

Oxfordshire Minerals and Waste Local Plan

Part 1 – Core Strategy

Topic Paper

Preliminary Assessment of Mineral Site Options

Revised April 2016

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General Background to Topic Papers

The Minerals and Waste Local Plan: Part 1 – Core Strategy (the Core Strategy) was submitted to the Secretary of State on 30 December 2015 for examination by a government appointed Inspector. The Core Strategy is Part 1 of the new Oxfordshire Minerals and Waste Local Plan. It provides the planning strategies and policies for the development that will be needed for the supply of minerals and management of waste in Oxfordshire over the period to 2031. This new Plan will replace the existing Oxfordshire Minerals and Waste Local Plan which was adopted in 1996.

Further information on the Plan and the background to its preparation can be found in other documents published on the County Council website at:

<https://www.oxfordshire.gov.uk/cms/content/minerals-and-waste-core-strategy>

A number of Topic Papers (previously termed Background Papers) were first published to support consultation on draft Minerals and Waste Planning Strategies in September 2011. Some of these were revised and further papers were prepared to support a Proposed Submission Draft Minerals and Waste Core Strategy in May 2012, which was then submitted for examination in October 2012 but was subsequently withdrawn, in July 2013. These papers include baseline data that has informed the development of policies and explanation of how relevant parts of the plan have been developed.

Some of the Topic Papers are now being further updated, and some new Topic Papers introduced, to assist in the examination of the Core Strategy. Their purpose remains the same – to provide background data and information to show how specific parts of the plan were developed up to publication of the Proposed Submission Document in August 2015. In some cases they also include relevant information that has become available since the Core Strategy was published.

This paper has been prepared to support the submission of the Core Strategy for examination.

1. Introduction

- 1.1 This document describes the preliminary assessment of sites nominated for mineral extraction in the Oxfordshire Mineral and Waste Local Plan (MWLP). The objectives of this assessment of sites are:
- To assess the likely deliverability of the sites nominated for inclusion in the MWLP, through consultation with operators and by carrying out an assessment of the sites against a number of planning criteria.
 - To identify sites which are unlikely to deliver any resources over the period of the plan.
 - To use findings from objectives 1 and 2 to determine whether the nominations will enable the minerals strategic resource areas to contribute to the need for aggregates over the plan period.
- 1.2 A further, detailed assessment of the site nominations will take place later in the preparation of the Plan, when sites are being considered for inclusion in the Minerals and Waste Local Plan: Part 2 – Site allocations document. A separate methodology for this phase of the assessment will be published at a later date. This preliminary site assessment, at this stage, is a strategic level assessment to inform the potential deliverability of the MWLP.
- 1.3 A preliminary assessment of mineral site options was produced in support of the subsequently withdrawn Minerals and Waste Core Strategy in 2012. Since that time, the spatial strategies for mineral working have been revised to identify broad areas of the county where the principle of further mineral working would be acceptable (minerals strategic resource areas). These areas have informed the selection of nominated sites now included in this assessment.

2. Preliminary Site Assessment Methodology

Stage 1: Identify a long list of possible sites

- 2.1 In 2006, mineral operators, landowners and agents were invited to nominate potential minerals sites for consideration for inclusion in the Oxfordshire Minerals and Waste Development Framework (MWDF). These sites were included in the Minerals Sites Proposals and Policies Issues and Options paper which was published for consultation in April 2007. That paper also included sites identified by officers which were thought to have potential resources but had not been nominated. Those sites have not been considered further because deliverability is uncertain and there are more than sufficient potential resources within nominated sites.
- 2.2 A further 'call for sites' was made in December 2008, when mineral operators, landowners and agents were invited to renew their existing nominations, withdraw any they no longer wished to put forward and to submit new nominations. Approximately 60 site nominations were received for sand and gravel, 10 for soft sand and 10 for crushed rock sites.

2.3 Following the withdrawal of the Minerals and Waste Core Strategy in 2013, and in support of preparation of a revised Core Strategy, a further review of sites was undertaken in 2015 to confirm the existing nominations from 2008. Several nominations have been withdrawn and several new nominations have been received. This updated list of sites has been used in this preliminary assessment.

Stage 2: Assessment of Deliverability

2.4 Using information from the nominations, and any updated information, the potential available resources in each nomination were estimated. This information was used to inform the potential contribution of sites to the deliverability of the plan. The preliminary site assessment has sought to update the information on the deliverability of the nominations; i.e. the resource potentially available.

2.5 Table 1 below shows the requirement for aggregate provision over the plan period to 2031. This purpose of this preliminary assessment of sites is to assess whether this requirement is potentially able to be delivered over the course of the plan.

Table 1: Aggregate Provision Required over plan period 2015 – 2031

	Sharp Sand & Gravel (million tonnes)	Soft Sand (million tonnes)	Crushed Rock (million tonnes)
A. Annual Provision (from LAA)	1.015	0.189	0.584
B. Requirement 2015 – 2031 (A x 17 years)	17.255	3.213	9.928
C. Permitted Reserves at end 2014	7.283	1.782	8.629
D. Permissions granted or confirmed since end 2014	6.275	0	0.072
E. Total permitted reserves (C + D)	13.558	1.782	8.701
F. Estimated permitted reserves available to be worked during plan period	12.058	1.782	8.701
G. Remaining requirement to be provided for in Plan (B – F)	5.197	1.431	1.227

Notes:

1. This is an update of Table 2 in the Core Strategy, including updated information on permitted reserves and recent permissions granted.
 2. Permissions since 2014 in row D comprise:
 Sharp Sand and gravel: extension to Gill Mill Quarry, Ducklington (5.0 million tonnes) – permission granted 15 June 2015; previously dormant reserves at Thrupp Farm, Radley (0.925 million tonnes) – confirmed as permitted reserves through the review of mineral permissions (ROMP) procedure; and extension to Sutton Wick Quarry (0.35 million tonnes) – permission granted 18 March 2016);
 Crushed rock: extension to Castle Barn Quarry (0.072 million tonnes) – permission granted 13 November 2015.
 3. The total additional permitted reserve in the extension to Gill Mill Quarry is 5.0 million tonnes of sharp sand and gravel but it is estimated that at the proposed average working rate (0.325 million tonnes per annum) and taking into account existing permitted reserves remaining to be worked at the quarry, only approximately 3.5 million tonnes will be worked within the plan period to the end of 2031. This reduces the permitted reserves of sharp sand and gravel available to be worked during the plan period from 13.558 million tonnes to an estimated 12.058 million tonnes (row F).
- 2.6 The minerals spatial strategy identifies strategic resource areas within which specific sites are expected to be allocated in the Site Allocations Document in order to deliver the additional mineral supply requirement needed over the course of the plan. Where a nominated site was not within a strategic resource area, it has been excluded from assessment. A map of nominated sites (minus those excluded from assessment) is included in Appendix 1.

Stage 3: Red, Amber, Green (RAG) Assessment

- 2.7 A traffic light approach has been used to indicate whether sites nominated for the MWLP are likely to be acceptable for minerals development, and therefore give an indication of the deliverability of The Plan. Firstly, each criterion has been given a RAG weighting to determine whether, based on that criteria, a site would be acceptable for minerals development. Then, an overall assessment is given as to whether or not there is a reasonable prospect of the site being acceptable for minerals development – based on the RAG outcome of the various criteria. For example, if one or more criteria is amber, then the site may be acceptable for minerals development, however further assessment will need to be undertaken to determine the suitability of the site. If all criteria are green, then the site is likely to be acceptable for minerals development. However, where there are many amber variables for a particular site, consideration will need to be given as to whether this would present too many limitations in progressing the site for minerals development, and may lead to an overall Red assessment. Where there are Red indicators, the overall assessment will need to take into account whether further investigation could determine whether the site would be suitable for development (e.g. the extent of an area covered by a designation), or whether the constraint is too severe for further investigation to determine the suitability of the site (e.g. the entire site is located in a SSSI).

	The site is unlikely to be acceptable for minerals development.
	The site may be acceptable, but further detailed considerations are needed to confirm this.

	There is no reason at this stage to exclude the site from proceeding as a nomination.
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2.8 Detailed considerations (including others not included in this preliminary assessment) may lead to a different conclusion in the Stage 2 Plan's detailed assessment. However, this preliminary assessment is intended to give an initial indication as to whether the plan will be deliverable based on the acceptability of sites for mineral allocation.

2.9 Northern/Western or Southern Oxfordshire

Due to a broadly equal split in existing and forecast levels of economic growth and development between the northern and southern parts of the county, it is expected that there will be a similar broadly equal split in the demand for aggregate. The Core Strategy aims to minimise the distance that minerals need to be transported to market, and therefore this means changing the balance of production capacity for sharp sand and gravel between Western and Southern Oxfordshire. Even though the remaining resources are more extensive in West Oxfordshire, in view of the relatively high level of existing permitted reserves in that part of the county, any requirement for additional sites for sharp sand and gravel should be met primarily in the southern part of the county, at least over the first half of the plan period. Although this is not a constraint to deliverability, the location of a nominated site (western/northern or southern Oxfordshire) will help to determine whether it will be preferred to help produce a more balanced distribution of production capacity.

