



**COMMUNITY SERVICES DIVISION
Roads and Parks Maintenance Department**

TO: Chair and Members of the Community and Corporate Services Committee
SUBJECT: UPDATE ON BURLINGTON'S TURF MANAGEMENT PROGRAM

Report Number: RPM 22/02	Report Date: October 22, 2002
Author(s): B. Adriaans	Date to Committee: November 19, 2002
Telephone: Ext. 6172	Date to Council: December 2, 2002
Ward(s) Affected: 1 2 3 4 5 6 All	File Number(s): 795-11

APPROVALS: _____
Department Head General Manager City Manager

To be completed by the Clerks Department

Committee Disposition & Comments	

01- Approved 02 - Not Approved 03 - As Amended 04 - Referred 05 - Deferred 06 - Received & Filed 07 - Withdrawn

Council Disposition & Comments	

01- Approved 02 - Not Approved 03 - As Amended 04 - Referred 05 - Deferred 06 - Received & Filed 07 - Withdrawn

1.0 RECOMMENDATION:

None – for information only.

EXECUTIVE SUMMARY:

N/A

2.0 PURPOSE:

The purpose of this report is to provide an update on the City's Turf Management Program.

3.0 BACKGROUND:

On February 25, 2002 Council approved report RPM 6/02 (CC-49-02) which recommended the following:

“THAT Roads and Parks Maintenance Report RPM 6/02, dated January 30, 2002, providing an update on the City of Burlington Turf Management program related to Reducing Pesticide Use on Municipally-owned Green Spaces, be received, and;

THAT the City of Burlington essentially eliminate the use of pesticides on municipally-owned properties as of 2003 except as follows:

*at the Lawn Bowling Green
at Greenwood Cemetery
at Tyandaga Municipal Golf Course*

and in special situations as outlined in Report RPM 6/02 and

THAT a Public Education and Communication Program be developed and implemented for the general public and community organizations (i.e. sports groups) outlining the practices and issues associated with the elimination of pesticides on municipally-owned property; and,

THAT Lowville Park be added to Appendix B of Roads & Parks Maintenance Report RPM 6/02, dated January 10, 2002.”

That report also outlined a cultural practices program to begin in 2002 that would balance the effect of eliminating pesticides.

4.0 DISCUSSION:

The 2002 growing season was the first in which all aspects of the City’s Turf Management Program were carried out on a city-wide basis. What follows in this report is an update on new initiatives, a summary of weather conditions and how conditions impacted the program.

New Turf Management Initiatives

In March of 2002 two meetings were held which included all Roads and Parks Maintenance staff involved with turf maintenance. Staff were brought up to date on the pesticide issue, and were introduced to the Cultural Practices Program. The importance of concepts such as monitoring, the timing of aerating/over seeding, the effect of cutting heights etc. were outlined and impressed upon front line staff. The powerpoint presentation was well received and generated many questions and comments. Staff “buy in” is crucial in a cultural practices program as benefits are often realized only in the long term. The front line staff are on site on a day to day basis and, as such, are key to the monitoring component of the program. They can report problems prior to them getting out of hand. More informal on-site meetings were held

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through out the year with de-centralized staff. Successes and problems were discussed and input was solicited on best practices.

Inter-departmental Initiatives

Important aspects of successful turf management include good design practices, proper growing mediums and proper practices during establishment. Properly established sod or seed will out compete weeds, and better resist the damage caused by insects. To this end, Roads and Parks Maintenance staff have been meeting with both Engineering and Parks and Recreation staff to discuss and review the City's turf specifications for new parks, sports fields, and boulevards. It was agreed that proper topsoil types and depths, sufficient watering, and warranties must be enforced to ensure that the City initially receives a high quality weed free product to maintain. Sod specifications for boulevards have been reviewed, and staff from Roads and Parks Maintenance and Parks and Recreation are currently in the process of developing specifications for sports turf.

The design/maintenance interface is also being reviewed. The goal is to design our green spaces in such a manner that they are "cultural practices friendly". For example, ensuring that the spacing between woody plants is wide enough to accommodate passage of aerating equipment. It is important that design considers the needs of cost effective and environmentally sound maintenance practices, along with good aesthetics and proper construction.

Other Initiatives

The City of Burlington has continued a working relationship with the Guelph Turfgrass Institute (GTI), this summer. Staff toured various locations in the City with Jack Eggens, retired Professor of Turfgrass Science at the University of Guelph, and a consulting Agronomist with the GTI. Many of the suggestions made by Dr. Eggens were incorporated into our turf program, such as the type of seed used for boulevard over-seeding. It should be noted that Dr. Eggens toured Spencer Smith Park, and was much impressed with the success of the City's program at this location.

