

#1 - REQUEST FOR REVIEW: LA19036/Arie and Willemina Mulwijk

Filed By:

Arie and Willemina Mulwijk

Deadline for RFRs:

February 4, 2021

Date RFR received:

February 4, 2021

Status of party as per Decision Summary:

Directly Affected

February 4, 2021

Producer Perspective
LA19036 – Request for Board Review

Attention: NRCB Board

My comments on the review of my application include:

- 1) In a conversation in May 2020, Andy gave me 4 options as to how to further proceed with the permit application, as he was not content with the information that I provided about RCC in Part 2 of the application. His options were the following:

Since I had already placed the RCC, we couldn't really change anything about the RCC, so he suggested I could add another concrete liner on top of the RCC, according to NRCB guidelines. I could also rip out the RCC and replace it with clay or some other liner.

I could have an engineer approve the RCC pad, that it met all the requirements for an AOPA approved liner

I could just ask Andy to go ahead and proceed with the permit application, but he would then have to deny the permit because I could not, at this time, prove that the RCC met the AOPA requirements.

I could withdraw my application.

Option 1, 3, and 4, were an obvious no, although I was a little frustrated as to why RCC had already been approved as liner by the NRCB; I had followed the exact method that the previous feedlot had used, and yet Andy wanted me to show how it would meet all the requirements for AOPA.

- 2) Andy has not been honest to the applicant, rather giving me misleading information concerning RCC

It is interesting to note that there has been a RCC liner approved by the NRCB already in Lethbridge county. When I brought this forward to Andy in a conversation, he told me that the particular feedlot which I mentioned already had sufficient clay to pass as a natural liner. I thought about his answer for a while, after he finished his site on November 4, I brought the topic up again and asked him why would this feedlot go through all the work of installing an engineered alternative liner, if they already had a sufficient natural liner. He then backtracked a little and told me that maybe they didn't have enough clay, but that the RCC was passed as liner after an extensive board review. He suggested I read up on it on the NRCB website when I had time. I did read up on the board reviews and found that RCC was approved. This leads to my understanding that the RCC liner was given the approval by the approval officer, after being reviewed (most likely after being reviewed by Andy himself), and was not even part of the board review.

3) Permitted Capacity

Andy implies there is some uncertainty on the capacity of the existing CFO. The reason this was brought up was because in the Part 2 of the application I had written my existing permit was 250 hogs – farrow to wean. Adria Snowden (the approval officer who started the application) gave me that number to write down. I was unsure what the original permitted number of hogs was, but Adria told me to write 250 hogs -farrow to wean. On a statement of concern, one of the neighbours suggests that the grandfathered permit capacity was for 100 swine. This questioned the 250 sow -farrow to wean that I had written down.

The original permit issued in 1980 (Municipal development permit 1002-80) was given for 100 sow – farrow to finish. In Appendix E on the decision summary, Andy writes “Based on the municipal permits, the permitted capacity at January 1, 2002 appears to be 100 sow farrow to finish”. He then proceeds to go with a deemed capacity determination and comes up with a capacity of 64 sows farrow to finish. As of January 2002, the existing permits states 100 sow – farrow to finish. To my understanding, deemed capacity determination is only used when no existing numbers are given to a permit. In my case, the original number states 100 sow farrow to finish. Although 250 sow farrow to wean was written in error, it should not then lead to having Andy do a deemed capacity determination as that was not necessary.

4) AOPA requirements

In December, I made contact with Cody Metheral, just in case the permit was going to be denied, at least we could right away get started on a review. He asked if I could do an email conversation with Andy, and ask Andy, via email, to confirm that all the information and data he had requested of me, was sent in.

On January 1, I asked Andy per email “...At our last in-person meeting which happened early November, you had asked if I could send some additional information to you; you requested the soil testing report, the map indicating where the core samples were taken in the weaning shelter and corrals, as well as asking if I wanted to make some changes to the report from John Lobbezoo. I have given you the soil report, and John Lobbezoo has revised his report and added the mapping of where the core samples were taken.

