



Corporate Report

Clerk's Files **EC.10.GYPSY MOTH**
Originator's Files **(BL.05)**

GENERAL COMMITTEE
FEB 21 2007

DATE: February 9, 2007

TO: Chair and Members of General Committee
Meeting Date: February 21, 2007

FROM: Paul A. Mitcham, P.Eng., MBA
Commissioner of Community Services

SUBJECT: **Status of the Gypsy Moth Population in Mississauga for 2007
(Wards 5, 6, 7 and 8)**

- RECOMMENDATION:**
1. That Integrated Pest Management (IPM) programs including aerial applications of Foray 48B, *Bacillus thuringiensis* subspecies *kurstaki* (Btk) be undertaken for the control of gypsy moth populations in areas of the city exceeding previously established infestation thresholds.
 2. That an Implementation and Communication Plan be developed by April 5 providing defined treatment areas, procedures to distribute public information, communication plans and cost recovery initiatives.
 3. That potential partnerships between the City of Mississauga, the City of Toronto and other neighbouring municipalities be permitted to allow coordinated aerial application programmes using the City of Mississauga's expertise from 2006.

BACKGROUND: In the spring of 2006, breakout populations of gypsy moth caterpillars posed a significant threat to residential and city-owned woodlands in specific areas across the city. A comprehensive gypsy moth control program involving two aerial applications of Foray 48B, *Bacillus thuringiensis* subspecies *kurstaki* (Btk), over 500 hectares (1,236 acres) was successfully carried out in each of the eleven delineated treatment areas between May 17 and May 31, 2006.

Further information of the Gypsy Moth Control Program was previously detailed in the Corporate Reports from the Commissioner of Community Services on January 11, March 1, April 5, April 26, June 20 and November 23, 2006.

PRESENT STATUS:

2006 Post Spray Egg Mass Surveys

Forestry staff have undertaken egg mass surveys from within the previous aerial treatment zones in the summer and fall of 2006. Egg mass count comparisons between 2005 and post spray 2006 for these areas illustrate the significant reduction in egg mass densities and demonstrate the success of the aerial spray program in reducing the amount of gypsy moth caterpillar populations and potential tree damage.

2007 Gypsy Moth Predictions

Further egg mass survey data for the spring of 2007 undertaken throughout the remaining untreated areas of the city indicate a significant overall reduction in gypsy moth populations in contrast to the spring of 2006. However, in three specific areas within the city there are still areas with high egg mass numbers and potential for severe tree defoliation and tree mortality. Although these areas did not exhibit infestation levels above the established threshold criteria for aerial treatment in 2005/2006 surveys, they currently do exceed these egg mass density thresholds and include pockets from within Shardawn Mews and Credit Heights as well as Erindale Park and Staghorn Woods Park. Steep wooded slopes along the Credit River adjacent to Credit Heights and Erindale Park also pose further potential concerns as extensive tree decline and mortality in these areas may result in erosion and slope stability issues. Other criteria considered in delineating these areas for treatment, besides egg mass densities, include past defoliation, tree health, canopy cover, species composition and topography. The total aerial treatment zones for 2007 are estimated at approximately 200 hectares (494 acres).

COMMENTS:

Technical Stakeholder Approvals and Authorizations

Similar approvals and authorizations obtained with the 2006 aerial spray program will be required if a comparable program is undertaken in 2007. These regulatory agencies include Transport Canada, Ontario Ministry of the Environment and Environment Canada. Other technical stakeholders include the Region of Peel Public Health Department and Region of Peel Police as well as internal staff resources including Fire and Emergency Services, Transit, Transportation and Works, Communications, Finance, Legal Services and Material Management. A nuisance by-law for the 2007 designated aerial treatment areas may also be required.

Neighbouring Municipalities

The City of Toronto is also initiating Integrated Pest Management plans in specific infested areas of the city including an aerial spray program using Foray 48B. There are opportunities to work cooperatively on a combined aerial spray program coordinated between our two municipalities. Mutual benefits from such a joint undertaking include potential cost savings, combined approval processes and coordinated operational procedures. Forestry staff have initiated informal discussions with Toronto representatives with respect to this potential joint venture.

Integrated Pest Management

Residents throughout the city are encouraged to continue with or initiate Integrated Pest Management (IPM) control programs, specifically in infested areas, to help reduce potential gypsy moth caterpillar densities on their properties.

