

**Comments on the
Environmental Screening Report
for the
North Bala Falls Small Hydro Project

Technical Report**

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1 Introduction

On behalf of SaveTheBalaFalls.com, we submit these comments on the environmental screening report on the proposed north Bala small hydro project.

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1.1 Summary

We have carefully read the environmental screening report for the proposed project and have many concerns. In summary these are as follows:

- 1) Public safety, especially for the existing in-water recreational activities both upstream and downstream of the proposed power station. We also have concerns that there would not be an alternative route for the portage between Lake Muskoka and the Moon River, and the safety fencing required.
- 2) Tourism and local economy, particularly due to the majestic Bala Falls becoming just a trickle of water, and the proposed large industrial facility being built directly in view of the most common tourist vantage point. This would remove the draw of tourists to the area, and therefore severely affect the local economy. The construction of the proposed project would make over 500' of precious Muskoka shoreline too dangerous for use – this being virtually all of the publicly-accessible shoreline in the area.
- 3) Financial issues. The economy of the area is completely dependent on tourism, yet the proponent has not done any study of how this loss of shoreline, restriction to in-water recreational activities, and significant visual impact would have on the businesses in the area. The disruption for the construction period would also be devastating, yet no analysis has been presented.
- 4) Construction concerns relating to traffic problems during the construction period and what guarantees would be provided that the project would be completed as proposed, and the site fully-restored, regardless of any difficulty the proponent may encounter, given that the proponent has no operating history, no other facilities or operations, and no assets.
- 5) Noise and vibration have been virtually ignored. The noise calculations only included two of the five sources of noise, assumed there was a background level of urban noise (or possibly noise from the falls – which would no longer exist), and ignored at the two most important locations at the power station which they claim will be a “park-like setting”. There was no vibration analysis provided.

- 6) The information on fish habitat jumped to conclusions without supporting information and provided conflicting information on compensation areas.
- 7) The proposed power station would use 288,000 litres of water per day for cooling, yet did not provide any information on how this water (which would be directly discharged to the Moon River) would be tested for contaminant leaks, nor any details on how the drain water from the wash sink (or what chemicals may be used in that sink) or the main sump would be treated – which would also then be discharged to the Moon River.
- 8) We expended significant effort to discuss with the proponent alternatives that would address many of the above significant concerns (such as public safety and appearance), yet they were completely dismissive of this, ignored the information we provided, and refused to seriously compare the costs and difficulties to their own proposal.
- 9) The proponent would not work with the community, but rather appeared to be manipulative. They have provided very little information on their project, and have indicated that they are near to releasing their environmental screening report for a full year, trying to wear us down with remaining on alert for this.

When the document, which is over 600 pages in length was finally released, and without any advance warning, they allowed a token two-week extension to the comment period. Requests for extension were ignored for 23 days until they announced with only 10 days remaining in the comment period that they would not extend the deadline.

Many questions were posed to the proponent during this comment period:

- a) Many were ignored.
- b) Many were responded to on the last day of the comment period (even though these were submitted ten days prior to the deadline).
- c) Requests for updates on whether these questions were received or answers forthcoming were ignored.

Despite this proposed project being located directly in the view of Bala's most significant tourist draw, the proponent refused to provide a realistic rendering of the project, the provided rendering omitting all actual components of the project, such as the door. Incorrect information seems to have been provided about whether the apparently less-desirable Option 1 could have been built entirely on crown land and whether the proponent actually could have built it, given safety issues, or would have built it, given capacity limitations.

1.2 Background

We note that the *Guide to Environmental Assessment Requirements for Electricity Projects* defines "environment" as:

- 1) Air, land or water.
- 2) Plant and animal life, including man.

- 3) Social, economic and cultural conditions that influence the life of man or a community.
- 4) Any building, structure, machine or other device or thing made by man.
- 5) Any solid, liquid, gas, odour, heat, vibration or radiation resulting directly or indirectly from the activities of man.
- 6) Any part or combination of the foregoing and the interrelationships between any two or more of them.

Many of our comments below involve concerns about item 3) above, as they are crucial to the town of Bala, the visitors to it, and the area's residents.

1.3 This Document

This document has been prepared by SaveTheBalaFalls.com, a community group with a deep understanding of the proposed site and how it is used by the public.

The proponent proposes to build hydro-electric generating station at the Bala Falls and has released an environmental screening report as part of the environmental assessment process. We feel that the proponent has not successfully mitigated many negative environmental effects, and the purpose of this report is to detail our concerns.

1.3.1 Areas Identified "To Report"

It may be that with additional study and reporting our concerns can be addressed.

To clearly itemize each area requiring the reporting of information which is missing or requires clarification we have used the format:

To Report *n*: ...

- Where "*n*" is a sequential number to assist in referencing this requirement.
- And "... " is a summary of the task required.

We believe that the areas identified for further reporting:

- 1) Are all significant enough that if they cannot be shown to be adequately mitigated, the project should not proceed as proposed.
- 2) Therefore, this reporting should all be provided during this environmental assessment process, and not left to a future possible detailed design process.

1.3.2 References

Figure referenced followed by "below" refer to Figures in this document.

All other references to Sections, Tables, and Figures refer to those in the subject environmental screening report and its appendices.

1.4 The Town of Bala

For readers not familiar with the proposed project site, we offer some background information.

The proposed project site is shown in Figure 2, below.

Bala is in the Township of Muskoka Lakes, which is in the District Municipality of Muskoka, and is a two-hour drive north of Toronto.

Every proposal for a hydro-electric generating station would negatively affect the sure-to-be-nearby falls – which would no doubt be picturesque and beautiful.

However there are some unique conditions at this particular site which are most significant:

- 1) As acknowledged by the proponent (Sections 2.2.5.10, 6.3.6.1, 7.1.1.4, 7.1.2.2, and 7.1.3.2), there is extensive in-water recreation in the area. This activity is;
 - a) At and upstream of the proposed water intake.
 - b) At and immediately adjacent to where the proposed tailrace would be.

Also, the proposed site and the shoreline is most of the available public space in the area.

So there would be a huge reduction in the possible recreation, and this would result in a significant reduction in tourism.

Also, there are significant public safety issues which cannot be mitigated by safety booms and warning signs.

- 2) Bala is a small town and virtually the entire local economy is based on tourism by repeat visitors – who are drawn to the natural beauty, accessible water, and small-town charm.

Bala is known for the Bala Falls.

The proposed project would eliminate most all the water over the Bala Falls, and would remove most of the publicly-accessible shoreline. This would have a disastrous effect on the tourist draw, which would therefore have a disastrous effect on the local economy.

2 Detailed Response

Below we detail our specific concerns of the information provided in the proponent's environmental screening report.

2.1 Public Safety

While one must always be cautious near water, we have many major concerns that the proposed power station would significantly increase the danger to the public.

The geography of the area, the location of public shoreline, and the development over the years has resulted in certain locations where recreation occurs – and can only occur, as the rest of the shoreline is private.

Since the proposed power station would be located on public lands, there is an unmitigated conflict between the existing recreational activities and the proposed power station.

This results in major public safety issues, which the proponent has only offered to resolve with warning signs and safety booms. As described below, these measures are expected to be inadequate.

2.1.1 Water Intake and Upstream

1) Railway Bridge

It is a fact that **for the 100 years since it was built**, warning signs are ignored, and youth jump off the railway bridge into the north channel (see Figure 2, below). The proponent has acknowledged this concern (Section 3.5.1.1).

a) As shown in Figure 6.5, the area below the railway bridge is behind the safety boom, so youth jumping off the railway bridge would **already be within the restricted area** where the water speed is dangerously fast and towards the huge (31'-wide and 45'-deep) water intake for the proposed power station.

- Note that this water intake is far more dangerous than a dam, because the flow over a dam would throw one over it.

- Whereas the tons of water being drawn into the (unattended and remotely-operated) power station would pin one to the trash-rack, where one would likely drown.

b) Furthermore, and as shown in Figure 6.2c, because the water is shallower below the railway bridge than on either side, the water speed is faster below the railway bridge (with a vortex that would sweep people right to the power station's extremely dangerous water intake). Therefore, jumping off the railway bridge would be **even more dangerous still**, as it is unlikely one could swim out of this extremely fast water.

The proponent does not report whether, or how long, a person could hold on to the inner "last resort" upstream safety boom at this location.

- c) In Section 6.2.5.6 the water speed under the railway bridge is given as 0.78 m/s, compared to 0.61 m/s at the proposed water intake (Section 6.3.2.1) – this faster speed because the water is shallower under the railway bridge).

As noted in Section 6.3.2, the proponent addresses this danger **only through warning signs and safety booms** (Section 6.3.1, Figure 6.5), which as mentioned above, are **known to be ineffective** and inadequate, as the are routinely ignored the recreating youth that use the area all summer, every summer.

In Table 6.1, *Summary of Potential Effects and Mitigation During Operation Phase*, the proponent notes (for *Tourism and Recreation*) that there will be a “Reduction in area available for in-water activities in boomed areas” and that “No mitigation measures possible to protect public safety”.

That is, the proponent is in effect saying; the power station intake would be dangerous, and you just need to stay away, there is nothing further that can be done!

Unfortunately:

- a) The recreation is important to the area – it is the basis for the entire area’s economy.
- b) There is nowhere else to move to, most other land in the area is private.

A conclusion could be reached that if there is no way to make the water intake safe, then the water intake should not be located there.

As a result, **we tried to work with the proponent** to investigate locating the power station in the south channel (see Figure 6, below), as there are no recreation activities near there. But the proponent was very dismissive of this, refusing to enter into interactive dialogue to work out a safe and acceptable solution, or even to seriously investigate it.

To Report 1: Methods to effectively deal with the reality that ill-advised youth jump from the railway bridge, as this existing activity would become life-threateningly dangerous.

To Report 2: The maximum safe water speeds for the various in-water recreation activities and what would be the water speeds along each of the safety booms.

2) In-water Upstream

Appendix D12 has a response from the proponent to a letter they received September 19, 2008 in which the proponent states “Jumping from the railway bridge is unsafe and illegal and there will be a large boom.”

That is true, but one must deal with the reality. And we’re concerned the “large boom” wouldn’t offer adequate safety:

- a) Youth jumping from the railway bridge do so from the north-east side (perhaps because the bridge has no side-walls at the north end, the water is deeper on that side, and their friends can watch them from that side). As shown in Figure 6.2c, the water velocity simulation shows that the water velocity is **greatest at this exact location**.

b) **This area below the railway bridge is already within the restricted area**, inside of the upstream safety boom. In this area, one would rapidly be swept, by the very fast north plume shown in Figure 6.2c, 140' to the inner "last resort" safety boom.

■ By this time, the person would be travelling at the high velocity of the water, and **even if they could grab and hang on** to the inner safety boom (and continue to hang on until properly equipped emergency response personnel could respond), a rescue would be extremely dangerous.

■ The proponent has not provided rescue procedures, even though the proponent's response to a March 12, 2009 communication from Transport Canada indicated this would be provided in the environmental screening report (see Appendix D22, Table D12). All that is offered (Section 5.3.2) is that an Operational Safety Plan would be prepared, but there is no detail provided, such as:

- A suggestion of what group should have responsibility for rescues.
- What response time would be needed.
- How long would a person be able to hold onto the inner safety boom.
- What training and equipment would be required to effect a rescue.
- What steps and time would be required to get the power station shut down.

To Report 3: Rescue procedures and responsibilities required for people hanging onto each of the upstream safety booms, and for boats held against the safety booms.

To Report 4: The steps and time required to get the power station shut down.

3) Water Speed at Intake

As stated above, the proponent knows that, due to the many in-water recreation activities at the site of the proposed power station, there is great community and public safety concern about the speed of the water which would occur at the intake and tailrace.

a) In Section 6.3.2.1 the proponent provides information on these water speeds.

b) Perhaps to make these numbers seem less alarming, the proponent shows they are "**comparable**" to the current water speed under the railway bridge **during March and April!**

Everyone knows that water speeds near a dam during spring runoff are dangerously fast, and to stay away. Yet there will be these same water speeds just a few metres away, **during the summer recreation period.**

To Report 5: Document how water speeds comparable to those during spring runoff would be safe during the parts of the main summer recreation period.

4) Water Speed Adjacent to Town Docks

a) As shown in Figure 2.4, currently, most of the water flowing from Lake Muskoka to the Moon River flows through the south channel.

- b) As shown in Figure 6.1, the construction of the proposed power station would result in most of the water instead flowing through the power station, and therefore, most of the water would be flowing into the north channel.

This brings the faster water **250' closer to the constantly-used town docks**.

It is common for less-experienced boaters to use these docks

- And anyone's boat can stall.
- Or the wind can blow your boat while you are having some difficulty navigating.

