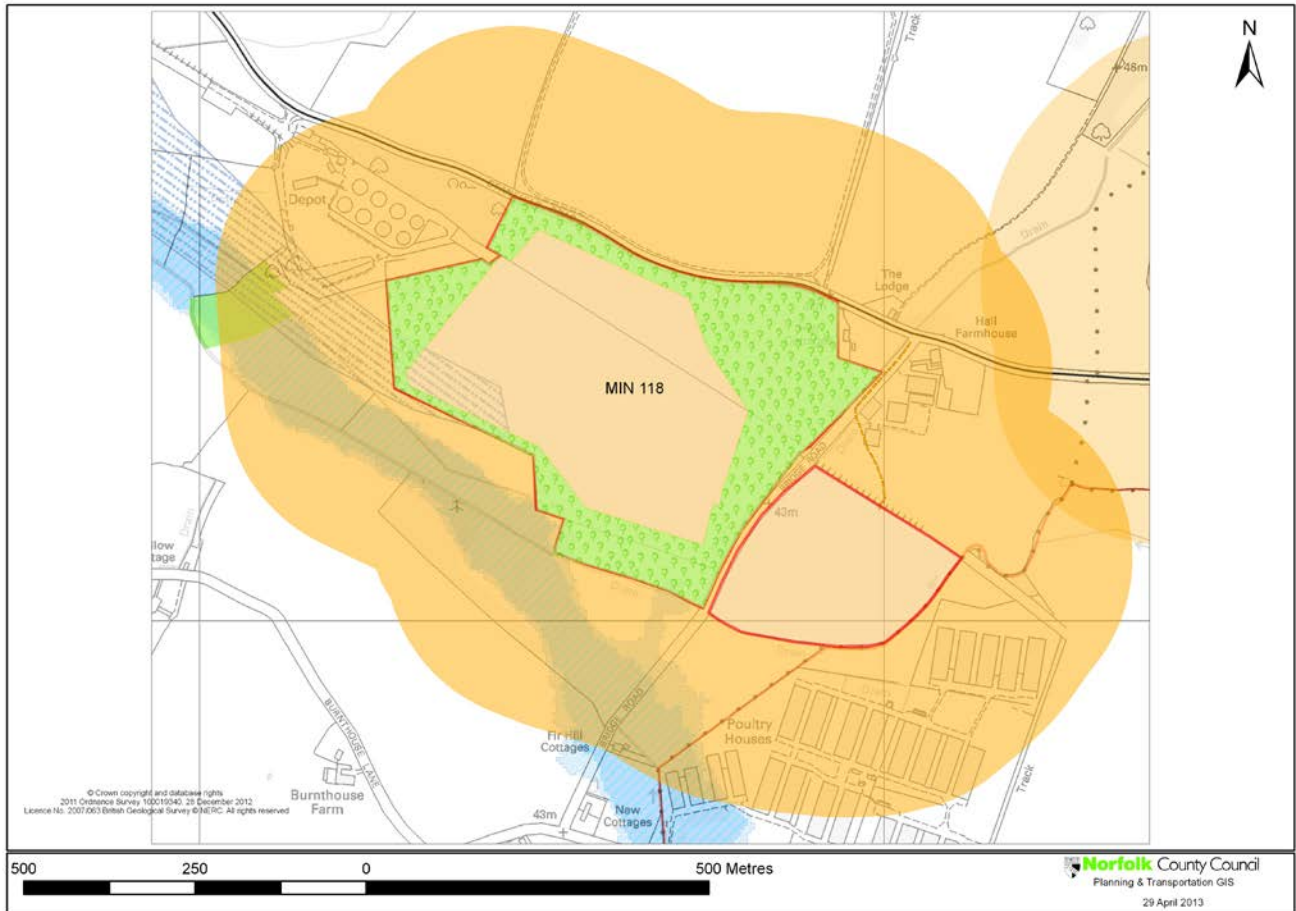
91.6 A restoration scheme which provided acid grassland and deciduous woodland blocks would be acceptable in landscape terms and would provide biodiversity gains.

