Local Planning Appeal Tribunal
CASE NO. PL180376
5507 River Development Inc. v. Niagara Falls (City)
Case Hearing Date: 2021/10/25

PARTICIPANT STATEMENT

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In opposition to this proposed massive development, the two issues I wish to focus on are 'Questionable Sewage Capacity' and 'Risk of Damage by Underground Blasting'.

I ask that these issues be given special attention with regard to submission of evidence, based on what I hope the Tribunal will agree is the need to err on the side of caution, given what is at stake: potential to overburden the neighborhood sewer system and put our natural environment at risk (overflow discharge of untreated wastewater into the Niagara River) by plunking 390 bathrooms on this property; and risk of structural damage to neighboring homes, underground infrastructure (pipes), and an iconic, irreplaceable natural geological feature (Niagara Gorge walls) by blasting in bedrock, in close proximity, to excavate 3 levels of underground parking.

My home (of 40 years) sits 3 blocks northwest of the proposed development site. My experience in this matter is lived — historic havoc wreaked by sewer-related basement flooding in this catchment area, and damage to my home (wall cracks) caused by municipal sewer line replacement work involving blasting.

Issue 1. Questionable Sewage Capacity

My position is that 'questionable sewage capacity' of the Bender Hill Sewage Pumping Station (SPS) prior to, at time of, and after filing of the original application, would justify City non-decision, deferral or refusal of a development of this scale, at this site:

□ In conformity to Part 4, Section 2.6.6 of the City of Niagara Falls Official Plan:
"When considering an amendment to the Official Plan, Council shall consider the availability of adequate municipal services and facilities for the proposed use and its impact on community facilities and natural environment; and 2.6.7 financial implications ..."

□ Consistent with Provincial Policy 1.6.6.7 Planning for stormwater management shall:
a) ensure that systems are optimized, feasible and financially viable over the long term;
b) minimize, or, where possible, prevent increases in contaminant loads;
d) mitigate risks to human health, safety, property and the environment;

Situation Summary:
The proposed development is in the catchment area of Bender Hill Sewage Pumping Station (SPS) — a Regional Niagara responsibility. The Region's 2016 Master Servicing Plan (MSP) for this station was "based on growth projections — forecasting little growth within its catchment area to the year 2041"— as it was NOT intended for intensification.

In 2017, the station was cited as a "concern for development capacity needs".

An Environmental Assessment Report (2020) stated the station is "approaching the end of its theoretical useful life ... continues to degrade and poses operational challenges. Major capital upgrades are required to maintain the safe and long-term operation."

The design stage was estimated to take place in 2020 and last 12 months, followed by an estimated 24 months for construction, anticipated to commence in Fall of 2021.... The Region would further review construction phasing during the design phase.

Questions:
□ Where is the project with respect to this timeline?
□ Upgrades to what level? Sufficient for a development of this scale?
□ If not sufficient: What impact on neighboring homes and environment?
(Overflow discharge of untreated sewage at Bender Hill SPS is into the Niagara River.)
□ If further upgrading required to accommodate: At what cost to taxpayers?

I respectfully request Regional Niagara documents be provided to LPAT to answer these questions in conformity with City of Niagara Falls Official Plan PART 4, Section 14: 14.2 "In order to ensure that all possible information is available to the City, the public and agencies ..."; 14.3 ... "addressing the availability of adequate municipal services and facilities for the proposed use and its impact on existing municipal services and facilities."

Supporting 'Questionable Sewage Capacity' (Prior / At / After Filing):
□ TIMELINE of Studies/Info Release v. Development Application Process (pg 3)
□ EXCERPTS of Documents (A-D) (pgs 3-9)

A) Pre-Construction Meeting (December 1, 2016) Checklist [screenshot on TIMELINE (pg 3)]

B) City of Niagara Falls Pollution Prevention & Control Plan Study Update (November 2017)
by GM BluePlan Engineering [GMBP Project File: 615043] [suggest copy-paste to open this link]
https://niagarafalls.ca/pdf/tenders/2092/appendix-h-pollution-prevention-control-plan-11-15-2017.pdf

C) Regional Municipality of Niagara Final Project File Report (January 11, 2020):
Bender Hill Sewage Pumping Station Schedule B Class Environmental Assessment
by GM BluePlan Engineering [GMBP Project File: 617108]
https://www.niagararegion.ca/projects/bender-hill/pdf/final-report-bender-hill.pdf