In Appendix D12, in response to an e-mail received September 3, 2008, the proponent replies: "The construction and operation of the project are not anticipated to affect velocity at the town docks; *except that the speed of the water will be increased slightly the closer you are to the railway bridge. We will have a boom in this location indicating that people should not be swimming or boating at or under the rail bridge.*"

- a) The point is that the water velocity a few feet from the town docks is **towards** the water intake – and the water intake is extremely dangerous.
- b) The proponent claims that the water speed at the town docks above the proposed water intake would be safe.
- Sure, but this is like saying it is safe to play beside a highway. It is, so long as you don't mind that you or your children are just a **few steps from grave danger**.
- c) As an example, if your boat stalled above Niagara Falls, it is rather clear what will happen.
- That is, the water speed doesn't matter, **the point is you're going to end up somewhere very dangerous**.
- d) The proponent's water speed simulation (Sections 6.2.3.1, and 6.2.5.6, and Figure 6.2c) shows that if one overshoots the dock, you'll quickly end up with the current holding your boat against the safety boom.

But:

- a) What if you panic and your canoe tips, perhaps while doing something you've never done before – trying a "self-rescue" by pulling yourself along the safety boom (as is expected).
- b) Have you ever tried paddling a canoe or kayak while held against a safety boom – you can't because the safety boom is on the side on which you need to paddle to keep from turning your bow into it.
- c) What if you can't get your motor boat started again, how do you get back to shore.

So here you are, in the most dangerous place on the lake (and you thought Bala was a safe, relaxed place), the closest you never want to be to a water intake sucking up to **80 tons of water per second** out of the north channel. And you are in a boating situation you've never been in before.

This is grave danger. Everyone occasionally makes a complete mess of docking their boat. Currently this would be a laughing matter, but if the proposed power station is built, it could be a matter of your life.

This isn't friendly to tourists and doesn't encourage return visits.

This change from slow pace, small town, relaxed, to potentially dangerous would significantly and negatively affect the attraction of Bala.

To Report 6: What would the water speed be along the safety boom. Could one push their boat/canoe/kayak along the safety boom by hand.

To Report 7: How would the feeling of imminent danger affect using the town docks for visits to buy goods and services in Bala. And how would this affect the nearby businesses who's customers travel by boat.

5) Intermittent "Ponding" Operation of the Proposed Power Station in the Summer

Please note the following:

- a) As shown in Table 2.1 the water flow through Bala in the summer months is lower than the rest of the year, with monthly flows as little as 4.2 m³/s.
- b) Section 6.2.2.1 notes that to operate, the turbine requires a minimum of 14 m³/s.
- c) Section 9 is entitled *Water Management Plan Amendments* (this refers to a proposed change in the Muskoka River Water Management Plan), and defines a "Best Management Zone".

Detail of this is provided in Section 9.9, and is shown graphically in Figure 9.3. It is also mentioned in Sections 6.2.2.2 and 6.2.5.3.

The above three points show that the proponent would; **have motivation to, and would be permitted to**, operate the proposed power station as follows:

- a) Rather than always controlling the water level of Lake Muskoka to the Target Operating Level (which an automatic computer-controlled power station would be able to do very well), the proponent could:
 - Stop the water through the power station, allowing the water level in Lake Muskoka build up until the top of the Best Management Zone.
 - Then run water through the power station, at a higher rate (that is, at more than 14 m³/s), until the water level of Lake Muskoka dropped to the bottom of the Best Management Zone.
- b) This "ponding" operation would allow electricity to be generated even when the total water flows running into Lake Muskoka are less than the 14 m³/s needed to run the turbine. Therefore, by operating the power station intermittently, electricity could be generated even during low flow periods.

There are several significant implications of this:

- a) The proponent **repeatedly** states that the power station would be a run-of-river operation (see Sections 6.1, 6.2.2.1, 6.2.5.4, and 9.7). This means that the volume of water through the turbines would be the same as that which would have run over the dams.

But as described above, during the summer months, they would actually be operating the plant in a ponding mode (which, except for the timing and the degree, is the **same as a peaking mode**) – even though they deny this in Section 1.5.2.1, and claim such peaking mode could "**pose problems related to boating and other aquatic activities**").

- b) This proposed Best Management Zone operation would **permit fluctuations in the level of Lake Muskoka** even though they state in Section 6.1 there would be no such change.
- c) During the main summer recreation period (June to September) the Best Management Zone would allow ponding of Lake Muskoka by 4 cm to 6 cm and **intermittent operation** of the power station.
- d) Section 9 states that they **must provide "the rationale** for the proposed amendment and a discussion of its significance").
 - The only rationale offered is "to provide some operational flexibility to the plant in order to deal with changing inflow rates".
 - If that was the reason, why is the largest tolerance band needed when the water flow rates are the lowest – when it should be the easiest to regulate the water level exactly to the Target Operating Level.
- e) Such ponding operation would be:
 - Harmful to the fish (as noted in Section 5.2.8.5).
 - Would **create danger** for nearby in-water recreation since one wouldn't know whether the plant is running or when it might start:
 - One can imagine youth jumping from the railway bridge thinking the plant wasn't running an hour ago and it was safe to jump then.
 - Or one would not be concerned about overshooting docking at the town docks upstream of the power station because last time it wasn't a problem.
 - Or one may be scuba diving off Diver's Point ("safely" outside of the restricted area), and face the grave danger of the flow into the proposed power station creating a deathly underwater current.

As the proponent does not offer any method of informing the public whether the power station is operating or not, the danger created by the water intake would be substantially increased. This is a major threat to public safety, one that doesn't exist now because:

- The dams truly are "run-of-river" operation.
- During the summer months most all the water flows through the south channel which is far away from recreation activities.

To Report 8: The rationale for requesting the Best Management Zone during the summer months.

To Report 9: Respond to their obligations and provide the rationale for the proposed changes to the Muskoka River Water Management Plan.

To Report 10: Confirmation that the proposed power station would be operated in a true run-of-river mode, with no intermittent operation.

To Report 11: Complete detail on the operating plan for the power station, as it has a major impact on public safety.

6) Upstream Safety Boom Design

The upstream safety boom proposed (Figure 6.5) would not facilitate "self-rescue", due to the concave shape facing upstream, as follows:

- a) Because being held by the current against the safety boom means that your boat would have the broad side towards the on-coming waves, current, and wind (which is extremely dangerous, especially considering that you're being drawn into the most dangerous place on all of Lake Muskoka – the proposed power station's water intake).
- b) And, to pull your boat by hand along the safety boom would require the very difficult task of pulling your boat upstream, against the current, to get towards the shore.

The safety boom for this configuration **should be a "V" shape**, with the point far upstream, so that the safety boom would angle towards shore and one would be going downstream to travel along the safety boom to shore.

- a) But this would make it difficult for boaters leaving the town docks, as they would need to immediately turn upstream to avoid hitting the safety boom.
- b) Also, the safety boom would be much longer, visible, and would be in the way of going across to Diver's Point.

To Report 12: An upstream safety boom design, approved by Transport Canada, that facilitates self-rescue, and would not create navigational difficulties for users of the town dock.

2.1.2 Downstream

The following are our public safety concerns for the downstream side of the proposed power station.

- 1) This proposed location for this power station is in a heavily-used in-water recreational area, with many youth in the area during the summer.

As mentioned above, it is known that some youth jump from the railway bridge, even though there are warning signs and that this is known to be dangerous (both because trains go by frequently, and because the water isn't deep enough everywhere).

It can therefore be expected that youth will likely attempt to jump from the lookout over the turbulent water exiting the power station.

- a) The danger of this would be increased due to the proposed fish habitat shoals (Section 5.2.8.5 and Figure 5.3), which would be only 2½' below the surface.
- b) Section 6.3.2 offers that the "design for any viewing deck must discourage diving/jumping".

That is easy to say, but the proponent does not offer any suggestions of how this could be accomplished. This **needs to be determined now**, as the methods will affect the station's appearance, as well as public safety – two of the most important aspects.

For example, a tall safety fence may be required (perhaps due to advice from legal counsel, or a requirement from an insurance company, or due to a government agency or safety authority).

- As it is, the proponent's fanciful artist's rendering (Figure 6.6) appears to be the "bait" for a "bait and switch" tactic. The rendering looks harmless,

until one realizes that the proposed fence **wouldn't even be safe for a curious toddler.**

- c) Appendix D15, page 11 notes that the operator of the proposed power station would be Bracebridge Generation.

We note that all three of the power stations at and above Bracebridge:

- Are operated by Bracebridge Generation.
- Have barbed-wire fencing.

That is, it is reasonable to request that the fencing required be determined now, because barbed-wire fencing could be necessary.

In summary, the proposed power station would create significant new dangers.

To Report 13: The methods to adequately deal with the currently-known new dangers need to be determined and approved as part of the environmental assessment process, not at some later detailed design stage.

2) Fast Water

Currently, during the summer recreation season, the fast water from Bala Bay enters the Moon River from the south channel, which is far away from the recreation area at the base of the north falls.

The proposed power station's tailrace would bring this fast water (as noted in Sections 6.3.2.1, 6.2.2.3 and Figure 6.2b) **160' closer to the recreation area** at the base of north falls, as this is where the tailrace would be (this is confirmed as an issue in Section 1.5.1.1).

Note that the two fatalities at the Bala Falls this past summer were indirectly due to the fast water from the south channel, as a child (safe and wearing a personal floatation device) was carried away by the fast water, prompting her father and uncle (perhaps non-swimmers, perhaps due to the undertow) to attempt to save her.

Bala needs accessible recreation, not; new dangers, safety booms and warning signs (as are described in Sections 6.3.2 and 6.3.6.1, and Appendix B Table B1 Effect 6.8).

To Report 14: It needs to be determined whether the fast water exiting the proposed power station would make recreational activities at the base of the north falls more dangerous.

3) Downstream Safety Boom

Figure 6.5 shows the proposed locations and sizes of the safety booms, and shows that at the Moon River, 27 m of shoreline would be restricted, as delimited by the downstream safety boom.

We understand that Transport Canada has not yet approved the location and sizes of any of the safety booms, so that even more shoreline along the Moon River could be required to be restricted. In fact, the last paragraph in Section 6.3.6.1 provides conflicting information and says that approximately **50 m of shoreline would be restricted south of the north falls.**

Safe public access to the water is required (for example, as a portage launch in the Moon River), any change to this needs to be made known now. Public access was one of the main justifications provided by the proponent for Option 2 being moved to the south (Section 3.5.2 and Appendix D13).

To Report 15: Determine the acceptable (to Transport Canada and any other authorities and organizations) exact location for the downstream safety boom.

2.1.3 Water Access

An extremely important point is whether **water access would be permitted at the south side of the north falls.**

The proponent confirms that a goal of moving the proposed power station to the south was to “preserve traditional access” (Section 3.5.1 and Appendix D20 which is the presentation to District Council October 14, 2008). Section 6.3.6.1 notes “A stair will provide access to the south side of the north falls.”

However none of these make it clear whether the public will be able to access the water at this location. An e-mail was sent to the proponent during the comment period requesting clarification on this, but the **proponent did not reply.**

We understand that whether this water access is permitted may depend on Transport Canada’s determination of the required downstream safety boom location, and this would be based on water speed, safety and other factors. If so, then the exact required location of this downstream safety boom would need to be finalized as part of the environmental assessment process (as described above).

To Report 16: Whether the public will have access to the shoreline and water in the area between the proposed power station and the north falls.

2.1.4 Portage

As acknowledged in Section 2.2.5.10 and Appendix C7 Section 3.0, there is a centuries-old portage route for travelers between Lake Muskoka and the Moon River.

In Section 6.3.6.1 the proponent notes that this portage route would become unavailable due to the proposed project. It should be noted that:

- 1) A major user of this portage are the many local summer camps, and most of the portagers are therefore now children.
- 2) A portage requires:
 - a) A launch with safe water access at both ends (that is, calm water with a smooth bottom is required).
 - b) A safe passage between (for those carrying canoes, and those carrying heavy packs).

The proponent offers two launch alternatives on Lake Muskoka:

- 1) First they suggest using the town docks. While this indeed could be used for one end of the portage, then let's examine options for the path to the other end of the portage:
 - a) Walking directly across Muskoka Road 169 gets one to the north side of the north falls.
 - This area is **too steep and rocky** for transporting a canoe or large pack, and in any case, offers no safe (for the canoe) water access, as the rocks continue to where the water starts.
 - There is no dock, no smooth bottom, no way to get a canoe into the water. So this is not an option.
 - b) The only other choice is to walking across the highway bridge to get to the south side of the north falls. This would be extremely dangerous with a canoe because:
 - The sidewalk is narrow.
 - Large trucks go by, and this could **blow one's canoe around** (which would be extremely dangerous to the portager, and dangerous to the canoe).
- 2) Their next suggestion is to use Diver's Point.
 - a) This requires canoeing to a narrow landing between two fast water locations, which are the:
 - Proposed and dangerous water intake.
 - The south channel, which also can be carrying a large volume of water.
 - b) This route is an additional 400', and requires walking through a single-lane automobile underpass.
- 3) Strangely, as a third alternative, the proponent then offers that someday there may be a bridge built for snowmobiles (the location is shown in the Figure 1, below).