Policy MIN 91

The site is allocated as a specific site for sand and gravel extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- A screening scheme which will include successful mitigation for views from the properties, and surrounding road;
- A programme of mitigation measures to deal appropriately with any amenity impacts;
- A noise and dust assessment to be carried out and mitigation put in place for any identified impacts, with particular reference to the designated sites, to the satisfaction of Norfolk County Council in consultation with Natural England;
- A scheme of working, and restoration which provides landscape, and biodiversity gains and does not impact adversely on the Broads Authority Executive Area;
- Opportunities during working for any geodiversity assets to be studied, and if compatible with the landscape and ecology objectives an open face to be included within any restoration scheme for future scientific study, close cooperation between the operators and the Norfolk Geodiversity Partnership will be required during all phases of the operation;
- The use of the haul route from the existing processing plant to the highway network;
- A lighting scheme to be agreed with Norfolk County Council in consultation with Natural England;
- An archaeological evaluation of the site would be required and additional fieldwork may also be needed if features are identified;
- A limit on maximum extraction volumes of the quarry to no more than the maximum volumes permitted for the existing Norton sub-course extraction; and
- A Hydrological Impact Assessment to identify any potential impacts to groundwater and provide appropriate mitigation for those impacts identified.

MIN 118 – land at Hall Farm, Wymondham



118.1 Site Characteristics

- **The 26.9 hectare site is located in the parish of Wymondham**
- **The estimated sand and gravel resource at the site is 600,000 tonnes**
- The site is in agricultural use currently and is on Grade 3 land
- The site is located adjacent to a historic landfill sites (now the site of a Goff Petroleum depot), which stopped accepting waste in the late 1980s
- A small part of the site is in Flood risk zone 2
- The site is approximately 2km from Wymondham
- The site is located on a secondary aquifer
- An internal drainage board maintained watercourse runs along part of the southern boundary
- The nearest residential property is within 10 metres of the site boundary
- The site is approximately 140m from 'Breakers Yard Meadow', and 750m from 'Stanfield Hall Moat' County Wildlife Site 202, and "Silfield Newt Reserve" is approximately 800m away
- The site is more than 5km from any European designated Environment site

118.2 This site would form an allocation close to Wymondham which could provide a market for a significant amount of the material extracted.

118.3 It is proposed that the site will make use of an internal route from the extraction site to the plant site, utilising the redundant railway bridge, and then onward transportation will be from the processing plant by an internal haul route to link to Bridge Road and then onto the C186 Stanfield Road. The Highway Authority considers that a suitable access could be formed to Stanfield Road.

118.4 A small part of the overall site is within flood zone 2 and 3; however it is proposed that no extraction would take place in this area and that extraction would be limited to those parts of the site within flood zone 1.

118.5 The site is approximately 800m from "Silfield Newt Reserve", a site created for Great Crested Newts. In the evidence put forward by the proposer of the site an ecological survey and report was carried out which found no evidence that Great Crested Newts or other protected amphibians were found on the site. The survey also looked for protected mammals including bats and water voles, and while some evidence was found that they use the site intermittently for foraging, it is considered that suitable mitigation could be put forward.

118.6 This site is an arable field which slopes from north to south, falling towards the River Tiffey. The site is adjacent to an oil depot which acts as a detractor in the landscape, although the site itself is a relatively featureless arable field, the most significant landscape features being the hedges and the trees they contain on the boundary of the site. Part of the north-western section of the site is designated as a Core River Valley.

118.7 There are views of the site from the elevated section of the C186 which runs along the northern boundary of the site and intermittent views from the a small number of properties and roads to the south of the site, along with a limited view from the elevated position of the former railway bridge dividing the two parts of the site. Two properties are located close to the boundary of the site. Screening and bunding will be required along the northern boundary of the site along the C186, where some land raising may be required to allow the planting of a hedge with native species which will also form a long term landscape and ecology gain.

118.8 The area of meadow closest to the River Tiffey will be retained and will provide a standoff with reinforcement of the hedgeline to the north of this meadow which forms the southern boundary of the site, again with native species in order to provide a long term landscape gain. Some tree planting will be required on areas at the boundary of the site both for screening and as part of the mitigation of impacts and to provide landscape and ecology gains on restoration. A significant area of tree planting would be required in the north eastern part of the site to provide screening for the two properties. This should be arranged in front of any bunding, which could be intrusive in itself, and the inclusion of a standoff area may also be required.

118.9 The details of the depth and type of planting required on this site would be best determined as part of any future planning application when an exact scheme of working has been developed and assessments of any potential impacts carried out; however indicative screening is shown on the Policies Map. It would be preferable for any tree planting to be designed so that it can be retained on restoration to provide landscape and ecology gains.

118.10 An internal drainage board watercourse runs along part of the southern boundary of the site and any scheme of working will need to take this into account and ensure that no unacceptable impacts are caused to this or to habitats downstream. Any scheme of working which includes dewatering will need to provide evidence in the form of a hydrological impact assessment that potential impacts have been identified and appropriate mitigation put in place.

