

**London Borough of Camden**

**37 & 39 Rudall Crescent  
London, NW3 1RR**

**ASSESSMENT OF DOCUMENTATION SUBMITTED  
TO SUPPORT PLANNING APPLICATION 2013/0824/P**

**May 2014**

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**London Borough of Camden.****37 & 39 Rudall Crescent, NW3 1RR****Assessment of documentation submitted to support planning application****2013/0824/P****May 2014****TABLE OF CONTENT**

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**London Borough of Camden.**

**37 & 39 Rudall Crescent, NW3 1RR**

**Independent assessment of documentation submitted to support planning application 2013/0824/P**

**May 2014**

**1. Introduction**

A planning application has been submitted to London Borough of Camden for the creation of a new basement and various other works at 37 & 39 Rudall Crescent, London NW3 1RR. Supporting documentation has been submitted with the application, including a factual geotechnical report, a geotechnical interpretive report, a ground movement assessment report and a Basement Impact Assessment report. Objections to the proposals have been raised by the neighbours / local residents' association, on behalf of whom two technical reports have been prepared and submitted to the planning authority.

London Borough of Camden (LBC) previously commissioned Geotechnical Consulting Group LLP (GCG) to undertake a review of the documentation submitted in support of the planning application to confirm whether it met the requirements of the planning process, and to review the objections raised, to establish whether these were reasonable, and whether the planning applicant had put in place adequate measures to address these issues. GCG's report was completed and submitted to LBC in June 2013.

In response to the GCG report, the applicant submitted further documentation in July 2013. There followed a further period of public consultation, when additional objections were raised, to which the applicant then responded. LBC then commissioned GCG to undertake a further review of the submission documentation and objections raised; GCG undertook this review, and issued the review report in November 2013.

The November 2013 report identified a number of deficiencies in the submission that needed to be dealt with before the project could be progressed. In response, the applicant has issued further documentation to address these issues. Further commentary in opposition to the scheme was also then raised.

GCG have now been instructed by LBC to undertake a final review of the documentation supporting the application, and of the objections raised.

All information and documentation has been provided by LBC, either directly, or by reference to LBC documentation and application details available from the Council's website.

**2. Documentation**

For a full list of documentation submitted prior to the previous reviews, refer to the GCG review reports dated June 2013 and November 2013. The following additional documentation was supplied by LBC for the final review presented herein:

- 37 & 39 Rudall Crescent: Planning Application 2013/0824/P. Response to GCG November 2013 Report: 'issues to be resolved'. (January 2014) Authored by Dr Adam Pellew, RKD Consultants Ltd.
- Data sheet on TD 610 mini piling rig
- Planning application 2013/0824/P – Basement Extension of 37 & 39 Rudall Crescent. Letter report to Mrs Rachel Kidd (41 Rudall Crescent). Report reference G1201/14B27RK1. Dated 27 February 2013. Produced by Eldred Geotechnics Ltd.
- 37 & 39 Rudall Crescent NW3 – 2013/0824/P. Letter from Rudall Crescent Residents' Association to Jonathan Markwell, LBC, dated 27<sup>th</sup> February 2014.
- "37/39 Rudell Crescent (2013/0824/P) – Response to objectors' comments received 10.03.14", letter from Webb Architects Limited to Jonathan Markwell, LBC dated 08<sup>th</sup> April 2014.
- Rudall Crescent. Letter to Dr Adam Pellew of RKD Consultants Ltd, from Dr Hamdi El-Ghonemy of RSK Environmental Ltd, dated 7 April 2014.

Once again, the following LBC documents were referred to, to form the basis of the review of the planning submission documents.

- Camden geological, hydrogeological and hydrological study; Guidance for subterranean development, Issue 01, November 2010 ('The ARUP report').
- Camden Planning Guidance, basements and lightwells, CPG4 (2013)
- Camden Development Policy DP27: Basements and lightwells.

