



**SUBJECT: Fireworks By-law Update**

**TO: Environment, Infrastructure & Community Services Cttee.**

**FROM: Fire Department**

Report Number: BFD-03-20

Wards Affected: All

File Numbers: 755-01

Date to Committee: November 9, 2020

Date to Council: November 23, 2020

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**Recommendation:**

Enact new City of Burlington Fireworks By-law XX-2020, attached as Appendix “C” to Report BFD-03-20, satisfactory to the Executive Director of Legal Services & Corporation Counsel.

Enact amended City of Burlington Licensing By-law No. 42-2008, attached as Appendix “D” to Report BFD-03-20, satisfactory to the Executive Director of Legal Services & Corporation Counsel.

Enact amended City of Burlington Nuisance and Noise Control By-law No. 49-2008, attached as Appendix “E” to Report BFD-03-20, satisfactory to the Executive Director of Legal Services & Corporation Counsel.

**PURPOSE:**

**Vision to Focus Alignment:**

- Support sustainable infrastructure and a resilient environment
  - Building more citizen engagement, community health and culture
  - Deliver customer centric services with a focus on efficiency and technology transformation
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## **Executive Summary:**

Staff are recommending that family fireworks only be allowed during Canada Day celebrations. Currently the existing Fireworks By-law (125-1992) lists two celebration dates that allow family fireworks; Victoria Day and Canada Day. Fire safety, legislation and regulations, environment, diversity and inclusivity are the key decision points for the recommendations being made in this report.

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## **Background and Discussion:**

Fall 2019, the Director of City Building and the Fire Chief were jointly directed to review by-laws related to sale and discharge of family fireworks (MO-16-19), to better support the inclusion of religious and cultural events in our growing city.

In addition, the Fire Chief was authorized to immediately grant exceptions to the discharge dates listed in the fireworks bylaw on a case-by-case basis, which was done specifically for the “festival of lights” (Diwali) on October 29, 2019. To date, no additional requests have been received by the fire department.

The review of by-laws included the following:

- 125-1992 - Regulating the Sale and Use of Fireworks (Fire)
- 49-2008 – Nuisance and Noise Control (Building/By-law)
- 42-2008 – Business Licensing (Building/By-Law)

It is important to note that the current Fireworks By-law regulates the discharge of both family fireworks and display/pyrotechnic fireworks. All references to allowed discharge dates contained within this report are specific to the discharge of family fireworks only. Family fireworks, also known as consumer fireworks, are fireworks designed for recreational use by members of the general public over the age of 18, such as roman candles, fountains and sparklers.

A permit still must be issued by the Burlington Fire Department, for display/pyrotechnic fireworks, which may occur on any day of the year, pending permitted approval by the Fire Chief (or designate). Display/pyrotechnic fireworks are for professional use only and require training and certification by Natural Resources Canada (NRCan). There are no recommended revisions to alter this approval process within the new Fireworks By-law or this report.

## **Regulations & Legislation**

There are several different legislations and regulations that control the manufacture, storage, handling, transportation, sale and use of fireworks in Canada and the Province of Ontario.

For information purposes, a summary of the applicable laws has been provided below, which operate in addition to the city's existing fireworks by-law.

### **Ontario Fire Code (O. Reg 213/07)**

Section 5.2 of the 2015 Ontario Fire Code regulates explosives, fireworks and pyrotechnics. Div. B, Article 5.2.1.2. - The manufacture, storage, handling, transportation, sale and use of explosives shall meet the requirements of the "Act" and the "Regulations".

- "Act" means the Explosives Act;
- "Regulations" means the Explosives Regulations" made under the Explosives Act.

### **Explosives Act and Regulations**

*Explosives Act*, R.S.C.,1985, c. E-17:

- the Act relating to the manufacture, testing, acquisition, possession, sale, storage, transportation, importation and exportation of explosives and the use of fireworks.
- requires anyone working with explosives to have a licence, certificate or permit issued by the Minister of Natural Resources;
- makes exceptions for certain low-hazard explosives, low-hazard pyrotechnics, sporting ammunition and consumer (family) fireworks.
- Applicable to (high hazard) display/pyrotechnic fireworks displays

The Explosive Regulations, 2013 provide regulations for the safe and secure handling of explosives.