D) Bender Hill Sewage Pumping Station Upgrades Timeline (Niagara Region)
https://www.niagararegion.ca/projects/bender-hill/default.aspx

TIMELINE of Bender Hill SPS Studies/Info Release v. Development Application Process Supporting 'Questionable Sewage Capacity' (Prior / At / After Filing)

November 2015: GM BluePlan Engineering (GMBP) team were issued Request for Information RE: Bender Hill SPS Study

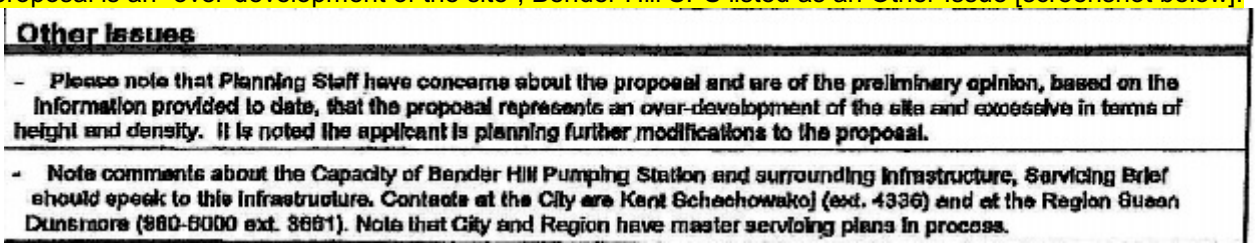
February 25, 2016: Pollution Prevention and Control Plan (PPCP) Update Study: Public Information Centre #1 at MacBain Community Centre

March 21, 2016: City of Niagara Falls PPCP Update Study Modelling Workshop [city/region staff, GMBP]

April 14, 2016: Master Drainage Plan Update Study: Public Information Centre (PIC) #1 at Gale Centre

August 18, 2016: City of Niagara Falls (PPCP) Update: Technical Steering Committee (TSC) Meeting

A) December 1, 2016: Pre-Construction Meeting re: (original) development - Checklist. Staff noted opinion proposal is an "over-development of the site"; Bender Hill SPS listed as an Other Issue [screenshot below]:



Other Issues

- Please note that Planning Staff have concerns about the proposal and are of the preliminary opinion, based on the information provided to date, that the proposal represents an over-development of the site and excessive in terms of height and density. It is noted the applicant is planning further modifications to the proposal.
- Note comments about the Capacity of Bender Hill Pumping Station and surrounding infrastructure, Servicing Brief should speak to this infrastructure. Contacts at the City are Kent Schechowski (ext. 4336) and at the Region Susan Dunsmore (980-6000 ext. 3661). Note that City and Region have master servicing plans in process.

December 12, 2016: PPCP Update: Study Class Environmental Assessment PIC #2 at Gale Centre

June 13, 2017: City Council Meeting ... Presentation to councillors re: [MW-2017-23] (PPCP) ... *Bender Hill SPS (Sewer Pumping Station) (Region) and Palmer Avenue receiving sewer (City) cited as "areas of concern for development capacity needs."*

July 5, 2017: (Original) development application dated as RECEIVED

November 2017: City of Niagara Falls Pollution Prevention & Control Plan (PPCP) Study Update: GMBP File: 615043 – by GM BluePlan Engineering:
Bender Hill SPS (Sewer Pumping Station) (Region) and Palmer Avenue receiving sewer (City) cited as "area of concern for development capacity needs."

November 23, 2017 - January 12, 2018: PPCP Update Study 30 day Review period

March 29, 2018: [Unknown to city staff] developer files LPAT appeal based on "non-decision"

June 6,2018: Regional Niagara Bender Hill SPS Process and Structural Condition Assessment Report [GMBP FILE: 617108] cites key findings of April 4th, 2018 field investigations: "Average pump capacity of 87 L/s (24% drop from certified values). Significant deterioration within wet well. Moderate to severe deterioration within the dry well."