118.11 A restoration scheme which provided acid grassland, enhancement to the hedgerows, and deciduous copses would be acceptable in landscape terms and would provide biodiversity gains.

Policy MIN 118

The site is allocated as a specific site for sand and gravel extraction. Development will be subject to compliance with adopted Core Strategy and Development Management policies, and will require any planning application to address, in particular, the requirements below:

- A screening scheme which will include successful mitigation for views from the properties surrounding the site, including long range views, the PROW and surrounding roads;
- A programme of mitigation measures to deal appropriately with any amenity impacts;
- A scheme of working, and restoration which provides landscape, and biodiversity gains;
- An archaeological evaluation of the site would be required and additional fieldwork may also be needed if features are identified;
- A hydrogeological risk assessment to identify any potential risks to groundwater and/or surface water (particularly the River Tiffey) should be undertaken, with particular reference to the historic landfill site on the adjacent land. Appropriate mitigation measures must be proposed to address any impacts identified; and
- A survey to identify any protected species and habitats which might be impacted on by the development; and mitigation measures identified which when implemented will address these impacts.

6 Glossary

Aftercare The treatment of land for a period (usually five years) following restoration to bring the land to the required standard so that it is fit for its agreed after-use.

Aggregates Materials such as sand and gravel and crushed rock, used in the construction industry for purposes such as concrete, mortar or roadstone.

Amenity Amenity is any tangible or intangible benefits of or relating to a property, especially those which increase the attractiveness or value of the property or which contribute to its comfort or convenience. This could include tangible benefits such as a park, or intangible such as a 'nice view'.

Ancient Woodland An area of woodland which has had a continuous history of tree cover since at least 1600.

Annual Monitoring Report Records progress in implementing the Local Development Scheme and the performance of policies against targets in Development Plan Documents. Indicates what action an authority needs to take if it is not on track or policies need to be revised/ replaced.

Apportionment The quantity of land-won aggregates to be planned for in Norfolk, taking into account the Local Aggregate Assessment, the advice of the East of England Aggregate Working Party and published National and Sub-National Guidelines on future provision of aggregates. Further information on planning for a steady and adequate supply of aggregates is contained in paragraph 145 of the National Planning Policy Framework and 'Guidance on the Managed Aggregate Supply System' (DCLG 2012).

Area of Outstanding Natural Beauty (AONB) Area of Outstanding Natural Beauty designated under the National Parks and Access to the Countryside Act 1949 for the purposes of preserving and enhancing their natural beauty.

Area of Search: areas where knowledge of mineral resources may be less certain but within which planning permission may be granted, particularly if there is a potential shortfall in supply. If it is not possible to designate Specific Sites, or Preferred Areas, the alternative way to plan for the steady and adequate supply of minerals is to designate Areas of Search.

Biodiversity The variety of all life on earth (mammals, birds, fish, invertebrates, plants etc).

Buffer Buffers are areas of land within the allocation which would remain unworked for mineral extraction to mitigate potential impacts (for example, on amenity, landscape or ecology). Where a buffer is included in a site allocations policy or map it is 'indicative' and is intended only to illustrate where assessment at this stage has indicated that there may be impacts which, in principle, are likely to require buffers to mitigate them. The exact distances and coverage of any buffer, if required, would be determined following assessment of the detail of potential impacts as part of any future planning application.

Conservation Area An area designated by the Local Planning Authority under the Planning (Listed Buildings and Conservation Areas) Act 1990 as possessing special architectural or historical interest.

Core Strategy (for Minerals and Waste): This planning policy document contains the vision, objectives and strategic planning policies for minerals and waste development in Norfolk until 2026. The Minerals and Waste Core Strategy also includes Development Management policies which are used in the determination of planning applications to ensure that minerals extraction and associated development and waste management facilities can happen in a sustainable way.

County Wildlife Site A site of local importance for wildlife. Outside SSSIs, County Wildlife Sites are the best sites for wildlife in Norfolk. Sites are designated using stringent criteria, by a committee composed of the Norfolk Wildlife Trust, Norfolk County Council, Natural England, the Norfolk Biological Records Centre, and the Norfolk Biodiversity Partnership.

Cumulative Impact The combined impacts of a number of developments on the environment, amenity, health, traffic etc.

Development Management The process through which the Council determines whether a proposal for development should be granted planning permission, taking into account the development plan and any other material considerations. Formerly called Development Control.

Development Plan Statutory documents described under Section 38 of the Planning and Compulsory Purchase Act 2004 that set out the planning policies and proposals for the development and use of land. Decisions on planning applications must conform to the Development Plan, unless material considerations indicate otherwise. The Development Plan for an area will include Development Plan Documents in Local Development Frameworks.

