The Corporation of the Town of LaSalle

To: Mayor and Members of Council

Prepared by: Peter Marra, P.Eng. – Director of Public Works

Department: Public Works

Date of Report: August 12, 2020

Report Number: PW-19-20

Subject: Natural vs Artificial Turf Comparison and Median Treatments

Recommendation

That the report of the Director of Public Works dated August 12, 2020 (PW-19-20) regarding natural versus artificial turf and median island treatments BE RECEIVED for information.

Report

This report is being prepared in response to a Council question regarding a comparison between natural and artificial turf treatments for median island in LaSalle. The report has been prepared in two sections, with the first section providing a summary of the comparison between natural and artificial turf and the second section speaking on the history of medians in LaSalle and their current treatments.

Natural vs Artificial Turf Comparison

For the purpose of this report, a comparison was completed for an assumed median island consisting of 1,000 square meters with 10 trees planted within the median. The analysis was carried out for a period of 50 years to not only capture the initial investment to install each surface but to do a comparison of maintenance and replacement cost over this time period. A copy of the analysis is attached to this report. Not only was the financial aspect reviewed as part of this report, a summary of other factors are also noted within this report.

Financial Comparison

The cost to install and maintain artificial turf over a 50 year time span is approximately 2.3 times higher than natural turf. While the notion of artificial turf is said to be

maintenance free, the reality is that at least once per season staff will need to attend and do sort of maintenance, weeds need to be taken care of, debris needs to be vacuumed or swept off, etc.

Furthermore, the life expectancy of artificial turf is anywhere from 20 to 30 years. Therefore, within the assumed 50 year life span analysis, a replacement cost is needed to be accounted for. We have made the assumption that both natural and artificial turf require one replacement in the 50 years.

In addition, typically within medians, there are trees to be planted. With artificial turf, tree wells are needed around the trees, consisting of a concrete curb and rubber mulch to allow for the tree to have soil and grow properly. As the trees grow, these wells need to be replaced.

Environmental Comparison

With respect to natural turf, once the turf is established, regularly lawn cutting is required. There are an estimated 35 cutting per year required to do this, roughly one visit per week during the active growing season.

Natural turf is a living plant, and as such, 1,000 square meter of lawn removes approximately 1 metric tonne (1,000kg) of greenhouses gas from the atmosphere per year. However, you have to cut the natural turf with a gas powered lawn mower, therefore, approximate annual greenhouse gases produced from a typical gas powered lawn mower is around 48 kg of greenhouse gases. Thus, making natural turf more environmentally friendly.

Secondly, as noted earlier, artificial turf has a life span and needs to be removed and replaced. Artificial turf is made from the same materials as plastic straws. Therefore, during the eventual replacement of the artificial turf, 1,000 square meter of artificial turf to be removed would end up in the landfill. As a comparison, the 1,000 square meter of artificial turf is equivalent to approx. 9.1 million straws.

As Council is aware, in 2018, the Town made a decision to eliminate the use of plastic straws from the Vollmer. For comparison, annually, when the Vollmer used plastic straws, the Town would go through anywhere from 5,000 to 8,000 straws per year at the Vollmer.

Thirdly, another environmental factor is rainfall runoff. With natural turf, approximately 20% of the rainfall that lands on natural turf would result in runoff while 80% of the rainfall would be absorbed into the soil. As a stark comparison, with artificial turf, because the

base under the turf is required to be a solid surface such as gravel, the runoff results are exactly opposite, with 80% of the rainfall hitting the surface being converted to runoff while only about 20% would absorb through the stone base. This would cause more concerns with storm drainage.

It should be noted that use of artificial turf has not been deployed by the Town of LaSalle in any scenario to date. There are certainly applications, in the future, that may utilize artificial turf, like sports fields, median/island on very busy streets, narrow islands where natural turf will struggle to thrive, median/islands with no trees, etc.

It should also be noted, that administration is currently aware of two homes in Town that have front lawn, including the Town right-of-way, covered with artificial turf. Should the Town see more homes making these changes to artificial turf, in the future, the Town may want to put things in place, such as bylaws, to try and control this should a concern arise from excessive use of artificial turf.

Median Island Treatments

During the planning and development stage of new subdivisions, the Town has been faced with the desires of some developers to create medians/islands as part of their proposed subdivision design. The Town's position going forward, while we have allowed medians/islands in the past, into the future we will encourage the developer to adjust their design to eliminate these the best we can.

In some circumstances, medians/island may not be possible to eliminate, depending on traffic flow and being able to guide traffic to the proper locations, such as roundabouts, traffic calming measures, etc.

The treatment of medians/islands in LaSalle has followed a variety of treatments, from hardscaped, landscaped, natural turf, and stone treatment. The Town has experimented with various different treatment and the one that works the best is natural turf. As noted earlier, natural turf requires the Town to visit once per week to cut and clean-up the area, therefore, natural turf is maintained on a more regular basis than the other treatments.

The hard scape medians, eventually over time, start to grow weeds in the cracks and begin to show concerns with weeds and as such without the ability to spray for weed control, keeping these medians looking good becomes very challenging.

Furthermore, there have been a number of median that have been changed to natural turf and we look forward to working through our current median/island inventory in residential areas and eventually transitioning them to natural turf where possible.

Conclusion
This report has been provided for Council to receive this report for information purposes.

Consultations

No consultation occurred for preparation of this report.

Financial Implications

No financial implications as part of this report at this time.

Prepared By:

Peter Marra, P.Eng. – Director of Public Works

Link to Strategic Goals

	Enhancing organizational excellence
yes	Sustain strong public services and infrastructure
	Strengthen the community's engagement with the Town
	Grow and diversify the local economy
yes	Build on our high-quality of life

Communications

yes	Not applicable
	Website
	Social Media
	News Release
	Local Newspaper
	Bids & Tenders
	Notification pursuant to the Planning Act

Notifications

Name	Address	Email

Report Approval Details

Document Title:	PW-19-20 natural vs artificial turf comparison.docx
Attachments:	
Final Approval Date:	Aug 13, 2020

This report and all of its attachments were approved and signed as outlined below:

Joe Milicia