June 19, 2018: Public /Council Meeting ... Deferral (to July 10th) request by developer - granted
July 10, 2018: [Development NOT on agenda]
August 14, 2018: Public / Council Meeting ... Deferral Request by developer - granted

January 11, 2020: Regional Bender Hill SPS Schedule B Class Environmental Assessment - FINAL states "station is approaching the end of its theoretical useful life."

GMBP File: 615043
November 2017

City of Niagara Falls

Pollution Prevention & Control Plan Study Update

BluePlan ENGINEERING
GUELPH | OWEN SOUND | LISTOWEL | KITCHENER | EXETER | HAMILTON | GTA
www.GMBluePlan.ca

https://niagarafalls.ca/pdf/tenders/2092/appendix-h-pollution-prevention-control-plan-11-15-2017.pdf
[suggest copy-paste to open this link]

EXCERPTS: **[Screen shots or copy-pasted from documents.]**

[NOTE: Highlighting is by me.]

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1.3.1Study Area and Scope
... The City of Niagara Falls is unique in that it experiences an annual influx of approximately 14 million tourists (May to September), which puts significant load on the City's core infrastructure during these months. The increased load when combined with spring and summer precipitation events, results in periods when the system experiences significant capacity issues resulting in increased overflows to the environment and/or basement flooding events. Capacity issues are not confined to this period, however, the system does experience capacity limitations more frequently during this period as evidenced by in system flow monitoring.

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Project	Purpose	Est. Cost (2008$)	Timing	Completed	Actual Construction Cost (2017$)	Notes
Bender Hill PS	Sewer separation – further separation to address remaining area of combined sewers. Work contingent upon additional flow monitoring	$2,500,000	2011-2012	Not Completed	unknown	No supporting documentation*

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In addition to both dry and wet weather flow analysis the model provided the ability for the GMBP team to evaluate the impact of growth on the wastewater system. Two forecast horizons were employed, short term 1 to 5 years and a 25 year horizon to 2041 which coincided with the Niagara Region Master Servicing Plan and Municipal Comprehensive Review. This analysis resulted in the identification of four primary areas of concern with respect to development capacity as illustrated in Figure 3.

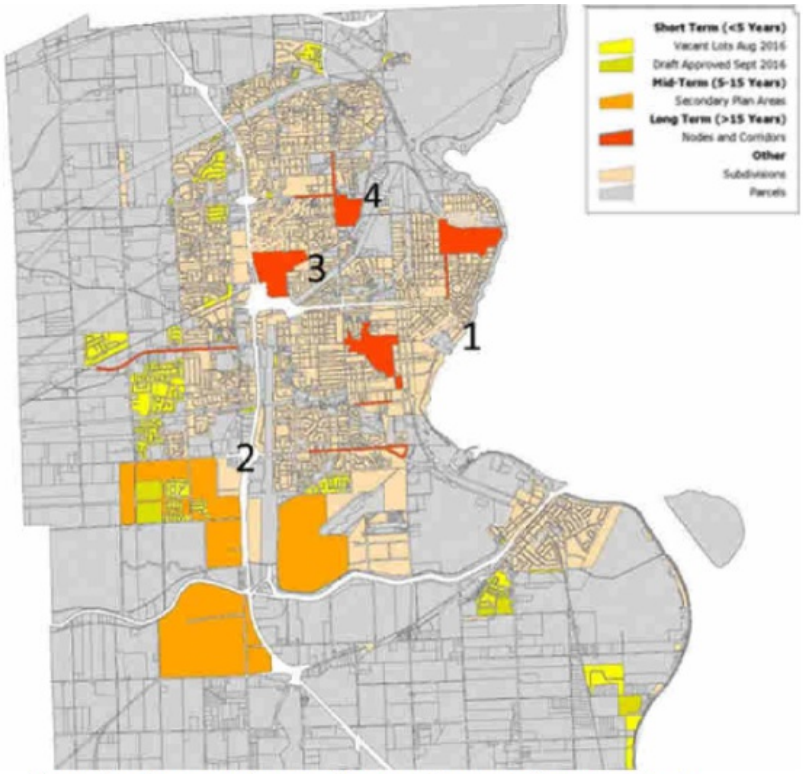

Figure 3 – Areas of Concern for Development Capacity Needs

Areas of concern with respect to capacity are shown according to the associated forecast period(s) and are as follows:

1. Bender Hill PS (Region), and Palmer Avenue receiving sewer (City).
2. High Lift PS (Region) and influent sewers (City).
3. Stamford Interceptor to Stanley Ave WWTP (Region)
4. Stanley Avenue WWTP

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Niagara Falls is projected to add 51,885 people and jobs by 2041. 64% of this growth is expected to occur South of Lundys Lane with an additional 23% occurring in areas south of the Welland River.