### **Fire Prevention and Protection Act, 1997, S.O. 1997, c.4**

Section 7.1 (1) of the *Fire Prevention and Protection Act* states that council of a municipality may pass by-laws,

- (a) regulating fire prevention, including the prevention of the spreading of fires;
- (b) regulating the setting of open-air fires, including establishing the times during which open air fires may be set.

### **Municipal Act, 2001, S.O. 2001, c.25**

Sections 8, 9 and 11 of the *Municipal Act, 2001*, authorize municipalities to pass by-laws necessary or desirable for municipal purposes, and in particular, paragraphs 5, 6 and 8 of subsection 11(2), and paragraph 11 of subsection 11(3) authorize by-laws

respecting the economic, social and environmental well-being of the City, the safety and well-being of persons, the protection of persons and property and structures and business licensing.

Section 128 (1) authorizes municipalities to regulate public nuisances, including matters that, in the opinion of council, are or could become or cause public nuisances.

## **City By-laws**

When developing or updating by-laws the municipality must ensure that their practices fit the particular needs of the community. The by-laws reviewed, noted earlier in this report, included community safety, noise and nuisance, population density, environment and social responsibility. These factors were taken into consideration as part of the review and amendments of the listed by-laws, as outlined in this report, for councils' consideration. The city's Fireworks By-law review also took into consideration the protection of life and property from a fire risk standpoint.

## **Strategy/process**

### **Office of the Fire Marshal**

The Office of the Fire Marshal (OFM) is a branch of the Community Safety Division of the Ministry of the Solicitor General. The OFM is the principal adviser to government on public fire protection policy and fire safety matters. The OFM provides municipal fire departments and council's with resources, training, investigation services, technical review and interpretations, as well as advice on fire safety matters in the Province of Ontario.

The OFM does not recommend family fireworks or informal neighbourhood displays in order to "reduce the risk of fire and burn injuries." Instead, the OFM encourages individuals to "attend professional fireworks displays hosted by their municipality or another responsible organization using NRCan fireworks certified technician."

According to figures provided by the OFM, fireworks were blamed for 83 fires and \$3.9 million in damage in Ontario between 2014 and 2018. These are the most recent figures available from the OFM. Burlington fire can report on fire loss experience; however, doesn't currently have the ability to further drill down to specific detail to provide detailed fireworks loss reporting. As a note: Burlington fire is working to improve reporting capabilities in the future with the replacement of the records management system (RMS).

## Comparison of Surrounding Municipalities

For councils' reference, staff conducted a review of local municipality family fireworks discharge permissions in the comparison information provided in Table 1 below.

**Table 1 – Family Fireworks By-Law Allowed Days**

Municipality	Permitted Discharge Dates for Family Fireworks	Total Annual Discharge Days
Burlington	<ul style="list-style-type: none"> <li>• Victoria Day, and the three days preceding</li> <li>• Canada Day, and the three days preceding</li> </ul>	8
Oakville	<ul style="list-style-type: none"> <li>• Victoria Day, the day before and the day after</li> <li>• Canada Day, the day before and the day after</li> <li>• New Year's Day, the day before and the day after</li> <li>• + Any religious or cultural celebrations where fireworks are used to celebrate the event</li> </ul>	9 +
Milton	<ul style="list-style-type: none"> <li>• Victoria Day, and the two days preceding</li> <li>• Canada Day, and the two days preceding</li> <li>• 3<sup>rd</sup> day of Diwali, and the two days preceding</li> <li>• + Any other day for which a permit has been issued by the Chief Fire Official</li> </ul>	9 +
Halton Hills	<ul style="list-style-type: none"> <li>• Victoria Day,</li> <li>• Canada Day,</li> <li>• + Any other day for which a permit has been issued</li> </ul>	2 +
Hamilton	<ul style="list-style-type: none"> <li>• Victoria Day, and the two days before or after</li> <li>• Canada Day, and the two days before or after</li> </ul>	10

While Burlington may be the only municipality in the surrounding local area to recommend changing the allowed fireworks to Canada Day only. All fire departments across Ontario consistently do not support or encourage the use of family fireworks due to the increased potential of fire risk. As a reminder, the OFM does not recommend the use of family fireworks due to the recognized fire risk.