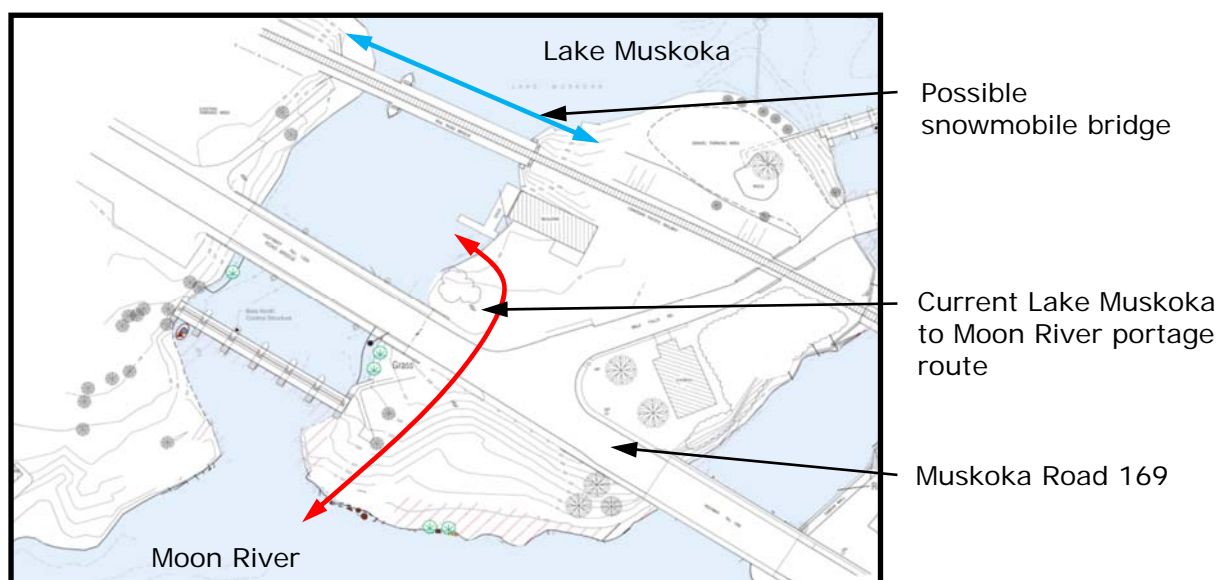


Figure 1 – Portaging Between Lake Muskoka and the Moon River

We note that:

- a) The bridge doesn't exist and there are no budget or plans for such a bridge (though it has been discussed for years).
- b) Even so, the purpose of the bridge would be to get across the north channel. It would connect the town docks to Diver's Point, which are both on Lake Muskoka.

That is, even if the bridge did exist, **it would be of no help in getting one to the Moon River.**

This demonstration of the proponent's lack of knowledge of the area is disturbing.

- 4) But most importantly, the proponent **doesn't offer any suggestions on the launch at the Moon River.**
 - a) As noted above, the north side of the north falls is far too dangerous for carrying a canoe or heavy pack.
 - b) The proponent has not stated what the landscaping of the south side of the north falls would be, but have suggested stairs, which may be acceptable. But it is not known what the entry at the water would be (or whether such access would be allowed).

If allowed, the launch would be adjacent to the turbulent water exiting the power station's tailrace, and would be extremely dangerous if the wind blew one's canoe towards it.

To Report 17: A safe (for both portager and canoe) portage route between Lake Muskoka and the Moon River.

2.1.5 Safety Fencing

Safety fencing would be required at least for the following locations:

- 1) Around the top of three sides of the proposed power station
- 2) Along the top of the water intake.
- 3) Along the top of the driveway retaining wall.

These locations are all **very visible to the public, and no details have been provided** of the minimum required heights, maximum openings or other construction details.

Given the current uses of the area, the safety requirements for such public locations, the requirements of government agencies, local authorities, and others (such as insurance companies and building codes), the height and design requirements of this very visible fencing needs to be determined and presented.

To Report 18: Determine, describe, and provide views of the proposed power station, water intake, and driveway retaining wall, showing the minimum safety fencing required.

2.2 Tourism and Local Economy

2.2.1 Appearance

Because the proposed power station would be right at, and directly in view of those visiting Bala's main attraction – the Bala Falls, the appearance of the proposed power station is vitally important. We have several concerns.

1) Power Station Elevation Drawings

As shown in Figures 5.1 and 5.2, the proposed power station would be a large concrete building – 110' in length, 33' wide, and two storeys in height. However, at the proponent's most recent public information centre (August 2008), they stated (in bold print) "the power station will be virtually invisible" (Appendix D15, page 4).

- a) We note the crucial view up the Moon River would be the face of this structure, which would be a **wall right at the waterfront, which is 33'-wide, and rising more than 18' above the Moon River. This is not "virtually invisible"**.
- b) Most visitors view the north falls from the park to the north of the falls. From this perspective, the view of the side of the power station is that it would **rise 18' above the Moon River. This is not "virtually invisible"**.
- c) In addition there would be a fence around the top, and an entrance-way to the facility that rises higher still (Figure 5.1 shows the entrance-way to rise 11' higher than the rest of the structure). This is not "virtually invisible".

And in Section 6.3.5.3 the proponent **claims** "virtually all station facilities below grade". This claim is, at least, deceptive to the general public.

In a widely-distributed flyer *Trying to Set the Record Straight* (October 2008), the proponent stated that the power station would be "**tucked into a valley**". Given that:

- a) **There is no valley** at the proposed location.
- b) The power station will rise 18' above the Moon River, with the north side fully exposed to the view from the popular vantage point to the north. The only option seems to be that blasted rocks will be piled up this north side to cover the concrete wall (as stated in Section 5.2.1).
- c) The proponent will need to pile blasted rocks (as stated in Section 5.2.1) and dirt up to the top on the south side to form a driveway.

It would appear the public is being misled by both this "information" provided by the proponent, and this would be reinforced by the artist's rendering (Figure 6.6) which the proponent has been widely circulating – it is on the project's website home page (<http://balafalls.ca/project.htm>), it was included in the proponent's presentation to the District Municipality of Muskoka's Council meeting October 14, 2008, and it has been the **only visual representation of the project provided by the proponent for over a year**.

Correct plan and elevation drawings are required of any builder before approval is given to proceed. Given that this comment period is the community's only certain

opportunity to have its input received, drawings are required as part of this environmental screening process.

In Appendix D12 it is noted in response to an April 13, 2009 letter from the Moon River Property Owners Association that "Ideas are still being considered as to how to best 'hide' the downstream face." It has been over half a year since then, surely enough time considering the importance of this issue to the public. We are not interested in landscaping, we need to know what would be under the landscaping.

To Report 19: Elevation side-view drawings of all sides of the proposed power station, including any fencing required.

2) Water Intake

- a) From the bridge over the north channel, and from the town docks, the view of the power station's water intake would be an **81'-wide concrete structure, rising 8' above the water – with a safety fence along the top.**

Considering the extreme danger of the water intakes, this safety fence would need to be at least 6'-high, meaning that the intake would rise a total of 14' above the water. Hardly something that would reinforce the charming and quaint appeal to visitors.

- b) Having an 81'-wide concrete water intake with fencing (even if a few bushes were planted in front) located directly adjacent to Purk's Place and the Stone Church would forever **ruin the small-town look and charm** of this important part of Bala's centre and feature attraction (Section 6.3.6.1 and Figure 6.3).

To Report 20: Renderings, to scale, of the water intake as viewed from the town dock, and from the intersection of Muskoka Road 169 and Bala Falls Road.

3) Site Restoration.

The proponent's suggestion of **artificial landscaping** on top of their concrete power station wouldn't be of interest to potential tourists as people can see that type of gardening over the **concrete underground parking garages at condominiums in Toronto**. People are drawn to Bala to experience the natural beauty of the Bala Falls and the solid bedrock of the Canadian Shield (Section 6.3.1).

To Report 21: Detailed descriptions and sketches of what could be done to restore the natural beauty, Muskoka bedrock, and mature trees of this focus of tourism.

4) Artists' Rendering

This comment period is basically asking the community whether there are any significant environmental concerns which need to be addressed before the proponent receives approval to proceed.

To Bala, the economy completely depends on seasonal residents and tourism. And being the main tourist attraction in Bala, the appearance of the Bala Falls area is significant to this environmental screening process. It is therefore important that the proponent provide a complete rendering. We understand this would not be final

until detailed design is complete, but at this time a complete rendering is possible and required.

■ Note that we are referring to the required components of the power station, not the landscaping.

■ **We have requested this from the proponent for over a year.** Figure 3, below details some of the deficiencies of the proponent's Figure 6.6.

Specifically, the rendering should include the following:

- a) A correctly-scaled drawing of the structure, as the rendering in Figure 6.6 is grossly distorted.
- b) The entrance door and whether it would be a typical single-person door, or would be a larger garage-type door.
- c) The size of the entrance-way which would be above-grade at the driveway level.
- d) Is a second door required, and if so, where would this be.
- e) The hoisting mechanisms for the intake gates and the tailrace gates.
- f) The ventilation intakes and exhausts.
- g) The emergency back-up generator's diesel engine air intake and exhaust.
- h) The works yard mentioned in Section 1.2.4 (it is not clear whether this is required only during construction).
- i) Artificial landscaping above the facility would require a retaining wall around the top of the structure to retain the required earth. This proposed power station structure would then need to be perhaps 2' higher still, and this needs to be included in the rendering.
- j) Drains will be required for the roof, and the piping to discharge this to the river need to be shown.
- k) Where the intake gates would be stored when not used for plant dewatering (these are mentioned in Section 1.5.1.2).
- l) The height (above the Moon River) and length of the driveway retaining wall (which would be facing the Moon River).
- m) The vehicle guardrail required along the top of the driveway retaining wall.
- n) Any windows required (so an Operator would be able to see results of operational changes).
- o) Exterior cameras required to facilitate remote operation, and any lighting required for these.
- p) Telecommunication lines, power lines (as used for powering plant machinery), and any other above-grade utility services, along with any exterior demarcation, disconnect, or metering enclosures.
- q) It appears that the 44 kV power line would not be below grade where it exits the proposed power station, if so, this should be shown as well.
- r) The 44 kV cable and protective cover running up the utility pole.
- s) The ground-level handle, connecting lever, and grounding mechanism for the utility pole mounted high-voltage disconnect switch.

- t) The cover hatches and any method needed to keep them water-tight, and the hoist mechanism needed to remove these when service access is required.

We need to know these important details for this very visible and high-profile structure now as part of this part of the environmental assessment process, not at some future detailed design stage.

The Ministry of Tourism notes in their *Ontario Tourism Strategy* (http://www.tourism.gov.on.ca/english/tourism_strategy/ont_tourism_strategy-e.pdf) that "Tourist destinations will be identified based on natural tourism assets, recognized geographical icons".

- That is, it is the natural beauty of Bala and the majesty of the Bala Falls that is crucial. The proponent needs to provide the "full picture" so the entire environmental impact can be comprehended by the public.

To Report 22: Complete renderings of the proposed facilities.

2.2.2 Recreational Area Impacts

The Bala Falls is the focus of summer recreation activities in Bala. Restrictions to the activities would have significant tourism, and therefore economic impacts. Our concerns include the following:

1) Shoreline

As noted in Section 6.3.6.1, approximately **500'** (!) of publicly-accessible shoreline would become "restricted" – which means it would be **too dangerous for public access** or use.

- a) The proponent notes "*However, there will be an abundance of shoreline in the vicinity of the project*".

- There are very few areas in Bala which provide public access to the water, as most of the shoreline is private. There may be an abundance of shoreline in the vicinity, but it is **not available to the public**, so the proponent makes a completely false statement.
- The loss of this public shoreline would be an irreversible, completely negative, and an unmitigated disaster. And this combined with the majestic Bala Falls becoming a trickle would permanently **remove the main reasons people are drawn to Bala and return year after year**.

- b) In addition, Section 6.3.6.1 notes that the shoreline south of the power station would have "reduced access". Given that this shoreline would be bounded by a 15'-high retaining wall to the east, the steep rocks up to the 18'-high power station on the north, and water on the other two sides, it would appear to be inaccessible, resulting in an additional 125' (for a total of 625') of prime Muskoka shoreline becoming inaccessible (this is currently a popular location for fishing, as it is adjacent to the fast water from the south channel).