For the purposes of discussion, short and long term growth horizons are shown in this section of the report however the supplied InfoSWMM model has additional discrete scenarios consistent with the horizons indicated in Figure 17.

1. 5 year (2022) – including development identified by the City of Niagara Falls Planning Department development forecast. This scenario did not indicate any capacity constraints within the collection system with the possible exception of Bender Hill PS which due to local development may be approaching approximately 80% design capacity.

2. 25 year (2041) – including the above plus growth consistent with full build out at 2041 as identified in the Regional Niagara MCR. This scenario indicates four areas of concern from a capacity perspective, namely

    1. Bender Hill SPS, influent sewers, forcemain and 675mm gravity sewer on Palmer Avenue.
    2. High Lift SPS and easterly 1375 mm influent sewer on located on Oldfield Road at or beyond design capacity
    3. Stamford Interceptor, 1050mm, from Dorchester Road to Stanley Avenue WWTP
    4. Stanley Avenue WWTP approaching capacity – (85%)

Final Project File Report:
Bender Hill Sewage Pumping Station
Schedule B Class Environmental Assessment

Niagara Region

The Regional Municipality of Niagara
GMBP Project Number: 617108
January 11, 2020

GM BluePlan ENGINEERING
GUELPH | OWEN SOUND | LISTOWEL | KITCHENER | LONDON | HAMILTON | GTA
www.GMBluePlan.ca

https://www.niagararegion.ca/projects/bender-hill/pdf/final-report-bender-hill.pdf

EXCERPTS: **[Screen shot or copy-pasted from documents.]**
[NOTE: Highlighting is by me. Questions by me are in this color.]

page iv [6 of 151] The station collects wastewater flows from a significant portion of the City of Niagara Falls core tourist district, including sanitary sewage flows from Eastwood Crescent, and Murray Street to Main Street.

page vi [8 of 151] The design stage is estimated to take place in 2020 and have a duration of 12 months, followed by an estimated 24 months for construction, anticipated to commence in Fall of 2021.... The Region will further review construction phasing during the design phase.

page 1 [11 of 151] (bottom) ... into page 2 [12 of 151] The station was commissioned in 1962 and has since undergone upgrades and various maintenance activities, while continuing to service the community. Recent investigations have shown that the condition of the Bender Hill SPS has deteriorated and many components of the station are at near the end of their useful operating life. Major capital upgrades to the Bender Hill SPS are required to maintain the safe and long-term operation of this facility.

PAGE 9 [19 of 151] **3.7 Existing and Future Capacity Requirements** The firm capacity of the station is 330 L/s, based on three duty pumps and one standby pump. Existing average flows to the station are approximately 263 L/s. Based on the capacity of the downstream sewer, the capacity of the Bender Hill SPS can be upgraded to a maximum rate of 464 L/s.

The 2016 Master Servicing Plan(MSP) growth projections forecast little growth within the Bender Hill SPS catchment area to the year 2041. Restoring the Bender Hill SPS to its 330 L/s firm capacity will allow the Region to meet MSP growth projections. However, discussions with project stakeholders indicated that there are several large-scale developments being proposed within the station's catchment area, meaning an increase in capacity will be required (possibly to the maximum of 464 L/s).

PAGE 10 [20 of 151] **4. Problem/Opportunity Statement** Since its construction, there has been a number of upgrades to the station to maintain its operation. However, the station is approaching the end of its theoretical useful life. The station continues to degrade and poses operational challenges.