2.10 Traffic Impacts

Is the site within 1km of the Oxfordshire Lorry Route or adjoining a railhead or navigable waterway?

The impact of traffic associated with minerals development must always be taken into account when considering the suitability of a site in relation to local communities and the environment generally.

Alternative transport methods such as rail and water can help to reduce these impacts. However, where this is not possible, reducing the distance minerals need to travel to their markets reduces the traffic impacts of transporting minerals. Policy M4 requires that allocated sites take into account the suitability and accessibility of the primary road network, and policy C10 gives weight to siting minerals development where rail and water (pipeline and conveyor) transport are feasible options for transport, where practicable.

Sites should generally be in locations that have access to a road which provides convenient access to the lorry network (within 1km of a 'through route', 'link to larger towns', 'link to smaller towns' or 'local access route' as shown on Figure 13 in the Core Strategy), and avoids the use of roads not suited to heavy goods vehicles or which pass through rural settlements.

Alternatively, the site must have good access to a railhead or navigable waterway, if this method of transport is to be utilised.

Therefore, the following weightings have been applied:

- Road: within 1km = Green

- Road: outside 1km but adjoining Rail/Water = Amber
- Road: outside 1km and not adjoining Rail/Water = Red

2.11 AONB

Is the site within 1km of an Area of Outstanding Natural Beauty (AONB)?

Landscape impacts are an important factor to take into account when determining the suitability of mineral workings. There is a general assumption within the Core Strategy to avoid locations within or significantly affecting an AONB, including its setting. The minerals strategic resource areas specifically exclude AONBs, and so no sites within them should make it through to allocation stage. However, it is important to know if any nominated sites are located in the setting of an AONB, and hence have the potential to impact upon this setting. A range of 1km is taken for determining whether a site may impact on the setting of an AONB, and the following weightings applied:

- Within 1km of AONB = Amber
- Outside 1km of AONB = Green

N.B. no nominated sites within an AONB have been considered for assessment, as they are not included in the minerals strategic areas. Effectively their overall assessment would be Red.

2.12 Special Areas of Conservation (SACs)

Is the site within the water catchment area or within 200m of a SAC?

Under the Habitats Regulations (2010) as amended, no plan or project should cause a 'likely significant effect' on a European Site (Including Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites). Oxfordshire does not contain any SPAs or Ramsar sites, however there are 7 SACs within the county.

The Habitats Regulations Screening Report (HRA) concluded that there would not be a likely significant effect on any SAC within the county, provided there was no mineral extraction from within the water catchment areas of SACs, and that there was a 200m buffer zone around SACs (to protect from dust). Therefore, the minerals strategic areas were amended such that they excluded the area 200m around the SACs, and that they excluded their water catchment areas. Therefore, no allocated sites will be identified within the water catchment zone of a SAC, or within 200m of a SAC, as these areas are now outside of minerals strategic areas. In line with Policy M3, only sites nominated within the strategic areas will be considered for further assessment and allocated within the Site Allocations document.

The following weightings have been applied to this criterion:

- Within 200m/water catchment area = Red
- Outside 200m/water catchment area = Green

2.13 SSSI

Is the site within or within the Impact Risk Zone of a SSSI?

There is a presumption against development that will have an adverse effect on a Site of Special Scientific Interest (SSSI) within the Core Strategy, unless

the benefits outweigh the harm at that site, and the harm can be adequately mitigated, or compensated for to result in a net gain in biodiversity.

Therefore, sites which are located within or near to a SSSI have more potential to cause harm to the site and the effects are unlikely to be able to be avoided or adequately mitigated or compensated for the harm they cause. Consequently, nominated sites found to be within a SSSI are not likely to be acceptable for minerals development. Nominated sites within an Impact Risk Zone (IRZ) for a SSSI will need to undergo further detailed assessment to determine whether the harm caused is able to be mitigated/compensated for (particularly in relation to whether the site is vulnerable to minerals development), but may be acceptable for minerals development. Sites further afield at this stage are assumed to be acceptable for minerals development. The following weightings have been applied:

- Within/contains SSSI = Red
- Within/contains SSSI Impact Risk Zones = Amber
- Not within or containing SSSI or SSSI Impact Risk Zones = Green

N.B.1 Exceptions from this criterion are geological SSSIs, where mineral workings may be able to be undertaken within a SSSI without harming its conservation status. At this stage, geological SSSIs have not been applied as a constraint to mineral workings and the above criteria apply only to biological SSSIs.

N.B.2 There may be cases where an entire SSSI, or part of a SSSI is entirely contained within a large nominated site. At this stage this scenario will be recorded as unlikely to be acceptable for mineral development (red). However, where this is the case, a note will be made, and further assessment will need to be undertaken as to whether the extent of the SSSI and the effects of mineral workings around the site will render the site unviable for mineral working or not.

2.14 Locally Designated Areas of Nature Conservation

Is the site within or adjoining a locally designated area of nature conservation? (Local Nature Reserves, Local Wildlife Sites, Sites of Local Importance for Nature Conservation)

The Core Strategy also affords protection to locally designated areas of nature conservation (local sites) through Policy M4, and C7. No significant adverse impacts are acceptable on these sites as a result of carrying out the plan. A similar rationale is applied to the assessment of locally designated sites as for SSSIs. That being, that a nomination for mineral working within these sites is unlikely not to cause significant harm, and therefore unlikely to be acceptable for minerals development. Nominations adjoining local sites will need to undergo detailed assessment as to whether they may cause significant harm, and the extent to which this may be mitigated to determine their suitability. Sites further afield at this stage are assumed to be acceptable for minerals development. These weightings have been applied:

- Within/contains Local Site = Red
- Adjoining Local Site = Amber
- Not within/containing/adjoining Local Site= Green

N.B. There may be cases where a locally designated area of nature conservation is entirely or partly contained within a nominated site. At this stage this scenario will be recorded as unlikely to be acceptable for mineral development (Red). However, where this is the case, a further assessment will need to be made as to whether the extent of the locally designated area and the effects of mineral workings around the site will render the site unviable for mineral working or not.

2.15 Heritage Assets

Is the site within or adjoining a World Heritage Site, Scheduled Monument, listed building, conservation area, historic battlefield, registered park or garden or non-designated asset equivalent to a Scheduled Monument)?

Proposals for minerals development will not be permitted unless they can demonstrate that they will not have an unacceptable adverse effect on the historic environment (Policy C9). Consequently, a similar approach has been taken to screening nominated sites for historic environment constraints as for environmental constraints.

If the nominated site is within a designated heritage asset (or non-designated asset equivalent to a Scheduled Monument) then it is unlikely that there will be no unacceptable impact on the historic environment in that area, and the site is unlikely to be acceptable for minerals development. If the nominated site is adjoining a designated site, or non-designated site of equivalent status, then serious consideration will need to be undertaken at that site to determine whether proceeding with the nomination will cause an unacceptable adverse effect on the historic environment in that area. If the nominated site is outside of these historic assets, and not adjoining them, then at this stage (although further investigation may prove otherwise) there is no evidence to exclude them from being acceptable for minerals development. The following weightings have been applied:

- Within/contains heritage asset = Red,
- Adjoining = Amber
- Not within/containing/adjoining = Green

N.B.1 There may be cases where a historic asset is entirely or partly contained within a nominated site. At this stage this scenario will be recorded as unlikely to be acceptable for mineral development (red). However, where this is the case, a further assessment will need to be made as to whether the extent of the heritage asset and the effects of mineral workings around the site will render the site unviable for mineral working or not.

N.B.2 Heritage assets have been divided into archaeological and historic assets for the purposes of the assessment.

2.16 Flooding

What percentage of the site is in Flood Zone 3?

Sand and gravel working is the only form of mineral extraction that can take place in the functional floodplain (flood zone 3b); it is termed 'water compatible development'. However, processing activities associated with sand and gravel working may interfere with water flows at times of flood. Such

development may take place in areas that are at some risk of flooding but not in the functional floodplain. Minerals working may span more than one flood zone, and so a sequential approach to site layout may be undertaken i.e. the sand and gravel extraction may take place in the floodplain, but processing activities will need to be located in other areas.

If a site is completely within the floodplain (i.e.100%) then it is unlikely that this site will be able to accommodate the entirety of the minerals operation and will not be suitable for minerals extraction (a possible exception would be where the nominated site is a satellite of an existing operation and may utilise existing processing buildings etc.). A site with some area to locate processing activities (81-99% in floodplain) may need further detailed assessment as to whether this is feasible in a specific location, but the site may be acceptable for mineral workings. A site with 80% of its area in the floodplain (20% or more outside of floodplain) is likely to include enough area for processing activities to be located and so is likely to be acceptable for minerals development.