The Ministry of Tourism recently completed a competitiveness study, entitled *Discovering Ontario, A Report on the Future of Tourism* (www.tourism.gov.on.ca/english/competitiveness/report_en.pdf). This resulted in 20 recommendations (www.tourism.gov.on.ca/english/competitiveness/report.htm), and

recommendation IV 3 states; “FOCUS ON OUR UNIQUE PRODUCTS: Ontario should focus on the unique product offerings of regions including natural experiences and our great water assets as well as niche tourism experiences such as, sports, cultural, culinary, eco and agricultural tourism.”

- That is, it is the natural beauty and access to water that is key. Taking away hundreds of feet of public shoreline goes against this.

To Report 23: The impact on tourism, and on the local economy as a result of the loss of publically-accessible shoreline.

2) In-water Recreation Areas

Figure 6.5 shows that over 5,000 m² of in-water recreational area would become “restricted”, being too dangerous for public use.

- a) Of course, there is much water in the area, but this proposed restricted area is unique in that there is adjacent publically-accessible shoreline. To go scuba diving, **people need to get to the water**. To launch one’s kayak, you need to get to the water. So the loss of this publically-accessible in-water recreational area would be an irreversible change.
- b) The proponent does not provide the water speed at the upstream safety boom, nor do they mention what activities would be safe immediately outside of this restricted area. For example, the south end of the upstream safety boom is anchored at Diver’s Point – so called because it is a popular location for scuba diving. Would scuba diving at this location, which is just upstream of the safety boom be safe.
- c) Strangely, in Section 6.2.5.6 there is huge detail provided on fish “burst swimming capacity”, “critical swimming speeds”, and “burst swimming capacity”. However, there is no such attempt to indicate what water speeds would be safe for boating, swimming, or other in-water recreation activities. Nonetheless, in Section 6.3.6.1 the proponent concludes that the annual regatta could continue to run because the water speed at the town docks will not be increased.
 - Note that many regatta activities finish at the town dock, which is shown in Figure 6.2c to be very close to a fast plume of water that leads directly into the proposed power station’s water intake.
 - Note that many regatta activities involve:
 - Swimming.
 - Races where children “paddle” a canoe using their hands instead of paddles.
 - Small boats (for safety supervision) puttering along the mouth of the north channel.
- d) In Section 6.2.5.6 it is noted that the simulation tool used to model the water velocities **only calculates the surface velocities and that the velocities below the surface (where one would scuba dive) could be higher**. This creates an unknown increase in the danger to scuba diving and other in-water recreational activities.
- e) On this topic of loss of recreational areas, Section 6.3.6.1 notes: “The effect of operation of the project on tourism and recreational activities is a reduction in area available for in-water activities within boomed areas. No

mitigation measures are proposed given that areas of increased water flow (at the intake and tailrace channels) are no longer available for public use due to public safety consideration.”

This isn't just a reduction in area available, it is **an elimination of safe recreation that cannot just be carried out in another location.**

This would **remove the attraction for tourists to visit, and this would have a significant long-term, irreversible negative effect on the local economy.**

Therefore, an economic impact study is needed to quantify the effect of this unmitigated loss of prime in-water recreational area.

To Report 24: The water speeds along the upstream safety boom, both at the surface and at depths used by scuba divers.

To Report 25: An update to Figure 6.5 to show areas unsafe for in-water recreational activities, such as scuba diving.

To Report 26: Examining each regatta participant and race official activity, and the in-water locations of these to itemize and assess any added risk for each.

To Report 27: The impact on tourism, and therefore on the local economy as a result of the loss of this in-water recreational area.

2.2.3 Scenic Flow

Bala is known for the Bala Falls.

Yet the proponent would reduce the flows over the north and south falls to the minimums that occur in the driest of summers, and set this to be the maximum year-round.

While the proponent acknowledges the scenic value of the water over the north and south falls, (Section 6.3.5.1 and Table 6.2), they have not attempted to involve the community in determining what level of scenic flow would be acceptable to the visiting public.

- 1) In Section 6.3.5.2 the proponent proposes 2 m³/s of scenic flow over the south dam.
 - a) This 2 m³/s would only be from the May 24th long weekend to the weekend after Thanksgiving.
 - b) They do **not provide any justification** why they feel this would be adequate to continue to draw tourists to Bala.
 - c) This is a rather token gesture given the importance of the issue. Note that consideration for scenic flow was included as a resolution by the Township of Muskoka Lakes (Section 2.2.3.3).
- 2) In Table 6.1, *Aesthetics – Flow over Bala Falls*, the proponent only offers leakage flow, no scenic flow at all. In fact **they state “No mitigation possible”**. **Well, of course it is possible**, it is just the proponent is being greedy and refuses to consider the needs of the community, tourism, and the economy.

- 3) The proponent notes (Sections 6.2.2.1, 6.3.5.1, and Section 9.9) that the flow over the north dam and over the north falls is required to be a minimum of 1 m³/s (the assumed leakage between the stop-logs).
- a) However, for **many years prior to this past summer, an entire stop-log was missing** (from the north-most sluice) so that the north falls were noticeable. The north falls were so inadequate this past summer that one could almost walk across them without getting one's shoes wet. As the MNR notes 1 m³/s is the leakage flow, not the scenic flow. A public consultation is required to determine the required scenic flow.
- b) The Muskoka River Water Management Plan notes that the 1 m³/s leakage flow is the minimum during the summer low-flow season to ensure that water does not become stagnant. That is, it can be increased during summers with higher rainfall.
- The proponent is considering 1 m³/s to be a maximum flow, which basically enforces drought conditions year-round.
- 4) The minutes from the proponent's January 12, 2009 meeting with the Muskoka Lakes Association note Question 3 included: "... what are SREL's plan to maintain 'Scenic Flow'...", and the response included: "SREL plans to ask for public consultation on this issue. They have, in the past and with other similar projects, taken pictures of water flow at key times during the year and then **explored with the local residents** the most appropriate level. It is our understanding that SREL will follow the same procedures in Bala."
- There has been **no such public consultation**, nor have the public been offered pictures or any interaction with the proponent on this issue.

To Report 28: A process to provide information to, and to interactively communicate with, the public and those knowledgeable in this issue to determine what level of scenic flow would be required at the north falls and for the south channel, so that the Bala Falls and south channel would continue to be a tourist draw.

2.2.4 Official Plan

The District Municipality of Muskoka's Official Plan has many goals which are contrary to this project as currently proposed. For example (the paragraph references are to those in the Official Plan:

B.1 c) Tourism and recreational opportunities will be enhanced

- Making over 500' of shoreline too dangerous for public access, and reducing the flow over the north and south dams year-round to what happens during the driest days of the year can't enhance anything.

B.5 To manage land use and development in a way that maintains the quality of the natural and cultural heritage of Muskoka

- There's nothing natural about constructing a 33'-wide concrete structure that will rise 18' above the Moon River.

B.6 To maintain the character and integrity of communities in Muskoka

- Constructing an 81'-wide concrete intake directly at the front door of the historic Purk's Place and Stone Church buildings would completely ruin the charm of the area.

To Report 29: How the proposed project can be justified in light of the District Municipality of Muskoka's Official Plan

2.2.5 Shadow Study

As the proposed power station would rise at least 18' above the Moon River, it would cast a shadow over the north falls.

This would be unnatural and the extent of this should be reported for various times of the day, and for various months of the year.

To Report 30: The extent of the shadow from the proposed power station, at various times of the day, and for various months of the year.

2.2.6 Directly Affected Business

The proposed power station would require that the docks at Purk's Place be removed, this would prevent Purk's Place from renting out boats. There are **no other places to rent boats in Bala**, so an alternate method of providing this service would be needed.

To Report 31: An alternative method to provide a rental boat service in Bala.

2.3 Financial Issues

The impact of the above recreation, appearance, and tourism issues will ultimately be to the local economy. Our concerns include the following.

2.3.1 Long-term Economic Impact

Section 6.3.7 and Table 6.1, *Summary of Potential Effects and Mitigation During Operation Phase* states (for *Employment and Economic Opportunities*) that mitigation is not required as there would be a net positive effect due to the one person required to operate the power station.

- 1) This is an extremely narrow view, which ignores the likely impact the proposed project would have on the area's businesses.

The proponent offers some historical tourism and demographic statistics in Section 2.2.5, however there is **no study of the long-term economic impacts** due to the negative environmental affects of this project, such as:

- a) The reduction in available recreation areas.
- b) The loss of hundreds of feet of publically-accessible shoreline.
- c) The loss of the small-town charm of area at Bala Falls Road.
- d) The loss of the natural beauty of Burgess Island, replacing it with a concrete cube with blasted rocks piled up the sides.

- e) The loss of the portage route.

To Report 32: An economic impact study to examine and report on the long-term effects on the area's businesses due to the issues such as those detailed above.

2) Directly Affected Businesses and Residence

- a) During the 18-month construction period, there would be many negative impacts to:

- Purk's Place.
- The summer business run from the Stone Church.
- The owner of the Stone Church, who uses it as a residence year-round.

These impacts include:

- Loss of parking facilities.
- Blasting.
- Operation of heavy construction equipment.
- Construction fencing, storage of construction materials, construction trailers and toilets located directly at their front doors.
- Loss of vehicle access (Figure 5.4 indicates the owner of the Stone Church couldn't even use his own driveway).
- A snowmobile route along a narrow path right at the front door.

- b) During operation, there would be many negative impacts (Sections 6.3.1, 6.3.6.1, and 6.3.7.1), such as:

- An 81'-wide concrete water intake (complete with tall safety fence atop) directly outside their front doors.
- Loss of parking.
- Loss of Purk's Place docks.
- The noise from the proposed power station's exhaust fans would be directed at them (Section 6.3.4).

To Report 33: Whether these businesses could survive the construction period (including considering that the construction period could be extended, so this period could be more than one summer).

To Report 34: Whether the construction disruption to the residence would be acceptable.

To Report 35: Whether these businesses could survive in the longer-term.

To Report 36: The longer-term impact on the residence's property value.

2.4 Construction Concerns

As described in Section 5, this proposed construction project would be very disruptive to the tourism and economy.

2.4.1 Construction Delays

In Section 5.1 the proponent estimates that the construction is expected to require approximately 18 months and span only a single summer tourist season.

However construction projects are often completed much later than expected. Indeed, this proposed project is **already 12 months later than the proponent expected just 18 months ago** (Appendix D15, page 10).

In addition, for this particular project, there are a great many seasonal timing restrictions, such as:

- 1) Blasting cannot occur from April 1 to July 15 (Section 5.2.7.2)
- 2) Forest work cannot occur from May 24 to July 31 (Section 5.2.10).
- 3) Wetland work cannot occur from May 16 to July 23 (Section 5.2.10).

These factors, along with the significant disruption the proposed construction would cause to the summer tourist season, suggests it would be wise to investigate what planning would be needed to accommodate an extended construction period.

To Report 37: Contingency plans if construction is delayed into a second summer.

2.4.2 Graphical Construction Timeline

While the proponent included graphical schedule timelines at both the 2007 (Appendix D5) and 2008 (Appendix D15) public information centres, the few schedule dates provided in the environmental screening report:

- 1) Are scattered throughout (Section 5.2.5 notes the downstream cofferdam, Section 5.2.8.2 notes the upstream cofferdam, Section 5.3.5 notes blasting).
- 2) Are ambiguous ("the Bailey bridge will be installed from November to April" – it is not clear whether this for six months or a year and six months).
- 3) Are wrong (Section 5.2.5 notes the downstream cofferdam would be installed beginning in December 2009).
- 4) And dates are not given for most activities that would be of the highest interest to the public. For example, for what time period would the following occur:
 - a) The traffic light be installed.
 - b) Bala Falls Road would be blocked.
 - c) Rock-drilling machines would operate (the full impact of blasting needs to be noted, including the halting of traffic and the sounding of warning horns, in addition to the actual blasting).
 - d) Trucks hauling blasted rocks and excavated dirt (and where would waiting trucks idle).
 - e) Areas such as Diver's Point, the Precambrian Shield parking lot, and the Dons' Bakery parking lot be used for materials and equipment storage (the proponent has said that the contractor would determine this, but it should

be possible to estimate now how much additional construction staging area would be required).

- f) The construction crane with a 100' boom be installed.
- g) There would be speed reductions due to the construction site or due to the use of the temporary Bailey bridge.
- h) The rock crusher operate (Table 5.4).
- i) Construction may continue on Saturdays.
- j) The water pumps for the cofferdams operate.

It is understood that many of these dates would be determined at a later time, but approximate information needs to be provided now so the public has a full picture of what is being proposed.

To Report 38: A graphical construction time-line showing activities of most interest to the public.

To Report 39: The planned use for the land at Diver's Point during and after the proposed construction work (we understand this is owned by the Ministry of Natural Resources, and the proponent would have full use of the property).

