NW Bicester – Exemplar Site

Response to Cherwell District Council query relating to environmental impacts of earthworks

The Environmental Impact Assessment for the Exemplar Site has assessed the likely significant effects from construction, operational and demolition phases of the development. These are reported in the Exemplar Site Environmental Statement and Addendum Report.

Construction includes all activities required to develop the proposals, from excavation to construction of infrastructure, buildings and landscaping proposals. As a result, the environmental impacts associated with earthworks, including the reprofiling within the riparian corridor, have been considered as an integrated component of the construction phase for all environmental topics. There is specific reference in some chapters, as outlined below, but overall the assessment of effects during the construction period will incorporate this activity throughout the Environmental Statement.

All aspects of the April 2011 design changes were considered during preparation of the Addendum Report.

Chapter 3 Development Description

The following description of ground level contours was included in the Environmental Statement, providing a description of minor earthworks proposed on site. These minor earthworks are part of the development description and, as such, have been assessed as part of each chapter in the Environmental Statement.

"Ground Level Contours

The existing topography of the Exemplar site falls by approximately 4m from the north-western boundary to the south-eastern boundary (92m AOD to 87m AOD), with two watercourses crossing the site which sit in central depressions reaching a depth of approx 82.5m AOD. The proposed ground levels would generally follow the existing topography except for the north eastern corner of the site where an existing localised depression would be filled in to a depth of approximately 0.6m. This is necessary to regularise the ground levels and assist drainage. Other localised minor earthworks that would be undertaken include the creation of water features or ponds and mounding as part of the landscaping scheme and at bridge abutments."

Further to the above excerpt from the Environmental Statement, the April 2011 design included further remodelling of the riparian areas of the River Bure and its tributary. This was undertaken to enable appropriate level approaches to the bridges and to create level areas for the bungalows. These would involve additional earthworks to those originally outlined in Chapter 3 of the Environmental Statement and have been considered in preparation of the Addendum, in accordance with the April 2011 design.

Chapter 6 Landscape Effects

Table 6-9 Landscape Effects discusses the magnitude of impact and significance of effect associated with key landscape characteristics. The first characteristic is 'distinctive valley and ridge landform'. Following assessment of the baseline landform and proposed ground levels following construction of the Exemplar Site, a Neutral significance of effect was identified. The Environmental Statement landscape assessment acknowledges that the design avoids large scale landform manipulation. During preparation of the Addendum Report, the landscape and visual impacts associated with the remodelling of the riparian areas were considered. However, the overall significance of effect identified in Table 6-9 of the Environmental Statement would not change, therefore this was not specifically discussed in the text. The photomontages illustrated on Figures 6-8 to 6-17 of the Addendum incorporate the April 2011 proposed ground levels following earthworks on site. As a result, all landscape and visual impact assessment incorporates the likely effects of this work upon the surrounding landscape and receptors.

In Section 6.6.1 Construction, the potential for disruption to landscape character and visual amenity is identified and is linked to earthworks and materials storage during construction. However, it acknowledges that, whilst disruption would be caused, these effects would be minimised by construction best practice and their temporary nature of the activity. Amongst these best practice principles, it is recommended to locate construction compounds and areas for material/plant storage away from sensitive views, wherever possible. In addition, careful management of retained vegetation at the site periphery will provide visual screening during the construction period. The significance of effects on landscape and visual amenity during construction would be neutral to slight adverse.

Chapter 7 Ecology

The ecological assessment includes impacts during the construction period. Construction works include the earth moving activity, therefore assessment of effects and recommendation of mitigation measures has taken this potential impact into account throughout the assessment. For example, the mitigation measures identified for the River Bure and tributary state that construction site drainage will be carefully controlled, with

silt traps established at the outset of the works. This will minimise the risk of silt entering the watercourse during earthworks activity (including excavation, storage and movement). Pre-construction water quality monitoring of the River Bure and tributary will be collected from three points: upstream of both watercourses; and downstream of the proposed Exemplar Site development after the River Bure and its tributary have converged. This will ensure a baseline of water quality is provided against which both pre-, during- and post-construction monitoring can be compared.

Within the ecology section of the Addendum Report, consideration was given to the remodelling of the River Bure and its tributary. It states that 'most of the stream banks will retain their current profile. However, where it is necessary to undertake earthworks to modify the contours close to the proposed bridge locations, and to create ephemeral pools associated with the SuDS system, care will be taken to protect the badger sett and reduce the effects of tree loss. As outlined in the ES, standard pollution control measures will be implemented to ensure that water quality is protected.'

Chapter 9 Transport Assessment

Table 9-40 Mitigation Measures for Construction Phase identifies specific mitigation measures for the 'earth moving works'. These measures include:

- Minimise dust generating activities.
- Use water as dust suppressant where applicable.
- Cover, seed or fence stockpiles to prevent wind whipping.
- Re-vegetate earthworks and exposed areas.
- If applicable, ensure concrete crusher or concrete batcher has permit to operate.

The implementation of these mitigation measures will mitigate significant environmental effects from the transportation of earth within the site, minimising construction impacts associated with air quality, dust, noise, hydrology, ecology, landscape and waste.

Chapter 10 Noise and Vibration

Chapter 10 Noise and Vibration includes an assessment of construction impacts associated with the development. Whilst the exact construction phasing, techniques and equipment will not be determined until contractors are appointed on site, noise impacts associated with typical site clearance activities during earth movement have been included in Table 10-9 Predicted noise levels during site clearance. The noise impacts with distance from source are provided for typical plant including 2 dumpers, 1 tracked excavator, 1 lorry, 1 tower crane, 1 dozer, 2 compressors and 1 diesel generator. As outlined on page 128 of the Environmental Statement, the predicted noise levels are based on a possible worst case scenario. The most likely construction noise impacts are to be experienced at residential receptors at Greenacres, Caversfield and the Lodge on the B4100. However, construction noise impacts can largely be mitigated through measures such as limiting working hours or using acoustic screening. Considering that construction noise impacts are temporary in nature, with mitigation measures in place no residual impacts are expected.

Chapter 16 Waste

The alignment, location, level and grading of the Exemplar development has been designed to minimise excavation volumes. It has also been designed to enable flexibility in the landscaping, so that it can accommodate the changes in spoil volumes that may arise when site conditions differ from those assumed during the design. Both these approaches should enable all excavation waste (except where contaminated) to be reused onsite where conditions allow. The excavation works will result in no significant effects following implementation of these approaches, thereby resulting in a Neutral effect.

During the construction period, excavated topsoil will be temporarily stored on site and will be reused in plots, landscape areas and the school fields if necessary. The mitigation measures outlined in Table 9-40 for earth moving works will be adopted for transportation of this material within the site, to mitigation any potential impacts of this activity. Where earth cannot be fully re-used on site, waste arising from earthworks can be used as landfill capping. The earth moving mitigation measures will also be adopted for off-site disposal.

Exemplar Site Proposed Earthworks Plans (Sheets 1 and 2)

The recontouring within the riparian areas was identified in the April 2011 design and subsequently in the Exemplar Site Proposed Earthworks Plans (Sheets 1 and 2). These drawings illustrate the locations and quantities of earth movements / cut and fill balance within the Exemplar Site and were prepared by Hyder Consulting in May 2011 (Drawing Reference: 7306 – 7307-UA001881-01/V2). These have been created to clearly demonstrate the earth moving based upon the design drawings that were assessed as part of the ES Addendum report.