

Memorandum

Date: May 9, 2023

To: Members of Council

From: Erin Britnell, Director, Corporate Strategy and Innovation
Mark Sraga, Director, Building and Municipal Law Enforcement, Chief Building Official

Subject: Dark Sky By-Law Supplementary Information

The purpose of this memorandum is to provide information to Council regarding the Notice of Motion about a Dark Sky By-law.

What is a Dark Sky By-law?

Dark sky by-laws regulate outdoor lighting across the community to ensure responsible lighting, light pollution mitigation and conservation of the dark sky environment. Excess lighting can alter the natural ecosystem and impact the health and survival of wildlife, particularly species that rely on natural lighting for migration and breeding. Dark sky by-laws are different than Dark Sky or Nocturnal Preserves which are designations targeted at specific sites, often National or Provincial Parks or natural areas versus entire municipalities, where very little illumination is allowed.

The Royal Astronomical Society of Canada (RASC), International Dark Sky Association and Illuminating Engineering Society all provide advice and guidelines regarding mitigating light pollution. These include:

- Ensuring all light has a clear purpose and is only used when necessary, including the use of timers, motion detectors etc.
- All light is directed only where needed and shielded to point downward
- Use of warmer colours where possible, to limit the blue-violet light to only where required

Example of a Dark Sky By-law

The District of Muskoka passed a Dark Sky By-law in 2014. Features of the by-law include:

- Any outdoor lighting installation is required to use completely shielded Full-Cut-Off fixtures, which include a cover on top that causes light to point downwards.
- Any architectural lighting (such as holiday lights) must be turned off between 11pm-6am.
- The by-law applies to all residential, commercial, industrial, and institutional buildings, parking lots, streetlights, private walkways etc.

- Existing light fixtures were grandfathered in, but had to be replaced within 10 years of the initial by-law being passed
- Maximum fine for non-compliance under the by-law is \$50,000 though there have been few, if any, actual charges laid.

The District of Muskoka is currently undergoing an update to this by-law to improve clarity and enforcement.

Current Town of Caledon Actions Regarding Lighting

The Town currently regulates lighting through the Outdoor Lighting Standards Manual, with goals of enhancing public safety, providing lighting that complements the Town's character and reduces glare, minimizing light trespass, and improving energy efficiency. The Standard applies to all Town streetlights and roadway lighting, walkways and bikeways, outdoor lighting on municipal properties, industrial and commercial outdoor lighting installations, and condominium developments. It does not apply to residential dwellings on private property. It applies to all new lighting installed from 2019 onward.

The Town is also in the process of drafting a Green Development Standard, to be brought forward to Council following the Official Plan this fall. This will apply to all new development across Caledon and is proposing to include a requirement for Dark Sky compliant lighting to ensure new development does not contribute significantly to light pollution.

For Town-controlled lighting, staff have taken the initial steps in piloting adaptive controls for streetlights to allow better controls, such as dimming at non-peak hours, or motion sensors and improved efficiency of streetlights. The Town maintains approximately 4687 streetlights as of 2021. Staff will be looking at opportunities to retrofit existing streetlights going forward including the use of adaptive controls. Town staff are committed to continue to embed Dark Sky compliance within its Standards in efforts to limit light pollution, while balancing this with efforts to ensure public safety.

Town's Capacity to Undertake a Review of the Dark Sky By-law

The Energy and Environment team's work plan for 2023 is focused on supporting development application review, the Official Plan development and Green Development standards, supporting Town operations such as fleet, and capital construction on green elements in their projects, and collaboration with community organizations such as the Sustainable Neighbourhoods program. These were selected as they present the greatest opportunity for the Town to avoid increased emissions going forward and assist the Town in meeting its targets for 2050. In order for the team to develop a by-law in 2023, either one or more of the above projects would need to be delayed, or additional resources would be required.

District of Muskoka has indicated few if any charges have been laid under their by-law, however a major reason for their review of the by-law is to better support its enforcement. It is anticipated that full enforcement of this by-law would require significant additional resources for the Municipal Law Enforcement team if existing service levels are to be maintained. As this By-law only is applicable during

the nighttime hours, enforcement would mean that there would have to include a significant expansion of the shift hours worked by these Officers. Expanding the shift hours translates into hiring more Officers and the costs associated with this is questionable especially when it is not known the volume of non-compliance with this By-law will be.