Development Plan Documents A term brought in by the Planning and Compulsory Purchase Act 2004. These are the spatial planning documents contained in the Local Development Framework. These set out spatial planning policies and proposals for an area or topic. They include the core strategy, detailed development management policies, site specific allocations of land, area action plans (where needed). Development Plan Documents are also referred to as Local Plans.

Development Framework Collective term for the Development Plan Documents, the Local Development Scheme, the Statement of Community Involvement, Annual Monitoring Report, and any supplementary planning documents.

Ecological network Areas of semi-natural habitat that are linked by corridors or “stepping stones”, and thus enable wildlife to move through the wider landscape.

Examination The Local Plan will be subject to an independent examination by an independent planning inspector. The recommendations in the Inspectors report will inform the final adopted version, but are no longer legally-binding.

Geodiversity The variety of rocks, minerals, fossils, soils and landforms, together with the natural processes which shape the landscape.

Geomorphology The study of landforms and the formative processes that shape the physical landscape.

Groundwater Source Protection Zone 1 The Environment Agency divides groundwater source catchments into four zones. These are based on the number of days taken by any pollutant to flow to the borehole. Source Protection Zone 1 is defined as a zone within which any contamination would reach the borehole within 50 days. This applies to groundwater at and below the water table. This zone also has a minimum 50 metre protection radius around the borehole. These zones are designed to provide control over activities taking place near boreholes which could result in contamination reaching the public water supply.

Groundwater Water within soil, sediments or rocks below the ground surface. Water contained within underground strata is referred to as an aquifer.

Habitats Regulations Assessment (Appropriate Assessment) *Directive 92/43/EEC (the Habitats Directive) on the Conservation of Natural Habitats and of Wild Fauna and Flora* requires an Appropriate Assessment to be undertaken to assess the impacts of a land-use

plan against the conservation objectives of a European Site and to ascertain whether it would adversely affect the integrity of that site.

Heritage asset: A World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Park and Garden, Registered Battlefield or Conservation Area designated under the relevant legislation.

Issues and options A stage of the Development Plan Document preparation process where community engagement is sought from individuals and organisations to inform the identification of key issues and the potential options for addressing them

Landbank A stock of mineral reserves with planning permission for their extraction.

Landfill The term landfill relates to waste disposal mainly below ground level whereas landraise, also generically referred to as landfill, refers to waste disposal mainly above pre-existing ground levels. Modern landfill practice requires a significant degree of engineering in order to contain the waste, control emissions and minimise potential environmental effects. The primary by-products of landfilling, where biodegradable materials are disposed of, are landfill gas and leachate (a liquor resulting from water passing through the waste mass) and much landfill engineering is geared towards dealing with these substances. As such, landfill sites require containment lining systems and abstraction systems for both landfill gas and leachate.

Listed building A building or other structure officially designated as being of special architectural, historical or cultural significance using provisions under the Planning (Listed Buildings and Conservation Areas) Act 1990.. A listed building may not be demolished, extended or altered without special permission being granted by the Local Planning Authority. The Local Planning Authority must also consider if development nearby could cause adverse impacts to the listed building, and whether mitigation could address these impacts.

Local Development Scheme Describes the Local Development Documents which the authority intends to prepare and the timetable for their preparation.

Local Plan: The plan for the future development of the local area, drawn up by the local planning authority in consultation with the community. In law this is described as the development plan documents adopted under the Planning and Compulsory Purchase Act 2004 (as amended). Current core strategies or other planning policies, which under the regulations would be considered to be development plan documents, form part of the Local Plan. The term includes old policies which have been saved under the 2004 Act.

Local Planning Authority An organisation with statutory planning powers, ie the relevant County, District, Borough or Unitary Council.

Mineral Consultation Area An area identified in order to ensure consultation between the relevant LPA and the Mineral Planning Authority before certain non-mineral planning applications made within the area are determined.

Mineral Safeguarding Area An area defined by the Mineral Planning Authority to identify a mineral resource which would be subject to safeguarding to prevent unnecessary sterilisation by non-mineral developments; used in conjunction with Mineral Consultation Area.

Mineral Planning Authority An organisation with statutory planning powers relating to minerals development, in most areas the County or Unitary Council.

Mitigation Measures to reduce, avoid or remedy any adverse impacts caused by development.

Minerals and Waste Development Framework This is a portfolio of documents which together will provide the spatial planning strategy for minerals and waste development within Norfolk.