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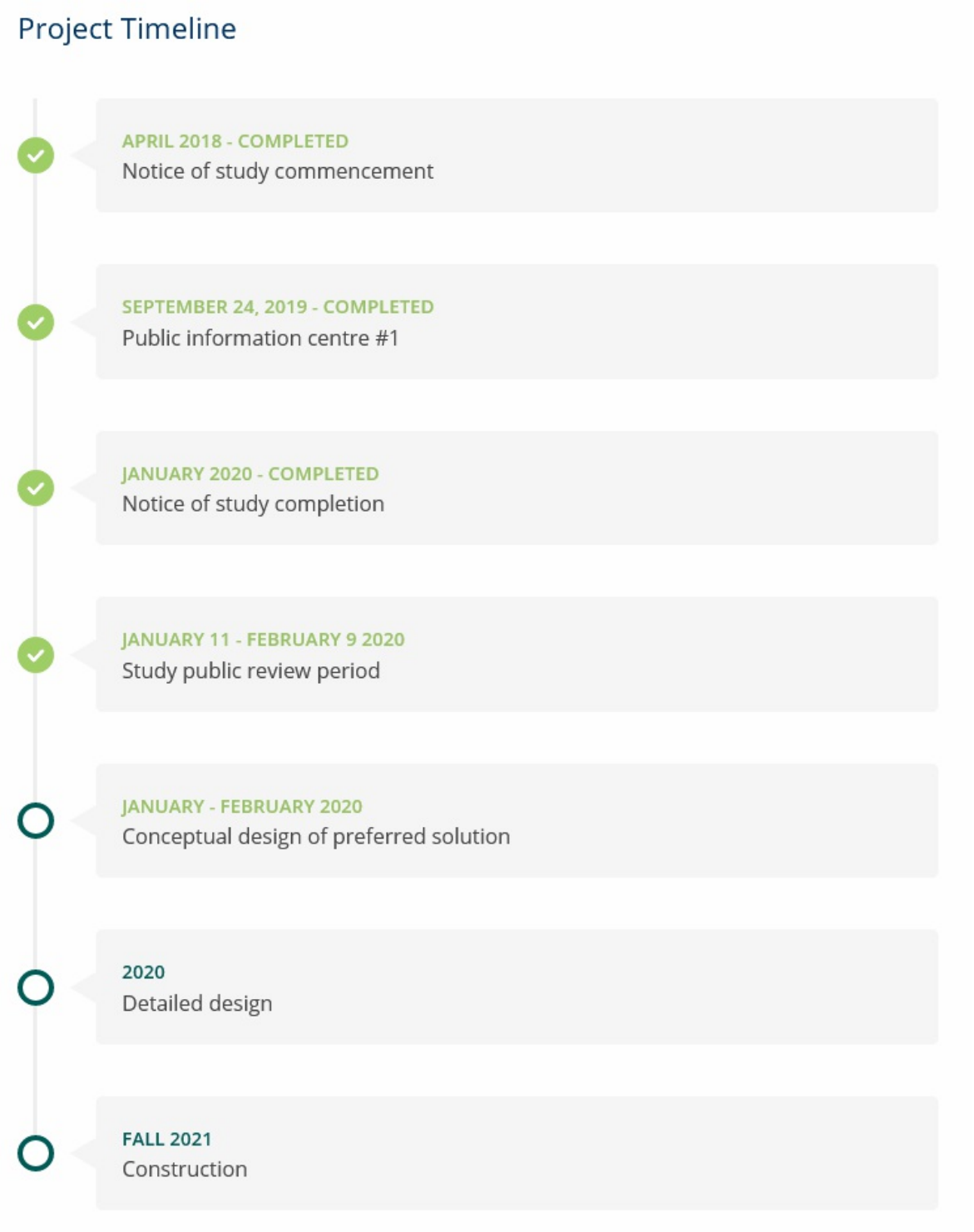
What is an Overflow?

- Overflow is the discharge of untreated wastewater to the natural environment, in the case of Bender Hill, the Niagara River
- Normally takes place during heavy rainfall and/or thaw events when clean water entering the collection system exceeds its capacity

D) Bender Hill Sewage Pumping Station Upgrades (Niagara Region)
https://www.niagararegion.ca/projects/bender-hill/default.aspx



Where is the project with respect to this timeline?
Upgrades to what level? Sufficient for a development of this scale?
If not: What property and environmental damage? What cost to taxpayers to accommodate?

Issue 2: Risk of Damage by Underground Blasting

My position is that protection against uncertain 'risk of damage' to neighboring homes, underground infrastructure (pipes), and an irreplaceable iconic natural geological feature (Niagara River Gorge walls) by blasting—given the proximity, depth and extent of bedrock excavation—would be justification for City non-decision, deferral or refusal of an application of this scale, at this site:

□ Consistent with Provincial Policy 1.1.1. c) avoiding development and land use patterns which may cause environmental or public health and safety concerns; and 2.1 protecting natural features and areas for the long term.

