

BEFORE THE WAIKATO DISTRICT COUNCIL HEARINGS COMMITTEE

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of an application for Subdivision Consent ref#
SUB0165/19

STATEMENT OF EVIDENCE OF IAIN SMITH

Dated 1 July 2020

INTRODUCTION

1. My full name is Iain Clark Smith.
2. I am employed as a Senior Associate – Environmental Engineer with Beca Limited.
3. I hold a Bachelor of Engineering (Environmental), am a member of the Institute of Professional Engineers of New Zealand and am a Chartered Professional Engineer. I have worked on stormwater and infrastructure development projects in New Zealand and England for approximately 20 years. The main focus of my project experience has been the design and specification of stormwater and flood management practices and infrastructure. This experience includes assessments of effects relating to flooding, drainage, watercourse scour and water quality aspects of stormwater engineering.
4. Beca was engaged by Waikato District Council (WDC) to carry out a compliance and feasibility review of the Floodplain Analysis and Stormwater Management Plan submitted to WDC and then to provide evidence as an expert witness in relation to these reviews. I was assisted in this work by two stormwater engineers (one being a flood modeller) working under my supervision and whose work I was responsible for verifying their work.
5. In preparing this evidence, I have read and reviewed the following documents:
 - a. Statement of Evidence, Phillip Barret, 2 June 2020.
 - b. Letter: G & S Singleton - 635 SH23 Whatawhata Subdivision WRC Submission: Seeking Agreement On Submission Matters, G Ryan, WRC, 12 May 2020.
 - c. Letter: G & S Singleton - 635 SH23 Whatawhata: Reply to Waikato Regional Council Submission, P Barrett, 24 April 2020
 - d. Letter: Waikato Regional Council submission on the application from G & S Singleton Heritage Limited to create eight additional lots from two existing titles in the Rural Zone at 635 State Highway

23 Whatawhata (Formerly known as the Westlands Golf Course),
K Healy, WRC, 6 April 2020.

- e. 635 Whatawhata Rd, Dinsdale, Stormwater Management Plan, Cheal Consultants Ltd, 20 December 2019.
 - f. 635 Whatawhata Rd, Dinsdale, Stormwater Management Plan, Cheal Consultants Ltd, 22 October 2019.
 - g. Floodplain Analysis, Rev 3, 635 Whatawhata Rd, Hamilton, Golovin Ltd, October 2019.
 - h. M13246 Scheme Plan Sheet 1 of 8, Cheal/McCracken Surveys, September 2019.
 - i. Floodplain Analysis, Rev 4, 635 Whatawhata Rd, Hamilton, Golovin Ltd, August 2019.
 - j. Subdivision Application Plans, McCracken Surveys, 2018.
6. This work was carried out over five separate reviews as the Flood Analysis and Stormwater Management Plan were made available or revised by the applicant. These reviews were carried out in September 2019, November 2019, December 2019, January 2020 and May 2020.
 7. I am therefore confident in that Beca's reviews allow me to form an opinion on the submission and the associated stormwater management issues.

CODE OF CONDUCT

8. I have read the Environment Court Code of Conduct for expert witnesses contained in the Environment Court Practice Note 2014 and agree to comply with it. I confirm that the opinions expressed in this statement are within my area of expertise except where I state that I have relied on the evidence of other persons. I have not omitted materials or facts known to me that might alter or detract from the opinions I have expressed.

SCOPE OF EVIDENCE

9. My evidence addresses the following matters:
 - a. Beca's review of the applicant's Flood Analysis and Stormwater Management Plan including the methods used, and
 - b. An expert opinion on the stormwater matters that I understand to be unresolved.

FLOOD ANALYSIS

10. I understand that the Flood Analysis report was prepared by Golovin Ltd with the primary purpose of understanding existing flood levels in order to set appropriate building floor levels and locating wastewater disposal fields.
11. The Flood Analysis report was supported by flood modelling. This model was later used to examine the flood impacts caused by the proposed development and also to inform the Stormwater Management Plan.
12. Beca reviewed Revision 3 of the Flood Analysis report. Several issues were identified that needed to be addressed prior to WDC accepting the assessment.
13. I met with the applicant and their flood modeller and discussed the issues we had found during which time possible solutions were also discussed.
14. The Floodplain Analysis was revised and documented in Revision 4 of the report. Beca reviewed this report and found that all of the issues previously identified had been addressed.
15. I consider the Flood Analysis and the modelling that supports it to be a good assessment of the flooding on and adjacent to the proposed development.

