

From: [Charles Hansen](#)
To: [Laura Friend](#)
Subject: 11/26/2020 AMENDED APPLICATION to PARTICIPATE with STANDING in the 01/12/2020 Pre-Hearing Conference
Date: Friday, November 27, 2020 4:33:23 PM
Attachments: [APPLICATION to PARTICIPATE in a PRE.pdf](#)
[COVID Ott Sewage record.pdf](#)
[Wastewater test could provide early warning of COVID-19 -- ScienceDaily.html](#)
[AMMENDED APPLICATION to PARTICIPATE in a Pre.pdf](#)

NRCB of Alberta
Laura Friend Project Manager Application #1701
Manager Pre-Hearing Panel Conference
Manager, Board Reviews

Greetings;

Following our TST – Springbank Off-Stream Reservoir PRE-hearing November 25th 2020 I missed the purpose of the session. I was led to believe that it was to present a basis for an Intercession of facts only for the Panel to accept participation or not.

Therefore I respectfully indulge the Board to accommodate an additional amending pdf document which:

- Request my presentation of my professionally based research upon the Covid 19 contaminating health risks transmission into the SR1,
- Which will inject the it's spread through the Calgary potable water treatment system.
- Therefore as a resident and consumer of the Calgary water distribution system, I submit that my research qualifies as a *“Directly Affected and Interested Status”* , as specifically preceded by the;
- My Standing offer to lend credence to the NRCB Mandate based upon my precedent evaluation of:
 - In the Court of Appeal of Alberta Citation: Kelly v. Alberta (Energy Resources Conservation Board), 2009 ABCA 349 - Memorandum of Judgment - Appeal from the Decision of the Alberta Energy Resources Conservation Board Dated the 16th day of January, 2009 –
 - “You have asserted that, because you reside in the PAZ you may die or your health may be adversely affected in the event of an incident at the facility and therefore you should be granted standing in relation to the applications .
 - **Remedy.....** c) The Appellants are not required to lead evidence to show that they are affected in a different way or to a greater degree that members of the general public as a result of the drilling of these wells;
 - **Therefore precedence indicates Standing as a right of obligation to members of the general public.**
 - **Though not legally the same as SR1, but the similarity justifies the “General Public” as a Standing Intervener.**

I therefore request a Standing and application for intervener funding with a:

- **Pre-Hearing cost estimate for DMT Geosciences Ltd and Hansen**

Respectfully Submitted;

Charles Hansen

HANSEN REGIONAL COMPREHENSIVE PLANNING CONSULTING
STRATEGIC CONCEPTUAL LAND USAGE -----DYMATION COMPREHENSIVE DEVELOPABILITY PLANNING
Calgary, Alberta, Canada --- 403 -592 -0926 --- scandinadian@shaw.ca

From: Charles Hansen [<mailto:Scandinadian@shaw.ca>]
Sent: Thursday, November 19, 2020 6:20 PM
To: 'laura.friend@nrcb.ca'
Subject: Notice of Dec. 02 2020 PREE-HEARING CONFERENCE

NRCB of Alberta
Laura Friend Project Manager Application #1701
Manager Pre-Hearing Panel Conference

Greetings;

Please register my ATTACHED APPLICATION to PARTICIPATE IN A Pre-Hearing Pdf.

It states 2 major points of salient consideration to the health of the Springbank Region of the SR1 Project Application.

Thank you.

Regards;

Charles Hansen---EKISTICAL URBAN ARCHITECT PLANNER
.B. ARCHTTECT - MAJOR THESES URBAN DESIGN INFRASTRUCTURAL PLANNING
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AMMENDED APPLICATION to PARTICIPATE in a Pre-Hearing Conference 01/12/2020

NRCB Board Hearing Panel

Laura Friend Project Manager Application #1701
Manager Pre-Hearing Panel Conference
Manager, Board Reviews

Following our TST – Springbank Off-Stream Reservoir Pre-Hearing November 25th 2020, I realized that I misunderstood portions of the session that I thought were to subsequently occur, secondarily, following the Pre-Hearing if I was to be accepted as a participant; at which time we would state our terms-of-reference for Standing and Intervention funding.

