



CITY OF HAMILTON
PUBLIC WORKS DEPARTMENT
Environmental Services Division

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| TO: | Chair and Members Public Works Committee |
| COMMITTEE DATE: | February 22, 2018 |
| SUBJECT/REPORT NO: | Gypsy Moth Infestation Control (City Wide) - (PW17088a) |
| WARD(S) AFFECTED: | City Wide |
| PREPARED BY: | Le' Ann W. Seely (905) 546-2424, Extension 3919 Steve Robinson (905) 546-2424, Extension 5495 |
| SUBMITTED BY: | Craig Murdoch, B. Sc. Director, Environmental Services Division Public Works Department |
| SIGNATURE: | |

RECOMMENDATION

- (a) That Council approve the Single Source Procurement of Zimmer Air Services (ZAS) (Zimmer Air Services Incorporated), pursuant to Procurement Policy #11, Non-competitive Procurements, for the aerial application of the biological pesticide *Bacillus thuringiensis 'kurstaki'* ("Btk") in the areas identified in Appendix A to Report PW17088a;
- (b) That the General Manager, Public Works Department be authorized to negotiate, enter into, and execute a Contract and any ancillary documents required to give effect thereto with Zimmer Air Services, in a form satisfactory to the City Solicitor;
- (c) That staff coordinate the contract Terms of Reference with those of area municipalities who are also undertaking aerial Gypsy Moth control programs in order to engage Policy #12, Cooperative Procurement and benefit from the favourable pricing that economies of scale offers in the coordination of the aerial application of Btk.

EXECUTIVE SUMMARY

Through Report PW17088 funding in the amount of \$2.5 million over a 2-year period was approved for a Gypsy Moth Infestation Control Program using aerial application of

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Bacillus thuringiensis 'kurstaki' (Btk) over an estimated 1,950 hectares. Report PW17088 directed staff to report to Council, after completion of 2017 monitoring operations and before initiating the Program, on the final determination of areas that require treatment. The completed 2017 monitoring operations have confirmed the areas shown on the map attached as Appendix A to Report PW17088a as requiring treatment. This total area is approximately 1,999 hectares across wards 1, 8, 12, 13, and 14, plus 803 hectares of Hamilton Conservation Area land.

For reasons detailed in this report, and in consultation with the City's Procurement Section, it has been determined that the most effective and economical method to secure an experienced and competent vendor for Btk application is through Procurement Policy #11 Non-competitive Procurement, and Policy #12 Cooperative Procurement.

The Single Source recommendation was reached in consideration of Transport Canada Aviation Regulations that require a twin-engine helicopter be used for the low-altitude flight work needed to spray pesticide over urban/suburban areas, such as those in the City of Hamilton treatment area. In addition to the unique qualifications required for the operation of the low-flying twin engine helicopter is the complexity of aerial application. Therefore, Canadian Aviation Regulations requires the air operator to submit an application for Aerial Work with a detailed work plan. This application must be submitted to Transport Canada officials at least 21 days prior to initiating the operation. Upon approval, the air operator is granted Ministerial Authorization through a Special Flight Operations Certificate for Aerial Work. The pesticide must be applied at a period of time that will be between mid-May to early-June, which means the operators flight plan must be submitted to Transport Canada by early April. This speciality in terms of equipment and expertise limits the applicators that are able to complete this work. At the moment, staff is aware of only one other vendor located in British Columbia.

The Cooperative Procurement recommendation is made based on neighbouring municipalities that have also been impacted by the effects of Gypsy Moth. The City of Mississauga and the Town of Oakville have received approval from their Councils for aerial application of Btk in 2018. The City of Mississauga has also received approval from their Council for the Single Source procurement of Zimmer Air Services in 2018. The City of Hamilton Forestry Section has been collaborating with Mississauga and Oakville to coordinate Terms of Reference for a Btk treatment contract to achieve economies of scale and subsequent cost savings for each partnering municipality.

In order to meet the timelines and critical dates for the treatment, the Procurement Section has recommended that permission of Committee and Council be sought in order to secure a competent vendor through Procurement Policy 11, Non-competitive Procurement, and to employ Policy #12, Cooperative Procurement to benefit from economies of scale through cooperation with the City of Mississauga and the Town of Oakville.

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Alternatives for Consideration – See Page 6

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: Funds in the amount of \$1,950,000 in 2018 and \$550,000 in 2019 were approved through Report PW17088, funded through the Tax Stabilization Reserve.

Staffing: There are no staffing implications from the recommendations of this report.

Legal: There are no legal implications from the recommendations of this report. Assistance will be required for the finalization and execution of any contract with ZAS.

