

Bonner, Cindy L CSNR:EX

From: Carmichael, Vicki ENV:EX
Sent: Thursday, August 18, 2011 2:00 PM
To: Davis, Celine ENV:EX
Cc: Heslop, Kirsten ENV:EX
Subject: Prince George subdivision

Hi Celine

Both Kevin and I had a call from **s.22** yesterday about a proposed commercial development in an existing subdivision within the Prince George city jurisdiction. There are currently 188 residents in this area sourcing their water from groundwater – from both bedrock and unconsolidated aquifers. There are a number of shallow wells with good yields, likely associated with surface water bodies as well as drilled wells into both bedrock and unconsolidated materials.

The residents are concerned about the proposed commercial development (30 -40 permanent residents in a treatment facility) and the impact on their water supply. The proponent for this development plans to use an existing drilled well into bedrock. The proponent has approached Kirsten for advice and did hire a consultant from Vancouver. Antedotal information indicates that there was some pumping tests done but only for 4 hours. The report prepared by the consultant has not yet been released.

s.22 heard the same messages from all of us:

- Land use decisions are made at a local government level, e.g., the city of Prince George
- A qualified professional hydrogeologist should be hired to oversee a 72-hour pumping test with several observation wells strategically placed to determine if the pumping of the commercial well has an adverse impact on existing wells

Kirstin – if I have missed anything important please let Celine know.

Vicki

Bonner, Cindy L CSNR:EX

From: Carmichael, Vicki ENV:EX
Sent: Wednesday, August 24, 2011 9:39 AM
To: Heslop, Kirsten ENV:EX
Subject: RE: 89 IIC Aquifer, Vanway South

Thanks for this Kirsten! Good note!

From: Heslop, Kirsten ENV:EX
Sent: Thursday, August 18, 2011 4:43 PM
To: s.22
Cc: Carmichael, Vicki ENV:EX; Ronneseth, Kevin ENV:EX; Bilodeau, Normand G FLNR:EX; Davis, Celine ENV:EX
Subject: 89 IIC Aquifer, Vanway South

Mr.

As per our phone conversation of this morning (Thursday August 18, 2011), please see below a copy of the email that I sent to s.22 on Wednesday Aug 10, 2011. Included in that email is the map image and a brief explanation of the findings, to which I would like to add a few additional statements.

When Aquifer 89 IIC was mapped, it was classified as having a low vulnerability, low productivity and a moderate demand placed on the aquifer. Since then, several additional wells have been developed in the aquifer. However, without a hydrogeologist to re-map and re-classify this aquifer, it is not known if the demand aspect of the classification would change. Regardless, the aquifer classification system is primarily a tool to help compare one aquifer with another and to provide guidance on future direction. It does not definitively identify how much water is available or being used. A proper aquifer assessment would be required to answer these questions.

From the information you provided me this morning, it sounds like there may be three aquifers in the Haldi Lake area in question. The shallow excavated wells are likely tapping into a surface aquifer, which may contribute to the many streams in the area. Use of these cistern wells would likely have little to no effect on water in the deeper aquifers. You also identified what is likely a second unconsolidated aquifer approximately 200ft deep, which occurs intermittently. These could possibly be the result of pre-glacial drainage channels or glacial outwash deposits, and this aquifer may or may not be connected to the deeper consolidated bedrock aquifer which lies anywhere from 65ft to 600ft depth. These are just educated guesses based on your information, and would need to be confirmed by a professional hydrogeologist.

The map image below identifies the unconsolidated bedrock aquifer by a red aquifer boundary line. This aquifer boundary is approximate and with additional information would likely be altered. Please note that water supplies from bedrock aquifers can be unpredictable, and interpretation of bedrock aquifer studies can be complex and difficult.

As discussed, many factors are involved in calculating the ability of an aquifer to supply water to multiple sources. All factors need to be reviewed together in order to get a more accurate understanding of the aquifer. These can include, but are not restricted to, the size of the aquifer, the geology, the recharge to the system, the number, size and usage of any and all draws on the system, larger influences on the aquifer such as periods of drought, etc.

