



Our Ref: 27975- L02 (01)

3rd September 2015

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**For the attention of: Mr Anthony Downs**

Dear Mr Downs

**RE: SUPPLEMENTARY GEO-ENVIRONMENTAL INFORMATION PERTAINING TO THE DISCHARGE OF PLANNING CONDITION 20 ASSOCIATED WITH PLANNING REF: S6/2011/1994/MA**

Further to the our meeting and site walkover on 6<sup>th</sup> July 2015, and receipt of documents detailing the nature of proposed development, we write to provide additional information associated with discharge of Condition 20 of the outlined planning permission S6/2011/1994/MA for redevelopment of Salisbury Square, Old Hatfield. Condition 20 relates to the risks posed by land contamination to on- and off-site receptors and the Recommended Contamination Alleviation Measures (the 'remediation scheme') proposed in RSK's Geotechnical and Geoenvironmental Report (241882-01(00)), dated March 2011.

**1. PROJECT BACKGROUND**

The site is located at Salisbury Square in Old Hatfield, Hertfordshire, and covers approximately 0.9 hectares. It is understood that you have received planning permission (ref S6/2011/1994/MA) from Welwyn Hatfield Borough Council for your proposed development, to include 2No. mixed commercial and residential buildings (incorporating 19No. flats and 4No. shops), 5No.terraced houses with associated small rear gardens, access roads and pathways and public spaces.

RSK carried out an exploratory hole geo-environmental and geotechnical investigation at the site in early 2011 and produced a Phase I and II Geo-environmental and Geotechnical report, Report ref. 24188201(01), dated March 2011.



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RSK's investigation found the site to be underlain by a significant but variable thickness of made ground, underlain by a sequence of granular Glacial Deposits and cohesive Boulder Clay. The greatest thickness of made grounds was encountered in BH2 in the southern portion of the site. This is assumed to be related to the infilling of a former basement associated with historic land-use of the site.

## **1.1 ANALYSIS OF CHEMICAL TEST RESULTS**

Analysis and interpretation of the chemical test results from samples collected at the site are used to produce a Generic Quantitative Risk Assessment (GQRA) that includes an assessment of the chemical data against any published or RSK-derived generic assessment criteria (GAC).

At the time of reporting the findings of the analytical data in early 2011, no exceedences within the chemical test results were recorded when compared to the 'residential with plant uptake' GACs in the northern portion of the site. As such, no specific alleviation measures were considered necessary to facilitate the construction of the terraced housing in this part of the site.

However, single exceedences of Benzo(a)pyrene (TP2 at 0.5 metres below ground level), petroleum hydrocarbons (BH2 at 1.40 metres below ground level) and zinc (TP3 at 0.1 metres below ground level) were encountered in the remaining site area to the south, considered, at the time of writing, to be proposed for redevelopment with mixed retail and residential units.

## **2. CONCEPTUAL SITE MODEL AND CONTAMINATION ALLEVIATION MEASURES**

Pertinent to the discharge of Condition 20 by addressing the risks posed by land contamination to on- and off-site receptors and the potential development considerations as discussed in Section 9 of RSK's 2011 report, is Henshall Green Ltd Drawing 010\_002 (Revision A) dated May 2014 and entitled: 'Illustrative Landscape Masterplan'. This drawing shows the proposed end-use of the site with respect to demarcation of the commercial and residential zones, and public open space or hard standing.

The 2011 investigation compared the results from the environmental samples collected from the southern portion of the site (which includes sample locations TP2, TP3 and BH2) to GACs for residential developments without plant uptake. Based on the aforementioned drawing, sample location TP3 now falls within a shared surface carriageway treated with granite setts, TP2 falls within an area of granite paving, and BH2 would underlie a mixed commercial and residential development (as shown on Figure 1, enclosed). As such the Conceptual Site Model (CSM) for the site can be further refined.

The CSM presented in the 2011 RSK report identified that potential pathways would be via dermal contact, ingestion, plant uptake, inhalation of dust, or vapour inhalation. The fact that each of the sample locations will be covered by hardstanding or buildings means that these pathways are

removed. Furthermore, the results of the ground gas monitoring undertaken during the 2011 RSK investigation concluded that:

*'For the proposed mixed development, Characteristic Situation 1 and Green classifications require no specific precautions to be taken in relation to ground gas owing to the negligible gas regime identified.'*

RSK is satisfied that the three sample locations that recorded exceedences of the relevant GACs in 2011 do not require further investigation given the proposed end use/ surface cover at these locations on latest version of the 'Illustrative Landscape Masterplan'. The contamination sources and potential pollutant linkages identified in the initial investigation (RSK, 2011) and discussed in Section 9 of the 2011 RSK report (Conceptual Site Model and Contamination Alleviation Measures) have essentially been 'designed out' by the use of hardstanding and, as such, will pose no risk to human health.

As a result, no remediation scheme is deemed necessary pursuant to Condition 20. However, in order to fully satisfy the condition, excavations in the vicinity of BH2 in the centre south of the development and in the area formerly occupied by a petrol station further to the south should be inspected during the foundation works. In addition, further investigation and risk assessment would be deemed necessary in the event that previously unidentified contamination is found at any time during the approved development.