As noted in Section 6 (3) of the Fire Protection and Prevention Act states that the "fire chief is the person who is ultimately responsible to the council of a municipality that appointed him or her for the delivery of fire protection services."

City of Burlington, Acting Fire Chief *"advises Council against any increase or potential for an increase in fire risk. Family fireworks are not recommended by the OFM and as such are not recommended by the Burlington Fire Department, due to the fact they pose an increased fire risk in the city."*

## Public Interest and Engagement

In consultation with corporate communications and clerks, the city's online engagement portal (Get Involved Burlington) was utilized to gauge public interest related to fireworks and more specifically around permitted discharge dates for family fireworks.

A simple online poll asked residents about their preferences relating to discharge dates for family fireworks. The poll options were:

- a. Victoria Day and Canada Day (currently permitted as per By-law 125-1992)
- b. No family fireworks
- c. Canada Day only, and
- d. Victoria Day, Canada Day, Diwali, Chinese New Year and any other day for which a permit has been issued by the Fire Department.

It was clear early on, that the public's interest level was high. The level of engagement exceeded staff expectations (over 50,000 visits to the site and approx. 46,000 votes).

It is noted that the online poll had some limitations, including concerns around possible repeat voting and users not requiring to be registered with the Get Involved Burlington platform. Appendix A, Get Involved Results Summary, to Report BFD-03-20, has been provided by corporate communications and contains a brief summary of the survey results and provides further information about the limitations of the online poll, for reference purposes.

Although the poll results have not been used as a factor in the decision-making criteria or recommendations contained within this report, a summary of the Project Report is included as Appendix B to Report BFD-03-20, summarized below:

- Victoria Day and Canada Day (**904 votes or 2.0%**)
- No family fireworks (**23,838 votes or 52.5%**)
- Canada Day only (**109 votes or 0.2%**), and
- Victoria Day, Canada Day, Diwali, Chinese New Year and any other day for which a permit has been issued by the FD (**20,585 votes or 45.3%**)

The poll indicated that individuals either enjoy fireworks and wouldn't mind additional discharge dates (45.3%) or they disliked them and would prefer they weren't allowed at all (52.5%). While the poll is not being used as a deciding factor for the recommendation provided, staff have a better understanding of the amount of interest around the subject of fireworks in the community.

During the poll, the fire department also received fireworks related complaints. The complaints were generally regarding noise and nuisance, debris landing in pools and on

homes, family members and pets being frightened, concerns about wildlife and the environment, and concerns around illegally imported fireworks being discharged and the size of the fireworks displays.

## **Inclusivity**

The staff direction contained within (MO-16-19) is with respect to ensuring that family fireworks discharge dates “support the inclusion of religious and cultural events in our growing city.”

For the purpose of this report, inclusivity represents “the practice or policy of including people who might otherwise have been excluded or marginalized”. Therefore, due to the polarizing viewpoints regarding discharge dates for family fireworks in Burlington, it is important to note that a review for inclusivity purposes represents both those in-favour of adding additional family fireworks discharge dates and also includes the slightly larger percentage of individuals whose preference is for no family fireworks at all.

As part of the review process, staff considered a holistic approach to the impact of fireworks in the community. Not only are fireworks considered a fire hazard, the loud noise created by fireworks can cause fear, stress and anxiety in people and animals (wildlife and family pets). It is also important to note that while fireworks are enjoyed for a few minutes by some as part of a celebration, there are many individuals in the community that find them a frightening ordeal. The noise from fireworks is loud, sudden and reminiscent of the sounds of war and/or attacks. It is not uncommon for veterans, civilians, immigrants, refugees and first responders to have a negative experience from the sound and/or display of fireworks.