At this stage, a detailed Strategic Flood Risk Assessment (SFRA) has not been undertaken for the Core Strategy, as specific sites are not being allocated. This will be conducted for Part 2 of the Plan (Site Allocations Document). Therefore at this stage it is not possible to differentiate between flood zones 3a (high probability of flooding) and 3b (functional floodplain). Planning Practice Guidance: Flood Risk and Coastal Change (2014) states that *“Where detailed modelling is not available, it is assumed that the extent of Flood Zone 3b is equal to Flood Zone 3a.”* Therefore this approach has been taken until more detailed data is available when Part 2 of the Local Plan is undertaken. Sites requiring further information to determine the extent of Flood Zones 3b within their boundaries will then be able to be assessed further as to their suitability for minerals extraction.

>80% in Flood Zone 3 = Amber

≤80% within Flood Zone 3 = Green

2.17 Groundwater Source Protection Zones

Is the site within a groundwater Source Protection Zone, and if so, which?

Groundwater resources are under threat from pollution and increasing demand for water. Groundwater is contained underground in aquifers – layers of rock or other strata with sufficient permeability to allow water to flow. It is usually relatively well protected from pollution by overlying layers of soil and rock. Principal aquifers provide drinking resources and sustain rivers, lakes and wetlands. Secondary aquifers provide some water but their use is limited. Groundwater supplies about one third of drinking water in England. Areas where drinking water is supplied are protected by Source Protection Zones (SPZs). SPZ1 is the inner protection zone, where pollution is unlikely to be able to be remediated before it reaches drinking supply. SPZ 2 is the outer protection zone with a 400 day travel time from a point below the water table to the abstraction source. SPZ3 is the catchment protection zone, and is the total area where groundwater feeds the abstraction point. The Environment Agency has produced position statements on certain activities within Source Protection Zones in its guidance note: Groundwater protection Principles and practice (GP3). For mining sites, the position statement is:

'Within SPZ1, we will normally object in principle to any planning application for a development that may physically disturb an aquifer.'

With this in mind and the fact that mining will physically disturb an aquifer (and therefore not be acceptable), the following weightings have been applied:

Site outside any SPZ = Green

Site within or partly within SPZ 2 or 3 = Amber

Site within or partly within SPZ 1 = Red

N.B. Where a site is partly within an SPZ approx. how much of the site is within will be recorded – this would allow for interpretation of the score where the potential impact is small.

2.18 Groundwater Vulnerability to Pollution

Is the site located within a groundwater vulnerability zone (and if so, which)?

Minerals development has the potential to affect water quality and pollute groundwater resources. Therefore, careful consideration needs to be given to the impact of sand and gravel extraction on groundwater resources.

In allocating sites for minerals development, an understanding of the potential for groundwater to be polluted will be an important factor in determining the suitability of the site for mineral extraction. For this preliminary assessment the presence of the Environment Agency's 'Groundwater Vulnerability Zones' has been taken into account. These determine the presence of groundwater resources (principal/secondary aquifers) and their ability to be affected by pollution (high/intermediate/low).

If a nominated site is located on a principal aquifer that has a high potential to be affected by groundwater pollution, then that is an important water resource highly vulnerable to changes in water levels and chemistry. Minerals development is not inherently polluting and so development may still be acceptable in these areas, however further investigation will need to be undertaken for a particular site to determine the suitability for minerals extraction. Where a proposed mineral site is on any other type of aquifer, then at this stage there is no reason for excluding it from further assessment.

Principal Aquifer- High/Intermediate/Low = Amber

Secondary Aquifer – High/Intermediate/Low or no aquifer = Green

No Aquifer = Green

2.19 Agricultural Land Classification

What is the agricultural land classification of the site?

Soils are an important resource, not only for agricultural production, but for providing ecosystem services such as water filtration, nutrient cycling and provision of habitats for biodiversity.

High quality (Best and Most Versatile) soils are classified as soils with an Agricultural Land Classification (ALC) grade of 1, 2, or 3a. These grades are based on a range of criteria including climate, gradient and soil characteristics. BMV soils represent the best soils for agricultural production.

National policy and the Core Strategy direct development away from these soils, to safeguard their long term potential for food production. In the first instance, minerals development should seek to be located on areas of lower grade agricultural land.

However, it is possible for mineral workings to be restored back to high quality agricultural land following the completion of workings and therefore the presence of BMV land on a nominated site does not completely rule it out from being acceptable for minerals development. The potential for the land to be brought back to BMV quality should be a further consideration in the next stage of assessment. Where the site is not located on BMV land then the site is likely to be acceptable for minerals development based on this criterion.

The data for agricultural land quality is not complete across the country. A complete dataset using old ALC survey methodology, which did not distinguish between sub-grades 3a and 3b is available. However, since these surveys have been undertaken a revised methodology has been devised, which allows surveys to distinguish ALC grade 3 into sub-grades 3a and 3b.

This is important because soils that are sub grade 3a are classed as BMV, whereas soils that are sub-grade 3b are not. In some circumstances, updated surveys have been undertaken with the revised methodology, however these areas are limited and consequently only a small area is able to be examined in this detail. Where the more detailed assessments are available, these should be used. Updated surveys are likely to be available where mineral workings have been undertaken or proposed in the past, as a detailed ALC survey would be required to inform this. In areas without an updated assessment, the old gradings will need to be used.

Where a site is located on land with an ALC grade of 4-5 it should be straightforward to classify these as being acceptable for minerals development based on this criterion. Similarly, where a site is classified as ALC grade 1-2 (BMV), this will need to be considered for further assessment as to acceptability of the site to be used for mineral extraction, taking into account the ability to deliver the strategy on land that is not classed as BMV. Where a site is classified as grade 3, and no updated information is available, this should be regarded as amber, as further assessment is needed to determine whether the soils are BMV or not. The weightings are as follows:

- ALC grades 1, 2, 3, (3a) = Amber
- ALC grades (3b), 4, 5 = Green

2.20 Proximity to Residential Areas

Is the site within 100m of a residential area?

Mineral workings are unlikely to be acceptable in close proximity to residential areas. Where a site is within 100m of a residential area, the effects are likely to be such that they are unacceptable in terms of residential amenity. Outside of 100m, impacts upon residential amenity are less likely to be an issue.

There may be some cases where a small part of the site is within 100m of a residential area, and this may be acceptable depending on the level of impact, which will need to be subject to further consideration. The following weightings have been used:

- Whole site within 100m = Red,
- Part of the site within 100m = Amber (depending on the amount of site within 100m)
- Site outside of 100m = Green

2.21 Cumulative Impacts

Will site result in a new quarry within 1km of an existing operation?

Cumulative impacts become an important consideration for communities located close to mineral reserves that are being worked. These impacts can occur when several operations are being undertaken concurrently, or where several operations occur over time leading to successive impacts. This can lead to impacts on rural roads, and rural character and community. Where the cumulative impacts are excessive this may be an unacceptable cost for communities to bear, and should be taken into account when allocating locations for mineral workings. Where a site nomination is for an extension to an existing quarry, this has not been recorded as a constraint as it will not result in a 'new quarry'. The following weightings have been applied for this indicator:

- New quarry within 1km of an extant mineral planning permission = Amber
- No = Green

3. **Summary of Assessment Results**

- 3.1 The results of the assessment against the planning criteria and the deliverability of sites are shown on separate spreadsheets in Appendix 2.
- 3.2 The conclusions of the assessment for each of the nominated sites is as follows:

Sand and Gravel (Southern Oxfordshire)

- a) SG-03 Land adjacent to Benson Marina
This site is located within the setting of the North Wessex Downs AONB, it is also within the impact risk zone (IRZ) for Little Wittenham SSSI (SAC) and adjacent to a local wildlife site and residences. It is close to the river Thames for potential water transport as well as adjoining the A4074. An overall RAG assessment of Amber has been given.
- b) SG-09 Land North of Drayton St. Leonard and Berinsfield
This site contains a monument equivalent to a Scheduled Monument (SM) and is therefore afforded the same protection. The monument occurs in the western area of the site, west of Stadhampton road and south of the farm track. It covers a small area that may be excluded from mineral extraction, and the rest of the site may be able to deliver a reduced amount of the estimated yield. Therefore the site has been assessed as Amber.
- c) SG-11 Land east of Spring Lane, Sonning Eye, (Caversham "C")
Part of this site has already been consented as an extension to Caversham quarry under permission no. MW.0158/11. The estimated yield has therefore

been adjusted accordingly. This site is being nominated as an extension and therefore the currently approved plant site could be utilised and presumably access onto the A4155. The site has been assessed as Amber due to the presence of Flood Zone 3, a Source Protection Zone and residential properties.