IPM programs help to control gypsy moth populations as well as tree defoliation that will assist in reducing overall stress levels on trees and woodland areas. These IPM activities include:

- scraping off and destroying egg masses
- picking the caterpillars off foliage
- placing sticky bands around tree trunks to catch caterpillars
- installing burlap skirts around tree trunks and then collecting and destroying the caterpillars that hide under the burlap
- washing caterpillars off foliage with soapy water
- applying localised biologically safe insecticidal spray to affected small tree, shrubs and garden plants
- using pheromone traps or lures to catch or confuse male moths
- maintaining natural areas within residential woodlands to encourage pathogens and predators of gypsy moth

FINANCIAL IMPACT: The 2006 gypsy moth aerial application program entailed the treatment of 500 hectares (1,236 acres) at a cost of \$394,266 with \$223,549 being billed to private residents.

A similar budgetary process and cost sharing program to the 2006 gypsy moth project will be developed for the 2007 aerial spray initiatives. Cost estimates are significantly less than in 2006 as the total treatment area is estimated at 200 hectares (494 acres) and cost efficiencies may be negotiated through partnering with neighbouring municipalities undertaking similar programs.

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CONCLUSION:

The 2006 Gypsy Moth Control Program was successful in reducing the unprecedented gypsy moth infestation in various regions of Mississauga. A significant number of community groups, technical stakeholders and regulatory agencies were responsible in making the program a safe, efficient and effective operation.

Although overall gypsy moth population densities are generally reduced throughout the city, there are still areas with infestation levels capable of causing severe defoliation and significant tree decline and mortality. An aerial spray program utilizing Foray 48B, *Bacillus thuringiensis* subspecies *kurstaki* (Btk) is recommended for these infested woodland areas.

An opportunity for a coordinated approach with neighbouring municipalities including Toronto undergoing similar gypsy moth infestations will be explored resulting in potential cost savings and operations efficiencies.

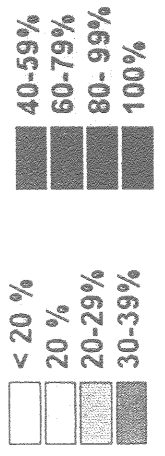
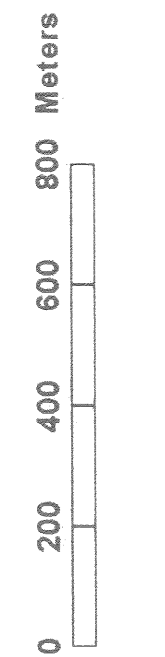
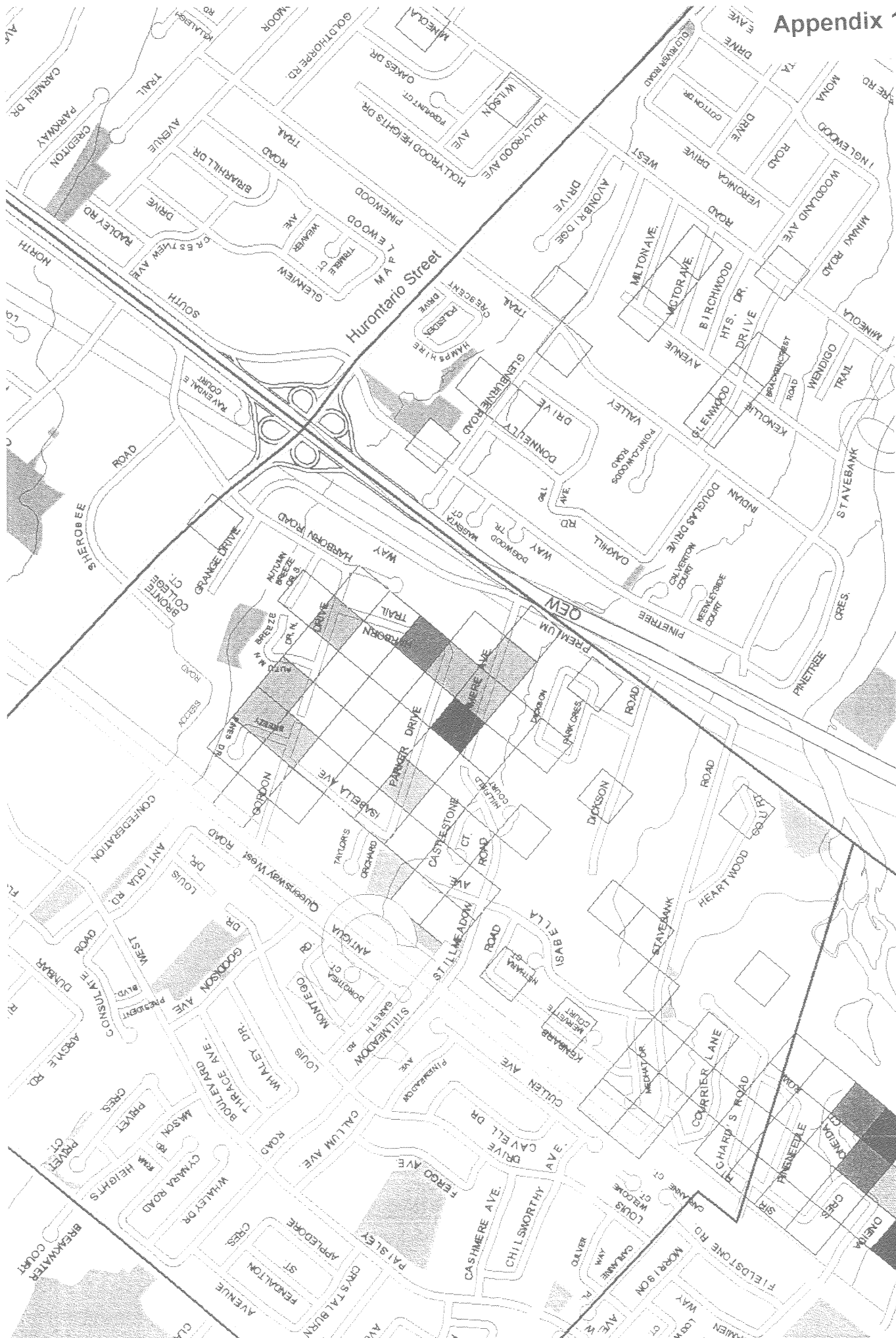
ATTACHMENTS:

- Appendix 1: 2007 Defoliation Impacts – Zone 15
- Appendix 2: 2007 Defoliation Impacts – Zone 16
- Appendix 3: 2007 Defoliation Impacts – Zone 24
- Appendix 4: 2007 Defoliation Impacts – Zone 37



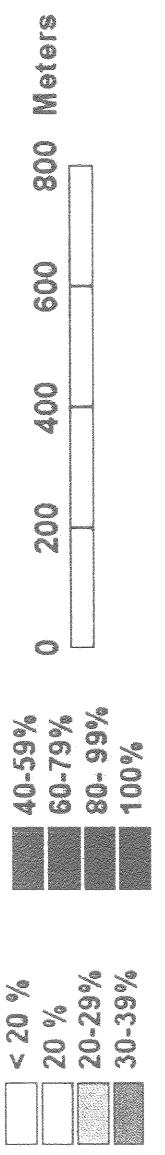
Paul A. Mitcham, P.Eng., MBA
Commissioner of Community Services

Prepared By: Tony Fleischmann, Manager, Forestry

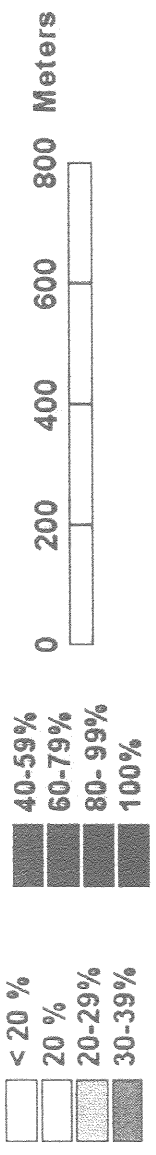
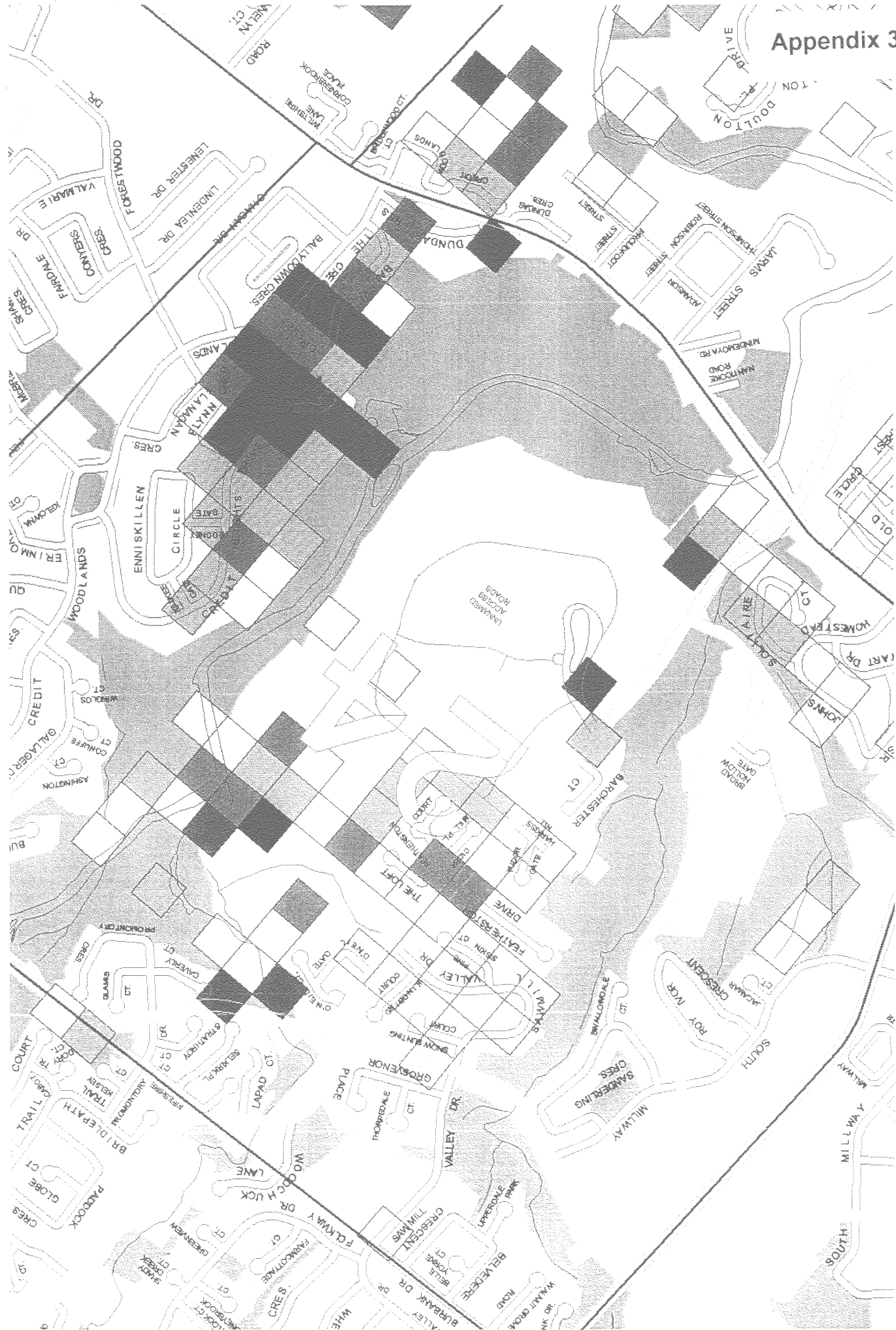


City Parks

2007 Potential Defoliation Impacts Zone 15

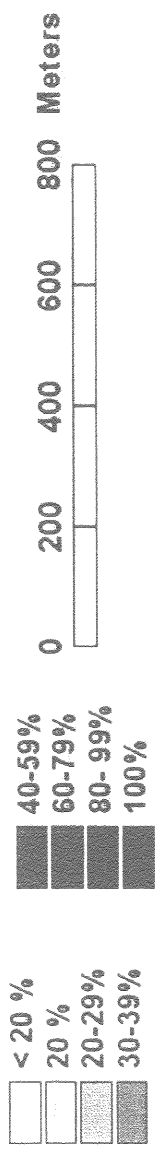


**2007 Potential
 Defoliation Impacts
 Zone 16**



2007 Potential Defoliation Impacts Zone 24





2007 Potential Defoliation Impacts
Zone 37

City Parks