## **Options Considered**

### **Option 1 – Canada Day - Preferred and Recommended Option**

This is the preferred option, supporting the message of fire safety, diversity and inclusivity in the community.

Focusing on fire safety by reducing the number of fire risk days and supporting inclusivity, it is recommended that family fireworks discharge only be allowed on Canada Day, the day preceding and the day following, for a total of 3 days each year.

On this holiday weekend, all residents regardless of birthplace, religion, culture, beliefs or traditions will be allowed to discharge family fireworks to help celebrate Canada’s birthday. Family fireworks would not be allowed on any other day or weekend, including the previously allowed Victoria Day holiday.

While this recommended option reduces the current allowed fireworks discharge dates from 8 to 3 days per year, it does support and recognize diversity and inclusivity in the community by continuing family fireworks to celebrate Canada.

Based on this recommendation, there are several revisions, which will result in repealing and replacing the existing Fireworks By-law as well as amendments to other associated by-laws, as noted below.

1. Family fireworks sales will be removed from the fire department Fireworks By-law and added to the building department Business Licensing By-law to better align the approval process to the according responsible department (Appendix C).
2. Permitted discharge dates will be revised to include the day preceding, Canada Day and the day following, for a total of three days over the holiday weekend. Victoria Day fireworks has been removed and will no longer allow for fireworks displays on or around this holiday date. (Appendix C)
3. Update the Fireworks By-law to restrict discharge times between dusk (sunset) and 11:00 p.m. (Appendix C and Appendix E)
4. Add provisions to allow the Fire Chief, or designate, to suspend or ban fireworks for reasons of extreme weather, emergency situations or to protect persons, property or the environment. (Appendix C)
5. Building department Business Licensing and Nuisance and Noise Control By-law will be updated to correct the reference to the Fireworks By-law. (Appendix D and Appendix E)

The new Fireworks By-law XX-2020 is included as Appendix “C” to this report.

The amendment to the Business Licensing By-law (42-2008) and the amendment to the Nuisance and Noise Control By-law (49-2008) are included as Appendices “D” and “E” to this report.

Building Licensing Services and By-law Enforcement also support this recommendation, as noted below:

*Licensing Services supports Option 1, that family fireworks discharge be permitted only during the Canada Day holiday, this will assist our Municipal Law Enforcement team, who inspect and investigate the licensing requirements as well as noise and nuisance related complaints.*

*By-law Enforcement supports Option 1, that family fireworks discharge be permitted only on Canada Day, the day preceding and the day following each year, is anticipated to limit the demand on by-law enforcement resources required to investigate noise and nuisance complaints. Through collaboration with Fire Prevention, public education and*



*pro-active interactions, By-law Enforcement Officers can promote and encourage members of the public to attend fireworks displays hosted by the City or Permitted displays of fireworks by trained and certified fireworks technicians, as approved by the Fire Chief (or designate).*

### **Option 2 – Status Quo - Not the Preferred Option**

This is not the preferred option. Status quo will continue to only allow family fireworks discharge on Victoria Day and Canada Day holidays. This option does not:

- provide any change to the existing city by-laws,
- support the notion of diversity and inclusivity,
- support the recommendations of city staff,
- support the recommendations of the OFM as the principal adviser to government, on public fire protection policy and fire safety matters.

### **Option 3 – Increased Fireworks in Community – Not the preferred option**

This is not the preferred option as it encourages the potential for increased fire risk, noise and nuisance complaints in the city.

Through MO-16-19, staff were asked to consider adding to the existing approved fireworks discharge dates (currently Victoria Day and Canada Day) and consideration given to include a provision for “any other day for which a permit has been issued by the Fire Department”.

This option would require individuals or groups to obtain a family fireworks permit each time they want to discharge fireworks on a specific date, including Victoria Day, Canada Day, Diwali, Chinese New Year, and so on. With the intent of supporting diversity and inclusivity there is a wide variety of multinational festivals and holidays that are celebrated around the world, whether within religions, cultures, or otherwise. It is estimated that over time in the coming years the number of allowed fireworks days would increase substantially. For consistency reasons, the fire department could not say yes to one celebration and no to another. This is not an option the fire department feels they can support due to the concerns already noted in this report.