This AMMENDED APPLICATION and the original 22/11/2020 APPLICATION to PARTICIPATE are not focused upon legal matters. They are strictly devoted to exposing the SR1 recorded and referenced data which provide the three subjects of:

1. Health risks certification of Elbow River west of Bragg Creek public recreation sites toilet septic tank flushing of fecal and Covid 19 contamination during another devastating flood occurrence, into the SR1 and Glenmore Reservoir potable water supply.
2. Continued overflow flooding beyond the SR1 and subdivided Diversion Channel into the Glenmore Reservoir overflowing by 500m³/s above the 110m³/s non-flooding containment within the Calgary Floodway.
3. NRCB Approval will guarantee continual allowance of geomorphological damage and sewage health risk in perpetuity.

Therefore I respectfully claim that NRCB Approval is in direct conflict with its Mandate.

Therefore I respectfully indulge the Board to accommodate the amending pdf document which:

- Request my presentation of my professionally based research upon the Covid 19 contaminating health risks transmission into the SR1, Bragg Creek and Redwood Meadows alluvial aquifer.
- ...that will inject its spread through the Calgary potable water treatment system, (as recorded in Ottawa, Ontario exponential increase from October 6th to October 14th). See ATTACHMENT *Covid Ott Sewage record*.
- Therefore as a resident and consumer of the Calgary water distribution system, I submit that my research qualifies as a *"Directly Affected and Interested Status"*, as specifically preceded by the following;
- My Standing offer to lend credence to the NRCB Mandate based upon my precedent evaluation of the public health risks that are inherent within the SR1 ignorance of any future 2013+ flood flow along the Elbow Rivers 10,000+/- gallons of live sewage septic tanks in the public toilets located within the camping, day use and recreation Provincial sites along the flooding banks.
- Covid 19 Research has been published by the following University and Institute which signify the severe level of transmission of the live cells within fecal cells that would be stored within:
 - A future SR1 flood still motion storage for contaminant sedimentation to thrive and expand as recorded. It would then be released into the Calgary potable water supply with no current civil engineering solution via Stanford University ATTACHED reporting.
 - In the Court of Appeal of Alberta Citation: Kelly v. Alberta (Energy Resources Conservation Board), 2009 ABCA 349 - Memorandum of Judgment - Appeal from the Decision of the Alberta Energy Resources Conservation Board Dated the 16th day of January, 2009 –
 - "You have asserted that, because you reside in the PAZ you may die or your health may be adversely affected in the event of an incident at the facility and therefore you should be granted standing in relation to the applications . . . However, beyond residing in the PAZ . . .

- **Remedy.....** c) The Appellants are not required to lead evidence to show that they are affected in a different way or to a greater degree that **members of the general public** as a result of the drilling of these wells;
- **Therefore precedence indicates Standing as a right of obligation to members of the general public.**
- **Though not legally the same as SR1, but the similarity justifies the “General Public” as a Standing Intervener.**

CONCLUSION REQUISITION :

- To be include a Standing role and,
- Attain Intervener status and
- To qualify for intervenr funding for DMT Geosciences Ltd and HANSEN Rgional Environmental Planning Consulting and one other Engineering Consultant.
- Budgeted Estimate of \$60,000.-.
- Pre-scoping funding of \$6,000.-.

Respectfully Submitted;

Charles Hansen

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STRATEGIC CONCEPTUAL LAND USAGE -----DYNAMAXION COMPREHENSIVE DEVELOPABILITY PLANNING
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COVID-19 SANITARY SEWAGE RECORDED CONTENT & RISE

'We're strapped to a rocket right now:' Alarm at sky-high COVID-19 levels in Ottawa's Sewage

Published Wednesday, October 14, 2020 2:09PM EDT Last Updated Wednesday, October 14, 2020 6:04PM EDT

Or more precisely, the research project at the Children's Hospital of Eastern Ontario that is measuring [COVID-19 in the city's wastewater](#).