To Report 40: Whether it is expected that any part of the Precambrian Shield parking lot would be used during construction, and if so, what would be located there.

To Report 41: Whether it is expected that any part of the Don's Bakery parking lot would be used during construction, and if so, what would be located there.

2.4.3 Performance Bond

Normally, one withholds some of a contractor's payments to ensure that the job is fully completed satisfactorily.

However, in this case the proponent is receiving other sources of funding, and the District, the Township, the MNR, and the public have no assurance that the job would be completed as proposed and the site fully restored. For example, what if the proponent (or their contractor) does not fully remove the tons of rocks and plastic dumped into the north channel and Moon River as cofferdam material.

It should therefore be required that the proponent post a performance bond to ensure that the project would be finished completely as planned and the site fully restored as required – even if:

- 1) The proponent has a dispute with the contractor or the proponent or contractor goes bankrupt.
- 2) There is a change in the political or business environment, a technical problem encountered, or a problem within the proponent's partnership (note that the proponent's business entity has no operating history or other assets).

Note that the **proponent has no operating history, no other facilities or operations, and no assets**. We have no information that the proponent has any cross-guarantees from any of the principals of the company who may have relevant experience or provided financial information to the MNR.

Also, note that the proponent states that site remediation would be the responsibility of the contractor (Section 10.2), but if the contractor encounters some business difficulty or has a disagreement with the proponent, it should be required that the proponent accept full responsibility for any commitments made by their contractor. This is especially true because the contractor would be “once removed” from any responsibility to the stakeholders.

The proponent has only offered “verbal assurance” that they could and fully intend to finish the project, and that they have provided “firm evidence of their ability to finance the proposed development” to the MNR (Appendix D23). The public has no knowledge of this evidence or assurance of its adequacy. Yet the public would need to live with any bad outcomes.

We feel it is absolutely necessary that the proponent **guarantee** (that means, with pledged collateral) that the project would be completely finished, to the satisfaction of the Township, District, and MNR.

As it is, the proponent could just walk away from the construction site. **This has recently happened for two very prominent sites in Port Carling**. Except in this case we could be left with a 50'-deep trench across the highway, tons of rock and plastic dumped into the Moon River, and all the trees on Burgess Island cut down. Anything could happen. There isn't even any commitment from the proponent on what landscaping would be done, so how could anyone even hold them to a commitment they didn't make.

The District has only offered that they may ask for some form of assurance of completion at a later date, when application to perform applicable work is received. However, it would be better to ensure that we and the proponent know in advance what assurances would be acceptable to both the proponent and the stakeholders, rather than leaving this to be negotiated later.

To Report 42: The financial assurances required by the stakeholders to ensure all work will be completed as planned, and whether this would be acceptable to the proponent.

2.4.4 Utility Relocation

Section 2.2.7.2 notes that there is a municipal water main and two sewer lines that cross the north channel (Figure 2.12). These are substantial in size as they service all the residences and businesses south of the proposed site.

These would need to be relocated, but alternate paths are not proposed. We understand an alternate path would need to be determined through discussion with Public Works staff at the District.

Since this relocation could affect the environment, safety, views, and would also be disruptive (for example, municipal fire-fighting capability could be temporarily affected), the proposed routes and cut-over plans need to be made known.

For example, would there need to be a two-stage cut-over, where initially a temporary route would be used to allow construction to proceed, then a final cut-over once the permanent pipes are installed.

To Report 43: Through discussion and information exchange with the District, to agree on an alternate path for the utility pipes which would need to be relocated as a result of this proposed project, and to document this.

To Report 44: To work out with the District a cut-over plan and document this so the public can know the number and duration of disruption to their municipal water supply, sewage service, and other impacts, such as a temporary impairment to fire fighting capability.

2.4.5 Construction Equipment and Materials

Figure 5.4 shows the area between Purk's Place and the Stone Church where construction equipment and materials would be stored.

The proponent indicates that Diver's Point would also be available to them, at least during the construction period, and construction equipment and materials may be stored there during the construction period. This would further increase the disruption as there wouldn't be any place left untouched during this construction period of at least a year and a half.

There are other nearby areas that the proponent could use for construction staging, including the Precambrian Shield parking lot and the Don's Bakery parking lot.

As all of these are used for other tourism and local business purposes (farmer's market, parking while patronizing stores, recreation ...), if these were to be unavailable for their traditional use, it create further hardship during the construction period.

To Report 45: The area (in addition to that between Purk's Place and the Stone Church, in m²) expected to be needed for construction purposes and for what periods of time.

2.4.6 Bailey Bridge

As described in Section 5.3.4.1, a temporary Bailey bridge will need to be installed during some of the proposed construction activities.

The **proponent claims there would be no need for a speed limit reduction over the Bailey bridge or through the construction site** – that the speed limit would be 50 km/h (same as for the rest of this section of Muskoka Road 169).

We do not see how is this would be safe, given:

- 1) The bridge requires ramps (30' long on one side, 60' long on the other), as the bridge's roadbed would be 4½' above that of the highway (Figure 5.1). This unusual type of bridge would be confusing to drivers, and a reduced speed limit would be prudent.

- 2) The bridge will be in a construction zone, with construction activities, personnel, and equipment on both the east and west sides of the road. We all know that reduced speeds (enforced with fines – which are doubled when workers are present) are required in construction zones.
- 3) There would be a sidewalk on only one side, forcing pedestrians to cross the road (there is currently a sidewalk on both sides of the road).

This is significant as reducing the speed of this very important road could create traffic queues, delays for emergency vehicles, and pollution and noise from idling and accelerating cars and trucks.

To Report 46: The speed limit to be required for the Bailey bridge.

To Report 47: A traffic study to show the maximum traffic queue lengths at the Bailey bridge, both by distance and waiting time.

2.4.7 Traffic Signal Light

As described in Section 5.3.4.2, due to the closure (perhaps for over a year), for this proposed construction, of the north end of Bala Falls Road, a traffic signal light would need to be installed at the intersection of Muskoka Road 169 and the south end of Bala Falls Road.

We have several concerns:

- 1) Currently, there are no traffic lights in Bala (or for many many kilometres in any direction), so this would be surprising to drivers.
- 2) As described above, this traffic delay could create traffic queues, especially during the very busy summer months. This would be compounded by the alternate route along Bala Falls Road being blocked by this proposed construction.
- 3) To traffic southbound on Muskoka Road 169, this signal light would be installed just past a sharp turn in the road, just at the point where there is a railway underpass – the result being that **drivers would not be able to see the traffic light until they are just a few car-lengths from it.**
- 4) Southbound cars already stopped at the traffic signal light would therefore be most unexpected to southbound drivers, and accidents are likely.
- 5) If (as is likely) the traffic signal light does not have the ability to sense the presence of vehicles, the traffic queues and delays would be even greater – as there would frequently be a red light to through traffic even though there is no “side-street demand” from southbound traffic on Bala Falls Road. During the summer, the southbound traffic queue would likely block the intersection at Highway 38.
- 6) In addition to being inconvenient, long queues at the traffic light would delay emergency response vehicles.

To Report 48: How to configure the traffic signal lights to handle expected summer traffic loads, and to not surprise southbound drivers with stopped cars just around the sharp turn.

To Report 49: A traffic study to show the maximum traffic queue lengths (including for Highway 38) at the proposed traffic signal light, both by distance and waiting time.

2.5 Noise and Vibration

The Ministry of the Environment has several publications on noise limits, and the proponent has provided some noise calculations in Appendix C1.

2.5.1 Analysis Ignored Noise Sources

The noise calculations provided **only include two noise sources**, as itemized in Appendix C1, Table 3.1, and these are:

- 1) The air intake and exhaust noise for the generator cooling fan.
- 2) The step-up transformer magnetostrictive noise.

Missing is the noise from the following sources:

- 1) Turbine.
- 2) Generator.
- 3) Inverter electronics.
- 4) Transformer cooling fan.

The proponent has claimed that some noise sources would be “muffled” as they are under water. Rather than dismissing including such sound sources, the correct way to handle these is to include them and apply whatever path attenuation is appropriate for the situation.

To Report 50: The detailed noise calculations, this time including all the noise sources.

2.5.2 Analysis Needs to Use Noise Sources’ Frequency Spectra Information

It is important that the noise calculations include the correct frequency spectra for the sources, as these could be quite different (for example, the high-frequency sounds emitted by inverters, compared to the broader frequencies emitted by cooling fans), and this can significantly reduce the masking effect of noise. This is noted in Ministry of the Environment Publication LU-131, *Noise Assessment Criteria in Land Use Planning*, Section 4 (e).

To Report 51: The detailed noise calculations, this time using the correct frequency spectra for all noise sources.

2.5.3 Analysis Needs to Use Manufacturer’s Noise Source Data

It is also important for noise calculations to utilize actual manufacturer’s data, as estimates may not be accurate:

- 1) The noise information used in the environmental screening report were taken from industry information, not actual manufacturer's data, which may be significantly different.
- 2) We note that Appendix C1, Section 3.2, uses noise levels from NEMA TR1-1993, which provides properties of liquid-immersed transformers – but it is proposed that a dry-type transformer would be used for this installation (as noted in Section 6.2.4.3), and dry-type transformers are known to produce greater noise levels than oil-filled transformers.

To Report 52: The detailed noise calculations, this time including actual manufacturer's data.

2.5.4 The Points of Reception Should Be Class 3 Areas

We note that Sections 2.1.3 and 6.3.4 consider the area to be Class 2, as defined by the Ministry of the Environment. However, the Ministry of the Environment's Publication NPC-205 *Sound Level Limits for Stationary Sources in Class 1 and 2 Areas (Urban)* states that such areas must have a background "urban hum" (from at least the hours of 7:00 am to 7:00 pm) in this case, to mask the noise of the power station.

- 1) Firstly, **Bala doesn't have an urban hum** (which is defined as the "aggregate sound of many unidentifiable, mostly road traffic related noise sources").
- 2) Note also that MoE Publication NPC-205 (Section 3, definition of "background sound level") **specifically excludes the sound of a train pass-by**. But such train noise is cited as part of the background noise in Appendix C1, Section 1.2.4, and Appendix C1, Table 4.1 (for four of the five receptor locations).
- 3) If the falls created substantial background noise, perhaps it could be argued that this background noise could mask the noise from the proposed power station – in place of the "urban hum" required for a Class 1 or Class 2 area (as proposed in Appendix C1, Section 1.2.4 and Appendix C1, Table 4.1 for the Stone Church). **But most all masking of sound that could be provided by the falls would be eliminated due to the proponent's plan to significantly reduce the flow over the falls** to only 1 m³/s or 2 m³/s.

Therefore it cannot be justified to use either Class 1 or Class 2 areas for determining the noise limits for the proposed power station.

The Ministry of the Environment's Publication NPC-232 *Sound Level Limits for Stationary Sources in Class 3 Areas (Rural)* defines a Class 3 area as follows:

"a rural area with an acoustical environment that is dominated by natural sounds having little or no road traffic, such as the following:

- a) a small community with less than 1000 population;
- b) agricultural area;
- c) a rural recreational area such as a cottage or a resort area; or
- d) a wilderness area."

The population of Bala is less than 1,000, and it is a cottage area, so the noise produced by the power station should be subject to the noise limits for Class 3 areas.

To Report 53: The detailed noise calculations, this time considering the site to be a Class 3 area.

2.5.5 Purk's Place and the Stone Church Should Be Class 3 Areas

In Section 6.3.4 and Table 6.1 it is noted that a mitigation measure for sound levels is "Locating generator cooling fans to ensure exhaust directionality is toward existing sources of sound i.e. Highway 169 and the railway line."

- Everyone visiting this site approaches it from the highway, so this noisy and constant blast of hot air would be entirely unacceptable.

Furthermore, Bala's Strategic Plan (*Economic Development Strategic Plan and Urban Design Guidelines, Town of Bala and West Muskoka*, Appendix D7, page 2) notes "tourists focus their activities at the falls and along District Road 169".

- That is, people's **first exposure to Bala is from the highway, and that is where they make their decision whether to stop. It would be unacceptable to have noisy exhaust fans blowing hot air at them from a large industrial facility.**

Finally, the Stone Church is a residence, used year-round by its owner. And there are tourist-oriented businesses operated out of both Purk's Place and the Stone Church. It would be **unacceptable to direct the proposed power station's noisy exhaust fans directly at these two establishments.**

To Report 54: The noise levels at Purk's Place and the Stone Church, given that they should be considered Class 3 areas.