□ In conformity to the City of Niagara Falls Official Plan
Part 2, Section 11.2.21 and Part 4, Section 14.2.5 requiring geotechnical investigation and slope stability study for proposals within/adjacent to steep slopes and lands susceptible to erosion (to adequately demonstrate that the proposed development will not impact); and
Part 4, Section 2.6.6 (adequately demonstrate that the proposed development will not impact) natural heritage features, significant wildlife habitat or species at risk;

Bottom Line? If studies are missing or deemed insufficient ... City staff and council would have not only the right, but the responsibility to err on the side of caution — "to protect" ... in the face of history and geology.

Blasts From the Past: Damage on a 'Sewer Line' Scale

In 1991 the City of Niagara Falls contracted sewer line replacement in the Palmer Avenue / Cookman Crescent / College Crescent area — to eliminate combined sewer overflows. Excavation involving underground blasting in bedrock on Palmer caused damage to my home (wall cracks on three levels: basement, first and second floor).

My home sits a block away from that Palmer blasting, three blocks northwest and uphill of the proposed development site. Like many in this neighborhood, my home is very old (~90 years), has a random rubble stone foundation (typical of the time); and bedrock (at my uphill location) lies just inches below my basement floor.

□ Palmer blasts were to a depth of ~3m — on a 'sewer line' scale.
□ The proposed blasting would be to ~9+ m — on a '3-level, 450 parking spaces' scale.
□ Neighboring homes are as close as 'next door' to the proposed blasting.
□ The Niagara River Gorge walls are literally across the road.

[Footnote: I had no recourse for compensation as no pre-construction pictures were taken. But pre-construction checks only help document damage — not prevent it; and 'after-damage' compensation wouldn't erase the stress and anxiety involved. In my case, it was cracked walls. Old sanitary sewer laterals would be very susceptible to damage and much harder to assess — a very real, proven risk that must be fully addressed in this current case.]

Historic Niagara Gorge Collapses: The Risk Exists

On July 28, 1954, a huge section of Prospect Point observation area at the brink of the American Falls collapsed, sending 185-thousand tons of rock thundering into the Niagara River Gorge (500 metres upstream) ... On June 7, 1956, a cascade of five rock slides dropped more than 100-thousand tons of debris on the Schoellkopf Power Station (directly across the gorge from the proposed development site). The risk exists.

Geology: Knows No Borders

The Geotechnical & Hydrogeological Report (Golder) for the proposed development documents that the onsite bedrock consists of dolostone belonging to the Lockport Formation — both Goat Island and Gasport Members of the Lockport Formation are present within all four boreholes.

The two historic gorge collapse sites on the U.S. side ... share this same geology. At one time, there was no great gorge at this site — only a river running through/over one continuous stretch of bedrock. Geology knows no borders. Neither do the risks.

Erosion: A Natural Factor

Niagara Falls (originally at Queenston-Lewiston) moved 7 miles in 12,500 years by water erosion of bedrock — naturally.

Erosion and water seepage combined to cause the devastating rock slide that crushed the Schoellkopf Power Station. **The difference?** It came about because of a man-made structure — approved for development. However diligent the process, it happened. And it could happen again — on this side, on this site.

Niagara Parks Commission (NPC) would be THE source of documents related to erosion of gorge walls and adjacent River Road on the Canadian side — as they are the agency responsible for repairs. If not submitted by NPC as part of their Participant Statement, I ask the Tribunal to consider requesting they be submitted into evidence.

Blasting: What IF?

The Niagara River is a natural heritage feature of such high quality, iconic status and significant tourism-related economic importance ... I ask the Tribunal to give protective policy its most liberal interpretation in this case: There will be no second chances.