Is there any other information or data that I might have missed sending in, or that is not complete yet, that you still need to support your decision?

I’m just sending you this email just to make sure that I haven't missed anything or that you are still waiting for any additional data from me.”

His reply on January 1 “I have the information you sent to me and, as previously discussed, I am busy with the decision on your application. As part of our process all decisions are reviewed internally, to enhance consistency, clarity, and minimize the potential for errors, before they are issued. This review will take place after the Christmas break. I am hoping to be able to issue the decision shortly after the review has been completed.”

His reply did not answer my question to my satisfaction, so I replied again on Jan 1 “Thanks for the information!

The main reason I sent out that last email was just to make sure that you are not expecting additional info from me, and haven't received it. Just making sure I have the bases covered on my end. In other words, I don't want to see the permit declined because I did not give you information or such you asked me to give."

He did not reply to me this email, so on January 4 I asked him "...Last week I received no email in reply when I asked for more clarification on my permit info.

So I hope to try again before its too late to give any missing information.

Has there any information requested of me, since the the permit process began middle of 2019, that has not been given to the NRCB?

I'm just looking for clarification on this as I would be very disappointed if after these 3 emails I sent over the past few days, no proper yes or no was given, and the permit would still be rejected on a basis that the i failed to hand in information or data requested of me.

Could you please give a clear answer?"

To this he replied with a copy of the original email that he sent as answer to my first question on Jan 1. Again, not a clear answer. Very frustrating!!

I replied again on January 4, "...Maybe I'm not understanding it, but your email does not answer my question. If you're unsure about what I'm asking, please call me."

Andy replied "I understand you to be asking whether or not I have sufficient information to process your application. Assuming that my understanding is correct I want to confirm that I do have sufficient information to process your application, and am currently doing so."

I was still unsure of his reply at this point, but I figured after 3 emails asking him if I sent everything in that he wanted, I assumed he should have it all. However, he mentions in his decision summary several times that I dd not provide enough information to him. In my understanding, Andy had enough opportunity to relay to me where I was missing information to help him out. The email exchanges took place prior to the review and the final decision, so it wasn't too late to add more information.

- 5) I had been issued a Compliance Directive (CD19-07) by Karl Ivarson in May 2018. I had just started custom feeding Holstein calves for a new producer in May 2019. Although I had been custom feeding Holstein for many years prior, with the new producer I needed to make some changes to my farm. I realized I had to make a covered shelter with heated waterers to ensure that I could still continue raising calves properly in the winter months a well. After being issued the compliance directive, the following day I made contact with the approval officer to try get my permit started as soon as possible as I was in need of having the shelter built before winter 2019. Adria Snowden was assigned as my approval officer.

I was completely new to the permit process, so I relied on Adria for any information that was needed. As RCC was used in a previous NRCB permit in the Lethbridge county, and was approved, Adria followed those guidelines set out in that permit to use in my application. Part 2 of the application was submitted in October, and she was very hopeful that I would receive my permit before the winter so I

could start building. I was quite anxious to receive my permit so I could start building, as the calves needed a proper shelter before winter would set in.

I called Adria quite often, just to see how the process was going. In one conversation, she assured me I would have the permit by November 14, 2019. This gave me a lot of hope. The RCC product that I was planning to place in my corrals had to be installed under nice weather conditions. As it was getting later in the year, and cooler temperatures started setting in, I knew we had to try get the permit ASAP. I didn't see a 'no' to the permit, and I didn't see any hurt in laying the RCC prior to the permit especially if waiting meant a delayed till spring 2019. We covered the RCC with straw and let everything sit for 2 weeks at the end of November.