Staff have also been working closely with members of Landscape Ontario. New fertilizers are being tested, and improved techniques for over-seeding boulevards are being explored. The Landscape Industry's Integrated Pest Management (IPM) initiative has also been closely monitored by staff. At Tyandaga Municipal Golf Course, Greenwood Cemetery, and at the Bowling Green, the City of Burlington is practicing IPM as defined by the Industry. At all other locations, the focus is on the cultural practices endorsed by the Industry, without IPM's pesticide component. As noted in RPM 06/02, this, (i.e. the use of pesticides), will only occur in an emergency situation.

Other Municipalities

Staff continue to consult with other municipalities with respect to turf management best practices. The City of Burlington's cultural practices program has generated interest from Hamilton, St. Catherines, Waterloo, Oakville, Milton, Halton Hills, and London. Staff from these communities are impressed by the financial resources available to us for our program, and the

commitment to the reduction of pesticide use. A contingent from Barrie visited Burlington this year to review our program and they toured the City to get a first hand look at our successes and at areas where challenges remain. Again, a visit to Spencer Smith Park was a highlight. And again, they were impressed with the commitment of staff, and the results achieved by cultural practices at this location.

Healthy Green Spaces Strategy

Recently, Council approved the *Healthy Green Spaces Strategy for Public Lands (Item No. CC-199-02)*. The long- range goals of this strategy will impact the City's Turf Management Program. Increased naturalization will reduce the total area of passive turf. And while naturalization does not imply no maintenance, savings can be realized. Resources previously allocated to little-used passive areas can be redirected to more high profile passive turf areas. The use of alternative ground covers for areas such as boulevards is also being explored, again with the goal of reducing the area of more high maintenance turf cover. The *Healthy Green Spaces Strategy for Public Lands* provides a structural framework and a timetable for these initiatives.

REVIEW OF THE 2002 TURF MANAGEMENT PROGRAM

Similar to 2001, weather conditions this year provided many challenges. Overall, it was a difficult year to grow and maintain turfgrass. A cold/wet spring was followed by a dry/hot summer. From June 1 until September 10, Burlington experienced 28 days during which the temperature exceeded 30 degrees C., compared to a normal year of 15 such days for the same period. As well, there were 18 nights during which the temperature did not fall below 20 degrees C – the norm being 5 such nights. It was also a very dry summer, with no significant rainfall events from June 21 until September 13. In fact, this August was the driest on record.

Non-Irrigated Turf Management

The dry/hot summers that we have experienced in the past two years has resulted in a thinning of turf in some non-irrigated areas. This thinning has made such areas more susceptible to broadleaf weed invasion, especially from Dandelion, Queen Anne's-Lace, Bird's-foot trefoil, and Chicory. To combat this, staff have initiated an aggressive program of fertilizing, aerating, and over-seeding in an effort to thicken up the turf to better compete with weeds.

In the late spring, high profile passive and non-irrigated active turf areas were fertilized and aerated. Once the weather broke in late September, all passive turf, non-irrigated active turf and high profile boulevards were fertilized and aerated. Areas that have experienced significant weed pressure were also over-seeded. Such areas include portions of the boulevards on Upper Middle Road, the major north-south arteries, and on New Street. Passive and active turf in various locations through-out the City were also over-seeded in the fall. Different methods of over-seeding and different seed mixtures were employed during this process and staff will monitor the efficacy and cost-effectiveness of the various methods.

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Extra cuts on high profile boulevards were also used as a cultural control this season. Mowing stimulates bud development and tillering in turf, which induces the turf to become denser and, thus, helps choke out weeds. Seed production of weeds is also reduced which, in turn, reduces further weed establishment. Mowing also has the benefit of tidying up the boulevards and this results in a more aesthetically pleasing ground cover despite the presence of weeds.

Over all, most of the non-irrigated turf that remained dormant for a rather lengthy period of time during the summer came back once it rained in late September and has responded well to various cultural practices. Exceptions to this include passive and active portions of some locations that have a more sandy soil base south of the QEW (e.g. Greenwood and LaSalle Parks). These areas will be monitored and over-seeded as needed.

Irrigated Turf Management

As expected, irrigated turf fared much better this season than non-irrigated turf. New irrigation systems were installed on active fields at Nelson, Sherwood, and Sheldon Parks and these systems have greatly improved the condition of the turf at these locations. More irrigation systems are to be added in 2003, and this program is to be expanded to include some more high profile passive areas such as the LaSalle Park Pavilion frontage.

The dry summer, however, did reveal the limitations of some of our existing systems and steps have been taken to rectify this situation. A seminar will be held this winter to bring staff up to date on irrigation system management and best practices for water use.

An encouraging sign that the turf management program is reaping benefits is the reduction in the areas that will require re-sodding this year. The irrigated soccer fields at Sherwood Park, for example, will require approximately 80% less restoration this year, compared to the last two years. Similar results have been realized at Maple, Brant Hills, Central, and Ireland Park fields. This success has allowed staff to direct year-end restoration to other active areas and to more high profile passive turf areas such as the former Gore Park, an important gateway to the downtown area.