In order to assess the impact of a given well on other wells in the area, a study (i.e., "*Evaluating the Long-term Well Capacity*") should be conducted by a professional groundwater specialist. This study would include a 72 hour pump test, where the well is pumped at the same rate of intended usage. The study should include several nearby existing wells as observation wells during the pump test. If one of the nearby wells is completed in the deeper unconsolidated

(sand and gravel) aquifer, then obs wells should be considered for both the unconsolidated aquifer and the consolidated (bedrock) aquifer. The observation wells should be monitored for changes to static water levels during the pump test. This is the best way to show whether any single well will have an adverse effect on other wells in the local area and/or system.

Refer to the *Evaluating the Long-term Well Capacity* document at the following website for more information:
http://www.env.gov.bc.ca/wsd/plan_protect_sustain/groundwater/library/eval_well/toc.html

Please feel free to contact me if you have any further questions or concerns.

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Please see that image below. The red outline shows the boundary of the 89IIC aquifer in Vanway South. As you can see in the "Identity Results" box adjacent to the map, the aquifer is a low productivity one with moderate demand, all of which is for domestic use. In addition, this is a 7.5 km² bedrock aquifer, and has low vulnerability.

The blue dots identify all of the registered wells in the area. The well records indicate that the bedrock depth varies anywhere from 500 ft to 65 ft depending on the location within the aquifer's boundaries. The well logs also indicate final drilling depths ranging anywhere from 700 ft to 7 ft, and yields of between 2 and 40 US gallons per minute. Please be aware that the shallow wells, particularly those along Parkridge, and Porter Creeks and their tributaries, are likely drawing from a different shallow aquifer and therefore would likely have no affect on the demand on the 89IIC aquifer.

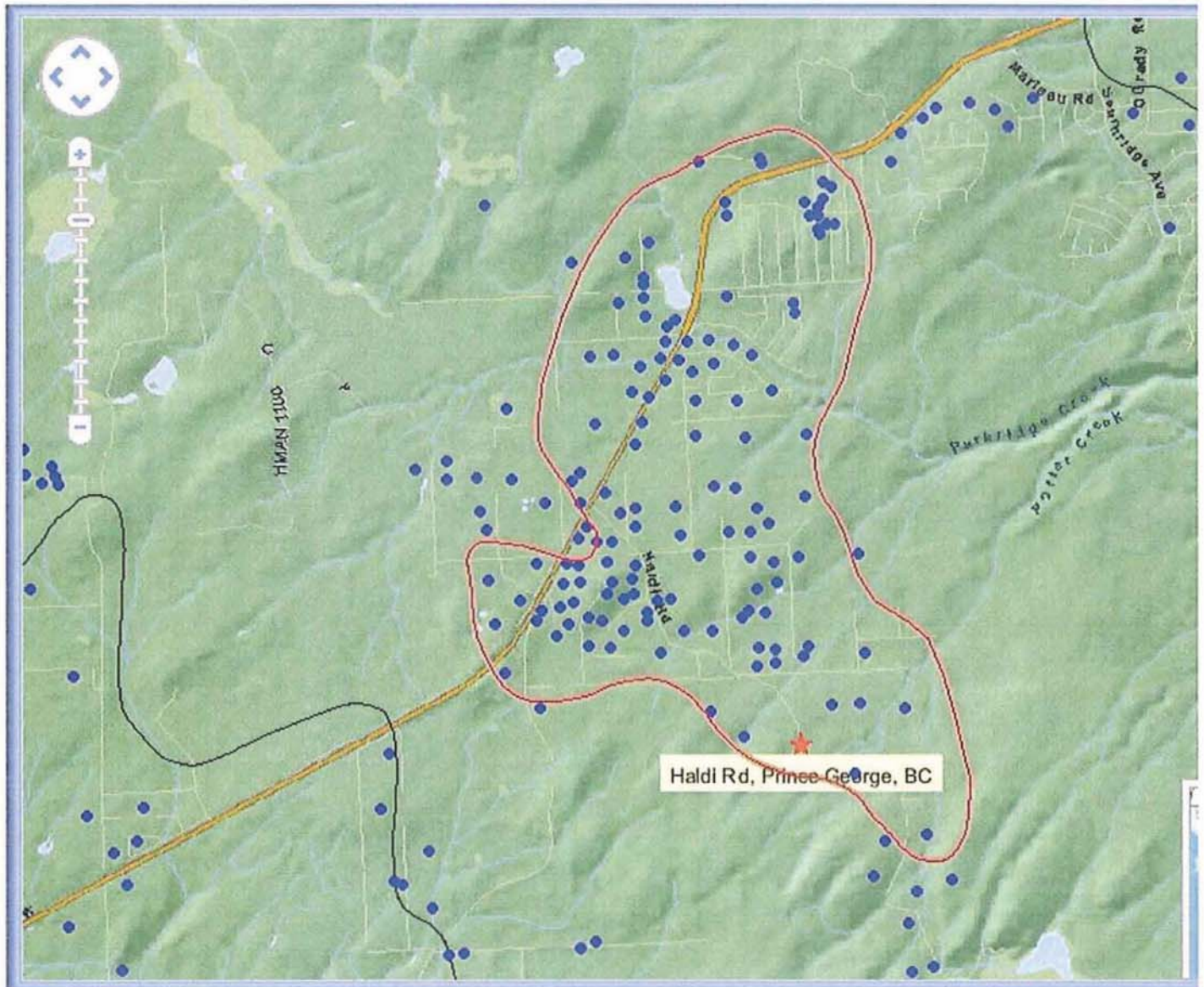
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Please feel free to contact me if you have any further questions, or require additional information.

