



February 18, 2020

**Via: Email**

Liz Buckton, B.Sc. (Hons), MCIP, RRP  
Manager, Development Services  
Municipality of Meaford  
21 Trowbridge Street West  
Meaford ON N4L 1A1

Dear Ms. Buckton:

**Re: 145166 16th Sideroad Campground  
1<sup>st</sup> Submission Comments  
Project No.: 300051212.0000**

## **1.0 Background**

R.J. Burnside & Associates Limited (Burnside) is pleased to provide a peer review of the “Groundwater Supply Hydrogeological Evaluation” prepared by Gaman Consultants Inc. (Gaman). It is our understanding that the above-noted report was provided in support of a Zoning By-Law Amendment (ZBLA) to allow a small scale “glamping” tourist establishment in the rural area of the Municipality of Meaford.

We have also read your email dated February 5, 2020 (attached) outlining the concerns raised by residents regarding the use of groundwater resources and the lack of site-specific field investigations to support the application. Residents note that local wells have gone dry. Some residents have had to supplement existing wells to meet water supply demand.

## **2.0 Study Purpose**

The goal of our review is to respond to the following three questions posed by Municipal Staff as outlined in your Request for Proposals.

**Question 1:** *“Is a tabletop/theoretical study professionally appropriate to support the proposed development, given the nature and scale of the proposed use and the characteristics and context of the property? Why or Why not?”*

**Question 2:** *“Are the assumptions employed within the evaluation prepared by Gaman Consultants Inc. professionally appropriate?”*

**Question 3:** *“Are there additional or alternative investigations that you believe the Municipality must request in support of the proposed development in order to reasonably confirm the adequacy of water supply for the proposed use and to minimize the potential for negative impacts on adjacent wells/property owners?”*

### **3.0 Review Comments**

#### **3.1 Question 1**

*“Is a tabletop/theoretical study professionally appropriate to support the proposed development, given the nature and scale of the proposed use and the characteristics and context of the property? Why or Why not?”*

#### **Burnside Response to Question 1**

A tabletop/theoretical study is an appropriate industry standard tool used to support a proposed development. A desktop evaluation puts the Site into a regional context and can be used to highlight potential concerns and need for further field, site specific investigations.

In this case there is limited site-specific information. Page 3 of the Gaman report documents that *“an existing well services the dwelling at the Site; however, the well records for this well is not apparent in the database.”* The well location is not provided in the Gaman report nor is it discernable on the Site Plan (19/08/14 prepared by Capes Engineering), that we received in the review package on February 6, 2019.

The geology of this site and the surrounding area is highly variable due to its proximity to the Niagara Escarpment. In addition to documenting regional conditions, a desktop study of this type should look at the wells that are closest to the site, identify their water source and potential for impact. For example, well 2516028 is directly north of the site and was drilled in 2004. It obtains water from the overburden at a depth of 28 m and the water level is at 21 metres. This well contained approximately 6 m of water at the end of the well driller testing. It is likely that this well is potentially susceptible to interference if the proposed development were to construct a well into the same gravel layer.

The Hydrogeological Assessment for this site needs to incorporate site-specific investigations to support the application, as outlined in Response to Question 3 below.

#### **3.2 Question 2**

*“Are the assumptions employed within the evaluation prepared by Gaman Consultants Inc. professionally appropriate?”*

#### **Burnside Response to Question 2**

Gaman’s evaluation of potential drawdown in nearby wells generated by taking 6.05 m<sup>3</sup>/day is a good starting point to determine the general feasibility of the development. The on-Site well, however, should be assessed and tested as outlined in our response to Question 3 below to support the feasibility of this application.

### 3.3 Question 3

*“Are there additional or alternative investigations that you believe the Municipality must request in support of the proposed development in order to reasonably confirm the adequacy of water supply for the proposed use and to minimize the potential for negative impacts on adjacent wells/property owners.”*

#### **Burnside Response to Question 3**

The Municipality should request that the following Site-specific investigations be completed to support the rezoning application.