If approved, this option will result in:

- Revisions to the attached by-laws, Appendices “C” and “D” to allow for additional approved discharge days,
- Increase in fire risk in the city,
- Increased noise and nuisance complaints,

- Establishing a new process for site inspection and permitted approval. This will increase workload demand on fire prevention inspectors and emergency responders,
  - Increase in workload demand for by-law enforcement officers to deal with complaints,
  - Potential increase in the number of fireworks stored and traveling in and out of the city.
  - Potential increase in the number of sales licensing that over time will need to align with the more frequent holiday celebration dates.
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## **Financial Matters:**

### **Total Financial Impact**

Options 1 and 2 do not have any foreseeable financial impact.

Option 3 will have a financial impact for increased staff time to permit and respond to an increase in fireworks sales, fire risk hazards, along with noise and nuisance complaints. It is difficult to estimate the increased cost that will be incurred due to unknown variables. Staff would monitor and provide details in future budget funding requests through the operating budget process.

### **Source of Funding**

Any additional costs will be included in the annual operating budget for councils' consideration.

### **Other Resource Impacts**

Staff from fire, building and legal consulted and jointly provided the recommended revisions to the respective by-laws outlined in this report.

Building department licensing and by-law enforcement are in support of Option 1 and provided supporting comments under this preferred option above.

Option 3 will result in an increase in family fireworks and will directly correlate to an increase in staff time for fire, building licensing and building by-law enforcement.

## Climate Implications

The following information is being provided from research conducted and at the advice of the city's sustainability coordinator.

In addition to the risk of fire and burn injuries, fireworks also expose humans and animals to toxic chemicals and noise pollution.

Discharging fireworks causes many chemicals and small minerals to be released into the air. Leftover particles that fall to the ground can pollute waterways and pose a risk to both wildlife and humans. Pollutants from fireworks raise concerns because of potential health risks associated with hazardous by-products. For most people the effects of exposure to low levels of toxins from many sources over long periods are unknown. For persons with asthma or multiple chemical sensitivity the smoke from fireworks may aggravate existing health problems.

“Although the heavy metals in fireworks experience a temporary physical change, the metal salts and explosives in the fireworks undergo chemical changes by combining with oxygen (combustion). This chemical reaction releases smoke and gases such as carbon dioxide, carbon monoxide, and nitrogen, and these are some of the primary greenhouse gases responsible for climate change” (*Forbes Article, 2019*).

“During the explosion, these metal salts do not ‘burn up’. They are still metal atoms, and many of them end up as aerosols that poison the air, the water and the soil. When inhaled or ingested, these metals can cause a huge variety of short and long-term negative health reactions” (*Forbes Article, 2019*).

Scientists from the Meteorological Service of Canada concluded that “studies are needed to document exposure to species of the elements emitted by fireworks and to assess the toxicity of particles of various chemical compositions in inhaled fireworks smoke” (*Atmospheric Environment, 2010*).

As climate change actions and environmental protection becomes more prevalent, places around the world are taking action to reduce the negative impacts of fireworks. Some examples are; Beijing, China has outlawed the use of fireworks completely, as the risk of air pollution is too high. Collecchio, Italy has switched to silent fireworks to reduce anxiety among animals. Similarly, Banff, Alberta has cut out the use of fireworks for large celebrations all together due to the adverse effects on local wildlife. Vancouver, British Columbia has banned the sale and use of fireworks completely.

It is anticipated that as more and more municipalities review and update their independent fireworks by-laws a reduction in fireworks or change in the way fireworks are displayed will become more prevalent with the environment now becoming one of the decision influences.