### 3. Review Requirements

GCG were instructed to undertake the review of the further information submitted by the applicant in response to the November 2013 GCG report, with a view to ascertain:

1. Whether the additional information submitted by the applicant adequately addresses the concerns raised in the GCG reports of June and November 2013.
2. Whether the Eldred / Rudall Crescent RA submissions raise any reasonable concerns about the technical content or considerations of the submission which should be addressed by the applicant by way of further submission, prior to planning permission being granted.
3. Ultimately, having considered 1) and 2) above, whether the proposal now satisfies policy DP27's clear wording that the proposed development "does not cause harm to the built and natural environment and local amenity and does not result in flooding or ground instability", and that the applicant has demonstrated that the scheme meets DP27a), b) and c). These requirements of DP27 are that the scheme will (a) maintain the structural stability of the building and neighbouring

properties; (b) avoid adversely affecting drainage and run-off or causing other damage to the water environment; and (c) avoid cumulative impacts upon structural stability or the water environment in the local area.

#### **4. Issues identified to be addressed in June and November 2013 reviews**

A number of issues requiring to be addressed were identified in the GCG June 2013 report. The applicant's response to these, along with further objections, were considered in the November 2013 GCG report, which accordingly included a revised list of issues to be addressed, and which superseded that from the June report.

The November 2013 report presented the following issues as needing to be dealt with prior to granting of planning permission:

- a) Demonstration that the base of the excavation was stable against inflow of groundwater.
- b) Demonstration that all necessary plant will be able to access the site, in particular how the required piling plant will access the back garden, without temporary structural works being required.
- c) Demonstration that the proposed drainage scheme would not result in ground settlement and unacceptable building damage to the neighbouring structures.
- d) Demonstration of how the stability of the rear wall to the excavation would be maintained in the absence of a king post adjacent to No35.

The following additional issue was noted as requiring to be addressed prior to the commencement of construction but did not require to be fully addressed prior to planning consent being granted:

- e) A monitoring system for groundwater inflow into the basement during construction should be established along with a contingency plan for dealing with unexpected water inflow.

#### **5. Applicant's response**

The applicant submitted a response (by Dr Adam Pellew of RKD Consultant Ltd), in reply to the GCG November 2013 report. This first discussed the potential for similarities between conditions at the site under consideration for development and the site at Tanza Road where a failure during basement construction works has been referred to. The RKD report then addressed each of the five points (a) to (e), as reproduced in section 4 above.

The response of the applicant to each of the five points is considered below:

- a) The applicant's response includes reference to the site specific investigation data, and argues qualitatively that vertical flow will be less than horizontal flow, and as such the the upward flow will be less than is necessary to bring instability to the base of the excavation. Moreover, they confirm that the proposed construction methodology

involves initial works being undertaken in the vicinity of the central wall to 37/39 Rudall Crescent, rather than the party wall. These works, it is stated, will be observed as regards ground conditions and ground water, and this will provide the opportunity for ground conditions to be confirmed before works are undertaken to the party walls. DP27 requires that the structural stability of both the property under development and the adjoining structures needs to be preserved, so commencing the works away from the party walls is not in itself sufficient to comply with DP27. However, overall, the applicant has presented a sensible approach to addressing the risks from groundwater, based on site specific data. Possible contingency options to address ground conditions being other than anticipated are presented. The applicant's response thus appears to be sufficiently comprehensive and robust to address the concerns raised. **This point is therefore considered to have been adequately addressed.**