Thanks,

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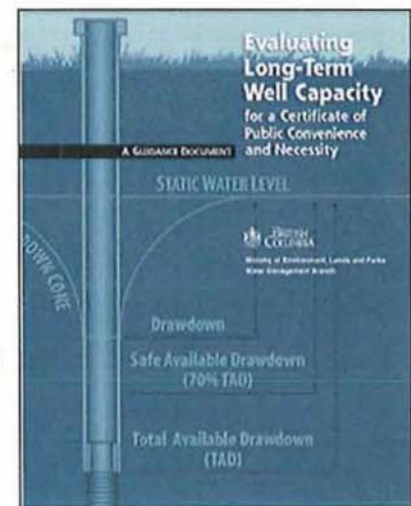
Ministry of Environment

Water Stewardship

Evaluating Long-term Well Capacity for a Certificate of Public Convenience and Necessity

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Bonner, Cindy L CSNR:EX

From: Heslop, Kirsten ENV:EX
Sent: Thursday, August 18, 2011 11:17 AM
To: Ronneseth, Kevin ENV:EX; Carmichael, Vicki ENV:EX
Subject: Haldi Lake School

<http://www.princegeorgecitizen.com/article/20110428/PRINCEGEORGE0101/304289978/-1/princegeorge/rehab-whispers-confirmed>

FYI

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THE PRINCE GEORGE CITIZEN

it's what matters to you

Published April 28, 2011
LOCAL NEWS

Rehab whispers confirmed

Former Haldi School to house up to 30 residents

Neighbours of the former Haldi school past College Heights are wondering if the rumours are true -- is a women's addictions treatment facility moving in?

The answer is yes, according to a news release issued Wednesday from the Northern Supportive Recovery Centre for Women.

"It has long been a dream of this community to have services like this right here at home in the North," said Dr. Michelle Sutter, spokesperson for the centre's board. "For far too long, Northern women have had to wait for months and travel to Vancouver to receive in house recovery services."

Neighbouring Leslie Road resident Laura Jagodnik is wondering why she only heard about the proposal while attending a garage sale held by the building's previous owners two weeks ago.