2.5.6 Include Points of Reception on the Lookout, and on the Stairs Beside

We note that the points of reception (locations where the sound levels are checked to conform to Ministry of Environment noise limits) include the nearest businesses and residences (Appendix C1, Table 4.1 and Appendix C1, Figure 3). Given that the proponent claims the power station will be:

- 1) "Parkland" (Sections 6.2.4.2, 6.3.6.1 and Table 6.1).
- 2) A "public park" (Section 6.3.1).
- 3) A "park-like setting" (Section 6.3.5.3 and Table 6.1)

They are setting an expectation that the site not evoke "industrial".

Also, Section 6.3.6.1 notes that there will be a stairway on the north side of the proposed power station, as the public is expected to access the south side of the north falls (indeed, this public access between the north falls and the proposed power station was one of the main justifications put forth by the proponent for this design alternative – Appendix D15, page 2, Appendix D16, Appendix D20, page 7, and Table 5.4, Tourism and Recreation).

The following should therefore be **included as points of reception**:

- 1) On the lookout, above the power station.

2) At the north side of the power station, on the stairway.

To Report 55: Noise calculations for points of reception on the lookout, and on the stairs beside the proposed power station.

2.5.7 Provide a Vibration Analysis

For the same reasons as provided above, vibration analysis should also be provided, for a location on the lookout above the power station, and on the stairway beside the power station for the locations on and beside the power station where the public will be expecting a "park-like setting" (Section 6.3.4).

A determination of whether the vibration will be perceptible should be included.

To Report 56: A vibration analysis for points of reception on the lookout, and on the stairs beside the proposed power station.

2.6 Fish Habitat

We have several concerns about the effect of this proposed project on the fish habitat.

2.6.1 Inconsistent Information on Compensation Areas

There is inconsistent information given on where the additional fish spawning areas proposed (to make up for the areas lost due to lack of water flow) would be, or even any confirmation that they would be adequate:

- a) Figure 5.3 and Figure 6.3 provide different locations for the compensation habitat.
- b) Section 5.2.8.4, 5.2.8.5, and 5.2.8.6 provide different information than Section 6.2.5.2 on the size of the compensation areas.

In any case, it is not clear what or if any compensation areas would be acceptable to the Ministry of Natural Resources and Department of Fisheries and Oceans (that is, increased flow over the north falls may be the only acceptable solution).

This should be resolved before approval is given to proceed.

To Report 57: The results of discussions with the appropriate authorities to finalize the need for, location, and design of fish spawning compensation areas.

2.6.2 Fish Entrainment

In Section 6.2.5.6 there are almost five pages provided on *fish entrainment* (that means fish getting sucked into the 45'-high, 31'-wide water intake for the proposed power station).

- 1) Effect on Lake Muskoka to Losing Fish to the Moon River

The proponent provides much discussion on what fish are expected to do, for example:

- a) "Fish would most likely utilize burst swimming capacity to escape entrainment"
- b) "Small fish may not be able to attain sufficient swimming speeds to escape entrainment into the intake..."
- c) "it is felt that small fish would be able to determine the changing flow velocity regime in order to avoid swimming into the higher velocity plumes. However, if for some reason they do enter the higher plume areas (e.g., while escaping predation), they may become entrained through the powerhouse (see mortality discussion below)"
- d) "trashracks do provide a visual cue to fish that they are entering the intake, and need to swim to escape"

Finally, the proponent concludes this section: "There is not predicted to be any difference in the number of fish that are lost to Lake Muskoka due to going through the powerhouse post-construction or going over the North Bala Dam under current conditions. Given this, no additional mitigation is proposed."

There does not seem to be any justification for this conclusion based on the information provided.

While all the above justifications may mean that some fish would avoid entrainment, obviously the proposed "floor-to-ceiling" water intake (while 79 m³/s of water is flowing into it) is going to entrain more fish than the existing north dam which only has leakage flow. There is no comparison offered of whether there is any fish habitat upstream of the south dam, to enable any comparison of the fish that would be lost down the south channel.

Also, only the surface water at dams goes over the falls, so fish too close to the surface would just get thrown over the dam and not likely encounter any of the horrible deaths itemized in Section 6.2.5.6, *Turbine Mortality*.

But the power station's water intake would be like a floor-to-ceiling vacuum cleaner sucking fish from every depth into it.

It would therefore seem obvious that not only would the proposed power station would suck more fish out of Lake Muskoka (depleting its stocks), but a percentage of those that do get sucked through the turbine would die, further increasing the loss to the fishery.

To Report 58: Quantified and justified statistics on the number of fish which are expected to be entrained, and the impact of this loss to the Lake Muskoka fishery.

2) Effect on the Moon River of More Fish Ending Up in the Moon River

Section 6.2.5.6 quotes some mortality statistics for entrained fish, but does not provide any quantitative information on how many fish would be entrained (the only information provided is that larger fish could swim fast enough to escape entrainment, but there is no information on how many could be expected to actually escape entrainment).

Furthermore, the expected flow velocities given are surface speeds (this is a limitation of the simulation software used by the proponent). Section 6.2.5.6 notes that the mid-depth (which is where the fish would be) water speeds could be

greater, so all the information about fish burst swimming capability being faster than the water velocities may be meaningless.

This is important as the water intake could constantly empty fish out of Lake Muskoka send them into the Moon River, which could have huge impacts on the fish populations of these two distinct water bodies.

This requires further study – both of the percentage of the fish population which would be entrained, and the impact on the ecosystems of this transfer of fish (less the percentage of these fish that would be killed going through the turbine).

To Report 59: Whether transferring more fish from Lake Muskoka to the Moon River would have an undesirable effect on the Moon River fishery.

3) Fast Water in North Channel During More Months of the Year

In Section 6.2.5.6 analysis is presented of the fish impingement (hitting the trash racks), entrainment (getting sucked-in to the turbine) and turbine mortality (fish getting killed as a result of going through the turbine).

A fundamental assumption of this Section is that the water flow into the north channel (whether it goes all over the north dam, or most through the proposed power station) would be 82 m³/s.

While this would be the case when the proposed generation station is operating at capacity – which would be about 50% of the time (as shown in Figures 2.3 and 6.1) – currently this high flow would only occur during a few weeks during the spring freshet (Table 2.3, Figure 2.4).

Therefore the fish entrainment due to the proposed power station would be much greater than stated, because with the proposed power station:

- a) This fast water in the north channel would be occurring for about six months of the year rather than the current one month of the year. That is, the duration of the fast water in the north channel would be six times greater.
- b) The fish habitat in the north channel has never had fast water during most of those months, and may not be able to survive it.

To Report 60: The effect on the fish habitat due to “spring runoff” water velocities in the north channel for six, rather than one, month of the year.

4) Fish Fast Water Avoidance Methods

Section 6.2.5.6 notes that fish have a burst swimming capability and that they could use this to escape the power station's intake. This may be so if the fish attempt to swim off to the side to get away from the faster water.

But the only fast water fish in this area have ever encountered would be that going over the north or south dams – that is, they can escape by swimming down before they get to the dam (and note that they cannot escape by swimming to the side, because the water there would also go over the dam).

- a) But the proposed power station's water intake would be 45' deep – all the way to the bottom. In fact, the north channel is currently a maximum of 22' deep, so would need to be excavated to be twice as deep as it is currently.

- So no matter how much or quickly a fish swims down, it would still get sucked into the generating station's water intake.
 - In fact, because of the slant of the water intake, swimming downwards would bring a fish closer to the intake, to certain entrainment.
- b) Also, the only water that goes over a dam is the water at the surface. So by staying well below the surface, a fish would not encounter fast water at a dam.

However, the proposed water intake would be at every depth of the north channel, so the fish wouldn't have anywhere that is safe from entrainment.

It would therefore appear that this section on fish entrainment requires testing or another means to confirm that all the fish in the north channel wouldn't be drawn into the turbine.

To Report 61: On the expected increase in fish lost to turbine mortality and to the Moon River due to the different velocity characteristics of the proposed power station's water intake compared to a dam.

2.7 Operation

We have several concerns about the proposed operation of the proposed power station.

2.7.1 Cooling Water

Section 6.2.2.4 notes that **288,000 litres per day of water would be used for cooling the plant's machinery**, through heat-exchangers and other means.

It appears that all of these cooling means could develop leaks, so that oil and other contaminants (perhaps in very small quantities) could get into the cooling water.

It is noted that an oil-water separator would be used before this water is discharged into the Moon River, but there is no detail provided of the following:

- 1) How small leaks of contaminants into the cooling water would be detected, how often this testing would be performed, and the maximum time period there could be between water samples taken and results received that there is a leak (and action could be taken to repair the problem).
- 2) What proportion of oil and other contaminants in cooling water would be removed by the oil-water separator.
- 3) The regular maintenance (such as cleaning or filter replacement) required by the oil-water separator.
- 4) The regulatory agency or other approvals or supervision required to ensure continued adequate operation of the oil-water separator.
- 5) This significant environmental operational impact which should be documented in Table 7.1, but is not.

To Report 62: On the methods to be implemented to ensure contaminants are not in the discharged cooling water.

2.7.2 Wash Sink

- 6) Section 6.2.2.4 also notes that there would be a wash sink and the drain water from this would be treated before going to the oil-water separator and discharged into the river.
- a) There is no detail provided on the method or thoroughness of this treatment.
 - b) All other residences and businesses in Bala must use the municipal sewer line if it runs past the property, which is indeed the case here (for example, the Stone Church directly across the road uses the sewer line). Why would this enterprise be exempt from this important pollution-control measure.

To Report 63: On the types of contaminants which could be in the wash sink water and the methods and efficiencies used to remove these.

To Report 64: On whether the District would permit this wash sink water to be treated within the proposed power station rather than by the municipal sewage treatment. And whether each of the lubricants and other liquids and materials used in the power station would be accepted for treatment by the District's facility.

2.7.3 Main Sump

Section 6.2.4.3 notes that the facility will have a **main sump and the water from this will go through an oil-water separator before being discharged into the Moon River.**

The report does not state whether this would be the same oil-separator as is used for the cooling water, or whether this oil-water separator would be able to filter out all of the types of liquids and contaminants that could get into the main sump.

To Report 65: On the types of contaminants which could be in the main sump and the methods and efficiencies used to remove these.

To Report 66: On whether the District would permit the contents of the main sump to be treated within the proposed power station rather than by the municipal sewage treatment.

2.7.4 Roof Drains

If the top of the proposed power station is to be landscaped, then roof drains would be required for rainwater and other precipitation.

It needs to be determined if this water can be discharged directly into the Moon River.

To Report 67: On whether the water from the roof drains can be directly discharged into the Moon River.

2.7.5 Royalty / Lease Payments

The proponent would be permanently and exclusively utilizing over 500' of prime Muskoka shoreline, and using a large tract of prime Muskoka real estate for a profit-oriented enterprise.

There would need to be payments to the District for this use of these public lands, and these negotiations should be completed before approval to proceed so all parties know what the arrangement will be in advance of any commitments.

To Report 68: The business arrangement to be agreed to for use of shoreline and District lands.

2.8 Alternative Locations

We understand generating electrical power from renewable sources is best for the environment and for everyone in Ontario, and we understand that the water flowing from Lake Muskoka to the Moon River is an important energy source.

That is why **we expended significant effort in trying to work with the proponent** on a more benign alternative – locating the proposed power station in the south channel (see Figure 6, below). This could produce the same amount of power, but would have many advantages, including:

- 1) The fast water flowing from Lake Muskoka to the Moon River would stay where it is now – away from recreation activities (both in Bala Bay, and in the Moon River).
- 2) The existing portage would not be affected.
- 3) The power station could be buried into the north end of the Precambrian Shield parking lot:
 - a) This is already loose fill as it was constructed as part of the highway work in the 1960s, so would not require significant blasting (though constructing the penstock would require substantial blasting).
 - b) The tailrace could be constructed to be south of the south channel. As this area isn't natural (it was constructed as part of the highway work), it wouldn't detract from the natural beauty of the area.

In Section 3.5.6.1 (Design B) the proponent has provided some response to this suggestion, however:

- 1) Their **points are just conjecture**, they do not offer any substantiated facts or quantitative comparison that the work or cost for our suggestion would be any more than for the power station they are proposing.

For example, the proponent notes:

- a) That Design B would require blasting near a railway line.
 - But their proposal also involves blasting near the same railway line, and they don't provide a meaningful comparison of the two.
- b) Considerable blasting would be required at the entrance to the south channel.

- But their proposal requires blasting a 50'-deep trench across the highway, so it isn't clear that Design B is more work or cost.
 - c) Recreation wouldn't be allowed at the south channel.
 - But there already isn't any recreation at the south channel because everyone knows that is where the dangerous fast water is.
 - d) The power station would need to be built at the south end of Burgess Island.
 - But we already suggested the north end of the Precambrian Shield parking lot (including forwarding Figure 6, below to them).
 - They have apparently chosen to ignore this.
- 2) The proponent does not attempt to weigh any of the benefits of constructing a power station in the south channel against the many negative public safety and tourism impacts of their north channel proposal.
- **The larger picture needs to be examined to determine the best location** for this proposed power station, rather than the proponent's current focus of just trying to justify their proposed location.
- 3) Each of the areas requiring further study, as identified above, need to be compared to the impact if the power station was built in the south channel.
- In addition, detailed cost comparisons need to be provided.