At the end of November 2019, I called Adria again to see how things were progressing. She told me a few things were hung up and that I would receive the permit prior to Christmas. Again, I was disappointed in the delay, but full of hope that it would still come within the next few weeks. Since my permit was so close to being done, and winter was also approaching in rapid strides, I decided to go ahead with building the covered shelter as it was also crucial to the health of the animals. Then on December 15, Adria called me that she had missed some deadlines to send some things in (I had no idea of how the permit process worked, so I completely trusted Adria with everything she did on my permit). Due to missing these deadlines, the permit was going to be a little later, but she mentioned, and I quote Adria, "I will hand the permit to you January 2". Again, disappointed in the delay, but still full of hope that I would receive the permit soon, I continued building. December 31, 2018 the first calves moved into the covered shelter; it was an amazing day!

Jan 2, I hear nothing from Adria, and I called her but no answer. January 7, I received an email from Adria in which she apologized for not getting in contact with me as she was sick. She also writes "the review stage for the permit should be done by the 15th". January 16, she emails that she got some feedback and was going through it and making the changes as quickly as she could. Over the next few weeks, I had tried calling her, leaving voicemails, but she never called back. End of February I emailed her asking how the permit was progressing. Feb 26, she replied she was sorry for the delay, she had some health issues lately, but was going to give up her weekend to finish off my permit. March 16 I again emailed her to see how things were going concerning the permit, to which she replied on March 19 that things were a little chaotic in the office (Covid-19), she had to do rewrite on a section of the permit but she would keep me updated over the next few days. I thanked her for her email and March 20 she emailed, "thanks for your patience, your permit is my priority". April 15, I again sent her an email in which I asked among other things, "Was wondering how the permit is coming along?"

The first time I was told it would be done was Nov 14, 2019, 6 months later and still not through. Do you have a rough idea how long this could still take?" Adria replied the following day with "I understand your frustration. And that's on me. I'm juggling files, and yours has been more complicated. This is very close to being done, [...] I'll make a commitment here, and put the other files I'm working on aside and get through the stages I'm struggling with on yours. Full steam ahead, I'll be in contact with you as of Friday. That is when I hope to have it out for a final review." We had a few more emails sent back and forth where I ask how the permit is progressing and she replies that its being worked on, almost done. April 24, I received the last email from Adria in which she states "I'm very sorry for the delay, Arie[...]" Then in May, Andy Cumming calls and states he is taking over the permit.

All in all, it was never my intent to build without a permit, and if Adria had been true to her word, no start would have been made on building the shelter. I assumed she knew what she was doing as an approval officer, so any dates she gave me I took for granted that the permit would be there. I also needed the shelter built before winter as it involved the welfare of my animals.

6) Base preparation

The corrals had been used for several years, and the cattle had packed the dirt over those years. After I removed all the manure out of pens, Sub-terrain Excavating used laser guided dozers to dig out the corrals to the correct slope and grade.

7) Catch basin depth

The excavating of the catch basin is not finished yet, and although I had asked for the catch basin to be constructed with a depth of 1.8m, it is a small change to bring that to 1.5-1.6m depth instead of 1.8m. In all fairness, I believe Andy Cumming had plenty of opportunity to relay the info to me that the catch basin size I had asked for would be too deep, that I should go with a shallower depth, and yet he never mentioned it once till I read it in the decision summary. When he took the process over from Adria, he notified me that the catch basin was undersized. I don't think it would have been much effort for Andy to include that my catch basin size proposal was too deep, and that I should do something about that.

8) Leakage detection system for catch basin.

A synthetically lined catch basin that meets the AOPA should not require a leakage detection system. The catch basin scored low risk to groundwater and low risk to surface water. AOPA requires a minimum of 40mil HDPE synthetic liner. In the technical documents (Pg27), I have technical data on 60mil HDPE synthetic plastic liner. This was the intended product that I was hoping to use on the catch basin. Should I go with 60mil, much thicker than the minimum 40mil, a leakage detection system does not seem necessary.

