

April 24, 2024: Town of Caledon Brief Flyrock Presentation

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The Important Takeaways:

- There is no definition of Flyrock in the Ontario Aggregate Resources Act.
- Flyrock is never to leave the site, but ARA provides no guidance as to how that is to be achieved.
- MNRF has never undertaken an evidence-based quantitative study of flyrock incidents in Ontario.
- Flyrock is an inevitable by-product of blasting rock (can include pebbles, stones, car-sized boulders, mud, sand, tree trunks, building materials, water, blasting mats, etc.).
- Flyrock throw calculations are unreliable and unscientific (five or six different formulas).
- Flyrock can never be eliminated no matter how good the blast design (too many unknown variables and human error).
- Every blast produces flyrock, and if a blast involves a 100 detonations (like a string of firecrackers), each detonation produces flyrock, but in Ontario, if the flyrock debris does not leave the quarry it is treated as a non-event.
- Flyrock can reach speeds of 400 miles per hour (644 kilometres per hour).
- Flyrock at 1,000 metres is just as deadly as flyrock at 20 metres.
- Flyrock can be launched distances in excess of 3,000 metres.
- Flyrock can be launched in more than one direction.
- Flyrock, just like noise, vibrations, toxic fumes, fugitive dust) is a contaminant under the Ontario Environmental Protection Act.
- Flyrock is the ultimate adverse effect.
- Flyrock is a health and safety concern (humans and non-humans).
- Flyrock interferes with the use and enjoyment of public and private property.
- Flyrock that lands in a farmer's field may go unnoticed and result in damaged ploughing equipment during crop harvesting, and cause the rider injury, without compensation.

- Flyrock that lands in a Managed Forest damaging marketable trees goes unnoticed and without compensation.
- Flyrock can take out overhead powerlines, leaving local residents and businesses without power for days.
- Of 219 documented flyrock incidents, 37 resulted in death, reflecting a “kill rate” of 16.9%, and 41 more people were injured in the same 37 flyrock incidents.
- Family members, relatives and friends of someone killed by flyrock are left to grieve the tragic loss.
- The potential for flyrock debris to cause property damage or injure, permanently disable or kill humans and non-humans increases as population grows and human and non-human activity around a quarry increases. (Post COVID-19 more people are working from home or establishing home occupations/businesses)
- In Ontario, the blaster-in-charge at a quarry does not require a licence to demonstrate competency in the detonation of explosives
- In Ontario, a Licence to permit aggregate extraction has no expiry date, and a blasting quarry should be treated as a permanent use of land.
- A quarry in operation for 100 years (or more) that blasts 100 times a year, with 150 detonations per blast, exposes the environment, including humans and non-humans, for 5 generations to the potentially deadly consequences of flyrock debris 1,500,000 times!

Without requiring provincial approval, the three basic policies that the Town of Caledon can enact to reduce, but not necessarily eliminate, the adverse effects of flyrock on the environment, including humans and non-humans, are:

Permanent onsite setback of 500 metres (equivalent of an excavation limit) imposed on the Quarry site (eliminates arbitrary blasting onsite)

Permanent offsite minimum separation distance of 1,000 metres between the boundary limits of a quarry and Settlement Area, Rural Cluster or Sensitive Land Use (broadly defined).

Pass a Noise and Vibration By-law under the Ontario Municipal Act, which restricts vibrations at the boundary limits of a quarry to a maximum of 2 mm/sec. (A municipality can legally impose noise and vibration restrictions that are more onerous than required under the Ontario Environmental Protection Act)