"They said the owners who purchased the property are going to open a drug and rehab centre for women," Jagodnik said. "There has nothing been given to us. Not that I'm against a facility of that sort, but we don't have any answers. The main question around here is what kind of care is it?"

The former school is currently zoned for a single-family dwelling, according to a property information report from the city. In 2011, the assessed value of the land and building was \$407,000.

City acting director of planning and development Dan Milburn said no application to rezone the property has been filed with the city as of Tuesday afternoon.

Sutter said the facility "will compliment the great work being done by other service agencies in Prince George and the North and help countless women long into the future."

And according to the release, the next steps for the society will be to "confirm the facility location after consultation with the neighborhood and raise \$400,000 to be used for furniture, equipment and supplies.

"A full neighborhood consultation and open house will be conducted commencing next week to involve the 65 neighboring households in the process of site selection," said Sutter. "Members of the society will be distributing invitations door-to-door beginning on Friday May 6 and Saturday May 7."

In the meantime, Jagodnik is compiling questions and concerns.

She said she's worried a long-term care facility with residents coming and going would have a different impact than a detox facility or short-term treatment facility.

"This could totally, totally change our neighbourhood," Jagodnik said. "What kind of people will it draw into our neighbourhood? If it has been bought up by a Vancouver association, are they going to have any concern for the community?"

According to the release, the Northern Supportive Recovery Centre Society board was selected "for their strong Northern roots combined with unique knowledge, skill and ability in the areas of medicine, social work, financial management and social advocacy."

Several members of the board had also been members of the Baldy Hughes men's addictions treatment facility until recently, when Lower Mainland directors recently took over the facility. And former Baldy Hughes executive director Marshall Smith is also heavily involved in the project.

Jagodnik also has concerns about the well and septic system at the former school, asking will it have the capacity to handle the increased use without impacting water quality for the area?

"My kids went to that school, when it was open, and the last year they couldn't drink the water - we had to bring bottled water," she said.

Other residents, like Michael Busch of Haldi Lake Road, hadn't heard about the proposal until asked by The Citizen about the issue.

"You'd think they'd send something to the neighbours. It's important that they canvas the neighbourhood," he said. "I'm just taken aback. I'm not for it or against it, but I need more information."

Neighbours on Birchill Road Dawn Teichman and Dan Gaboury hadn't heard about the proposal either.

"Do they get out a lot? What kind of people are they?" Teichman asked.

But not all neighbours are fretting over the initiative.

Gaboury said he'd like more information about the proposal, but wasn't overly concerned.

"I don't see any particular reason why I'd be against it."

Haldi Lake Road resident Sharon Ehm said she too had heard about the proposal at the former owners' garage sale.

"As far as I'm concerned, I think it's a good idea. I'm all for addiction treatment centres," Ehm said. "I don't mind it near by, as long as it's secure."

What is the Northern Supportive Recovery Centre for Women?

The Northern Supportive Recovery Society board includes Dr. Michelle Sutter, Ann Marie Henderson, Roberta Kreitz, Tom Sentes, Rod Bellman, Peter Tiani and Selen Alpay.

According to the board's press release, the Northern Supportive Recovery Centre for Women will be "a healing community for adult women who have lost touch with their authentic selves."

The centre will offer a residence for up to 30 women who will address a wide range of issues including alcoholism and substance abuse as well as anxiety, codependency, avoidance and recovery from grief

and loss.

"The Northern Supportive Recovery Centre will be located away from the daily demands and influences of their lives, the women will begin to feel free to focus on themselves, and take new risks to explore and change."

Daily services will be provided by round-the-clock staff, with group activities in the evening that include varied 12-step meetings.

"Women will receive complete social, spiritual and medical assessments along with individualized, outcome-based recovery planning," states the release.

"An integrated team will offer experiential, community-as-method, cognitive/behavioral and expressive techniques, as well as culturally sensitive ceremonial experiences."

Research and referrals for ongoing support will be offered and after discharge, the program will provide access to weekend workshops which will be free of charge, weekly open 12-step meetings, and an alumni support group.

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