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13.1 INTRODUCTION

13.1.1 This addendum chapter has been prepared by Wardell Armstrong LLP (WA) and considers any changes to the potential effects on ground conditions as reported in the original ES (2014) resulting from the proposed amendments to the application proposals. This addendum has been undertaken by review of available desktop information regarding the conjectured geology beneath the site and current environmental risks associated with the site.

13.1.2 Making reference to the original development proposal, WA carried out a Phase 1 Geo-Environmental Desk Study of the site in order to identify anticipated ground conditions and environmental risks. The desk study aimed to identify any existing and potential receptors which may have been present and the pathways by which the receptors may have been exposed to any identified sources of contamination at the site.

13.2 ASSESSMENT METHODOLOGY**Scope**

13.2.1 The desk study associated with the original ES assessed the likely geological setting of the site based on published geological mapping. The results of the desk study were used to determine the requirement for future site investigation works at the more detailed design stages and to produce the previous chapter of the Environmental Statement.

13.2.2 The chapter summarised the findings of the desk study. The objective of the chapter was to compile information from a range of sources to provide an assessment of the ground conditions at the site.

13.2.3 Based upon assessment of the original *scope, data sources, assessment approach, and significance criteria*, the original chapter remains appropriate in light of the amendments to the application. Subsequently, the overall assessment methodology used in the original chapter has been deemed as applicable to this current addendum.

Uncertainties and Limitations

13.2.4 The uncertainties and limitations within this ES addendum chapter remain the same as previously outlined:

- During the preparation of a ground conditions chapter, there are sometimes circumstances in which the information available to inform the assessment process is limited. For example, there is inevitably some uncertainty in predicting future impacts and effects, especially where a site walkover has not been undertaken.
- The work undertaken to provide the basis of this addendum comprised a study of available documented information from a variety of sources. The details given in this chapter have been dictated by the finite data on which it is based and are relevant only to the purpose for which the environmental statement has been commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this chapter, Wardell Armstrong LLP reserves the right to review such information and, if warranted, to modify the opinions accordingly.

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- As this is an example where a site inspection has not been undertaken, Wardell Armstrong LLP cannot definitively comment on the potential for contamination associated with the current use or structures including the presence of asbestos until further site investigation works are carried out.
- It should be noted that any risks identified in this addendum are perceived risks based on the information reviewed; definitive risks can only be assessed following further ground investigation of the site.

13.3 RELEVANT POLICY

The majority of the legislation referred to within the original chapter are still operational and relevant to the ground conditions assessment. Local policy context

The Cherwell Local Plan 2011-2031 (2015)

13.3.1 The Cherwell Local Plan 2011-2031 was adopted in July 2015. Land at Wykham Park Farm is allocated as part of the Strategic Development of South West Banbury, which comprises two allocations through Policy Banbury 16 and Policy Banbury 17.

13.3.2 Policy Banbury 16 South of Salt Way West- allocates development for up to 150 dwellings, however outline planning permission has been granted for 350 dwellings (LPA ref: 14/01188/OUT).

Policy Banbury 17 South of Salt Way East allocates some 1,345 dwellings as part of 3 separate development sites, that includes the application Site; 145 dwellings currently being implemented at Land south of Salt Way and east of Bloxham Road; and development for up to 280 dwellings on Land at White Post Road, subject of planning application LPA ref: 15/01326/OUT.

13.3.3 One of the plan's key challenges to ensuring sustainable development is 'a need to ensure that contamination is addressed effectively on sites through re-development'. The Cherwell Local Plan (2011-2031 Part I (July 2015): Section C – Policies for Cherwell's Places) states that 'appropriate treatment and remediation of contaminated land must be reviewed as part of on-going sustainability.'

Guidance documents

13.3.4 Guidance documents relevant to the review of ground conditions and the development of potentially contaminated land include:

- British Standard 10175:2011+A1:2013 Investigation of potentially contaminated sites – Code of practice, British Standards Institute. This is an amendment to BS10175:2011 due to the publication of the new BS 8576 and revision of BS 5930 Code of practice for site investigations;
- British Standard 5930: 2015 Code of Practice for ground investigations;
- BRE Special Digest 1 (2005) Concrete in Aggressive Ground;
- Environmental Protection Act 1990: Part 2A: Contaminated Land, DEFRA, April 2012;

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- CIRIA C552 (2001) Contaminated Land Risk Assessment, A Guide to Good Practice, CIRIA;
- CIRIA C665 (2007) Assessing risks posed by hazardous ground gases to buildings, CIRIA;
- CLR 11: Model Procedures for the Management of Contaminated Land, Environment Agency; and
- Pollution Prevention Guidance (PPG), Environment Agency. This document was withdrawn in December 2015.

13.4 BASELINE CONDITIONS**Required Updates of Baseline Conditions**

13.4.1 Based upon review of the original ES, the amendments to the application do not alter the baseline assessment identified within ground conditions chapter. The baseline conditions remain as previously assessed.

13.4.2 The environmental data report for the original chapter (Groundsure – July 2014) was procured under 3 years ago, and as such is still deemed fit for purpose regarding the current assessment.

