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Our ref: DJ//WM10413/012 *Date*: 5 October 2011

Mr N Cartwright
Bloor Homes South Midlands Division
Primus House
Cygnet Drive
Swan Valley
Northampton
NN4 9BS

Dear Neil

North Warwickshire College, London Road, Hinckley

Further to your email dated 26 September 2011 we provide below additional information requested by Hinckley & Bosworth Borough Council (HBBC) Planning Department (ref 10/00505/OUT) regarding the redevelopment of the former North Warwickshire and Hinckley College, London Road, Hinckley.

Condition 7 - Scheme for the investigation of any potential land contamination on site
With regard to the above HBBC have provided the following comments 'all inputs into the calculation regarding the clean cover layer should be provided. Again validation must be given on completion in order to discharge the condition'.

As detailed within the Wardell Armstrong Site Investigation Report (October 2010) prepared for the site, a 'hot-spot' of benzo-a-pyrene (BaP) has been identified within the extreme western corner of the site. Elevated BaP was identified within a single sample obtained from borehole LP11 at a concentration of 2.8mg/kg. The occurrence of BaP is conjectured to be associated with the presence of localised made ground incorporating ash.

To further investigate the presence of BaP and delineate the extent of the identified contamination it is proposed to obtain samples of made ground for laboratory testing via the excavation of 3-4 trial pits around LP11. Following assessment of the laboratory results the most appropriate remediation method would be determined, i.e. removal from site, relocation to less sensitive areas of the development (e.g. beneath areas of hardstanding) or cover with 450mm of suitable materials (i.e. clean cover layer).

In assessing the requirement for the clean cover layer option detailed above, the cover layer thickness has been calculated in accordance with BRE guidance document 'Cover Systems for Land Regeneration' March 2004. Parameters input into the calculation are listed below and overleaf:

- Maximum concentration of BaP identified on site – 2.8mg/kg (depth 0.2m);

ISO 9001 REGISTERED FIRM ISO 14001 REGISTERED FIRM OHSAS 18001 REGISTERED FIRM

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- Maximum acceptable concentration of BaP within proposed cover layer materials 0.1mg/kg;
- Contaminant target value 0.83mg/kg (critical concentration acceptable for residential use);
- Soil mixing zone 0.6m.

Based on the findings of the additional site investigations proposed for the area around LP11, the most appropriate remediation option would be determined. Validation of the subsequent remedial works would be provided to HSBBC upon completion.

Condition 9 – Scheme for the monitoring of landfill gas.
With regard to the above HBBC have provided the following comments 'with regard to gas protection measures justification should be provided for the proposed measures and full specifications and installation information for the measures submitted. Details should be provided on the extent of the area where the measures would be used. Validation that this has been done must be submitted on completion'.

The attached Drawing No. WM10413/005 shows the proposed plots requiring moderate level gas precaution measures. The requirement for these measures to be installed has been determined due to slightly elevated carbon dioxide concentrations being identified within a zone of deep made ground (1.5m to 2.0m) located within the south east corner of the site.

Across the remainder of the site gas precaution measures are not considered necessary due to the background gas levels identified, general absence of made ground and absence of potential off site gas sources (landfills etc).

As detailed within our site investigation report the final design of the moderate level gas precaution measures proposed will be dependent upon final floor slab design as outlined below:

Cast in-Situ Ground Bearing or Suspended Floor Slabs
A fully lapped and sealed 1,200 proprietary membrane should be installed within the foundation construction. All joints and penetrations should be sealed. The membrane should be placed on a 50mm blinding layer of sand or lean mix concrete. The membrane / screed should be underlain by a passively ventilated underfloor sub-space. This should typically include a 300mm layer of crushed rock / concrete with a minimum particle size of 20mm. The granular layer should be vented to the atmosphere via a series of periscope vents and air bricks.

Beam and Block Floor with Underfloor Void
A fully lapped and sealed 2000 gauge proprietary gas proof membrane with a ventilated sub floor open void (Minimum of 150mm). All joints and penetrations should be sealed. The under floor void should be vented to the atmosphere via a series of periscope vents and air bricks.

Please note that for beam and block design the gas membrane has been increased to 2000 gauge from 1,200 gauge as previously indicated within our October 2010 report. This increase is based on current NHBC requirements.

We trust that the above is sufficient for your present requirements, however if you have any queries or need clarification on any matter please do not hesitate to contact me or my colleague Mark Lane.

Yours sincerely
for Wardell Armstrong LLP



DAVID JAMES
Technical Director
[redacted]

REFERENCE

MODERATE LEVEL GAS PRECAUTION MEASURES REQUIRED.

NO SPECIFIC GAS PRECAUTION MEASURES REQUIRED.

NOTES

1. BASED ON BLOOR HOMES SITE PLAN DRAWING. NO. HINCKLEY_02L.

REVISION	DETAILS	DATE	DRAWN	CHK'D	APP'D
P0	Preliminary Issue	05/10/11	HRK		

CLIENT

BLOOR HOMES
WEST MIDLANDS DIVISION

PROJECT

NORTH WARWICKSHIRE COLLEGE,
LONDON ROAD, HINCKLEY

DRAWING TITLE

GAS PRECAUTION MEASURES

DRG No.	SCALE	DATE
WM10413-005	1:1000 @ A3	05/10/11

DRAWN BY	CHECKED BY	APPROVED BY
HRK		

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Preliminary