d) SG-13 Land at Shillingford

The larger area of this site contains three Scheduled Monuments which cover a large area of the site. The two smaller areas are also covered by archaeological assets that are demonstrably equivalent to a Scheduled Monument and would in effect preclude these areas from being delivered. The archaeological constraints are such that the site is not likely to be able to be delivered and so it has been assessed as Red.

e) SG-17 Land at Culham

Approximately half of the site is covered by a SM, which is also dependent on water acting as a preservative. It may be possible to deliver some of the site, avoiding the SM, depending on further investigation. Therefore the site has been assessed as Amber.

f) SG-19 Bridge Farm, Appleford

Western part of site is within 1-2 km SSSI IRZ for Culham Brake which states quarries including extensions may impact SSSI, and is located largely in Flood Zone 3. Therefore an overall assessment of Amber has been given.

g) SG-33 Land South of Wallingford, New Barn Farm

The site is located in the setting of (adjacent to) the North Wessex Downs AONB, within the IRZ for Little Wittenham SSSI (SAC), within a principal aquifer and close to residential properties, therefore the site has been assessed as Amber.

h) SG-41 N of Lower Radley

Site is nominated as an extension with material processed at Sutton Courtenay. The site is also within the impact risk zone for Sugworth SSSI and within 100m of a residential property. Therefore the site has been assessed as Amber.

i) SG-42 Nuneham Courtenay

This site includes a Local Wildlife Site (LWS), although the nominated area is large and exclusion of the LWS would not preclude the majority of the site from being deliverable. This also applies to a small area of the Nuneham Courtenay Conservation area that covers the site to the south. Therefore the site has been assessed as Amber.

j) SG-59 Stadhampton

Site is located in outer IRZ for Little Wittenham SSSI (SAC), contains a principal aquifer and adjoins residential areas at Stadhampton and Chiselhampton. Therefore an overall assessment of Amber has been given.

- k) SG-60 White Cross Farm, Wallingford
The site is located in the setting of (adjoining) the Chilterns AONB, and is also approximately 1km from the North Wessex Downs AONB. It is within the outer IRZ for Warren Bank SSSI and adjoins listed buildings. It is also located on a principal aquifer and within 100m of residential properties. Therefore the site has been assessed as Amber.
- l) SG-62 Appleford, Didcot
The site is within the outer IRZ for Little Wittenham SSSI (SAC), adjacent to a Scheduled Monument and part of the site is within 100m of residential properties. Therefore the site has been assessed overall as Amber.

Sand and Gravel (Western Oxfordshire)

- m) SG-08 Land at Lower Road
This site contains a small part of the Church Hanborough Conservation Area in the western parcel of the site below church road. However this is a large site and the exclusion of this area should not restrict the majority of the site being deliverable. It is within the setting of the Cotswolds AONB, within the IRZ for several SSSIs and in close proximity to residential areas. Therefore, the site has been given an overall assessment of Amber.
- n) SG-18 Land at Standlake
The site is within the IRZ of SSSIs sensitive to quarry development and also in close proximity to a residential area. It is also nearly entirely located in Flood Zone 3, however the site is nominated as an extension. Therefore the site has been assessed as Amber.
- o) SG-20 Land between Eynsham and Cassington
The site is within the IRZ of SSSIs sensitive to quarry development, including those comprising Oxford Meadows SAC, and is also in close proximity to a residential area. It is also nearly entirely located in Flood Zone 3, however the site is nominated as an extension. Therefore the site has been assessed as Amber.
- p) SG20a Wharf Farm, Cassington
The site is within the IRZ of SSSIs sensitive to quarry development, including those comprising Oxford Meadows SAC, and is also in close proximity to a residential area. It is also nearly entirely located in Flood Zone 3, however the site is nominated as an extension. Therefore the site has been assessed as Amber.
- q) SG20b Land at Eynsham
The site is within the IRZ of SSSIs sensitive to quarry development, including those comprising Oxford Meadows SSSI. It is also nearly entirely located in Flood Zone 3, however the site is nominated as an extension. Therefore the site has been assessed as Amber.

- r) SG-23 Windrush North, Gill Mill
The site is within the IRZ of SSSIs sensitive to quarry development, and is also in close proximity to a residential area. Therefore the site has been assessed as Amber.
- s) SG-27 Vicarage Pit, Cogges Lane
The site is within the IRZ of SSSIs sensitive to quarry development, including those comprising Oxford Meadows SAC, and is also in close proximity to a residential area and adjoins listed buildings. Therefore the site has been assessed as Amber.
- t) SG-28 Guy Lakes North, adjB4449
The site is within the IRZ of several SSSIs, including those comprising the Oxford Meadows SAC. It is also close to a residential property. Therefore the site has been assessed as Amber.
- u) SG-29 Sutton Farm, Sutton
The site is within the IRZ of several SSSIs, including those comprising the Oxford Meadows SAC. It also adjoins several Conservation Areas, and is in close proximity to residential areas. Therefore the site has been assessed as Amber.
- v) SG-30 Home Farm, Brighthampton
The site is within the IRZ of SSSIs including those comprising the Oxford Meadows SAC, and is also in close proximity to a residential area. Therefore the site has been assessed as Amber.
- w) SG-31 Land east of Sutton
The site is within the IRZ of SSSIs including those comprising the Oxford Meadows SAC, and also adjoins several conservation areas. The site is also nearly entirely located on Flood Zone 3, and is a new site for extraction, therefore it has been assessed as Amber.

A total of 54.07 tonnes of sand and gravel has been nominated (28.87 tonnes in Southern Oxfordshire, and 25.2 tonnes in Western Oxfordshire), and 48.77 tonnes has been assessed as being potentially deliverable (23.57 tonnes in Southern Oxfordshire and 25.2 tonnes in Western Oxfordshire).

Soft Sand

- a) SS-01 Tubworth Barn
Within the IRZ for several SSSIs and adjacent to a Local Wildlife Site. The site is also near to residential areas and would constitute a new quarry operation within 1km from an existing operation. Therefore the site has been assessed as Amber.
- b) SS-03 (CR-17) Hatford (south extension)
The site is within the IRZ of several SSSIs, including those comprising the Hackpen Hill SAC. Therefore the site has been assessed as Amber.

- c) SS-04 Land at Pinewoods Road
Site within the IRZ for several SSSIs and also in close proximity to residential areas, therefore it has been assessed as Amber.
- d) SS-05 Land at Kingston Bagpuize
Within IRZ of one SSSI and in close proximity to residences, therefore the site has been assessed as Amber.
- e) SS-06 Duns Tew Quarry north extension
Adjacent to Local Wildlife Site and located on a principal aquifer, therefore the site has been assessed as Amber.
- f) SS-07 Home Farm, Shellingford
The site is within the IRZ of several SSSIs, including those comprising the Hackpen Hill SAC. Also adjoining Local Wildlife Site, in close proximity to residences and would comprise a new quarry operation within 1km of an existing operation. Therefore the site has been assessed as Amber.
- g) SS-08 (CR-16) Shellingford Quarry western extension
The site is within the IRZ of several SSSIs, including those comprising the Hackpen Hill SAC. Therefore the site has been assessed as Amber.
- h) SS-12 (CR-12) Land at Chinham Farm
Within IRZ of one SSSI and within 1km of a residence, therefore the site has been assessed as Amber.
- i) SS15 (CR-11) Hatford North extension
Site has been assessed as having poor access, however it is an existing quarry with an access track that comes out within 1km of the A417. Use of this access may make the site acceptable. The site is also within the IRZ of one SSSI. Due to these factors the site has been assessed as Amber.

A total of 8.5 million tonnes of soft sand has been nominated, and all of this has been assessed as being potentially deliverable.

Crushed Rock

- a) CR-02 Sturt Farm
Site located within the setting of the Cotswolds AONB and within IRZ of several SSSIs. Site is also on a principal aquifer and within 100m of residences, therefore it has been assessed as Amber.
- b) CR-07 Adjacent to Whitehill Quarry
Site located within the setting of the Cotswolds AONB and within IRZ of several SSSIs. Site is also on a principal aquifer and would be a new quarry within 1km of an existing quarry, therefore it has been assessed as Amber.
- c) CR-10 Burford Quarry SW extension
Site located within the setting of the Cotswolds AONB and within IRZ of several SSSIs. Therefore an overall assessment of Amber has been given.

- d) CR-11 (SS-15) Hatford North extension
Site has been assessed as having poor access, however it is an existing quarry with an access track that comes out within 1km of the A417. Use of this access may make the site acceptable. The site is also within the IRZ of one SSSI. Due to these factors the site has been assessed as Amber.
- e) CR-12 (SS-12) Land at Chinham Farm
Within IRZ of one SSSI and within 1km of a residence, therefore the site has been assessed as Amber.
- f) CR-13 Dewars Farm Quarry
Site within IRZ of one SSSI, and located on a principal aquifer. Therefore the site has been assessed as Amber.
- g) CR-15 Land off the B4100m Baynards Green
Site within IRZ of one SSSI, and located on a principal aquifer. Therefore the site has been assessed as Amber.
- h) CR-16 (SS-08) Shellingford Quarry western extension
The site is within the IRZ of several SSSIs, including those comprising the Hackpen Hill SAC. Therefore the site has been assessed as Amber.
- i) CR17 (SS-03) Hatford (south extension)
The site is within the IRZ of several SSSIs, including those comprising the Hackpen Hill SAC. Therefore the site has been assessed as Amber.