National Planning Policy Framework (NPPF): This document sets out the Government's planning policies for England and was published on 27 March 2012. The NPPF must be taken into account in the preparation of Local and neighbourhood Plans, and is a material consideration in planning decisions. It states that in order to be considered sound a Local Plan should be consistent with national planning policy.

National Planning Practice Guidance (NPPG): A web-based resource published by the Department for Communities and Local Government (DCLG) on 6 March 2014 and updated as needed. It is available at: <http://planningguidance.planningportal.gov.uk/blog/guidance/>

Permitted reserves Saleable minerals in the ground with planning permission for extraction. Usually expressed in million tonnes.

Planning Conditions Conditions attached to a planning permission for the purpose of regulating and controlling the development.

Preferred Areas: If it is not possible to designate Specific Sites, the next way to plan for a steady and adequate supply of minerals is to designate preferred areas, which are areas of known resources where planning permission might reasonably be anticipated. Such areas may also include essential operations associated with mineral extraction.

Principal Aquifers: These are layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.

Ramsar Site A Site of Special Scientific Interest of international importance as waterfowl habitat designated under the Ramsar International Convention on Wetlands (1971).

Restoration Operations designed to return an area to an acceptable environmental state, whether for the resumption of the former land use or for a new use following mineral working or waste disposal. Involves the reinstatement of land by contouring, the spreading of soils or soil making materials etc.

Route hierarchy Norfolk County Council's route hierarchy categorises roads by use, or desired use, influencing signage, improvement programmes, and maintenance priorities. At the top of the hierarchy are the:

- Principal Roads (generally A roads); followed by
- Distributor Roads (generally B roads); followed by
- Local Access
- HGV (heavy goods vehicle) access
- Tourist accesses (generally class C roads)
- Other roads (normally unclassified or C roads)

Safeguarding Protecting existing, permitted and allocated sites that have potential for relevant development (waste and minerals) from other incompatible development.

Scheduled Monuments Nationally important monuments and archaeological areas protected under the Ancient Monuments and Archaeological Areas Act

Screening: Screening may take a number of forms, which may include bunds, or planting, or a combination of these and may in some circumstances incorporate a standoff to ensure that

the screening is not itself intrusive. Where screening is included in a site allocations policy or map it is 'indicative' and is intended only to illustrate where assessment at this stage has indicated that there may be impacts (for example on amenity or landscape) which, in principle, could require some form of screening to mitigate them. The form of screening which would be appropriate, if required, along with the distances and coverage of any screening would be determined following assessment of the detail of potential impacts, as part of any future planning application

Secondary Aquifers: These include a wide range of rock layers or drift deposits with an equally wide range of water permeability and storage. Secondary aquifers are subdivided into two types:

Secondary A - permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers;

Secondary B - predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.

Secondary Undifferentiated - has been assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.

Setting of a heritage asset: The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.

Site Specific Allocations: Also known as specific sites Where viable resources are known to exist, landowners are supportive of minerals development and the proposal is likely to be acceptable in planning terms. Such sites may also include essential operations associated with mineral extraction. This is the preferred way to plan for the steady and adequate supply of minerals as it provides the necessary certainty on when and where development may take place.

Sites of Special Scientific Interest (SSSIs) Sites notified and protected under the Wildlife and Countryside Act 1981 on account of their flora, fauna, geological or physiographical features.

Spatial planning Concerned with the physical aspects of places, but not restricted to land use decisions controlled through the planning process. Includes physical aspects about how a place functions and develops.

Special Area of Conservation An SSSI of international importance designated under the EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora.

Special Protection Area An SSSI of international importance designated under the EC Directive on the Conservation of Wild Birds.

Statement of Community Involvement A document that sets out a LPA's intended consultation strategy for different elements of the planning process. This is a requirement brought in by the Planning and Compulsory Purchase Act 2004.

Strategic Environmental Assessment: A procedure (set out in the Environmental Assessment of Plans and Programmes Regulations 2004) which requires the formal

environmental assessment of certain plans and programmes which are likely to have significant effects on the environment.

Submission A stage of the Development Plan Document preparation process where the document is 'submitted' to the Secretary of State for independent examination by a planning inspector.

Sustainability Appraisal An evaluation process for assessing the environmental, social, economic and other sustainability effects of plans and programmes. This is a statutory requirement.

Sustainable development Development which meets the needs of the present without compromising the ability of future generations to meet their own needs.

Transport assessment This is a process which considers total travel demand; patterns of public transport in the area; how development impacts upon them; and if required how infrastructure or services could be improved to address the impacts (of a development).

Transport statement Where transport issues are such that a full Transport Assessment is not required, a Transport Statement may be acceptable