- b) Additional details of the proposed piling rig have now been provided. It has been demonstrated that the proposal to position a piling rig in the back garden of 37/39 Rudall Crescent by 'tracking' through the structure, without requiring structural alterations that might impact on the structural stability of the property or neighbouring properties, has been demonstrated. **Thus it is considered that this point has now been adequately addressed.**
- c) The developer's response shows qualitatively that there is no basis to expect that the proposed drainage measures will result in draw-down of the phreatic surface and resultant consolidation to an extent sufficient to cause damage to adjacent structures. They address the possibility of loss of fines by referring to site specific observations that indicate that this is unlikely to be an issue, considering the nature and scale of the works, and present a viable control measure to address this issue if it is observed to be occurring on site. **This point is therefore considered to have been adequately addressed.**
- d) The developer's response has indicated that a suitable form of support to the end of the rear wall can be obtained without the use of a kingpost adjacent to No.35 (i.e. support will be provided by the underpinning along the party wall). Thus, they have now demonstrated a feasible form and method of construction for this element of the structure. **This point has now been adequately addressed.**
- e) The applicant's response to this point is to refer back to the response to points (a) and (c), which indicate that the works will be well supervised, and that a number of contingency

options are available if required. Given the nature of the works, continuous supervision would appear to be the most practical method of monitoring, and any contingency works would need to be tailored to the precise conditions on site; hence the response is suitable and sufficient. **This point is therefore considered to have been adequately addressed.**

## **6. Eldred Geotechnics Ltd February 2014 report and Rudall Crescent Residents' Association letter.**

The Eldred Geotechnics Ltd report is stated as being a unified response, reviewed and agreed by Dr de Freitas.

An initial comment is made regarding the necessity to demonstrate compliance with DP27, with the observation that the application documents have been fragmentary. Clearly, the fact that this third review is being undertaken indicates that the initial submission was deficient, resulting in additional documentation being submitted. The documentation is therefore 'fragmentary', in the sense that there are a number of separate documents when ideally there would have been a single all-inclusive document. However, the documentation submitted now seems complete, addressing all issues that needed to be addressed, and is therefore compliant with the requirements of the planning process.

The issue of Tanza Road is raised in the Eldred report. This will be considered separately, in section 7, below.

The Eldred report states "when underpinning has to be employed and the risk of groundwater flood is present, that protocol (meaning a protocol for dealing with flooding) becomes a matter to be established for the purposes of DP27".

The uncertainty, however, is to what extent there is a 'risk' (more accurately, a probability) of groundwater flood during the proposed underpinning operations.

It is reasonable to state that the nature of the soil strata at Rudall Crescent generally makes groundwater flooding a credible issue to be addressed. However, the applicant has addressed this, with site specific ground investigations and the appointment of competent professional advisors who have undertaken an assessment of likely ground conditions. It has been confirmed that works will be subject to engineering supervision.

The probability of groundwater flood cannot be accurately and precisely defined; rather, it is a matter of professional judgement. It seems apparent that Eldred's and the applicant's professional advisors' views differ in this regard. This does not make either 'wrong', but rather reflects the nature of geotechnical engineering.

The applicant has demonstrated an awareness of ground water issues, and has shown how they intend to control ground water; the proposals appear credible and reasonable. No definitive contingency measure for dealing with unanticipated groundwater has been presented, but it is noted that any such measures would need to be tailored to the situation encountered and so cannot be fully detailed prior to the need for such measures being

identified. The 'risk' of ground water flood does therefore appear to have been adequately mitigated.

The Rudall Crescent Residents' Association (RCRA) letter questions Dr Pellew's qualifications to answer the queries, noting the professional qualifications required by CPG4. However, the letter from Dr El-Ghony confirms that Dr Pellew's response was reviewed and approved by a suitably qualified individual. It may be noted that a similar process appears to have been used for the Eldred report (reviewed and agreed by Dr de Freitas), and has been agreed by LBC for this independent review report, with suitably professionally qualified reviewers ensuring that the input from professionally qualified individuals required by DP27 is obtained.

Beyond this, the RCRA letter largely re-iterates points raised in the Eldred report. It does raise a concern about the number of parties acting on behalf of the applicant, and a perceived lack of clarity in responsibilities. However, the retention of multiple technical advisors does not in itself indicate a poorly controlled project, but does reflect the variety of issues that need to be addressed to produce a comprehensive Basement Impact Assessment. CPG4 and DP27 do not restrict the number of specialists that should be involved in production of a BIA, and CPG4 in fact refers to "the person(s) undertaking the BIA process", clearly indicating that it may be necessary to involve multiple individuals.

