

# STAFF REPORT TO COUNCIL

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**DATE:** April 21, 2023

**TO:** MAYOR AND COUNCIL

**NAME AND TITLE:** Blake McIntosh – Director of Civic Operations

**SUBJECT:** Roadway Traffic Marking Program – Paint Performance

**ATTACHMENT(S):** Environment Canada - Traffic Marking Coatings

**RECOMMENDATION(S):**

That Council RECEIVES FOR INFORMATION the report dated April 21, 2023 from the Director of Civic Operations titled “Roadway Traffic Marking Program – Paint Performance”

**PURPOSE:**

The purpose of this report is to provide Council a brief overview of the City’s annual road marking program and associated challenges related to paint longevity and federal regulations.

**BACKGROUND:**

The annual roadway line painting program typically begins once street sweeping operations are near completion in the spring. The program consists of survey-layout work, painted traffic control markings and painted linear lane markings. Survey-layout work includes all preliminary markings (street line spotting) required by the contractor to correctly apply traffic markings. Painted traffic control markings include the markings found at intersections such as crosswalk lines, stop bars, directional arrows, etc. Current traffic control marking inventories required for the 2023 season include approximately 600 pedestrian crossings, 500 stop bars and 610 directional arrows. Painted lane markings include all linear traffic lane lines on City streets. Current painted linear lane markings required for the 2023 season include all linear solid white and yellow, single dashed white and yellow and solid double yellow markings totaling 460 kilometers.

Since the introduction of restrictive regulations by Environment Canada (attached), the City of Prince George has experienced a decrease in paint performance. In high traffic areas such as arterial roadways, the roadway paint markings placed at the beginning of the season are no longer visible in the following season. In 2009, Environment Canada began limiting the use of roadway marking paint having volatile organic compounds (VOC) measuring greater than 450 grams/litre. As of 2012, Environment Canada introduced seasonal restrictions that only allow roadway marking paint to have a volatile organic compound (VOC) content of 150 grams/litre or less between the period of May 1 to October 15. These are annual recurring restrictions. The City’s roadway paint marking program falls into this annual period and must follow these product guidelines. Prior to 2009, City staff had experienced better life expectancy of roadway markings with the approved use of paint products containing higher VOC concentrations. The City and our painting contractors are bound by these Federal Regulations when undertaking the annual line painting program. This includes the VOC

concentration limits and seasonal use restrictions. Being a winter city, the new paint standard does not withstand snowplow blades and scouring as vehicle tires roll over winter traction material.

**STRATEGIC PRIORITIES:**

The use of federally approved low VOC products for traffic markings support Council's strategic priority of Environmental Stewardship and Climate Action.

**FINANCIAL CONSIDERATIONS:**

For 2023, the operational budget for traffic markings is \$471,976.00. Both road markings and pedestrian markings are applied by a contractor. The budget allows for one application of paint for all municipal markings. There are other longer wearing products on the market such as inlaid thermoplastic and methacrylate resin but they are cost prohibitive and would be subject to winter maintenance activities that can be aggressive at times and would likely impact their longevity. Thermoplastic long lines are 12 times more expensive than approved paint. Cold plastic methacrylate resin long lines are 16 times more costly than approved paint.

**SUMMARY AND CONCLUSION:**

Roadway traffic marking paint must meet federal environmental regulations. Lower VOC paint does not have the longevity of past paint products to survive the winter traffic and traction material applications. City staff continue to consult with contractors and intergovernmental agencies for current information on ways to extend traffic marking service life. Our current practice is one paint application on all roadways containing traffic markings. Double applications have been trialed in past years with little success. The annual line painting contract and budget is also based on a single paint application. Should other more expensive products be employed, an increase in the annual line paint budget would be required.

**RESPECTFULLY SUBMITTED:**

Blake McIntosh, Director of Civic Operations

**APPROVED:**

Walter Babicz, City Manager

Meeting Date: 2023/05/08