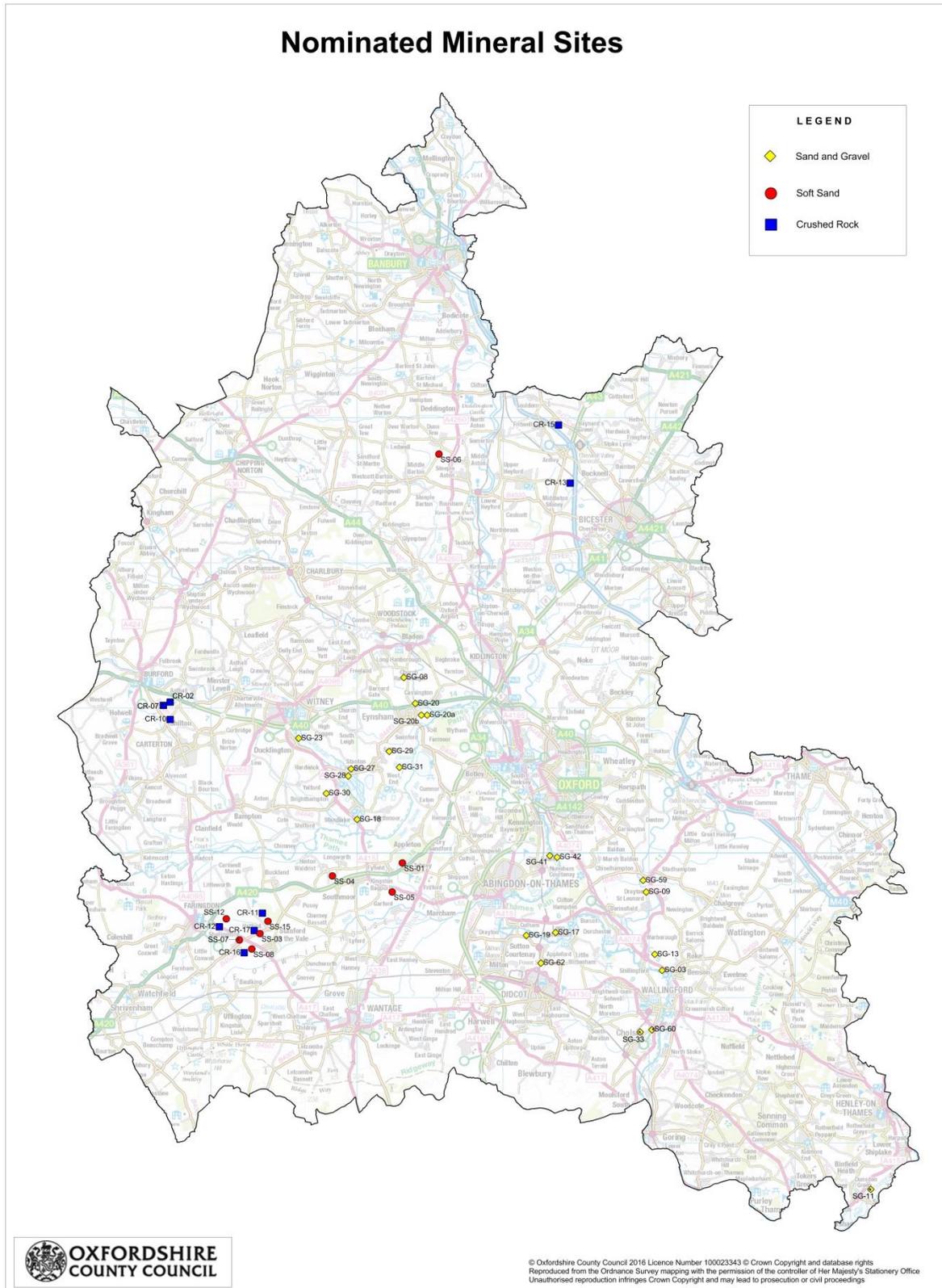
A total of 21.2 million tonnes of crushed rock has been nominated, and all of this has been assessed as being potentially deliverable.

4. Conclusion

The preliminary site assessment shows that a sufficient number of aggregate reserves are available and potentially deliverable, in order to meet the need for aggregate provision over the plan period to 2031 (row G in Table1). A total of 5.197 million tonnes of sharp sand and gravel is estimated to be required over the period of the plan, and 48.77 million tonnes has been assessed as being potentially deliverable (23.57mt in Southern Oxfordshire and 25.2mt in Western Oxfordshire). An estimated 1.431million tonnes of soft sand is estimated to be required, and 8.5 million tonnes has been assessed as being potentially deliverable. An estimated 1.227 million tonnes of crushed rock is estimated to be required over the plan period to 2013, and 21.2 million tonnes has been assessed as being potentially deliverable.

	Requirement (million tonnes)	Potentially Deliverable (million tonnes)
Sharp Sand and Gravel (Southern)	5.197	23.57
Sharp Sand and Gravel (Western)		25.2
Soft Sand	1.431	8.5
Crushed Rock	1.227	8.5