13.4.3 Therefore, it is considered that the baseline assessment of the original chapter is still appropriate and in accordance with the current application.

The Projected Future Baseline

13.4.4 No significant changes to baseline conditions are likely to occur in the future if the proposed development does not proceed.

13.5 POTENTIAL EFFECTS**Impact Identification and Assessment**

13.5.1 The original ground conditions chapter outlined a number of elements which could have a potential effect on the ground conditions and/or proposed development (in absence of mitigation measures). This was reviewed in relation to the predicted construction and post-completion stages.

13.5.2 There are no likely significant ground condition implications arising from the amendments to the application. As such, the assessment of potential effects within the original chapter remains valid and therefore does not require updating.

13.6 MITIGATION MEASURES**Construction Stage**

13.6.1 The original ground conditions chapter identified the benefits of undertaking further assessment at the detailed design stages of the development. This would assist in establishing the contaminative status of the site. Specific mitigation measures were outlined with regards to reducing significant adverse effects potentially caused by the proposed development.

13.6.2 Upon further review of the mitigation measures outlined within the original ground conditions chapter, it is evident that the proposed mitigation measures are still considered appropriate in light of the proposed changes to the development.

Post-completion Stage

13.6.3 The original ground conditions chapter detailed a regime of on-going monitoring and assessment in order to review the impact of construction activity where necessary. The duration of this post-works assessment should be based on the achievement of designated site criteria. Post-work surveys are carried out to confirm the long-term effectiveness of the mitigation procedures undertaken during the construction phase.

13.6.4 Upon further review of the mitigation measures outlined within the original ground conditions chapter, it is evident that the proposed mitigation measures are still considered appropriate in light of the proposed changes to the development.

13.7 RESIDUAL EFFECTS

13.7.1 It is considered that the agricultural land use of the site provides minimal impact upon the proposed development of the site. Where limited potential impacts associated with particular features at the site have been identified, it is considered that with the implementation of appropriate mitigation measures, residual effects will not be significant at the site during the construction stage.

13.7.2 Taking account of the proposed changes to the development, the residual effects previously assessed and identified (as outlined within Table 13.5 of the original chapter) remain valid and therefore no updates will be required.

Summary of Effects

13.7.3 Should the site development progress, no further cumulative effects are predicted, and any residual impacts are likely to be the same as those discussed above.

13.7.4 Any future building layout (or lack thereof) is not likely to change considerably enough to have any additional adverse impacts on the site. If any buildings are to be constructed as part of a new land use, foundation depths are not likely to be drastically changed (this is based on assumption until definitive building schematics can be provided).

13.7.5 Depending on any future revision to land use on site, there could possibly be positive impacts. For instance, if any proposed revised land use is to leave the land as it currently is (i.e. no construction/development works) or allocated as Public Open Space, then there will be reduced plant/machinery movement, limited removal of topsoil, limited contamination due to less plant/machinery activity and reduced requirements for earthworks, etc.

13.7.6 The effects identified are summarised in Table 13.5 of the original ground conditions chapter and remain valid.

13.8 CUMULATIVE EFFECTS

13.8.1 As discussed previously, in light of the proposed changes to the development, there are no perceived significant residual impacts on the ground conditions of the site as a result of the proposed development. The proposed development of the application site, together with the development of other sites within the Banbury area, has the potential to give rise to cumulative effects, where the effects of different developments combine and result in greater or different effects from those which would arise from an individual development alone.

13.8.2 In 2014, Wardell Armstrong considered the cumulative impacts of the site – “Land East of Bloxham Road, Banbury”, which is located to the north-west and adjacent to the Wykham Park Farm Site, has consent for development of 145 dwellings with associated infrastructure.

13.8.3 Wardell Armstrong has also been made aware of the following additional proposed developments in the locality:

- Ban 16 – South of the Salt Way - outline planning permission granted for 350 dwellings (LPA ref: 14/011188/OUT);
- Land at White Post Road – outline application submitted for up to 280 dwellings (LPA ref: 15/01326/OUT).

13.8.4 The potential for cumulative effects from these development sites have been considered as part of this addendum.

13.8.5 There are no changes in the potential cumulative effects reported in the original ES. As such the 2014 cumulative assessment remain valid.

13.8.6 The geology of the surrounding area and the application site are generally similar. The potential for the development of the surrounding area to give rise to significantly greater cumulative effects on local geology, ground conditions or mineral resources is considered to be very small. In addition, it is considered that the proposed site would not contribute to any additional cumulative effects on the ground conditions of the surrounding areas.

13.9 SUMMARY OF REQUIRED UPDATES

13.9.1 The proposed changes to the development will not result in any additional adverse impacts on ground conditions and geology. Therefore, the original assessment

remains valid as a worst-case scenario and no further assessment is considered necessary.

- 13.9.2 None of the potential effects identified within the original ground conditions chapter are likely to change in relation to the proposed changes to the development. The subsurface ground conditions will not be adversely impacted based on this change in land use.