The decrease in the areas in need of restoration can be attributed to fertilizing and aerating schedules. Active irrigated turf will have received 3 applications of fertilizer by the end of the year, and were aerated 3 times this past season. High-end sports fields were also over-seeded and topdressed this fall. (Note: The scheduled mid-summer aerification and fertilizer application on active irrigated turf was omitted this season due to high temperatures and the Region's water ban.)

THE 2003 TURF MANAGEMENT PROGRAM

Boulevards and Non-irrigated Passive Turf

The 2002 program of extra cuts on select high profile boulevards will be expanded to all arterial boulevards and to most passive turf in 2003. This proposed change will allow us to follow the "one-third rule". (i.e. no more than 1/3 of the grass blade should be removed at a single

mowing.) Tilling will be encouraged without realizing the loss of root growth that is associated with excessive defoliation. Regular mowing at the proper height and frequency encourages a thick, dense turf and this will impair the competitive ability of weeds. More frequent mowing will also remove the seed heads of certain weeds before they become viable. To accommodate the extra cuts, Roads and Parks Maintenance will be adding a third trim crew and will be including funds into the proposed 2003 Current Budget for the extra cuts done by contractor.

It should be noted that weeds will continue to be present on City boulevards. The goal of the program is not the elimination of weeds, rather it is to provide a groundcover that is uniform, sufficiently dense, and visually appealing to motorists and pedestrians alike. Many prostrate growing “weed” species are perfectly acceptable groundcovers in a boulevard situation provided that they blend in with the turf. They represent plant diversity in our boulevards, which are subject to very harsh conditions. That said, the Turf Management Program is designed to encourage the propagation and expansion of the turfgrass component of these areas.

Staff will continue to target areas in which the weed threshold is unacceptable with an aggressive over-seeding program. These areas include, but are not limited to, boulevards on Brant St. south of Upper Middle Road, boulevards in the Appleby Line/Upper Middle Road area, and passive portions of Berton, Canvandish and Fothergill Parks. As noted above, staff are working with members of Landscape Ontario and the GTI to determine which methods and seed mixtures are most successful in terms of efficacy and cost effectiveness.

Active and Irrigated Passive Turf

Weeds are not an acceptable groundcover for active turf or high profile passive turf. For the most part, both active and passive irrigated turf has been able to effectively out compete weed and insect infestations. Broad-leaved plantain is a concern at some locations (e.g. on Brant Hills active turf). Staff will continue to monitor these areas. Where feasible, weeds will be removed by hand. Areas with greater infestation will be re-sodded as part of the restoration program. Certain passive irrigated areas also remain a concern (e.g. weeds at Burton Park), and such areas have been, and will continue to be, aggressively over-seeded.

5.0 FINANCIAL MATTERS:

The cultural practices program will be undertaken within Council-approved current budget funding levels, with the exception of the proposed extra cuts for boulevards and passive areas as noted above. This item, at an estimated gross cost of approximately \$80,000, will be included as a Program Change for consideration by Council during the 2003 Current Budget process.

6.0 ENVIRONMENTAL MATTERS:

The City’s Turf Management Program is an important part of the *Healthy Green Spaces Strategy for Public Lands*, a progressive environmental initiative. The program reflects the principles of the strategy in that it demonstrates community leadership through continual efforts to essentially eliminate pesticide use on City owned property. In doing so, the City is consistent with, and in many ways ahead of, efforts being undertaken in other municipalities.

7.0 COMMUNICATION MATTERS:

In 2002, the City's turf program was outlined to major user groups in the form of a letter that explained the intent of the program. Staff also met with soccer groups to explain the program, and to solicit feedback on turf conditions. Future communication initiatives are outlined in the *Healthy Green Spaces Strategy*. Roads and Parks Maintenance Department staff will continue to work closely with Corporate Communications to ensure that these initiatives are carried out.

8.0 CONCLUSION:

Despite unfavourable growing conditions due to the dry/hot weather, 2002 represented a promising start for the Turf Management Program. To carry out such an ambitious program over such a large area presents many logistical challenges and staff will continue to monitor and re-evaluate the Program to maximize efficacy and cost-effectiveness.

As noted in Report RPM 06/02, positive results will take time and a great deal of patience and education is needed to ensure a successful long-term program. That said, the current trend with all municipalities is towards pesticide reduction and in this sense the City of Burlington is well positioned for the future in that it has a established and coherent program in place.

Respectfully submitted,

Brian Adriaans
Horticulture Technician

Appendices:

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Staff / Others Consulted:

Name	Telephone
Tim Commisso	7747
Bob Young	6134
Mark Covert	6141
Lynn Robichaud	7931
Janet Lunn	7729
Rob Peachey	7722
Doug Pladsen	7627
Gavin Kellogg	905 336-7786

Notifications:

Name	Mailing or E-mail Address

Special Instructions:

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