Appendix 1: Map of Nominated Minerals Sites



Appendix 2: RAG Assessment Results

Site Ref.	Site Name	Nominator	Description	Estimated Yield (mill. tonnes)	Grid Ref.	Co-ordinates	Within 1km of main lorry network or adjoining a railhead or navigable waterway? (M4(e), M4(g), C10)	Within 1km of AONB? (M4(h), C8)	Within water catchment area or within 200m of SAC? (M4(i), C7)	Within or within Impact Risk Zone of SSSI? (M4(j), C7)	Within or adjoining locally designated areas of nature conservation? (Local Nature Reserves, Local Wildlife Sites, Sites of Local Importance for Nature Conservation - M4 (k), C7)	Within or adjoining World Heritage Site, listed building, conservation area, historic battlefield, registered park or garden (M4 (l)(k) and C9)	Within or adjoining Scheduled Monument or non-designated assets equivalent to scheduled monument. (M4 (j)(k) and C9)	Percentage area in Flood Zone 3 (M4(k)(iii), C3)	Source Protection Zone	Groundwater vulnerability Zone (M4 (k)(iii), C4)	Agricultural Land Classification (M4 (k)(iv), C6)	Within 100m of a residential area? (M4(k) vi, C5)	Will site result in a new quarry within 1km of an extant mineral planning permission? (Cumulative impacts - M4 (l))	Notes	RAG Assessment (Red, Amber, Green)
Sand and Gravel Sites																					
Southern Oxfordshire																					
SG-03	Land adj to Benson Marina	Bell Cornwell LLP	New site for sand and gravel extraction	0.07	SU 610 919	461000, 191900	Adjoining A4074	North Wessex Downs AONB	No	Within outer impact zone to Little Wittenham SSSI (i.e. Little Wittenham SAC).	Local Wildlife Site	No	There are no designated assets that may constitute a constraint.	97%	No	Secondary Aquifer - High/Intermediate	Grade 2	Adjoins caravan site at Benson.	No	Close to the River Thames for potential water transport as well as adjoining A4074.	Amber
SG-09	Land north of Drayton St Leonard and Beinsfield	D K Symes Associates	New site for sand and gravel extraction	4.5	SU 599 973	459900, 197300	Within 1 Km of A329 & B480.	No	No	Yes, within outer impact zone to Little Wittenham SSSI.	No	No	The area contains a cursus, a monument type that is considered as of national importance.	28.37%	No	Secondary Aquifer - High/Intermediate/Low	Grade 2	Adjoins residential properties at Drayton St Leonard.	No	Monument equivalent to SM covers a relatively small area of the site. It is possible that the rest of the site could be delivered subject to further investigation.	Amber
SG-11	Land east of Spring Lane, Sonning Eye (Caversham 'C')	Lafarge Aggregates Ltd.	Extension of Caversham Quarry	2.1	SU 753 768	475300, 176800	Not close to advisory routes but accessed of the A4155 and very close to River Thames	No	No	No	Adjoins Sonning Eye Conservation Area	No	Evaluation has identified areas of archaeological potential that will require further investigation if consent is granted.	96.25%	1%	Very small part of site in Principal Aquifer - High; rest of site in Principal Aquifer - Intermediate.	Grade 2	Part of site within 100 m of residential properties at Sonning Eye.	Extension to existing Caversham Quarry.	Site adjoins existing Caversham Quarry and already partly consented under permission no. MW.0158/11. It could utilise existing currently approved plant site and presumably access onto the A4155. The remaining area for nomination will not deliver the original estimated 4m, as some of this has already been consented with the above permission.	Amber
SG-13	Land at Shillingford	Hanson Aggregates	New site for sand and gravel extraction	5.3	SU 605 930	460500, 193000	Adjoining A4074	North Wessex Downs	No	Within outer impact zone to Little Wittenham SSSI (i.e. Little Wittenham SAC).	No	Adjoins Warborough Conservation Area and two listed mile posts on A4074	Contains 3 SMs and various undesignated assets that are demonstrably equivalent significance to a SM.	11.94%	No	Secondary Aquifer - High/Intermediate	Grades 1 and 2	Part of site within 100 m of residential properties at Warborough & Shillingford.	No	Most of site is subject to recently submitted application for extraction of approximately 2.5 million tonnes of sand and gravel and also clay over 10 years - Fullamoor Quarry. The application site is able to avoid the scheduled monument area.	Red
SG-17	Land at Culham	Hills Quarry Products Ltd.	New site for sand and gravel extraction	4.0	SU 537 945	453700, 194500	Access shown onto A415 and also adjoins River Thames.	No	No	Within outer impact zone to Little Wittenham SSSI (i.e. Little Wittenham SAC) & Culham Brake SSSI.	No	No	Contains a SM.	37.80%	No	Secondary Aquifer - High/Intermediate	Grades 2, 3a & 3b	Part of site within 100 m of residential properties - Warren Farm Cottage nearest at 30 metres.	No	Adjoins existing Bridge Farm Quarry to which it would appear to be an extension with material processed at Sutton Courtenay processing plant. Western part of site is within 1-2 km SSSI IRZ for Culham Brake which states quarries including extensions may impact SSSI.	Amber
SG-19	Bridge Farm, Appleford (Vale of White Horse)	Hanson Aggregates	Extension to quarry at Sutton Courtenay	0.5	SU 517 943	451700, 194300	Within 1 Km of A415, adjoins both River Thames and railway line.	No	No	Within outer impact zone to Little Wittenham SSSI (i.e. Little Wittenham SAC).	No	No	There are no designated assets that may constitute a constraint.	86.16%	No	Secondary Aquifer - High/Intermediate	Grades 2 & 4	No	Extension to existing Sutton Courtenay	Adjoins existing Bridge Farm Quarry to which it would appear to be an extension with material processed at Sutton Courtenay processing plant. Western part of site is within 1-2 km SSSI IRZ for Culham Brake which states quarries including extensions may impact SSSI.	Amber
SG-33	Land south of Wallingford, New Barn Farm	Grundons	New site for sand and gravel extraction	3.9	SU 596 878	459600, 187800	Adjoining A4130	Adjoins North Wessex Downs and within 1 Km of Chilterns AONB	No	Within outer impact zone to Little Wittenham SSSI (i.e. Little Wittenham SAC).	No	Adjoins one Listed Building.	There are no designated assets that may constitute a constraint.	3.21%	No	Part of site in Principal Aquifer - High; rest of site in Principal Aquifer - Intermediate.	Grades 2 & 3a	Part of site within 100 m of residential property.	No	Part of site is likely to be submitted as a planning application for new quarry by Grundons in April 2016	Amber
SG-41	N of Lower Radley (Vale of White Horse)	FT MNS	New site for sand and gravel extraction	1.5	SU 533 998	453300, 199800	Within 1 km of A4074 and adjoins railway line.	No	No	Within outer impact zone to Sugworth SSSI.	Lower Farm Bottom Hay Meadow adjoins site on opposite bank of River Thames.	No	There are no designated assets that may constitute a constraint.	68.62%	No	Secondary Aquifer - High/Intermediate/Low	Grades 2, 3 & 4	Part of site within 100 metres of residential property at Lower Radley.	No	Red RAG for column M only due to presence of Listed Buildings within the site which would not in effect preclude the whole of the nominated area from possible development and represents only a partial constraint. Presence of LWS similarly may preclude part of the site from being delivered, but further assessment will be needed to see how much of a constraint this poses.	Red