1. Document the following characteristics and condition of the on-site well to determine whether an appropriate water supply can be developed:
  - a) Measure depth, static water level, screened interval;
  - b) Complete a pumping test;
  - c) Assess potential interference with the closest nearby well(s) most notably those wells developed in the same aquifer;
  - d) Install an automatic water level recording device to document water levels during normal use;
  - e) If the well is older and the pumping tests suggests limited capacity, consider completing a well video log. The purpose of the video would be to assess the condition of the well and provide recommendations for remediation or replacement; and
  - f) If the existing supply is not adequate, then an alternative supply must be assessed and secured.
2. The Site Plan and Regional drainage indicate the presence of a water course transecting the Site and a pond near the southeast corner of the property. Grey Sauble Conservation Authority “GSCA” mapping shows these features as GSCA Regulated Areas. The consultant must provide comment regarding the hydrogeological sensitivity of the Site, to determine whether groundwater use or sewage treatment impacts are a concern, given the surface water features present. We defer to the GSCA for further comment in this regard.
3. The water balance must demonstrate how groundwater recharge will be maintained to predevelopment levels.
4. A water well inventory must be completed within 500 m of the property to characterize nearby water supplies. As noted by the consultant, the Ministry of Environment Conservation and Parks (MECP) water well record data base contains no water supply well records for several residences south of the property. The consultant must comment on the potential to impact nearby wells based on the testing of the on-site well and the well survey results.

5. Given the small size and nature of the development, Burnside agrees that completion of the work outlined in items 1 through 4 can be incorporated into a Holding provision as noted in Section 4. The additional work noted in items 1 through 4, must demonstrate that the hydrogeology is not sensitive, water balance will be maintained and that an adequate water supply and sewage treatment can be developed on the site, without adverse impacts on nearby wells, prior to final approval.

## 4.0 Conclusions

Based on the peer review of the documentation provided by Gaman and follow up discussions with the report author it is our opinion that the property is adequately sized and underlain by hydrogeological conditions such that an adequate groundwater supply for the proposed development can be obtained without significant impacts to the environment or other groundwater users.

The actual method and infrastructure to be used to provide the groundwater supply has yet to be demonstrated. It could include:

- Use of the existing water supply well if it is demonstrated to have sufficient capacity;
- Upgrades to the existing well and infrastructure to achieve the required capacity; and/or
- Installation of an additional well(s).

Information provided by the Municipality indicates that; "...the policy test of adequate servicing must be considered at the time of the ZBLA and there is no subsequent approval to which we can tie the demonstration of servicing (i.e. no draft approval). The only other process that will apply following the ZBLA is Site Plan Approval and there is quite a limited and specific list (Section 41(7) of the Planning Act) covering those items for which we can apply conditions – evidence of servicing is not one of those items."

The Municipality also notes: "...we could rezone the lands, subject to a Holding Symbol (requiring evidence of servicing to be confirmed before the use commences/building permits can be obtained) ...".

## 5.0 Recommendations

Although we concur with Gaman that an adequate groundwater supply can be developed on the property to meet the requirements of the proposed development we suggest it would be prudent to approve the ZBLA with a Holding provision conditional on the achievement of the supply.

We thank you for the opportunity to provide comments on this application. If you have any questions, please feel free to contact the undersigned at your convenience.

Yours truly,

**R.J. Burnside & Associates Limited**



Kim Hawkes, B.E.S., P. Eng.  
Project Engineer  
KSH:sp



Jim Walls, P. Geo., QP<sup>ESA</sup>  
Vice President



Enclosure(s)      Email from Liz Buckton, February 5, 2020

cc:      Gary Hendy, Gaman Consultants Inc. (enc.) (Via: Email)

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2002010\_comments 1st sub  
18/02/2020 2:59 PM

## Kim Hawkes

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**From:** Liz Buckton <lbuckton@meaford.ca>  
**Sent:** Wednesday, February 05, 2020 9:35 AM  
**To:** Kim Hawkes  
**Cc:** Stephen Riley; Paul Hausler; Sharon Jungkind  
**Subject:** RE: Proposal for Hydrogeological Peer Review Services for Meaford - Glamping Tourist Establishment, Report by Gaman Consultants Inc., Burnside Project No.: 900051212.0000

Hi Kim,

Regarding water related concerns raised:

One submission notes:

*"The application calls for a significant use of ground water. Our farm is just 2 km east of the subject site. Water is in SHORT SUPPLY all through this area of the Bighead River Valley. Some farms have ample water while many others must supplement their wells with extensive cisterns. Approving this kind of land use that will use indeterminate volumes of ground water is dangerous and may result in litigation, should water supplies in neighbouring properties be impacted."*

Another:

*"Regarding my concern about well water, I'm aware of the hydrological study that was completed but I wonder whether they spoke to the farmers in the valley. I know from personal experience that there can be a spring at the top of a drumlin and no water at all at the bottom. My point is that the way groundwater flows in the Big Head River Valley with the large number of drumlins present is difficult if not impossible to fully predict. I'm very concerned about the unknown effect that water extraction from the property will have on the neighbouring farms - despite the presence of a professional report."*

Further:

*"The water table is low in the area; what impact will all these extra people have on our wells?"*

*"...the Hydrogeological Report references the need for MOECC approval if more than 6 new water-serviced units are requested. Why was this approval not sought out despite proposing 7 new water-serviced units which do not include the hot tubs or the main residence? We request that the recommendations in the hydrogeological report, including a water storage tank to assist in peak times, be implemented as part of the site plan approval process."*

*" There are currently no proposed methods for on-site water storage identified on this Draft Site Plan. Implementation of this measure was recommended by the Hydrogeological Study included in the background document package in order to mitigate the adverse effects to neighbouring property's water supplies due to the considerable peak water demand of the proposed glamping site. If no such measure is proposed, could you please provide justification as to why the design does not comply with the recommendations of the supporting documents"*

*“First and foremost, the amount of precious water in our area is minimal. Doing some simple math, the proposal is for 12 shelters with 2 people in each shelter (24 in all), their necessities would include water for cooking, cleaning, showering, laundry and the big culprit, toilets. In addition to that usage there is the staff and family in the main house. The septic use will be massive compared to our rural residential properties. This is very concerning considering the property in question is situated at one of the higher positions of the neighbourhood.”*

*“Council has been repeatedly advised that there is a water resource problem in the proposed rezoning area. Not enough water is available. Regardless of the study, paid for by the applicants and indicating all is well, Councillors heard the testimony of many long time residents at the Council meeting that they have had water problems for many years.”*

These were the written submissions, the verbal submissions at the public meeting were along the same vein, with landowners noting dry wells on occasion; installation of cisterns and surface water ponds for supplemental water in the general area.

In speaking with the author of the report, he identified that he felt the proposed usage was appropriate given the large size of the property (noting anticipated recharge/replenishment) and he indicated that a deeper well could also assist with better supply/yields for this use. He also noted that he wasn't specifically surprised by the landowner comments, noting that wells in fine grained soils can experience lower yields, particularly where proper screening wasn't installed initially.

I think the challenge here is going to be communicating these concepts in a simple manner – not everyone has a hydroG background and professionally-appropriate language isn't always accessible for a layperson. I think that people view groundwater as being fully free flowing across a large general area – I don't think that folks grasp the travel times that may be involved, nor the idea of local vs regional aquifers, influence of well depth/placement on yields, nor the spatially-limited areas of interference arising from well drawdown. Any suggestions you may have for 'translating' these concepts are certainly appreciated!

Happy to discuss further!  
Have a lovely day,  
Liz

**Liz Buckton, BSc. (Hons), MCIP, RPP**  
Manager, Development Services  
Municipality of Meaford



21 Trowbridge Street West, Meaford  
519 538-1060 ext. 1120 | [lbuckton@meaford.ca](mailto:lbuckton@meaford.ca)  
[Twitter](#) | [Facebook](#) | [meaford.ca](http://meaford.ca)

**Municipality of  
Meaford**

**From:** Kim Hawkes [mailto:Kim.Hawkes@rjburnside.com]

**Sent:** February 4, 2020 4:00 PM

**To:** Liz Buckton <lbuckton@meaford.ca>; Sharon Jungkind <Sharon.Jungkind@rjburnside.com>

**Cc:** Stephen Riley <Stephen.Riley@rjburnside.com>; Paul Hausler <Paul.Hausler@rjburnside.com>; Bradey <bcarbert@meaford.ca>; 900051212 Glamping Tourist Est Hydrog Peer Review <900051212glampingtouristesthydrogpeerreview@rjburnside.com>

**Subject:** RE: Proposal for Hydrogeological Peer Review Services for Meaford - Glamping Tourist Establishment, Report by Gaman Consultants Inc., Burnside Project No.: 900051212.0000

Good afternoon Liz,

Thank you we received the signed authorization.