In the last week, researchers have been shocked by the high levels of the virus found in Ottawa's wastewater.

"We're strapped to a rocket right now, unfortunately", said Alex MacKenzie, a pediatrician and researcher at CHEO. "It's two to three days early warning. It's a single test for 900,000 people."

The wastewater collection is being done by researchers at the CHEO Research Institute and the University of Ottawa. Wastewater is collected five days a week and transported to a lab, where viral levels are tested and reported the next morning.

Ottawa is one of the first cities in North America to conduct such daily readings.

At city council Wednesday, Medical Officer of Health Dr. Vera Etches told city council the wastewater study is a disturbing indicator of how hard the second wave is hitting the capital.

"It's not related to anyone taking tests. It doesn't have the lag time," she said. "This does tell us what was measured in the water."

The researchers at CHEO have been taken aback by the results, surprised at how much disease they're finding.

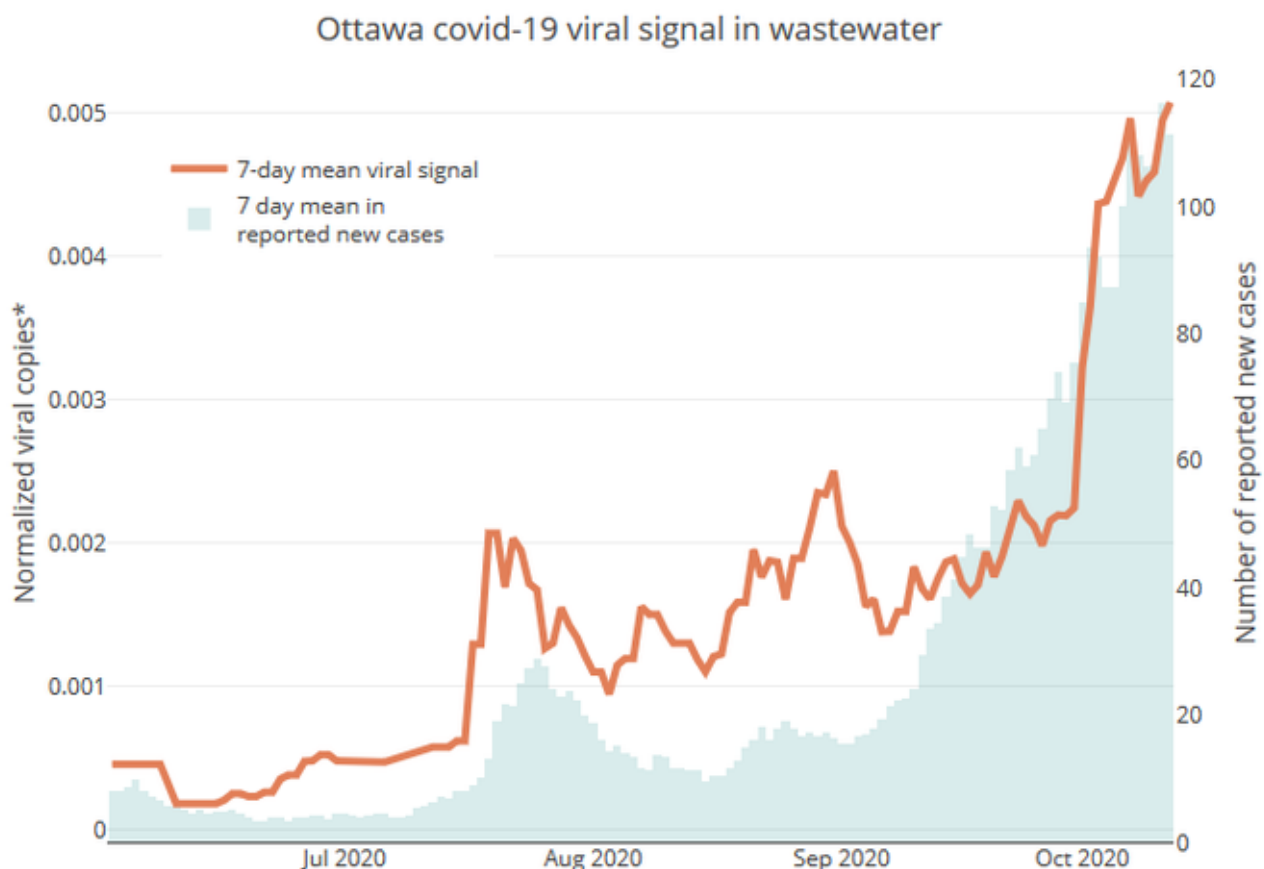
“We can say with certainty, this is 3-6 times greater than it was on Oct. 6. It is functioning as a very reliable indicator of COVID”, MacKenzie said. “It’s something that tells us almost in real time what’s happening in the community”.