9) Surface runoff into catch basin

Andy states that in discussion with the applicant he was made aware that surface runoff from the open pens would be directed in an earthen channel along the east side of the pens to the catch basin. No such discussion took place. Adria and I had discussed this prior to Andy's involvement, and we had come up with the conclusion that the runoff from the pens would be staying in the pens, and with the corrals being on a steady slope down from west to east, and from north to south, runoff water will be directed to the catch basin while still contained in the corrals. There is no intent of runoff exiting the pens on the east side other than the far south-east corner which is exactly where the catch basin starts.

10) Variances

Adria and I had discussed the issue about the water well being too close to the barns and weaning shelter. She acknowledged that although it was too close to the barns, due to the slopes of the landscape around the well, she had no issue with it. The well is upslope of all the buildings and corrals. Using the Water Well Exemption Screening tool, on preliminary screening I had a score which was between 10 and 28. On the secondary screening I had a score between 4 and 19. These results show

me that an exemption is more likely. No mention is made in the decision summary about the use of this tool.

11) Additional Notes for consideration

Jason Bremer of Prairie Stone Concrete had the RCC samples taken off the plant while doing my project sent to the lab for compressive strength testing. He would send the results when they were ready.

12) Historic water sample data

Water samples from the previous 5 years show little or no nitrates / chlorides detected. I think this is an especially important consideration when looking at overall site risk to groundwater. After several year of operating with liquid manure storage the groundwater is still really good quality

Thank you for the opportunity to provide input into the request for a Board review process. I hope you get a better understanding of my experience working with the NRCB staff. Please contact me if you have any question about the comments that I have made.

Kind regards,

Arie Muilwijk

February 4, 2021

Natural Resources Conservation Board

19th Floor Centennial Place
250 – 5th Street SW
Calgary, AB T2P 0R4

Attention: Ms. Laura Friend

Re: LA19036 – Request for Board Review

Mr. John Lobbezoo, P. Eng, Wood Environment and Infrastructure Solutions (Wood), and Mr. Cody Metheral, P.Eng. of Linkage Ag Solutions have been retained by Mr. Arie Muilwijk (the Muilwijks), to further support his approval application to the NRCB. It is understood that Mr. Andy Cumming, NRCB Director and Approval Officer (AO), has denied the application to expand the confined feeding operation, as indicated in the Notice of Decision for Application LA19036 dated January 14, 2021. This submission constitutes the Muilwijks formal request for Board Review in this matter, and provides a brief overview of the reasons why the review is necessary.

In his decision summary, the AO indicates information is missing and suggests that the engineering report did not prove that the proposed roller compacted concrete (RCC) liner meets the provincial regulations relative to groundwater protection. The Board is asked to determine:

- How NRCB's prior approvals affect new applications and if NRCB set precedence when it approved RCC as a liner in LA18053.
- How a report from a Professional Engineer and the provision of scientific evidence and calculations should be considered by the AO during the review process.
- The risk assessment conducted by the NRCB is accurate and under what circumstances additional permit conditions will be required.
- If impartial judgment was provided by the NRCB in review of the application.

It should also be noted there is a significant problem with the NRCB's application review process where technical staff are asked to review the work of a Professional Engineer, without making this process known to the Professional Engineer being reviewed. Mr. Cunningham (and any other Members of the Association of Professional Engineers and Geoscientists of Alberta) would know that under the Code of Ethics, in the Schedule to the *Engineering and Geoscience Professions Regulation, under the Engineering and Geoscience Professions Act*, it would be both a normal courtesy and required obligation to contact Mr. Lobbezoo, and to maintain open communication between the two professionals; so that the reviewing professional understands the underlying assumptions; and so that the professional being reviewed has an opportunity to respond to any comments or criticisms¹. It is understood Mr. Cumming is not a Professional Engineer, but as Director within the NRCB he is accountable to ensure the Agency and staff meet their Professional obligations. In lieu of this, Mr. Cumming (and by association Mr. Cunningham) has

¹ *Guideline for Ethical Practice V2.2 February 2013 (as published on the APEGA website)*

published a criticism of Mr. Lobbezoo's submission on the NRCB website without his knowledge. The applicable excerpt from the APEGA Guideline is provided as Figure 1, attached.