HISTORICAL BACKGROUND

Gypsy Moth (*Lymantria dispar dispar*) is a non-native invasive species that is known to be a significant defoliator of hardwood tree species. The pest was introduced accidentally to North America in 1869, and it was first discovered in Canada in 1969 on Wolfe Island, Ontario.

Since that time, this pest has continued to move westward, and has impacted urban forests throughout Southern Ontario, with notable impact to the City of Hamilton in 2007, and 2017. As a result of the 2007 studies an aerial spray program was undertaken through the Forestry Section in 2008 to treat this pest with *Bacillus thuringiensis* 'kurstaki' (Btk).

Btk is a soil-borne bacteria that is applied to the leaves of affected trees while caterpillars are in their early instar stage (immature). Once ingested, the bacteria disrupt the caterpillars' digestive system within 24-48 hours. Within days, caterpillars that have ingested Btk will succumb to its effects. Btk has very low residual properties in the natural environment. Sunlight and fungi deteriorate this bio-pesticide within 1-4 days after application. Since Btk requires an alkaline environment in a caterpillar's gut in order to be effective, it does not have any detrimental effects to humans, birds, or bees. Btk will affect other caterpillar species, such as a Fall Cankerworm (known as non-target species). Due to Btk's low residual properties and the narrow spray window (to be applied during the pest's larval development stage), the impact to non-target species is expected to be low. Conservative and measured application will be undertaken with the goal of strictly reducing the population below the 2,500 egg masses per hectare. This program is not intended to eradicate the pest entirely.

In 2008, approximately 1,950 hectares were treated with Btk in the City of Hamilton. The 2009 follow-up monitoring indicated that the spray program was a success. This work was completed by Zimmer Air Services (ZAS) through Procurement Policy #11.

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Through 2016 and 2017, Gypsy Moth egg mass monitoring was undertaken through the City's Forestry Section. In December 2017, the Forestry Section completed their egg mass monitoring operations. The result of the monitoring was a final determination of the areas that require aerial application of Btk to a total area of approximately 1,999 hectares, plus 803 hectares of HCA land. Treatment areas are shown on the map attached to Report PW17088a as Appendix A.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

By-law 08-070 is in place to address Gypsy Moth infestations as a nuisance with City staff being given authority to treat with Btk when egg mass quantities exceed 2,500 per hectare.

By-law 17-064 Procurement Policy, Policy #11 Non-competitive Procurements and Policy #12 Cooperative Procurements would be utilized if the recommendations of this report are approved.

RELEVANT CONSULTATION

Transport Canada requires twin engine helicopters be used in the application of Btk over built-up (urban/suburban) areas as per Canadian Aviation Regulations, Part VII Commercial Air Services, Subpart 2, Aerial Work. The nature of this low-altitude twin engine helicopter flight work is unique. In addition to the unique qualifications needed for the operation of the low-flying twin engine helicopter is the complexity of aerial treatment of pesticide over an urban/suburban area. Therefore, part of the Canadian Aviation Regulation requires the air operator to submit an application for Aerial Work with a detailed work plan. This application must be submitted to Transport Canada officials at least 21 days prior to initiating the operation. Upon approval, the air operator is granted Ministerial Authorization through a Special Flight Operations Certificate for Aerial Work. This speciality in terms of equipment and expertise limits the applicators that are able to complete this work. At the moment, staff is aware of only one other vendor located in British Columbia.

City staff have consulted with the City of Burlington, the Town of Oakville, the City of Mississauga, the City of Toronto, Hamilton Conservation Authority, and Royal Botanical Gardens. It was determined that a collaborative procurement where possible is the preferred method as it would provide opportunities for the realization of economies of scale through the use of same contract terms and conditions.

The Hamilton Conservation Authority (HCA) and the City of Hamilton's Forestry Section have been working together on their monitoring programs and intend to continue to share information. HCA is considering a spray program for 2018 subject to available funds. If funds are approved, HCA staff has expressed interest in contributing funds to

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the City's contract with the chosen vendor, in order to have HCA land included in the treatment area. Given the contiguous nature of their lands with those of the City of Hamilton, this would be a favourable solution for both parties. Treatment areas are on the map attached to Report PW17088a as Appendix A.

The City of Hamilton Procurement Section was consulted extensively with regards to the process to secure a competent vendor and support the recommendations to Committee and Council. The Manager of Procurement has provided comments to this report.