SG-42	Nuneham Courtenay	Savills	New site for sand and gravel extraction	4.4	SU 538 997	453800, 199700	Within 1 Km of A4074 and adjoins River Thames	No	No	Within outer impact zone to Wley Meadows SSSI.	Yes - Lower Farm Bottom Hay Meadow	Adjoins Nuneham Courtenay Conservation Area and contains two listed buildings at Lower Farm which only therefore would exclude a small part of the site.	There are no designated assets that may constitute a constraint.	45.73%	No	Secondary Aquifer - High/Intermediate/Low	Grades 2, 3 & 4	Lower Farm within area.	No	Red RAG for column M only due to presence of Listed Buildings within the site which would not in effect preclude the whole of the nominated area from possible development and represents only a partial constraint. Presence of LWS similarly may preclude part of the site from being delivered, but further assessment will be needed to see how much of a constraint this poses.	Red
SG-59	Stadhampton	D K Symes Associates	Extension to nomination SG-09	1.0	SU 597 981	459700, 198100	Adjoins A329 & B480.	No	No	Within outer impact zone to Little Wittenham SSSI (i.e. Little Wittenham SAC).	Adjoins Listed Building (Chislehampton Bridge)	There are no designated assets that may constitute a constraint.	53.36%	No	Principal Aquifer - Low/Secondary Aquifer - High	Grades 2, 3 & 4	Yes adjoins Stadhampton & Chislehampton villages.	No			
SG-60	White Cross Farm, Wallingford	Enviros Consulting Ltd.	New site for sand and gravel extraction	0.5	SU 603 878	460300, 187800	Adjoins A329 & A4130	Adjoins Chilterns AONB. North Wessex Downs lies approximately 1km to south.	No	Within outer impact zone to Warren Bank SSSI.	Listed Buildings in Morgevell Park to east of River Thames which forms boundary of site.	There are no designated assets that may constitute a constraint.	77.42%	No	Site mainly within Principal Aquifer - High	Grade 4	Part of site within 100 metres of residential properties at Carmel College, Elizabeth House & Mead Furlong.	No	Close to the River Thames for potential water transport as well as adjoining A329 & A4130 but largely overlies Major Aquifer - High. Scoping Opinion and pre-application advice have been provided for mineral extraction and after use as marina.	Amber	
SG-62	Appleford, Didcot (Vale of White Horse)	Hanson Aggregates	Extensions to Sutton Courtenay Quarry	1.1	SU 527 924	452700, 192400	Adjoins A4130 and railway line.	No	No	Within outer impact zone to Little Wittenham SSSI (i.e. Little Wittenham SAC).	No	Adjacent to SM243.	1.32%	No	Secondary Aquifer - Intermediate/Low	Grades 2 & 4	Part of site within 100 metres of residential properties to south at Didcot and also property at Appleford Sidings to north.	Extension to existing Sutton Courtenay	Close to A4130 and railway line which is already used for mineral and waste transport to Appleford Sidings.	Amber	
Western Oxfordshire																					
SG-08	Land at Lower Road	Carter Jonas LLP/ Hanson Aggregates	Extension to Cassington quarry	2.5	SP 433 121	443500, 212000	Within 1 km of A40 (through route)	Cotswolds	No	Northern part within 1-1.5 km IRZ to Blenheim Park SSSI. Southern part within 2-3 km zone of Wytham Woods Ditches and Flashes SSSI. Southern tip in 3-4 km IRZ of Cassington Meadows SSSI (ie part of Oxford Meadows SAC). All of site within 4-5 km zone of Oxford Meadows SAC.	North-eastern boundary adjacent to Bureleigh Wood LWS.	Within Church Harborough Conservation Area. Also adjoining listed bridges and building at Eynsham Mill	There are no designated assets that may constitute a constraint.	31.46%	No	Secondary Aquifer High	Predominantly grade 3. 3a/b split not known. Small amount grade 4	Residential properties within 100m	This is an extension	All areas within 3km of Blenheim Park SSSI and Wytham Woods Ditches and Flashes SSSI are sensitive to quarries. As well as southern tip within 3-4 km IRZ of Oxford Meadow SAC. Only very small area covered by Church Harborough conservation areas, this would not preclude the whole of the nominated area from possible development.	Amber
SG-18	Land at Standake	Hanson Aggregates	Extension of existing working	0.5	SP 401 023	440100, 202300	Within 1 km A415 (local access road)	No	No	South western edge within 0.5-1km and whole site within 1-2km of Langley's Lane Meadow SSSI and 2-3km IRZ of Appleton Lower Common SSSI.	No LNR (magic) No LWS (spectrum)	This is within the area of the Lower Windrush Valley and is therefore considered to be sensitive.	99.66%	No	Secondary Aquifer High	Predominantly grade 4. Small amount grade 3. 3a/b split not known.	1 residential property immediately over A415	Stonehenge Farm is within 1km, but this is nominated as an extension	Whole of site within Langley's Lane Meadow SSSI IRZ and Appleton Lower Common SSSI which are sensitive to quarries.	Amber	
SG-20	Land between Eynsham & Cassington	Oxford Aggregates	Extension to Cassington quarry	1.5	SP 441 103	444100, 210300	Within 1 km of A40 (through route)	No	No	Within 1-2 km IRZ for Cassington Meadows SSSI (ie part of Oxford Meadows SAC) and 1-2km of Wytham Ditches and Flashes SSSI.	No LNR (magic) No LWS (spectrum)	There are no designated assets that may constitute a constraint.	98.05%	No	Secondary Aquifer High	Grades 3 and 4. 3a/b split not known	1 residential property immediately south over Cassington Road (Wharf Farm)	This is an extension	All areas within 2-3km of Wytham Woods Ditches and Flashes SSSI and Oxford Meadow SAC are sensitive to quarries.	Amber	
SG-20a	Wharf Farm, Cassington	Oxford Aggregates/ Carter Jonas LLP	Extension to Cassington quarry	1.6	SP 449 095	444900, 209500	Within 1km of A40 (through route)	No	No	Within 1-2 km IRZ for Cassington Meadows SSSI (ie part of Oxford Meadows SAC) and 1-2km of Wytham Ditches and Flashes SSSI. Within 50m IRZ of Wytham Woods SSSI.	No LNR (magic) No LWS (spectrum)	There are no designated assets that may constitute a constraint.	95.67%	No	Secondary Aquifer High	Grade 3. 3a/b split not known	Cassington Mill House	This is an extension	All areas within 2-3km of Wytham Woods Ditches and Flashes SSSI and Oxford Meadow SAC are sensitive to quarries. As well as areas within 200m of Wytham Woods SSSI.	Amber	
SG-20b	Land at Eynsham	Hanson Aggregates	Extension to Cassington quarry	1.9	SP 445 095	444500, 209500	Within 1km of A40 (through route)	No	No	Within 1-2 km IRZ for Cassington Meadows SSSI (ie part of Oxford Meadows SAC) and 1-2km of Wytham Ditches and Flashes SSSI.	No LNR (magic) No LWS (spectrum)	There are no designated assets that may constitute a constraint.	90.63%	No	Secondary Aquifer High	Grade 3. 3a/b split not known	No	This is an extension	All areas within 2-3km of Wytham Woods Ditches and Flashes SSSI and Oxford Meadow SAC are sensitive to quarries.	Amber	
SG-23	Windrush North, Gill Mill	Smith and Sons (Bletchington) Ltd.	Extension to Gill Mill quarry	0.8	SP 361 079	436100, 207900	Within 1km of A415 (local access route)	No	No	Site adjacent to and whole site within IRZ of Ducklington Mead SSSI. Within 5-10km zone of Oxford meadows SAC. Within 5-10km IRZ of Cassington Meadows SSSI (ie Oxford Meadows SAC). Within 1-3km IRZ of Stanton Harcourt SSSI.	No LNR or LWS	Adjoining Ducklington Conservation Area	There are no designated assets that may constitute a constraint.	15.64%	No	Secondary Aquifer High	Grade 4	Yes - properties on Back Lane, Ducklington	This is nominated as an extension to Gill Mill	Within IRZ of Ducklington Mead SSSI which is sensitive to quarries.	Amber
SG-27	Vicarage Pit, Cogges Lane	Smith and Sons (Bletchington) Ltd.	Standalone quarry operation only	1.6	SP 397 058	439700, 205800	Within 1 km of B4489 (local access route)	No	No	Within 2-3km IRZ of Ducklington Mead SSSI.	Adjoining listed buildings - Beard Mill and Old Vicarage	This is within the area of the Lower Windrush Valley and is therefore considered to be sensitive.	22.66%	No	Secondary Aquifer High	Grade 2	Yes - Beard Mill and others	Nominated as an extension to Gill Mill	Within IRZ of Ducklington Mead SSSI which is sensitive to quarries.	Amber	