### **3. FURTHER CONSIDERATIONS**

Further to the requirements of Condition 20, the Engineering Considerations discussed in Section 10 of RSK's 2011 report, including development considerations relating to imported fill material and topsoil, still apply. As a result, the recommendations relating to these matters should be adhered to. Also, given the soil results with respect to the performance of building materials, the recommendation from RSK's 2011 report still applies, thus:

*'Whilst no significant organic contamination has been recorded on-site, mild concentrations of petroleum hydrocarbons have been recorded within the made ground soils at the location of BH2. This residual or latent contamination may have the potential to permeate plastic potable water supplies if proposed supplies are to be orientated in this area of the site. It is therefore recommended that the water suppliers be contacted at an early stage and that barrier pipe be adopted where necessary to protect potable water supplies from this potential threat.'*

In addition, the following works will also need to be undertaken during development:

- Validation of the installation of suitable barrier pipe for potable water supply;

- Validation of imported topsoil in private residential gardens and communal soft landscaped areas;
- Chemical testing of topsoil samples post placement to confirm suitability at a minimum required rate of 1 sample per 50m<sup>3</sup> of material imported; and
- Preparation of a validation report on completion of the works for submission and approval by the local authority.

***Potential for further works***

It should be noted that the above information is based on our current understanding of the site and may therefore need to be modified based on future findings. Consideration should be given to the re-use of any excavated material on site from areas that recorded exceedences of the relevant GACs during the 2011 investigation, so as not to contaminate otherwise 'clean' areas of the site.

We hope that you will find the enclosed of interest, however, please do not hesitate to contact either of the undersigned if you require any further information.

Yours sincerely

for **RSK Environment Limited - Geosciences**



Johanna Houlahan  
Senior Geo-Environmental Consultant



Duncan Sharp  
Associate Director

Enclosures:

- Figure 1            Henshall Green Ltd Drawing 010\_002 (Revision A, 2014) showing location of RSK 2011 sampling locations.  
Appendix A        RSK Service Constraints





**RSK 2011 'hotspot' locations in relation to proposed end-use layout**

<b>Client:</b>	Gascoyne Cecil Estates	<b>Figure No:</b>	1
<b>Site:</b>	Old Hatfield	<b>Job No:</b>	27975
<b>Scale:</b>	NTS	<b>Source:</b>	Henshall Green drawing 010_002

# APPENDIX A

## SERVICE CONSTRAINTS

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1. This report and the site investigation carried out in connection with the report (together the "Services") were compiled and carried out by RSK Environment Limited (RSK) for Gascoyne Holdings Ltd (the "client") in accordance with the terms of a contract between RSK and the "client", dated 1<sup>st</sup> September 2015. The Services were performed by RSK with the skill and care ordinarily exercised by a reasonable environmental consultant at the time the Services were performed. Further, and in particular, the Services were performed by RSK taking into account the limits of the scope of works required by the client, the time scale involved and the resources, including financial and manpower resources, agreed between RSK and the client.
2. Other than that expressly contained in paragraph 1 above, RSK provides no other representation or warranty whether express or implied, in relation to the Services.
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4. It is RSK's understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was a significant factor in determining the scope and level of the Services. Should the purpose for which the report is used, or the proposed use of the site change, this report may no longer be valid and any further use of or reliance upon the report in those circumstances by the client without RSK 's review and advice shall be at the client's sole and own risk. Should RSK be requested to review the report after the date of this report, RSK shall be entitled to additional payment at the then existing rates or such other terms as agreed between RSK and the client.
5. The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions contained in this report should not be relied upon in the future without the written advice of RSK. In the absence of such written advice of RSK, reliance on the report in the future shall be at the client's own and sole risk. Should RSK be requested to review the report in the future, RSK shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between RSK and the client.
6. The observations and conclusions described in this report are based solely upon the Services which were provided pursuant to the agreement between the client and RSK. RSK has not performed any observations, investigations, studies or testing not specifically set out or required by the contract between the client and RSK. RSK is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the Services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this report, RSK did not seek to evaluate the presence on or off the site of asbestos, electromagnetic fields, lead paint, heavy metals, radon gas or other radioactive or hazardous materials.
7. The Services are based upon RSK's observations of existing physical conditions at the Site gained from a walk-over survey of the site together with RSK's interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The Services are also based on information and/or analysis provided by independent testing and information services or laboratories upon which RSK was reasonably entitled to rely. The Services clearly are limited by the accuracy of the information, including documentation, reviewed by RSK and the observations possible at the time of the walk-over survey. Further RSK was not authorised and did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the Services. RSK is not liable for any inaccurate information or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to RSK and including the doing of any independent investigation of the information provided to RSK save as otherwise provided in the terms of the contract between the client and RSK.
8. The intrusive environmental site investigation aspects of the Services is a limited sampling of the site at pre-determined borehole and soil vapour locations based on the operational configuration of the site. The conclusions given in this report are based on information gathered at the specific test locations and can only be extrapolated to an undefined limited area around those locations. The extent of the limited area depends on the soil and groundwater conditions, together with the position of any current structures and underground facilities and natural and other activities on site. In addition chemical analysis was carried out for a limited number of parameters [as stipulated in the contract between the client and RSK] [based on an understanding of the available operational and historical information], and it should not be inferred that other chemical species are not present.
9. Any site drawing(s) provided in this report is (are) not meant to be an accurate base plan, but is (are) used to present the general relative locations of features on, and surrounding, the site. Features (boreholes, trial pits etc) annotated on site plans are not drawn to scale but are centred over the approximate location. Such features should not be used for setting out and should be considered indicative only.