To Report 69: An evaluation of the best location for the proposed power station, not just an attempt at justifying the current site being proposed.

2.9 Process and Community Relations

2.9.1 Attempts at Working With the Proponent

We would also like to note that while the proponent claims (Section 3.5) they have met, and perhaps exceeded the requirements for public consultation, this is certainly not the result:

- 1) In over four years of working on this, the proponent has held **only two public information sessions**.
- 2) Most seasonal residents do not receive mail, nor regularly read the newspapers, yet there was **no notice of these public information sessions posted on the community bulletin boards in town, or at the grocery store**. Most people had no idea this project was proceeding, nor of the public information sessions.

The proponent perhaps met the letter of the requirement, but not the intent.
- 3) The public information sessions were held on **weekday evenings, when most seasonal residents are not in Bala**.
- 4) We tried repeatedly to meet with the proponent, for example, to discuss our suggested alternative which would have significant safety and other benefits, but were refused.

It was only at the **specific request of a local Councillor** that the proponent finally agreed to meet (initially in a donut shop).

The questions we left with the proponent were not answered until **five months after the meeting**.

- 5) Section B.3.3 of the *Guide to Environmental Assessment Requirements for Electricity Projects* notes that "Proponents are encouraged to circulate a draft of the Environmental Review Report, or relevant sections of the report, to the appropriate agencies and key stakeholders for comment prior to the formal review periods." However, despite repeated requests, the proponent **refused** to provide our community group with any such information.
- 6) We (and several other groups – including Councillor Mary Grady at the October 26, 2009 District Council meeting) asked for an extension to the comment period for this environmental screening report.
- 7) At that District Council meeting the proponent's project manager replied they would extend the deadline if there was "a really good reason". One would think that the difficulty encountered by the general public, who have jobs and other obligations, to respond to a formal document, years in the making, of **over 600 pages** in only 44 days was a good reason.

However, the proponent **waited 23 days**, until November 17 to provide a response. That is, they **said nothing until 34 days into the 44-day comment period** to respond that they would **not** extend the deadline.

This is mean behavior, and shows a complete disrespect for the community the proponent claims to be serving.

Many e-mails were forwarded to the proponent during the comment period.

- a) Often these were not acknowledged until a follow-up phone call or e-mail was sent many days later.
 - b) On the crucial last days of the comment period, the replies took even longer:
 - E-mail sent November 17, reply received November 26 – which was given as the last day for elevation requests.
 - E-mail sent November 18, reply received November 26 – which was given as the last day for elevation requests.
 - E-mail sent November 19, reply not received.
 - c) That is entirely unacceptable that the proponent should provide responses provided on the last day (after a great number of completely confusing statements by the proponent, they agreed to extend this by one day).
 - d) The last e-mail was sent a week before the deadline, and no reply was received, even to a subsequent request for an update on when a reply would be forthcoming.
 - e) The proponent apologized for "running a bit behind schedule". The proponent exacerbates the problem of the brief comment period allowed by delaying information due to us.
- 8) During the comment period, we e-mailed many questions to the proponent. While the respondent was most cordial and pleasant, the fact is that phone calls and follow-up e-mails were often required to even determine if the questions were

received or when a reply would be forthcoming. Responses included the minimum information possible. Many responses were optimism rather than commitments:

- a) The construction crane is **expected** to be a mobile type rather than requiring a poured concrete foundation.
- b) The speed over the temporary Bailey bridge, which would go through a construction site, and have ramps leading to a roadbed raised 4½' above the existing road would **not require any speed limit reduction** (this seems unsafe and unlikely).
- c) The Bailey bridge is **not intended** to have loose components, so should be quiet (a commitment to make is quiet if need be would be more meaningful).
- d) The portage paths are **up to the individuals** (even though there are no safe or workable paths).
- e) The cofferdam water pumps are **anticipated** to be electric.

A final set of questions, some sent ten days before the deadline, never received a response.

This is a process that has not worked.

2.9.2 Apparently Less-than-truthful Information

We have had many difficulties working with information from the proponent, such as:

- 1) Option 1 Could Not Be Built Entirely on Crown Land
 - a) The proponent clearly stated that their Option 1 (also called Phase I, and Alternative 1) could be built entirely and only on crown land (that is, on land owned by the Ministry of Natural Resources).
 - This is noted in the proponent's presentation to the District Municipality of Muskoka Council on October 14, 2008 (Appendix D20, page 7).
 - This is shown by the last "whereas" premise for the District's resolution of October 14, 2008 (see the last page of Appendix C6), which states "AND WHEREAS a refusal by Muskoka to consider the use of the Muskoka District site as an alternative site **will indirectly result in confirming the Province's selection of the Crown Land** site as the ultimate and preferred site for the facility".
 - The bold print was added to highlight the fact that District Council was being pressured to make this decision in favour of the proponent, otherwise Option 1 would be built.
 - In Appendix D12, Table D7, in response to an earlier letter received October 8, 2008, the proponent notes "We will respect any decision made by the council regarding our request and **will build according to their wishes.**"
 - The proponent had been building this pressure on District Council for some time.

That is, the proponent was quite clear that:

- If the District did not agree to permit the proposed project to use District land (which they call Option 2), then the proponent would proceed to build Option 1.

- And that the proponent had the land and approval from the Ministry of Natural Resources to build Option 1.
- The District Councillors were clearly given the “choice” that if they didn’t approve Option 2, then the proponent could and would build Option 1 regardless of anything the Councillors could do.

District Council knew that Option 1 had many undesirable attributes, and that there was significant public opposition to it (this opposition was encouraged by the proponent who heavily publicized Option 2 – for example, see the flyers in Appendix D13 and D16 which were widely-distributed (Section 3.5.2 and 3.5.4).

The disadvantages of Option 1 (all neatly solved by Option 2), included:

- Option 1 had no public access to the south side of the north falls.
- Option 1 was rendered as a tall “concrete bunker” (see Appendix D20, page 7), with no landscaping, and a prominent black railing around the top).

So the Councillors felt they were “choosing the lesser of two evils” and doing the best they could, by supporting Option 2.

- b) But a close examination of the property ownership survey provided in Figure 2.12 and a comparison with the Alternative 1 drawing provided in Appendix A shows that the driveway as well as part of the Option 1 proposed power station itself requires land from the District Municipality of Muskoka.

This changes everything, because the proponent needed District Council approval to build either Option 1 or Option 2.

Furthermore, in their own evaluation of Option 1 (Section 1.5.1.1) the proponent states:

- “The tailrace of the powerhouse would be located in close proximity to the falls which could cause safety issues”
- “Furthermore, the location of the intake would be between the North Bala Dam and the highway bridge. This is not an optimum location from a hydraulic standpoint and head losses would be incurred. Approach area excavations near and below the road bridge to improve the hydraulics would be difficult and could threaten the bridge or dam.”

That is, the proponent:

- Could not build Option 1 because the fast water exiting the tailrace would make the recreation area at the base of the north falls too dangerous.
- Would not build Option 1 because:
 - The water intake is too restricted by the shallow water at the north dam, and by the supports for the highway bridge.
 - Blasting to remove these problems would be very expensive or damaging to the north dam and the bridge.

- c) That is:

- Option 1 also needed District approval for their land
 - This is not what the proponent indicated to District.
- The proponent couldn’t and wouldn’t have built Option 1 anyways, due to intake restrictions and tailrace safety problems
 - This is not what they indicated to the District or the public.

In summary, the District Council's decision was based on incorrect information from the proponent.

2) The Two Orientations of Option 1

The fact that using the proponent's own information (Figure 2.12 and Appendix A), as provided in their environmental screening report shows that Option 1 required District land (and therefore District approval) is significant, since all were led to believe that if the District did not permit their land to be used, the proponent could and would proceed to build Option 1.

It is interesting to note that the drawing provided by the proponent in their July 5, 2005 proposal the Ministry of Natural Resources also shows that District land would be needed. This is shown in Figure 5, below (the drawing has been rotated and cropped to match the orientation of the other drawings).

But what is really interesting is that the Option 1 drawing presented to District Council on October 14, 2008 (Appendix D20, page 8) shows it would fit onto crown land (the drawing from that page is reproduced in Figure 6, below).

When the observation of Option 1 requiring crown land was made as part of a presentation to District Council on October 26, 2009, the proponent replied in a letter dated October 30, 2009:

- a) That the proponent "discussed this matter at some length with him" even though no such discussion took place.
- b) That if the proponent is not allowed to use District land, then the proponent "will update the Option 1 drawings to ensure the structure is fully contained within the crown land boundaries"

It would appear that the proponent's pressure of threatening to proceed building Option 1 is no longer credible, so the threat is now that they would **redraw their picture**.

3) Environmental Impacts Include Economic Impacts

In Appendix D12, Table D6, in response to a letter from the Muskoka Lakes Association dated November 3, 2008, the proponent responds:

"A business economic study is not part of the environmental screening report"

We beg to differ, as the *Guide to Environmental Assessment Requirements for Electricity Projects* clearly states many times that assessing negative environmental effects includes economic impacts. An economic impact study should have been included in the environmental screening report.

4) Fish Will be Entrained

In Appendix D12, Table D6, in response to a letter from the Muskoka Lakes Association dated November 3, 2008, the proponent responds:

"Intake size not finalized until detail design, but will be designed to ensure fish aren't entrained"

As noted in Section 6.2.5.6, the proponent does not provide any information that the water intake is designed so fish won't be entrained. The velocity plumes shown in Figure 6.2c would draw fish to the 31'-wide and 45'-deep water intake. Some

fish would escape, and some would not. It is being less than truthful to say that fish would not be entrained.

5) Invisible – NOT

a) Appendix D16, *Trying to Set the Record Straight* (this was placed in several local newspapers) states that Option 2 would be “tucked into a valley”.

■ There is no valley at the proposed site (see the contour lines, for example in Appendix A, Alternative 1). The proponent is proposing to construct a concrete cube and pile blasted rocks up the sides.

b) Appendix D15, *Public Information Centre 2008* on page 3 states “virtually all station facilities will lie invisibly below grade”. And on page 4 states (in bold print) “the power station will be virtually invisible”.

c) Appendix D13, *Our New Plan for Bala Falls* states “Virtually all station structures and facilities will be invisible; being either on the river bottom or below grade”.

I think most would agree that a concrete structure that rises 18' above the Moon River, and is 33' wide is not invisible. These messages were all communicated the public to prepare District Council for the crucial vote where the proponent needed to get approval to use District land.

6) During telephone conversations, the proponent’s project manager acknowledged the deficiencies of their artist’s rendering and stated that a more accurate drawing would be provided.

This has not happened, the proponent hasn’t offered an update to this erroneous Figure 6.6 even though they have had over a full year to do so.

7) In Table 6.1, *Surface Water Hydrology*, the proponent states “Minimum continuous flow of 1 m³/s to be passed through each of the North and South Bala Dams at all times – no other mitigation possible due to power diversion”.

■ That isn’t true. Of course they could choose to pass more water over the falls for scenic flow, they are simply being too greedy (or the project can’t be adequately justified economically).

8) In Section 9.9 a “Best Management Zone” is defined. Even though the proponent **repeatedly states** (Sections 6.1, 6.2.2.1, 6.2.5.4, and 9.7) the proposed power station would be **operated in a run-of-river mode**, and not peaking mode (for example, in Section 1.5.2.1) the described operation is in fact a form of **peaking operation**.

More than this deception, the real problem is the **huge increase in danger** to the public, as in-water recreational activities downstream, and especially upstream would encounter changes in the water flow through the proposed power station. For example, scuba divers upstream of the proposed power station could find themselves in grave danger.

Furthermore they confirm their obligation to explain the rationale for requesting such a change to the Muskoka River Water Management Plan (Section 9), but do not do so.

In summary, we don’t feel that the proponent has successfully worked with the community.

3 Additional Study and Reporting Needed

While the proponent's environmental screening report is large, and raises many points, and offers many tables of information, a close reading shows that the mitigation offered is entirely inadequate and substantial additional study is required.

