

May 11, 2021

Township of Muskoka Lakes Council

Dear Mayor Harding and Councillors,

Re: Shipping Container Buildings

The Environment Committee of the Muskoka Lakes Association (“MLA”) has become aware of two applications being considered by Township Council for buildings made from used shipping containers:

- a 1,600 square foot retail building at 75 Joseph Street; and
- 3 shipping containers at the Boatworks site on Indian River to be used as retail space for a 4-year period.

1. Chemicals Leaching into the Soil, Ground Water and Lakes

The MLA is concerned about the potential environmental damage caused by chemicals, including insecticides and pesticides, leaching from shipping containers into the soil, ground water and lakes.

As has been noted during Council’s discussions on these applications, it is standard practice for the wooden floors of shipping containers to be treated with insecticides and pesticides in order to prevent insects from being transported with the containers and to protect the cargo. The steel sides are also sprayed with toxic chemicals, for the same reason.

The Muskoka Watershed Council has pointed out the dangers of pesticides to humans and wildlife in even trace amounts (2017 report: Pharmaceuticals and other Endocrine Disrupting Compounds in Natural Water Systems).

The MLA notes that the Boatworks site along Indian River is within the floodplain, according to the District of Muskoka’s GeoHub mapping, which creates even a greater risk of chemicals washing into the lake during flooding events or heavy rains.

In order to prevent ground or water contamination, the MLA urges Council to take steps to ensure that chemicals on shipping containers are removed or, if possible, never applied before the containers are used as buildings in the Township. Doing so would align with Council’s Strategic Goals, including “continue to preserve and protect the natural features of the Muskoka watershed found within the Township, including water quality”.

At a minimum, the MLA recommends that Council require the wooden floors of shipping containers to be replaced with clean material, as a condition of issuing a building permit. We understand that it is common practice for individuals who convert the containers to homes to replace the wooden floors, due to the health risks caused by chemicals infused into the wooden floors being released into the air.

The MLA also recommends that Council require the shipping containers be pressure washed to establish that the chemicals on the steel sides have been removed. An option is for the containers to be taken to a Township landfill site with waste water ponds, pressure washed at this site with wash water routed into the collection ponds, and then painted to seal in any remaining contaminants.

Finally, the MLA recommends that all shipping containers be installed on foundations above the 2019 static flood mark.

2. Not a 'green' building option

Steel structures are not a 'green' option. The carbon footprint of steel - including extraction and manufacturing - is far worse than wood, as stated by EcoHomes, an organization of environmentalists, engineers and former home builders, in this article: <https://www.ecohome.net/guides/1152/shipping-container-houses-modern-looking-compact-and-recycled-but-good-or-bad/>.

In addition, using sea cans for buildings is not an environmentally responsible practice. There is high demand for recycled steel to manufacture products that require steel. As stated by EcoHomes in the above article, metal is infinitely recyclable, so the container has not been 'saved from the landfill'.

A building made of wood stores more carbon dioxide than is emitted in making the wood. "As a rule of thumb, a cubic metre of wood contains around a tonne of CO₂ (more or less, depending on the species of tree) – which is similar to 350 litres of gasoline." (see this BBC article: "Could wooden buildings be a solution to climate change?" <https://www.bbc.com/future/article/20190717-climate-change-wooden-architecture-concrete-global-warming>)

Allowing buildings to be made of used steel sea containers is not a sustainable building practice, so is not aligned with Council's Strategic Plan value of "sustainability".

We hope that these comments will be helpful.

Sincerely,



Chris Cragg
Chair, Environment Committee