The Board is requested to address the following issues during an oral review to provide Mr. Muilwijk and his agents the opportunity to present details about the following:

Affect of NRCB's prior approvals on new applications:

The use of RCC as a liner has already been approved by the NRCB in LA18053. RCC performance criteria was developed by the NRCB and was included in the permit conditions (Figure 2 below). After extensive review of LA18053 (including a Board), the approval was finalized July 16, 2019. After a review of the application and decision summary it was noted:

- a) The applicant provided minimal information on concrete thickness, a compressive strength range, no sulfate protection, nor crack control details.
- b) No errors or additional information on RCC was required by the applicant.
- c) No technical report or calculations by NRCB technical staff was included.
- d) NRCB developed liner performance criteria and include them as permit conditions.
- e) Environmental risk to groundwater is high.
- f) As per the NRCB Approvals Process (Approvals guideline)
 - a) NRCB approval process required other AOs to review the application.
 - b) New technology identified in the application receives additional attention.
 - c) No errors or missing information was identified by the reviewing AOs.
 - d) Mr. Cumming, as Director, provides a final review of the decision prior to approval (which would have included approving RCC use as a liner)

The Board is asked to determine: 1) if the applicant has been treated fairly compared to application LA18053; 2) if NRCB set precedence when it approved RCC as a liner for LA18053; 3) how the NRCB calculated hydraulic conductivity, addressed crack control and determined RCC meets groundwater protection in LA18053; and 4) determine how NRCB's prior approvals affect a new application.

Scientific Methods applied by a Professional Engineer

The approval denial appears to be based mainly on the concrete liner determination, with two additional noted issues (catch basin base elevation and distance to a water well). However, the AO has accepted the basic principle that averaging the liner hydraulic conductivity is an acceptable approach (as per Mr. Scott Cunningham, P. Eng. Contribution), but was disputing the calculated results presented in the Wood report.

Mr. Lobbezoo is prepared to detail his calculations and further explain the assumptions. He has indicated that his approach as presented was conservative in terms of material permeability, and that further development of the combination of cracked area versus material permeability may be warranted. As indicated previously, any confusion or misunderstanding between the two professionals should have been resolved at the time of the review under APEGA-mandated communication between the two professionals.

The AO goes on to suggest he was not provided enough information to make an informed decision. Specifically, after May 29, 2020, the AO indicates: "No other information was provided to show how the AOPA groundwater protection requirements would be met (page 2)".

However, the NRCB was provided with two submissions from Wood that support this application. Both reports provide details that help illustrate how AOPA groundwater protection requirements can be met.

The first submission (June 18, 2020) results from the Enforcement Order (EO) issued by Karl Ivarson (NRCB Inspector) on May 22, 2020. In the EO the producer was required to provide RCC performance criteria (determined by the Inspector) and evidence that the concrete was installed using sound construction practices. It is understood the AO was aware and included in this event.

The information provided by Wood confirms the pad thickness (*RCC ranged between 155 mm and 205 mm, with an average thickness of 173 mm for eight cores*)², and that the Engineer completed a follow-up site investigation to test and confirm the concrete placement. The AO suggests details like liner thickness and engineering over-sight are missing from the application, however, these details are provided in this report.

The second submission is the report that further outlines the engineer's involvement with the project and provides the calculations used to address the liner requirements (October 29, 2020).

It should be noted that the AO (in his decision summary) and Inspector (in his enforcement order) were asking for information that they both deemed important but are not consistent (compressive strength, crack control vs RCC compaction density, curing and placement).