Supporting Facts, Potential Risk and Uncertainty: EXCERPTS from the Applicant's Own Report

□ Geotechnical and Hydrogeological Report (Golder)
http://www.niagarariverroad.ca/Golder2019.pdf

EXCERPTS: [Copy-pasted from documents.]
[NOTE: Highlighting is by me. Comments/questions by me are in this color.]

page 1 [5 of 84] **1.0 INTRODUCTION** If the project is modified in concept, location or elevation, or if the project is not initiated within eighteen months of the date of the report, Golder should be given an opportunity to confirm that the recommendations in this report are still valid.

page 5 [9 of 84] **4.3.6 Bedrock** The bedrock consists of dolostone belonging to the Lockport Formation. Both the Goat Island and Gasport Members of the Lockport Formation are present within all four boreholes.

Page 9 [13 of 84] **5.2.2 Bedrock** Excavation in Lockport Formation dolostone bedrock can most efficiently be carried out through the use of drill and blast techniques. Since this is a residential area, before blasting is considered as an excavation method a blast impact assessment should be carried out. If blasting is allowed, then it should be carried out by an experienced specialist contractor under the design criteria specified by a specialist blasting and vibration monitoring firm. It should be noted that even with careful blasting procedures, a significant difference in elevation levels across the excavations could still result in this bedrock. [How can decision to proceed be done before a blast impact assessment?]

page 10 [14 of 84] **5.2.3 Vibration Monitoring**
Excavation into bedrock will cause vibrations which will influence the surrounding structures; therefore, a vibration monitoring program should be implemented during construction to monitor and limit vibration effects on the structures within the area of influence. The method and equipment selected for the excavation by the contractor should take into consideration the vibration limits of the site.

Page 14 [18 of 84] **6.0 ROCK SLOPE STABILITY ALONG RIVER ROAD**
In order to address any concerns regarding the stability of the Niagara River gorge slopes near the site and any potential impact that the excavation work carried out for the development project might have on the stability of the gorge slopes, Golder has been requested to visually assess the slope conditions along River Road near the site and comment on the potential affects of blasting during construction.... The visual observations were limited by the available vantage points along the River Road sidewalk and were sometimes obscured by the vegetation along the crest of the slope. [In lieu of an actual Slope Stability Study?]

Geotechnical and Hydrogeological Report (Golder):
EXCERPTS ...

Page 17 [21 of 84] **6.0 ROCK SLOPE STABILITY ALONG RIVER ROAD**
Although bedrock excavation by blasting will result in ground vibrations in the rock along the gorge, the impact of this is expected to be relatively minor. In some circumstances where very loose, detached blocks or wedges of rock are present on the exposed surface of the rock face along the gorge (due to ongoing weathering and erosion), the blasting vibrations may cause some of these blocks or wedges to become unstable and fall into the gorge.
[See What About Impact of Blasting ... Habitat or Species at Risk? (Below)]

Page 17 [21 of 84] **7.0 ADDITIONAL CONSIDERATIONS**
The construction activities could impact the existing adjacent structures, utilities and buildings. Appropriate damage assessments (pre and post-condition surveys for example) should be carried out as necessary. Information related to the type, depth and design bearing capacities of the adjacent structures, utilities and sensitivity of adjacent buried services, should be collected and incorporated into the design.

What About Impact of Blasting, Construction Vibration on Significant Wildlife Habitat or Species at Risk?

Those of us who live in this neighborhood know there are bats in the caves, crevices and forested areas of the Niagara River Gorge. They venture into our yards, foraging mosquitos on summer nights. I have personally ‘escorted’ one out of my house.

It is also known via Environmental Impact Studies, that two species of bats listed as endangered under the federal Species at Risk Act (SARA) exist in Niagara Falls: Little Brown Myotis and Northern Myotis.
□ Has acoustic monitoring been undertaken to confirm the presence/absence of these species-at-risk bats in the gorge, within ‘blast impact/construction vibration’ of this site?

When the Niagara Parks Commission (NPC) held Party Status, this was one of their Issues of concern: □ “Does the applicant’s geotechnical and hydrological investigation report adequately address any potential winter construction activities that could impact bat hibernacula in the Niagara Gorge east of the subject lands, through additional bat monitoring prior to any winter construction?”

NPC would be THE source of study/report documents related to bat habitat/hibernation in winter in the gorge walls on the Canadian side directly below and near the proposed development site. If not submitted by NPC as part of their (new) Participant Statement, I ask the Tribunal to request such documents be submitted into evidence — to give these creatures fair consideration, consistent with protection under Provincial Policy and the City of Niagara Falls Official Plan.