He said the levels being measured in October are twice as high as he found in the spring. He also said the results of lockdown instituted in hotspots like Ottawa, Toronto and Peel, will not be seen for several days or longer.

“It’s going to take a week to two weeks for the lockdown to take effect.”

- Today's poop report - amount of [#COVID19](#) in [#Ottawa](#)'s sewage continues to rise, indicating we're not yet flattening the curve: [613covid.ca/wastewater/#](#). [#ottnews](#) [#CDNhealth](#)

RELATED IMAGES



Data from the CHEO Research Institute and the University of Ottawa shows the viral load in the city's wastewater compared to the new COVID-19 case count.

Wastewater test could provide early warning of COVID-19

Date:

March 31, 2020

Source:

Cranfield University

Summary:

Researchers are working on a new test to detect SARS-CoV-2 in the wastewater of communities infected with the virus. The wastewater-based epidemiology (WBE) approach could provide an effective and rapid way to predict the potential spread of novel coronavirus pneumonia (COVID-19) by picking up on biomarkers in feces and urine from disease carriers that enter the sewer system.

Share:

FULL STORY

Researchers at Cranfield University are working on a new test to detect SARS-CoV-2 in the wastewater of communities infected with the virus.

advertisement

The wastewater-based epidemiology (WBE) approach could provide an effective and rapid way to predict the potential spread of novel coronavirus pneumonia (COVID-19) by picking up on biomarkers in faeces and urine from disease carriers that enter the sewer system.

Rapid testing kits using paper-based devices could be used on-site at wastewater treatment plants to trace sources and determine whether there are potential COVID-19 carriers in local areas.

Dr Zhugen Yang, Lecturer in Sensor Technology at Cranfield Water Science Institute, said: "In the case of asymptomatic infections in the community or when people are not sure whether they are infected or not, real-time community sewage detection through paper analytical devices could determine whether there are COVID-19 carriers in an area to enable rapid screening, quarantine and prevention.

"If COVID-19 can be monitored in a community at an early stage through WBE, effective intervention can be taken as early as possible to restrict the movements of that local population, working to minimise the pathogen spread and threat to public health."

Recent studies have shown that live SARS-CoV-2 can be isolated from the faeces and urine of infected people and the virus can typically survive for up to several days in an appropriate environment after exiting the human body.

The paper device is folded and unfolded in steps to filter the nucleic acids of pathogens from wastewater samples, then a biochemical reaction with preloaded reagents detects whether the nucleic acid of SARS-CoV-2 infection is present. Results are visible to the naked eye: a green circle indicating positive and a blue circle negative.

"We have already developed a paper device for testing genetic material in wastewater for proof-of-concept, and this provides clear potential to test for infection with adaption," added Dr Yang. "This device is cheap (costing less than £1) and will be easy to use for non-experts after further improvement.

"We foresee that the device will be able to offer a complete and immediate picture of population health once this sensor can be deployed in the near future."

WBE is already recognised as an effective way to trace illicit drugs and obtain information on health, disease, and pathogens. Dr Yang has developed a similar paper-based device to successfully conduct tests for rapid veterinary diagnosis in India and for malaria in blood among rural populations in Uganda.