The AO also refers to technical document Agdex 096-93 which provides guidance to those considering non-engineered concrete for manure storage. The document outlines sound criteria for the design and installation of traditional (plastic) concrete mixes. However, this guideline was obviously not intended to be used for RCC, otherwise the document would also illustrate criteria on the proper placement and curing of this type of material. Further, the guideline does not illustrate or calculate how concrete meets the regulation for groundwater protection. There is no expectation that an Engineer must be on site during construction, and it also allows for concrete approved by a professional engineer.

Wood's report provides a professional engineering opinion on the use for RCC meeting the liner requirements. The Board is asked to help determine how a report from a Professional Engineer and scientific calculations should be considered by the AO.

² NRCB submission: *Wood Environment & Infrastructure Solutions: Substantial Completion Report, Calf Shelter, Calf/Feeder Pens, Catch Basin NE-10-009-27-W4M, near Fort Macleod, Alberta. Wood File: BX30653 dated June 18, 2020.*

Risk assessment circumstances that require additional permit conditions

The AO's environmental risk ratings results do not appear to reflect the risk assessment done in 2011 by Karl Ivarson (on-farm and neighbouring CFO). Authorization LA10054M states: *Based on the results of risk screening, the NRCB has determined that the potential for the groundwater to be impacted by this facility is low and therefore the groundwater monitoring requirement at this facility can be suspended*³.

Based on risk, the AO suggests potential permit conditions to include elevated inspection, permitting, reporting, decommissioning and catch basin leak detection and monitoring. Even the runoff swale that connects the pens to the catch basin is suggested to now require a permit.

A review of the AO risk assessment is needed to determine if a proper risk assessment was complete. A review of the potential permit conditions is also needed to determine if they are warranted.

The AO suggests the water well in the yard could limit the expansion. It is understood that Adria Snowdon (original AO) completed an assessment using the NRCB's Water Well Exemption Tool in 2019, but the results were not reported in the decision summary.

AO failed to provide this calculation; therefore, the Board is asked to address this issue in their review.

Impartial judgment by the NRCB officer:

Mr. Muilwijk received application support from NRCB AO Adria Snowdon during the summer of 2019. She provided the facility sizes and capacity estimate, tables, calculations, and wording for the application, including liner section. She suggested the permit conditions would reflect permit LA18053 which had been finalized 3 months prior. After submitting the application, she deemed it complete on October 9, 2019 and no other information was required. She further indicated that the permit would be delivered on Nov 1, 2019. With verbal direction from the AO, the contractor and RCC supplier was scheduled for construction on Nov 6, 2019.

Six months later Mr. Muilwijk was notified by Mr. Cumming that he had taken over the application and would be the new AO. The AO then provided a list of technical requirements and indicated his application would now need to prove RCC meets AOPA groundwater protection requirements. Through the rest of the review process, comments made by the AO and noted by Mr. Muilwijk (mis-leading and avoiding the discussion regarding LA18053) suggests the AO had changed his perspective about RCC (which he had been part of approving 9 months prior).

The AO had two additional opportunities to collect information for his review including:

- 1) As per NRCB's Approvals Operational Policy 2016-7, it suggests that the AO could have issued a deficiency letter stating what information was missing or what parts of the Wood report was unclear.

³ NRCB Authorization LA10054M

- 2) Mr. Muilwijk engaged in an email conversation with the AO at the end of December 2020, specifically to ask if there was any information that was missing or unclear. The AO suggested that no additional information was required. These details are included in the supporting information submitted by Mr. Muilwijk.

The Muilwijks meets the minimum distance setback to his neighbour as required in the AOPA regulations. This setback helps to address nuisances from his operation. The AO is suggesting a fly control program yet provides no reasoning for this determination – other than the fact that the AO may include one.

The Muilwijks have a grandfathered municipal permit 10012-80 which states a 100 sow farrow to finish swine CFO. This is confirmed in NRCB CD-07 (2019). The livestock number determination exercise completed by the AO is not justified and needs review.

Improper reliance on the Agdex 096-93, not verifying or asking question about the information provided to him and including unwarranted assessments and potential permit conditions would indicate the AO has not provided a fair review and had no intention to approve the application.