## **7. Relevance of Tanza Road.**

A site at Tanza Road was referred to earlier in the application process, as an example of poorly controlled ground water causing problems/damage during a basement construction. Both Dr Pellew's response to the November 2013 GCG report and the Eldred report of February 2014 discuss the Tanza Road site in significant detail. However, the precise details of the Tanza Road site are not actually relevant.

The reference to the Tanza Road site was made in the first instance to indicate how poor control of ground water could lead to significant problems for a basement excavation. That the boreholes undertaken at Tanza Road apparently failed to identify all the specific ground hazards should not be disregarded, but the limitations on the information that can be obtained about the mass behaviour of the ground from a limited number of small (in relative terms) diameter boreholes are widely known.

While the Eldred report raises a number of valid points in response to the basis on which the RKD report (Dr Pellew's report) disassociates Tanza Road from Rudall Crescent, the key point is that the applicant is seeking to construct a basement in Rudall Crescent, not Tanza Road.

The critical lessons from Tanza Road are that a limited number of boreholes do not give sufficient data to produce a 100% reliable ground model, and that if the ground model is wrong, and ground water is not adequately controlled, problems are likely to occur. Since these points are widely accepted anyway, Tanza Road provides no new lessons, but merely a reminder.

The assessment of the Rudall Crescent proposals need to be assessed in absolute terms, with reference to the ground conditions present at the site, the proposed construction, and



the intended construction methodology, not relative to another site with differing ground conditions.

The applicant has a site specific ground investigation. The accuracy of the ground model based on this investigation has been queried (through objections to the scheme and the independent review process), and as a result, the applicant has considered how the works will be supervised, and what contingency measures may be required, if the ground model assumed is found to be wanting.

It is thus considered that the applicant has undertaken a competent and professional assessment of the 'risk' of a Tanza Road-type event occurring during the proposed works at Rudall Crescent, and has adopted a suitable methodology to militate against the occurrence of such an event.

## **8. Compliance with requirements**

The purpose of this review was to establish whether the issues identified in the previous (November 2013) GCG review report as requiring further consideration had been adequately addressed, whether the February 2014 Eldred report and RCRA letter raised issues that needed to be addressed, and whether, having considered these two points, the application now satisfies the requirements of DP27.

The November 2013 GCG report identified four issues that needed to be resolved prior to planning permission being granted, and one further issue that would require addressing prior to construction, but which was not considered to be an impediment to granting planning approval.

All five of these issues have now been satisfactorily addressed.

The Eldred report identifies no new issues, but concentrates on the possibility of unanticipated groundwater conditions being encountered, which it is argued is inadequately considered by the applicant. Having reviewed the proposals submitted by the applicant, it is considered that the applicant has taken all reasonable steps to provide a robust methodology. It is noted though that the applicant is reliant upon adequate supervision of the works to achieve this. It is therefore recommended that full time supervision of the contractor's work throughout the period of groundworks, by an appropriately experienced and qualified geotechnical engineer (independent of the contractor's organisation) be made a condition of planning consent. Contractually, this engineer should have the authority to immediately order works to be halted, and any such stabilisation works to be undertaken as he deems necessary.

DP27 requires that developers demonstrate "by methodologies appropriate to the site that schemes:

- a) maintain the structural stability of the building and neighbouring properties;
- b) avoid adversely affecting drainage and run-off or causing other damage to the water environment
- c) avoid cumulative impacts upon structural stability or the water environment in the local area."

It is considered that the applicant has demonstrated that, subject to the works being suitably and adequately supervised with particular regard to groundwater conditions, these requirements of DP27 will be met.

## **9. Conclusion**

Planning application 2013/0824/P has been submitted to LBC for the redevelopment of 37 & 39 Rudall Crescent, to include a new basement structure.