**Reference:**

- <https://www.forbes.com/sites/grrlscientist/2019/12/31/festive-fireworks-create-harmful-pall-of-pollution/#420c1e052853>
- <https://www.cbc.ca/news/canada/calgary/calgary-fireworks-environment-wildlife-human-health-concerns-1.5218006>
- <https://theconversation.com/our-prettiest-pollutant-just-how-bad-are-fireworks-for-the-environment-52451>
- <https://www.terrapass.com/fireworks-impact-environment>
- <https://www.sciencefocus.com/planet-earth/are-fireworks-bad-for-the-environment/>
- <https://www.nytimes.com/2018/07/04/climate/fireworks-pollution.html>

**Engagement Matters:**

See Public Interest and Engagement section above.

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**Conclusion:**

Staff recommend council approve the recommendations provided in this report for the following reasons;

- Supports the recommendation of the OFM as the primary advisor to governments for the provision of fire safety. Lessons fire risk and lessons noise and nuisance complaints.
- Supports the message of diversity and inclusivity by celebrating Canada as a diverse and inclusive community/Country.
- Supports improvement to current practices and lessons the impact on the environment and climate change from the release of fireworks chemicals and toxins.

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Respectfully submitted,

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Manager, Fire Administration, Prevention  
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**Appendices:**

- A. Get Involved Results Summary
- B. Get Involved Project Report
- C. Fireworks By-law
- D. Amendment to Business Licensing By-law
- E. Amendment to Nuisance and Noise Control By-law Report Approval:

All reports are reviewed and/or approved by Department Director, the Chief Financial Officer and the Executive Director of Legal Services & Corporation Council.

## Appendix A – Get Involved Results Summary

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### Fireworks Bylaw Review – Get Involved Results

#### High number of votes

- Very easy poll with one question, four options
- Very easy to understand (not like Official Plan or budget)
- All residents are impacted regardless of age, marital/family status, community, zone or hub
- Easy to have an opinion on the topic– people almost instantaneously know where they stand on the issue
- No barriers to participating
- Social media users retweeted, shared posts who had high number of followers and subscribers (Mayor, real-estate agents, Fire Department, high-profile users) on Reddit, Twitter and Facebook

#### Repeat voting

Repeat voting is only possible if a person deletes their history and clears their cache; otherwise the Get Involved platform will block a user from voting more than once. In a poll with over 45,000 results, it would take a person 450 votes to equal a one per cent change. **That is a lot of effort, for not much result.**

If one option was the runaway winner by thousands of votes, repeat voting would be more plausible. Since there are two polar-opposite options with significant results, repeat voting would seem even more unlikely as it would require a coordinated effort between to camps to off-set each other's voting.

## Appendix B – Get Involved Project Report Summary

Get Involved Burlington : Summary Report for 03 February 2020 to 03 March 2020

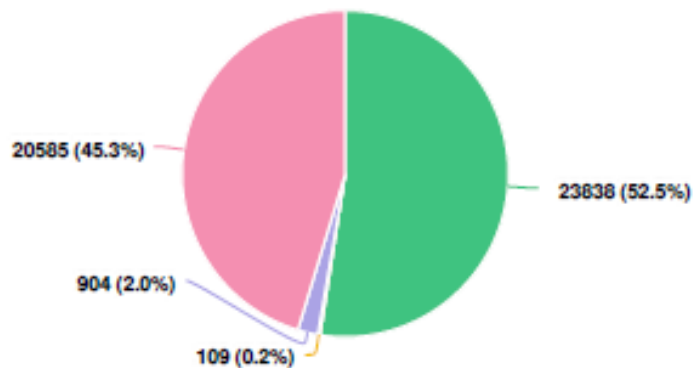
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### ENGAGEMENT TOOL: QUICK POLL

Currently, neighbourhood fireworks are only permitted on Victoria Day and Canada Day and three days before those holidays. Please let us know the option that you prefer.

Visitors	45708	Contributors	45431	CONTRIBUTIONS	45436
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Currently, neighbourhood fireworks are only permitted on Victoria Day and Canada Day and three days before those holidays. ...



#### Question options

- No neighbourhood fireworks
- Canada Day only
- Canada Day & Victoria Day only
- Canada Day, Victoria Day, Diwali, Chinese New Year & any other days with a permit from the Fire Dept.

(45436 responses, 0 skipped)