The Board is asked to determine if the AO applied impartial judgement when reviewing the application.

In Conclusion

The Board is asked to determine:

- How NRCB's prior approvals affect new applications and if NRCB set the performance criteria when it approved RCC as a liner in LA18053.
- How a report from a Professional Engineer and the provision of scientific evidence and calculations should be considered by the AO during the review process.
- If the risk assessment conducted by the NRCB is accurate and under what circumstances additional permit conditions will be required.
- If impartial judgment was provided by the NRCB in review of the application.

A Board review would allow for open discussion on the technical merits of the Wood's report, a review of the assumptions, and an opportunity to clearly articulate how RCC can be used as a liner to protect groundwater. Considering the continued use of RCC in the cattle feeding industry, the use of RCC as a liner will continue to be an issue that needs to be addressed.

Respectfully Submitted,

Cody Metheral, P. Eng.
Agricultural Engineer
Linkage Ag Solutions

Reviewed by:

John Lobbezoo, P. Eng.
Associate Engineer, Lethbridge Area Lead
Wood Environmental and Infrastructure Solutions

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Attachments:

- Figure 1 – Guideline for Ethical Practice
- Figure 2 - Permit conditions for Approval LA18053

Figure 1 – Guideline for Ethical Practice

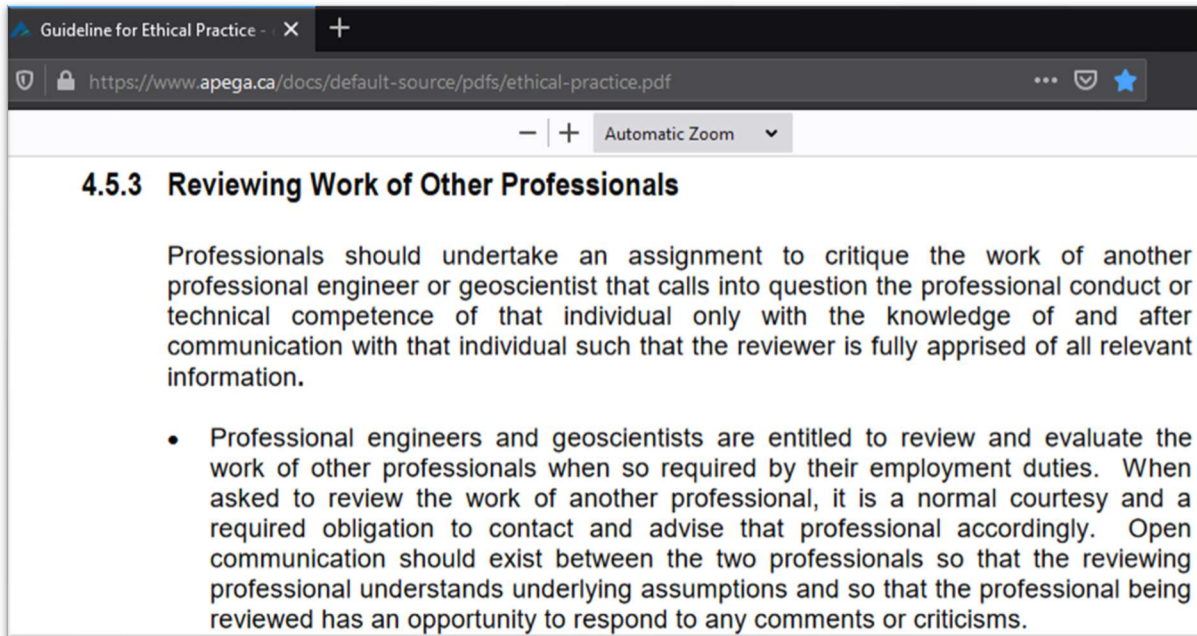


Figure 2 – Permit conditions for Approval LA18053