ANALYSIS AND RATIONALE FOR RECOMMENDATION

Proposed Treatment Area:

The Forestry Section has confirmed that approximately 1,999 hectares require treatment of Gypsy Moth with Btk, with the potential addition of 803 hectares if HCA achieves funding and wishes to partner with the City of Hamilton. Table 1 below, identifies the treatment locations in relation to wards and size of area to be treated.

Table 1: Planned Treatment Locations

| Location | Ward | Area (Hectares) |
|--------------------------|-------------|------------------------|
| West Hamilton Escarpment | Ward 1 | 29 |
| West Hamilton | Ward 1 | 43 |
| West Hamilton Escarpment | Ward 8 | 9 |
| Ancaster | Ward 12 | 1092 |
| Dundas | Ward 13 | 701 |
| Flamborough | Ward 14 | 125 |
| Total | | 1,999 |

Staff recommend that Procurement Policies 11, Non-competitive Procurements, and Policy 12, Cooperative Procurements be employed to permit the Gypsy Moth Control Program to be undertaken based on the information listed below.

1) In order to meet Transport Canada regulations for approval to operate a low flying twin engine helicopter over urban/suburban areas in Hamilton, the vendor must submit a detailed work plan no later than early April, which is approximately 6-weeks from the date of this report. Issuing an RFP requires at the very least a 6-week timeline to prepare, issue, and award a contract. This process would likely prevent any ability for a spray program to be completed in 2018.

2) Zimmer Air Services (ZAS) has a demonstrated ability and experience completing programs of this scale and complexity. In 2007, ZAS successfully completed an aerial spray program for the City of Mississauga and the City of Toronto. In 2008, ZAS

successfully completed an aerial application of Btk in the City of Hamilton having been retained through Policy 11 Procurement process.

3) In 2017 ZAS was retained by the City of Toronto for the purpose of aerial application of Btk retained ZAS, as well as the City of Mississauga for aerial application of Btk to be undertaken in 2018.

4) The Town of Oakville is in the process of coordinating their terms of reference with the City of Mississauga and securing the approvals necessary to retain ZAS for their aerial application of Btk.

5) Research and consultation informs staff that the likelihood of getting more than one competent bidder with experience in low-altitude twin engine helicopter flight work in combination with the aerial application of pesticide over an urban/suburban area is very low. Therefore, the benefits of issuing a Request for Proposals would be diminished if staff were to expend the time necessary to prepare and issue the RFP issue a Request for Proposal (RFP) only to receive one compliant bid. The Manager of Procurement therefore supports the recommendations for approval in order to prevent undue prolonging of the approval process, which would have significantly negative impacts of the Gypsy Moth Control Program.

6) Staff from both Forestry and Procurement have had extensive discussions regarding the engagement of a vendor to perform the application requirements. Given the time constraints to secure a competent vendor and to seek the necessary approvals from Transport Canada all within the small window of time in which to apply the BtK, the Manager of Procurement has recommended that Committee and Council approval be sought to engage ZAS through a Procurement Policy #11, Non-competitive Procurement. Furthermore, the engagement of ZAS is also viewed by the Manager of Procurement as a Policy #12 Cooperative Procurement, which allows the City to gain both efficiencies in the procurement process and in the cost for services.

7) By exercising Procurement Policy #12 Cooperative Procurements, the City of Hamilton will realize economies of scale by pooling our requirements with that of both Mississauga and Oakville and can gain leverage in negotiating a cost-effective price that would otherwise be secured through a competitive process.

8) City of Hamilton staff have been working with the City of Mississauga, the Town of Oakville, and Hamilton Conservation Authority to coordinate the Terms of Reference so that we may benefit from the favourable pricing that economies of scale can offer.

ALTERNATIVES FOR CONSIDERATION

Council has the option to direct staff to issue a Request for Proposal (RFP) for the aerial application of Btk over urban/suburban land in the City of Hamilton. There is a high

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likelihood that Zimmer Air Services will be the only compliant bidder to an RFP that meets Transport Canada regulations. Furthermore, issuing a RFP requires at the very least a 6 week timeline in order to prepare, issue, and award a contract. This process would significantly delay and quite possibly prevent any ability for a spray program to be completed in 2018. Staff therefore does not recommend this alternative.

ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN

Economic Prosperity and Growth

Hamilton has a prosperous and diverse local economy where people have opportunities to grow and develop.

Healthy and Safe Communities

Hamilton is a safe and supportive city where people are active, healthy, and have a high quality of life.

Clean and Green

Hamilton is environmentally sustainable with a healthy balance of natural and urban spaces.

APPENDICES AND SCHEDULES ATTACHED

Appendix A: Proposed Treatment Locations, 2018