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SG-28	Guy Lakes North, adj B4449**	Smith and Sons (Bletchington) Ltd.	Standalone quarry operation only	0.4	SP 395 053	439500, 205300	Within 1 km of B4449 (local access route)	No	No	Within 5-10km IRZ of Cassington Meadows SSSI (ie Oxford Meadows SAC). Within 1-2km IRZ of Stanton Harcourt SSSI.	No LNR or LWS	No	This is within the area of the Lower Windrush Valley and is therefore considered to be sensitive.	48.00	No	Secondary Aquifer High	Difficult to tell at the map scale. Potentially contains Grade 2, 3 and 4	Yes - Beard Mill	Nominated as an extension to Gill Mill
SG-29	Sutton Farm, Sutton	Smith and Sons (Bletchington) Ltd.	New site for sand and gravel extraction	5.0	SP 423 070	442300, 207000	Within 1 km of B4449 (local access route)	No	No	Cassington Meadows SSSI (ie Oxford Meadows SAC). Within 1-3km IRZ of Stanton Harcourt SSSI.	No LNR or LWS	Adjoining Stanton Harcourt and Sutton Conservation Area	There are no designated assets that may constitute a constraint.	47.77	No	Partly Secondary Aquifer High	Grade 3 and 4. 3a/b split not known	Yes	No
SG-30	Home Farm, Brixhampton	Smith and Sons (Bletchington) Ltd.	New site for sand and gravel extraction	0.4	SP 380 041	438000, 204100	Within 1km of B4449 and A415 (local access routes)	No	No	Within 5-10km IRZ of Cassington Meadows SSSI (ie Oxford Meadows SAC). Within 2-3 km of Langley's Lane Meadow SSSI.	No LNR or LWS	No	This is within the area of the Lower Windrush Valley and is therefore considered to be sensitive.	0	No	Partly Secondary Aquifer High	Grade 2 and possibly some Grade 3.	Yes	No
SG-31	Land east of Sutton	Smith and Sons (Bletchington) Ltd.	New site for sand and gravel extraction	9.0	SP 430 059	443000, 205900	Within 1km of B4449 (local access route)	No	No	Within 5-10km IRZ of Cassington Meadows SSSI (ie Oxford Meadows SAC). Within 1-3km IRZ of Stanton Harcourt SSSI. Within 1-2km IRZ of Wytham Woods SSSI.	No LNR, adjacent to Farmoor Reservoir LWS	Adjoining Stanton Harcourt and Sutton Conservation Area	There are no designated assets that may constitute a constraint.	97	No	Secondary Aquifer High	Predominantly grade 2. Also 3 and 4	No. Appears to be over 100m from Tameys Farm and properties in Sutton and Stanton Harcourt.	No
Soft Sand Sites																			
SS-01	Tubworth Barn	D K Symes Associates	New site for mineral extraction	1.0	SU 432 993	443200, 199300	The site adjoins the A420 with potentially access almost directly onto it via an existing junction	No	No	Within outer impact zone to Fillingford Heath, Ponds and Fens.	Adjoins Appleton Upper Common LWS	Listed Building 63m E of site.	There are no designated assets that may constitute a constraint.	3.14	No	Secondary Aquifer Intermediate	Predominantly grade 2, also some grade 3.	Within 10m of nearest residence which is part of a small group of settlements. 76m from the edge of Tubney. Part of the site within 100m of Tubney.	1km from Tubney Wood Quarry
SS-03 (CR-17)	Hatford (South extension)	Stephen Bowley Planning Consultancy	Extension to existing quarry	1.0	SU 331 949	433100, 194900	Within 1km of the A417	No	No	Within outer zone of Hackpen Warren and Gramp's Hill Down (i.e Hackpen Hill SAC). Also within outer zone of Chimney Meadows SSSI.	No	Close to but not adjoining Hatford Conservation Area. Listed Building 148m W of site.	There are no designated assets that may constitute a constraint.	2.07	No	Secondary Aquifer High	Grades 2 and 3	No	Extension to existing Hatfield Quarry
SS-04	Land at Pinewoods Road	Hanson Aggregates	New site for mineral extraction	1.1	SU 384 984	438400, 198400	The site adjoins the A420 with potentially access almost directly onto it via an existing junction	No	No	Within outer zone of Langley's Lane Meadows. Also within outer zone of Chimney Meadows SSSI.	No	No	There are no designated assets that may constitute a constraint.	0	No	Secondary Aquifer Intermediate	Grade 2	Within 100m of two small groups of residences. One residential property adjoins the site.	No
SS-05	Land at Kingston Bagpuize	Hills Quarry Products Ltd.	New site for mineral extraction	0.5	SU 425 973	442500, 197300	The site adjoins the A415.	No	No	Within outer impact zone to Fillingford Heath, Ponds and Fens.	Adjoins BAP Habitat	No	There are no designated assets that may constitute a constraint.	0	No	Secondary Aquifer High / Intermediate	Grade 2	Within 100m of Millets Farm Garden Centre and some individual residences.	No
SS-06	Duns Tew Quarry North Extension***	Smith and Sons (Bletchington) Ltd.	Extension to existing quarry	0.4	SP 457 275	445700, 227500	Within 1km of the A417 as the crow flies; just over 1km by road.	No	No	Within impact zone of Horsehay Quarries. Geological SSSI	Horsehay Quarry LWS across the road	No	There are no designated assets that may constitute a constraint.	0	No	Principal Aquifer High / Secondary Aquifer High	Grade 3	No	Extension to Duns Tew Quarry. Site is not suitable because it would affect a major aquifer that has a high potential to be affected by groundwater pollution.
SS-07	Home Farm, Shellingford	Smith and Sons (Bletchington) Ltd.	New site for mineral extraction	0.5	SU 317 941	431700, 194100	Site adjoins the A417	No	No	Within outer zone of Fernham Meadows SSSI. Also within outer zone of Hackpen Warren and Gramp's Hill Down (i.e Hackpen Hill SAC).	Adjoins Chasins Copse LWS	Close to but not adjoining Shellingford Conservation Area. Listed Building 120m S of the site.	There are no designated assets that may constitute a constraint.	0	No	Secondary Aquifer High	Grade 3	Chinham Farm Cottages approximately 30 metres to north of area.	Within 1km of Shellingford Quarry.
SS-08 (CR-16)	Shellingford Quarry - western extension.	Stephen Bowley Planning Consultancy	Extension to existing quarry	2.0	SU 325 935	432500, 193500	Two sites, east and west of the existing quarry - both adjoin the A417.	No	No	Within outer zone of Fernham Meadows SSSI. Also within outer zone of Hackpen Warren and Gramp's Hill Down (i.e Hackpen Hill SAC).	No	No	There are no designated assets that may constitute a constraint.	0	No	Secondary Aquifer High / Low	Predominantly Grade 3, some Grade 4.	Adjoins an industrial site and farm buildings, but not within 100m of any residences.	Extension to Shellingford Quarry.
SS-12 (CR-12)	Land at Chinham Farm	Hills Quarry Products Ltd.	Extension to existing quarry	1.5	SU 315 953 (a) SU 315 947 (b)	431500, 195300 431500, 194700	Two sites, north and east of the existing quarry. The north site is about 35m from the A417, and the east site adjoins the A417.	No	No	Within outer zone of Fernham Meadows SSSI.	Close to but not adjoining Chinham Copse LWS	No	There are no designated assets that may constitute a constraint.	0	No	Secondary Aquifer High / Intermediate	Predominantly Grade 3, some Grade 2 and Grade 4.	Within 100m of an isolated farm.	Extension to Chinham Farm Quarry
SS-15 (CR-11)	Hatford North Extension	Stephen Bowley Planning Consultancy	Extension to existing quarry	0.5	SU 334 955	433400, 195500	1.7km from the nearest lorry route (A417)	No	No	Within impact zone of Chimney Meadows. Also near to Buckland Warren, but does not appear to be within impact zone.	Close to but not adjoining Buckland Warren Woods LWS	No	There are no designated assets that may constitute a constraint.	0	No	Secondary Aquifer High / Intermediate	Predominantly Grade 2, some Grade 3.	Within 100m of isolated house and farm buildings.	Extension to hatford Quarry. Site is not suitable because of its traffic impact. It would be 1.7km from the A417. However it is an existing quarry with an access track that comes out on the B4508 0.8km from the A417. Use of that access might make the site acceptable.
Crushed Rock Sites																			
CR-02	Sturt Farm	Smith and Sons (Bletchington) Ltd.	Extension to Whitehill	4.5	SP 273 104	427300, 210400	Adjoins the A40	Yes Cotswold AONB	No	Within outer impact zone of Westwell Gorse. Also within outer impact zone of Alvescot Meadows.	No	Listed Building 40m E of site.	There are no designated assets that may constitute a constraint.	0	No	Principal Aquifer High	Grade 3	Adjoins Sturt Farm Stables and is within 100m of Stonelands Farm, but no residential areas within 100m.	Extension to Whitehill Quarry.
CR-07	Adjacent to Whitehill Quarry	Mr D Fletcher	New site for mineral extraction	4.5	SP 270 102	427000, 210250	Within 1km of the A40	Yes Cotswold AONB	No	Within outer impact zone of Westwell Gorse. Also within outer impact zone of Alvescot Meadows.	No	No	There are no designated assets that may constitute a constraint.	0	No	Principal Aquifer High / Secondary Aquifer High	Grade 3	No	Within 1km of Burford Quarry and Whitehill Quarry.
CR-10	Burford Quarry SW extension	Smith and Sons (Bletchington) Ltd.	Extension to Burford quarry	1.6	SP 273 092	427300, 209200	Less than 1km from the A4020 as the crow flies. 1km by road.	Yes Cotswold AONB	No	Within outer impact zone of Alvescot Meadows.	No	No	There are no designated assets that may constitute a constraint.	0	No	Principal Aquifer High / Secondary Aquifer High	Grade 3	No	Extension to Burford Quarry
CR-11 (SS-15)	Hatford North Extension	Stephen Bowley Planning Consultancy	Extension to existing quarry	0.5	SU 334 955	433400, 195500	1.7km from the nearest lorry route (A417)	No	No	Within impact zone of Chimney Meadows. Also near to Buckland Warren, but does not appear to be within impact zone.	Close to but not adjoining Buckland Warren Woods LWS	No	There are no designated assets that may constitute a constraint.	0	No	Secondary Aquifer High / Intermediate	Predominantly Grade 2, some Grade 3.	Within 100m of isolated house and farm buildings.	Extension to hatford Quarry. Site is not suitable because of its traffic impact. It would be 1.7km from the A417. However it is an existing quarry with an access track that comes out on the B4508 0.8km from the A417. Use of that access might make the site acceptable.
CR-12 (SS-12)	Land at Chinham Farm	Hills Quarry Products Ltd.	Extension to existing quarry	0.5	SU 315 953 (a) SU 315 947 (b)	431500, 195300 431500, 194700	Two sites, north and east of the existing quarry. The north site is about 35m from the A417, and the east site adjoins the A417.	No	No	Within outer zone of Fernham Meadows SSSI.	Close to but not adjoining Chinham Copse LWS	No	There are no designated assets that may constitute a constraint.	0	No	Secondary Aquifer High / Intermediate	Predominantly Grade 3, some Grade 2 and Grade 4.	Within 100m of an isolated farm.	Extension to Chinham farm Quarry
CR-13	Dewars Farm Quarry	Smith and Sons (Bletchington) Ltd.	Extension to existing quarry	2.6	SP 547 255	454720, 225506	Within 1km of the B430 (Recommended access route, and adjoins the M40.	No	No	Adjoins Ardley Trackways. Also adjoins Ardley Cutting and Quarry SSSI.	Adjoins Trow Pool LWS	Listed Building 49m SE of site.	There are no designated assets that may constitute a constraint.	0	but adjoins small area of flood zone 3	Principal Aquifer High / Secondary Aquifer High	Grade 3	No	Extension to Dewars Farm Quarry
CR-15	Land off the B4100, Baynards Green	David Einig Contracting	New site for mineral extraction	4.5	SP 539 295	453900, 229500	Adjoins the M40, and less than 1km from the A43.	No	No	Within impact zone of Ardley Cutting and Quarry SSSI.	No	No	There are no designated assets that may constitute a constraint.	0	No	Principal Aquifer High	Grade 3	No	No
CR-16 (SS-08)	Shellingford Quarry - western extension.	Stephen Bowley Planning Consultancy	Extension to existing quarry	1.5	SU 325 935	432500, 193500	Two sites, east and west of the existing quarry - both adjoin the A417.	No	No	Within outer zone of Fernham Meadows SSSI. Also within outer zone of Hackpen Warren and Gramp's Hill Down (i.e Hackpen Hill SAC).	No	No	There are no designated assets that may constitute a constraint.	0	No	Secondary Aquifer High / Low	Predominantly Grade 3, some Grade 4.	Adjoins an industrial site and farm buildings, but not within 100m of any residences.	Extension to Shellingford Quarry.
CR-17 (SS-03)	Hatford (South extension)	Stephen Bowley Planning Consultancy	Extension to existing quarry	1.0	SU 331 949	433100, 194900	Within 1km of the A417	No	No	Within outer zone of Hackpen Warren and Gramp's Hill Down (i.e Hackpen Hill SAC). Also within outer zone of	No	Close to but not adjoining Hatford Conservation Area. Listed Building 148m W of site.	There are no designated assets that may constitute a constraint.	2.07	No	Secondary Aquifer High	Grades 2 and 3	No	Extension to existing Hatfield Quarry
* Site SG20a - small part of site is outside SSA																			
** No longer considered viable unless combined with SG27																			
*** site subject to s.106 agreement																			
Totals				Nominated	Potential														
SG Total				54.07	44.77														
SS Total				8.5	8.5														
CR Total				21.2	21.2														