3.1 Summary of Reports Required

As detailed above, reports are required on many topics, these are repeated below (followed by the page number on which the detail is provided):

To Report 1:	Methods to effectively deal with the reality that ill-advised youth jump from the railway bridge, as this existing activity would become life-threateningly dangerous.....	6
To Report 2:	The maximum safe water speeds for the various in-water recreation activities and what would be the water speeds along each of the safety booms.	6
To Report 3:	Rescue procedures and responsibilities required for people hanging onto each of the upstream safety booms, and for boats held against the safety booms.	7
To Report 4:	The steps and time required to get the power station shut down. ..	7
To Report 5:	Document how water speeds comparable to those during spring runoff would be safe during the parts of the main summer recreation period.	7
To Report 6:	What would the water speed be along the safety boom. Could one push their boat/canoe/kayak along the safety boom by hand.	9
To Report 7:	How would the feeling of imminent danger affect using the town docks for visits to buy goods and services in Bala. And how would this affect the nearby businesses who's customers travel by boat. .	9
To Report 8:	The rationale for requesting the Best Management Zone during the summer months.	10
To Report 9:	Respond to their obligations and provide the rationale for the proposed changes to the Muskoka River Water Management Plan.	10
To Report 10:	Confirmation that the proposed power station would be operated in a true run-of-river mode, with no intermittent operation.	10
To Report 11:	Complete detail on the operating plan for the power station, as it has a major impact on public safety.	10

To Report 12:	An upstream safety boom design, approved by Transport Canada, that facilitates self-rescue, and would not create navigational difficulties for users of the town dock.	11
To Report 13:	The methods to adequately deal with the currently-known new dangers need to be determined and approved as part of the environmental assessment process, not at some later detailed design stage.	12
To Report 14:	It needs to be determined whether the fast water exiting the proposed power station would make recreational activities at the base of the north falls more dangerous.	12
To Report 15:	Determine the acceptable (to Transport Canada and any other authorities and organizations) exact location for the downstream safety boom.	13
To Report 16:	Whether the public will have access to the shoreline and water in the area between the proposed power station and the north falls.	13
To Report 17:	A safe (for both portager and canoe) portage route between Lake Muskoka and the Moon River.	15
To Report 18:	Determine, describe, and provide views of the proposed power station, water intake, and driveway retaining wall, showing the minimum safety fencing required.	15
To Report 19:	Elevation side-view drawings of all sides of the proposed power station, including any fencing required.	17
To Report 20:	Renderings, to scale, of the water intake as viewed from the town dock, and from the intersection of Muskoka Road 169 and Bala Falls Road.	17
To Report 21:	Detailed descriptions and sketches of what could be done to restore the natural beauty, Muskoka bedrock, and mature trees of this focus of tourism.	17
To Report 22:	Complete renderings of the proposed facilities.	19
To Report 23:	The impact on tourism, and on the local economy as a result of the loss of publically-accessible shoreline.	20
To Report 24:	The water speeds along the upstream safety boom, both at the surface and at depths used by scuba divers.	21
To Report 25:	An update to Figure 6.5 to show areas unsafe for in-water recreational activities, such as scuba diving.	21
To Report 26:	Examining each regatta participant and race official activity, and the in-water locations of these to itemize and assess any added risk for each.	21

To Report 27:	The impact on tourism, and therefore on the local economy as a result of the loss of this in-water recreational area.	21
To Report 28:	A process to provide information to, and to interactively communicate with, the public and those knowledgeable in this issue to determine what level of scenic flow would be required at the north falls and for the south channel, so that the Bala Falls and south channel would continue to be a tourist draw.	22
To Report 29:	How the proposed project can be justified in light of the District Municipality of Muskoka's Official Plan	23
To Report 30:	The extent of the shadow from the proposed power station, at various times of the day, and for various months of the year.	23
To Report 31:	An alternative method to provide a rental boat service in Bala. ...	23
To Report 32:	An economic impact study to examine and report on the long-term effects on the area's businesses due to the issues such as those detailed above.	24
To Report 33:	Whether these businesses could survive the construction period (including considering that the construction period could be extended, so this period could be more than one summer).	24
To Report 34:	Whether the construction disruption to the residence would be acceptable.....	24
To Report 35:	Whether these businesses could survive in the longer-term.	24
To Report 36:	The longer-term impact on the residence's property value.....	24
To Report 37:	Contingency plans if construction is delayed into a second summer.	25
To Report 38:	A graphical construction time-line showing activities of most interest to the public.....	26
To Report 39:	The planned use for the land at Diver's Point during and after the proposed construction work (we understand this is owned by the Ministry of Natural Resources, and the proponent would have full use of the property).....	26
To Report 40:	Whether it is expected that any part of the Precambrian Shield parking lot would be used during construction, and if so, what would be located there.	26
To Report 41:	Whether it is expected that any part of the Don's Bakery parking lot would be used during construction, and if so, what would be located there.	26
To Report 42:	The financial assurances required by the stakeholders to ensure all work will be completed as planned, and whether this would be acceptable to the proponent.....	27

To Report 43:	Through discussion and information exchange with the District, to agree on an alternate path for the utility pipes which would need to be relocated as a result of this proposed project, and to document this.	28
To Report 44:	To work out with the District a cut-over plan and document this so the public can know the number and duration of disruption to their municipal water supply, sewage service, and other impacts, such as a temporary impairment to fire fighting capability.	28
To Report 45:	The area (in addition to that between Purk's Place and the Stone Church, in m ²) expected to be needed for construction purposes and for what periods of time.	28
To Report 46:	The speed limit to be required for the Bailey bridge.	29
To Report 47:	A traffic study to show the maximum traffic queue lengths at the Bailey bridge, both by distance and waiting time.	29
To Report 48:	How to configure the traffic signal lights to handle expected summer traffic loads, and to not surprise southbound drivers with stopped cars just around the sharp turn.	29
To Report 49:	A traffic study to show the maximum traffic queue lengths (including for Highway 38) at the proposed traffic signal light, both by distance and waiting time.	30
To Report 50:	The detailed noise calculations, this time including all the noise sources.	30
To Report 51:	The detailed noise calculations, this time using the correct frequency spectra for all noise sources.	30
To Report 52:	The detailed noise calculations, this time including actual manufacturer's data.	31
To Report 53:	The detailed noise calculations, this time considering the site to be a Class 3 area.	32
To Report 54:	The noise levels at Purk's Place and the Stone Church, given that they should be considered Class 3 areas.	32
To Report 55:	Noise calculations for points of reception on the lookout, and on the stairs beside the proposed power station.	33
To Report 56:	A vibration analysis for points of reception on the lookout, and on the stairs beside the proposed power station.	33
To Report 57:	The results of discussions with the appropriate authorities to finalize the need for, location, and design of fish spawning compensation areas.	33

To Report 58:	Quantified and justified statistics on the number of fish which are expected to be entrained, and the impact of this loss to the Lake Muskoka fishery.	34
To Report 59:	Whether transferring more fish from Lake Muskoka to the Moon River would have an undesirable effect on the Moon River fishery.	35
To Report 60:	The effect on the fish habitat due to "spring runoff" water velocities in the north channel for six, rather than one, month of the year..	35
To Report 61:	On the expected increase in fish lost to turbine mortality and to the Moon River due to the different velocity characteristics of the proposed power station's water intake compared to a dam.	36
To Report 62:	On the methods to be implemented to ensure contaminants are not in the discharged cooling water.	37
To Report 63:	On the types of contaminants which could be in the wash sink water and the methods and efficiencies used to remove these.	37
To Report 64:	On whether the District would permit this wash sink water to be treated within the proposed power station rather than by the municipal sewage treatment. And whether each of the lubricants and other liquids and materials used in the power station would be accepted for treatment by the District's facility.	37
To Report 65:	On the types of contaminants which could be in the main sump and the methods and efficiencies used to remove these.	37
To Report 66:	On whether the District would permit the contents of the main sump to be treated within the proposed power station rather than by the municipal sewage treatment.....	37
To Report 67:	On whether the water from the roof drains can be directly discharged into the Moon River.....	37
To Report 68:	The business arrangement to be agreed to for use of shoreline and District lands.	38
To Report 69:	An evaluation of the best location for the proposed power station, not just an attempt at justifying the current site being proposed.	39

4 Conclusions and Recommendations

4.1 Inadequate Mitigation

Through countless telephone conversations, e-mails, and information posted at <http://SaveTheBalaFalls.com>, we have tried to work with the proponent to resolve the concerns we have about their proposed project.

As shown by the large number of outstanding issues detailed above, we feel that the proponent has not adequately mitigated many significant negative environmental effects of their proposed project.

4.2 Request for Elevation

So that the proponent may provide the information needed to demonstrate that the negative environmental effects of the proposed hydro-electric generating station could and would be adequately mitigated, we request that this project be elevated to require an Individual Environmental Assessment.

4.3 Terms of Reference

The Terms of Reference for the Individual Environmental Assessment would need to include the following:

- 1) Providing the reports detailed above.
- 2) That we be interactively involved with both the work definition, and in reviewing draft copies of the reports produced so that we can be sure that the required information is provided.

We tried to work in this manner with the proponent during the past years, and we feel that their refusal to have open and interactive discussion has detracted from the thoroughness of their work, as demonstrated by the missing information detailed above.

5 Figures and Drawings

To distinguish the references to Figures in this report from those in the environmental screening report, the term “below” is used for those below (as in “Figure 2, below”).

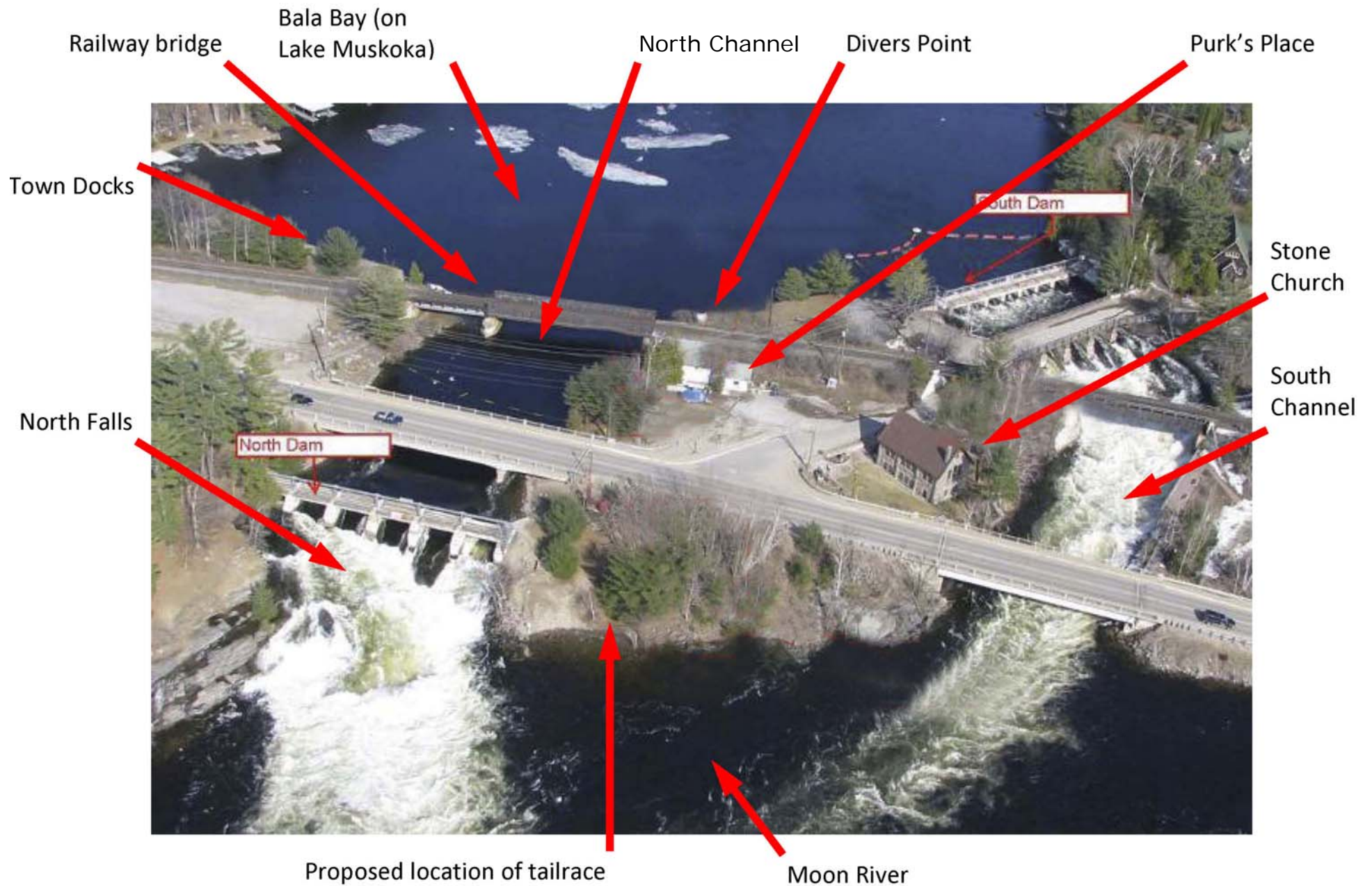


Figure 3 – Rendering Deficiencies