STORMWATER MANAGEMENT PLAN

16. I understand that the Stormwater Management Plan was prepared by Cheal Ltd with the purpose of setting out the stormwater management practices to address potential flood and stormwater effects that could occur as a consequence of the proposed development. It also sets out the criteria to be used in future detailed design stages.
17. Beca reviewed the revisions of the Stormwater Management Plan and noted several issues that need to be resolved. Most of these issues have been addressed by the applicant. WDC and the applicant have agreed to defer several issues until the Engineering Approval stage of the development when detailed calculations and construction drawings are prepared to evidence that design criteria have been met. The deferred issues are proposed to be included as conditions on either the resource

consent or subsequent building consent. In my opinion this approach is normal industry practice and is appropriate in this instance.

18. One issue raised was that the applicant needed WRC's input to finalise the Stormwater Management Plan because the site discharges to the watercourse running down the western boundary, which is a Scheme Drain. This drain is administered and maintained by WRC and they have performance requirements that the Stormwater Management Plan needed to address.
19. The applicant has consulted with WRC and I have reviewed the correspondence between the applicant and WRC.
20. Prior to the hearing, I understood there remained three unresolved stormwater issues that the applicant and WRC have yet to agree on. Other than these three issues, I consider the Stormwater Management Plan to be acceptable. The outstanding stormwater issues are:
 - a. Consultation on the increase in flooding caused by the development.
 - b. Provision of a flood map showing the extent of the increased flooding.
 - c. Access arrangements for WRC to maintain the drain.
21. My opinion on consultation on the increase in flood impact is set out as follows:
 - a. The impact on flooding, determined by the applicant's flood modelling, is a 17mm increase in the 100-year Average Recurrence Interval (ARI) storm including climate change.
 - b. I understand that WRC wants the adjacent landowner to be consulted with respect to the proposed increase in flood extents.
 - c. In my experience it is not uncommon for publicly notified infrastructure projects to consider up to a 50 mm increase in the 100-year ARI flood level a less than minor impact. This increase is likely to be within the accuracy limitations of the modelling.
 - d. Therefore, I consider the reported 17 mm increase to be less than minor and WDC could accept this. However, it is at WDC's

discretion as to whether or not this level of increase requires consultation with the adjacent landowner. Therefore, I defer to WDC's position on this issue.

22. I note that a flood map has been provided as part of P Barret's evidence and I consider that this issue has been addressed.
23. My opinion on the access to maintain the drain is set out as follows:
 - a. I understand WRC seek an easement over the applicant's land whereas the applicant proposes access be over the neighbouring property on the western side of the drain.
 - b. I consider that it is essential for the proper functioning of the drain that it can be accessed for maintenance (whether planned or in an emergency) and that this should be unhindered and on an ongoing basis. This issue should be resolved at this stage of the development.
 - c. In my opinion provision of such access is irrespective of the nature of the drain or the amount of vegetative cover (existing or future). Not providing maintenance access risks poor future drainage leading to, at the lesser scale, boggy land which is a nuisance. During more severe storms this could lead to an increase in the flood depth/extents and the lower lying land being inundated more frequently
 - d. As to the question of on which side of the drain should this access be provided, I note that in my experience it would be more difficult, but not impossible, to properly repair and reinstate a channel bank from the opposite side of the drain and so restricted access to one side could hinder WRC's activities. The development's driveways would also provide more efficient and practical access in poor weather conditions due to the proximity of the driveways to the drain. The neighbouring paddocks, currently being stocked, could reasonably be expected to be in a poorer, boggy condition during or after wet weather or present significant hinderance should that field be cropped in the future.

- e. I consider access from both sides of the drain should be provided. I am aware that there are options to achieve this such as easements or separate land access agreements. However, the legal mechanism most appropriate for providing this is outside of my area of technical expertise.

CONCLUSION

24. The applicant has assessed the flood impacts associated with the site and proposes stormwater management practices to manage the effects of the development that, in my opinion, are acceptable. Several issues will be addressed through conditions of consent allowing these to be addressed in future design stages and submitted to WDC for Engineering Approval.
25. There were three issues that remain unresolved between the applicant and WRC. One of which, the preparation of an updated flood map, has been addressed in the evidence of P Barrett.
26. In my opinion the flood impact caused by the development is less than minor and acceptable, but I defer to WDC to determine if consultation with the neighbouring landowner is necessary.
27. The final issue is how to allow for WRC access to carry out their operational and maintenance responsibilities. It is essential for the performance of the drain that maintenance access be provided. Maintenance access would be more readily provided across the proposed development than across the property to the west of the drain and so this would be preferable.
28. It is outside my area of expertise to comment on which legal mechanism is most suited to provide this access.



Iain Clark Smith

1 July 2020