I have a few questions for you.

Will you be providing a copy of the Gaman hydrogeology report?

Can you please forward contact information for Gary Hendy?

The scope of work noted that there were concerns/comments made by residents.

Can you please forward those comments so that we can understand exactly what their issues are?

Much appreciated thanks

Kim

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**From:** Liz Buckton <[lbuckton@meaford.ca](mailto:lbuckton@meaford.ca)>

**Sent:** Tuesday, February 04, 2020 3:37 PM

**To:** Sharon Jungkind <[Sharon.Jungkind@rjburnside.com](mailto:Sharon.Jungkind@rjburnside.com)>

**Cc:** Kim Hawkes <[Kim.Hawkes@rjburnside.com](mailto:Kim.Hawkes@rjburnside.com)>; Stephen Riley <[Stephen.Riley@rjburnside.com](mailto:Stephen.Riley@rjburnside.com)>; Paul Hausler <[Paul.Hausler@rjburnside.com](mailto:Paul.Hausler@rjburnside.com)>; Bradey <[bcarbert@meaford.ca](mailto:bcarbert@meaford.ca)>

**Subject:** RE: Proposal for Hydrogeological Peer Review Services for Meaford - Glamping Tourist Establishment, Report by Gaman Consultants Inc., Burnside Project No.: 900051212.0000

Hi Sharon,

Please see the attached signed authorization to proceed.

As outlined in the TOR/Scope of Work, we will look forward to receipt of your review on Feb 21<sup>st</sup>, 2020.

If an unforeseen circumstances arise, please don't hesitate to connect.

Will you please just briefly confirm receipt of this email/authorization?

Thank you,

Liz

**Liz Buckton, BSc. (Hons), MCIP, RPP**

Manager, Development Services

Municipality of Meaford



**Municipality of  
Meaford**

21 Trowbridge Street West, Meaford

519 538-1060 ext. 1120 | [lbuckton@meaford.ca](mailto:lbuckton@meaford.ca)

[Twitter](#) | [Facebook](#) | [meaford.ca](http://meaford.ca)

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**From:** Sharon Jungkind [<mailto:Sharon.Jungkind@rjburnside.com>]

**Sent:** January 31, 2020 3:10 PM

**To:** Liz Buckton <[lbuckton@meaford.ca](mailto:lbuckton@meaford.ca)>

**Cc:** Kim Hawkes <[Kim.Hawkes@rjburnside.com](mailto:Kim.Hawkes@rjburnside.com)>; Stephen Riley <[Stephen.Riley@rjburnside.com](mailto:Stephen.Riley@rjburnside.com)>; Paul Hausler <[Paul.Hausler@rjburnside.com](mailto:Paul.Hausler@rjburnside.com)>; 900051212 Glamping Tourist Est Hydrog Peer Review <[900051212glampingtouristesthydrogpeerreview@rjburnside.com](mailto:900051212glampingtouristesthydrogpeerreview@rjburnside.com)>

**Subject:** Proposal for Hydrogeological Peer Review Services for Meaford - Glamping Tourist Establishment, Report by Gaman Consultants Inc., Burnside Project No.: 900051212.0000

Good Afternoon Liz,

On behalf of Kim Hawkes and Stephen Riley, please find attached our proposal for Hydrogeological Peer Review Services for Meaford - Glamping Tourist Establishment, Report by Gaman Consultants Inc.

Please reply to our email acknowledging receipt of our proposal.

Regards,

 **BURNSIDE**  
**Sharon Jungkind**  
Administrative Assistant

R.J. Burnside & Associates Limited  
3 Ronell Crescent, Collingwood, Ontario L9Y 4J6  
Office: +1 800-265-9662 Direct: +1 705-797-4295  
[www.rjburnside.com](http://www.rjburnside.com)

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