Paper analytical devices are easy to stack, store and transport because they are thin and lightweight, and can also be incinerated after use, reducing the risk of further contamination.

Story Source:

[Materials](#) provided by [Cranfield University](#). *Note: Content may be edited for style and length.*

Journal Reference:

1. Kang Mao, Hua Zhang, Zhugen Yang. **Can a Paper-Based Device Trace COVID-19 Sources with Wastewater-Based Epidemiology?** *Environmental Science & Technology*, 2020; DOI: [10.1021/acs.est.0c01174](https://doi.org/10.1021/acs.est.0c01174)
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Cranfield University. (2020, March 31). Wastewater test could provide early warning of COVID-19. *ScienceDaily*. Retrieved April 2, 2020 from www.sciencedaily.com/releases/2020/03/200331092713.htm

Cranfield University. "Wastewater test could provide early warning of COVID-19." ScienceDaily. www.sciencedaily.com/releases/2020/03/200331092713.htm (accessed April 2, 2020).

APPLICATION to PARTICIPATE in a PRE-HEARING CONFERENCE 02 DECEMBER 2020

Laura Friend Manager, Board Reviews
NRCB Application #1701 SR1 Off-Stream Project

This is an outline of my submittal of **2** salient issues which are germane to demonstrating: "adequate information to determine whether the SR1 Project is in the public interest, the NRCB Panel will determine the matters that would benefit from further examination at the hearing".

1. PROPOSITION: The Health of Springbank Redwood Meadows and Bragg Creek are at risk with SR1

2. THESIS of Environmental Natural Resources: which are ekistically tantamount to maintaining enrichment with rural natural landscaping of Alberta's responsibility to conserve co-existence with human developability. That's the definition of ekistics.

- The SR1 Project Description Application 1st page stated that the off-stream project will occupy a natural wetlands which filters any contamination into the Elbow River Glenmore Reservoir to treat the Calgary water supply.
- The total working maximum volume of the SR1 is 70,000,000m³ which releases at **160 m³/s** which is less than the 100,000,000m³ 2013 maximum flood **releasing 1240m³/s** as stated by STANTEC Consulting through the Provincial Flood Mitigation Panel in August of 2013. Therefore the next similar flood event could yet flood in Calgary. The Glenmore Reservoir 9,000,000m³ will perform as additional reduction as a safety %. However the Calgary floodway starts flooding at 120m³/s. Therefore the built-in deficiencies are what the NRCB is considering accepting or disapproving within this jurisdictional matter of Public Interest such as continual flooding if the Project is approved. I submit that this is in the Public Interest for the Provincial NRSB to be held accountable.
- The SR1 Project Does not stand alone within the NRCB Jurisdiction. Its location is an equal partner with its design location and its Diversion Channel 50% subdivision of 1240 to 620m³/s which is 500m³/s into the Sandy Beach Glenmore flow over the 120m³/s floodway.
- The companion project to remove the 2013 flood plain from Bragg Creek to the HW8 into a Diversion Channel now increases the weight of a 100,000,000m³ volume and 1240m³/s vector force speed into a narrower Bermed/Dammed channel will increase to ???, beyond the Diversion Channel into Glenmore Reservoir.
- It therefore imposes weight upon the Alluvial Aquifer of Bragg Creek and Redwood Meadows which will amplify hydrostatic subsurface groundwater pressure that will amplify the surcharging of their existing wells, cisterns, septic tanks, distribution fields, sanitary sewerage and treatment plant. Therefore the rural natural environment of those communities will be disenfranchised. Therefore an existing health risk will be amplified, not eliminated withi Bragg Creek, Redwood Meadows and the T'suu T'Ina Golf Course. .

Respectfully submitted

Charles Hansen - EKISTICAL URBAN ARCHITECT PLANNER
B ARCH - MAJOR THESES URBAN DESIGN INFRASTRUCTURAL PLANNING
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