

Our ref: C21505/AdC/TN

22nd February 2021



CONSULTING ENGINEERS

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RE: Land adjacent to Oakhurst Rise, Cheltenham
Appeal Reference: APP/B1065/B1605/W/20/3261154– Technical Note

1. Introduction

- 1.1 My name is Andrew de Croos, I have a Bachelor of Engineering in Civil and Environmental Engineering and have over 15 years' experience working in civil engineering and in particular drainage and flood risk.
- 1.2 I am currently employed as an Associate by Simpson Associates Consulting Engineers LLP, who have offices across the United Kingdom.
- 1.3 Simpson Associates have been employed to provide drainage, flood risk and structural advice relating to the proposed development, which involved the production of a Flood Risk Assessment and Drainage Strategy in support of the planning application.
- 1.4 This technical note has been produced to provide the Inspector with a summary of the 3rd party objections against the development, that relate to drainage and flood risk, which have been listed below.

2. Summary of objection: The proposed location of the artificial badger sett will have an adverse impact upon drains and spring water supply to Charlton Manor.

Response:

- 2.1 The construction of the artificial badger sett will not have any adverse impact upon any drains and springs or interrupt the supply of spring water to Charlton Manor.
- 2.2 Should shallow ground water or springs be encountered during the construction of the artificial badger sett, the sett will simply be moved to another location on the site that is not affected by ground water, as set out within the ecological statement of common grounds.
- 2.3 Furthermore, we have sought an independent opinion from Enzygo Geoenvironmental Ltd. who are experts in geotechnics and hydrology and they're are of the same opinion, concluding that "*the proposed artificial badger set is on higher ground and in my view unlikely to significantly alter the local shallow drainage to the point where it affects any alleged springs*".

- 2.4 A copy of Enzygo Geoenvironmental's full opinion has been appended to this technical note.

3. Conclusion

- 3.1 It is our opinion and that of an independent expert in geotechnics and hydrology, that the proposed location of the artificial badger sett will not have an adverse impact upon the drains and springs on the site.
- 3.2 The construction of the artificial badger sett will not interrupt the supply of spring water to Charlton Manor.

4. Statement of truth

- 4.1 I confirm that I have made clear which facts and matters referred to in this report are within my own knowledge and which are not. Those that are within my own knowledge I confirm to be true. The opinions I have expressed represent my true and complete professional opinions on the matters to which they refer.

Andrew de Croos

Simpson Associates Consulting Engineers LLP

Appendix A
Independent opinion from Enzygo Geoenvironmental Ltd.

Andrew de Croos

From: Paul Hardwick <paul.hardwick@enzygo.com>
Sent: 22 February 2021 12:32
To: Andrew Uncles
Cc: Andrew de Croos
Subject: RE: 21505 - London Road, Charlton Kings, Cheltenham (Oakhurst Rise)

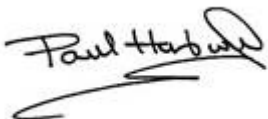
Andrew,

I agree with the geological interpretation in the Phase 1 report i.e., no mapped superficial deposits but weathered Charmouth Mudstone (clays) grading to un-weathered Charmouth Mudstone at depth which I would expect to be around 2.5 to 3m. The trial pit logs indicate clay mottling of the weathered subsoils typical of variable drainage. Any springs would be downslope and probably arise from accumulations of perched groundwater at the base of the weathered zone via infiltration through the free draining soil cover (Soilscape 5) (or from sand and gravel inclusions within the Lower Lias) and are probably ephemeral i.e. dry up in summer or extended dry periods. There is no geomorphological evidence of springbrooks- watercourses arising from springs. The falling head test data (TP9, TP11, WS1, WS2, WS3) indicates low permeability for the weathered subsoils. The pond shown in photo P5 The local pond may be spring fed but has no surface outfall and so is probably rainfall fed by drainage from higher ground off-site to the north.

The proposed artificial badger set is on higher ground and in my view unlikely to significantly alter the local shallow drainage to the point where it affects any alleged springs, which in any event are not designated, are draining local ground and so are largely unimportant.

Hope this helps,

Kind regards
Paul



Dr Paul Hardwick BSc (Hons), PhD FGS FRSA
Technical Director



COVID-19 STATEMENT

Please be advised that Enzygo is continuing to operate and provide services to our clients whilst following Government and WHO guidelines. All staff can homework with access to our IT and phone systems which will provide minimal disruption to our service, but we appreciate your understanding if some communications are delayed.

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