GCG were previously appointed by LBC to review documentation relating to the planning application, to determine compliance with the requirements of CPG4 and DP27. These reviews were also to identify issues raised in objection to the proposed scheme in expert reports commissioned on behalf of the neighbours that needed to be addressed either prior to the award of planning permission, or as conditions to be attached to such permission being granted. GCG reported this review in June 2013.

In response to the June 2013 GCG report, further documents were submitted by the applicant, and further objections were raised against the application; as a result, LBC appointed GCG to undertake a second review, which was reported in November 2013.

Following this, the applicant submitted additional documentation to address the points raised in the November 2013 review report, and further comments were obtained from this is opposition to the scheme. LBC again appointed GCG, to undertake a final independent review of the scheme.

With the latest information supplied, the applicant has now addressed all issues of concern. It is considered that the application has satisfactorily demonstrated compliance with clauses a), b) and c) of DP27.

It is recommended that full time supervision of all groundworks by a suitable qualified and experienced geotechnical engineer be made a condition of planning approval. This engineer should be independent of the contractor appointed to undertake the works.

This report was completed by Dr Phil Smith on behalf of GCG LLP; the report was peer reviewed by Dr Felix Schroeder and Dr Jackie Skipper, both of GCG.

The author's and reviewers' technical and professional qualifications are as follows:

Phil Smith: BEng, MSc, PhD, DIC

Felix Schroeder: MEng, PhD, DIC, CEng, MICE

Jackie Skipper: BSc, PhD, DIC, CGeol, FGS.

## 10. References

The following documentation was reviewed:

Information submitted by the applicant to LBC:

- 37 & 39 Rudall Crescent: Planning Application 2013/0824/P. Response to GCG November 2013 Report: 'issues to be resolved'. (January 2014) Authored by Dr Adam Pellew, RKD Consultants Ltd.
- Data sheet on TD 610 min piling rig
- Planning application 2013/0824/P – Basement Extension of 37 & 39 Rudall Crescent. Letter report to Mrs Rachel Kidd (41 Rudall Crescent). Report reference G1201/14B27RK1. Dated 27 February 2013. Produced by Eldred Geotechnics Ltd.
- 37 & 39 Rudall Crescent NW3 – 2013/0824/P. Letter from Rudall Crescent Residents' Association to Jonathan Markwell, LBC, dated 27<sup>th</sup> February 2014.
- "37/39 Rudell Crescent (2013/0824/P) – Response to objectors' comments received 10.03.14", letter from Webb Architects Limited to Jonathan Markwell, LBC dated 08<sup>th</sup> April 2014.
- Rudall Crescent. Letter to Dr Adam Pellew of RKD Consultants Ltd, from Dr Hamdi El-Ghonemy of RSK Environmental Ltd, dated 7 April 2014.

Reports submitted in objection to proposed scheme:

- Planning application 2013/0824/P – Basement Extension of 37 & 39 Rudall Crescent. Letter report to Mrs Rachel Kidd (41 Rudall Crescent). Report reference G1201/14B27RK1. Dated 27 February 2013. Produced by Eldred Geotechnics Ltd.
- 37 & 39 Rudall Crescent NW3 – 2013/0824/P. Letter from Rudall Crescent Residents' Association to Jonathan Markwell, LBC, dated 27<sup>th</sup> February 2014.

Additional documentation reviewed or referred to:

- Camden geological, hydrogeological and hydrological study; Guidance for subterranean development, Issue01, November 2010 ('The ARUP report').
- Camden Planning Guidance, basements and lightwells, CPG4 (2013)
- Camden Development Policy DP27: Basements and lightwells
- 37 & 39 Rudall Crescent. Assessment of documentation submitted to support planning application 2013/0824/P. GCG. Dated June 2013
- 37 & 39 Rudall Crescent. Assessment of documentation submitted to support planning application 2013/0824/P. GCG. Dated November 2013.