



### **3.0 BACKGROUND:**

In 2003 the City of Burlington essentially eliminated the use of pesticides on municipal property, with the exception of limited use at the Lawn Bowling Green, at Greenwood Cemetery, and at Tyandaga Municipal Golf Course (See Report RPM 6/02, Council Item CC-49-02). To balance the effect of pesticide elimination, a cultural practices program was initiated. 2004 was the third growing season in which all aspects of this program were carried out on a city-wide basis.

### **4.0 DISCUSSION:**

#### **Growing Conditions in 2004**

Weather conditions in 2004 were, for the most part, favourable for growing turf grass. Overall, 2004 realized above average amounts of rainfall compared to the 30-year Normal, while temperatures were lower than average. Like 2003, periods of turf dormancy were relatively short.

April to early May had cool to seasonal temperatures with average rainfalls. The rest of May experienced temperatures above seasonal and 30% more rain than the 30-year Normal. Above average rainfall continued into June and July with average temperatures below seasonal norms. August and September received less rain than normal and temperatures in September were higher than normal. In fact, the first real drought conditions were realized in September rather than July or August.

#### **SUMMARY OF CULTURAL PRACTICES ON ACTIVE AND PASSIVE TURF IN 2004**

##### **Mowing and Trimming**

The yearly service level for all irrigated turf is 44 cuts (an average of twice weekly) and 22 cuts (once a week) for non-irrigated active locations. For non-irrigated passive locations and high profile boulevards, the service level is 18 cuts per year. Like 2003, all turf grass was in effect "irrigated " for much of the summer as a result of timely rains. Growth did not slow until late August. As a result the mowing service levels were exceeded. Active irrigated fields received up to 50 cuts in 2004, while non-irrigated passive park areas and high profile boulevards were cut 25 times. Staff feel, however, that the last two seasons were exceptions and remain comfortable with the current level of service.

Maintaining mowing schedules was especially difficult in May and early June. As noted above, rainfall amounts were above average. This, coupled with warm temperatures, led to a surge of growth. Many locations (e.g. Mountainside and Breckon Parks) were too wet to mow without leaving ruts and it was well into June before staff were able to maintain regular mowing schedules.

##### **Fertilizer Applications**

Fertilizer applications proved effective this past growing season. The late May/early June application was scaled back due to the natural surge of growth experienced, making the addition

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of fertilizer unwarranted. Active fields, however, were fertilized to help strengthen turf and to combat wear damage. All active turf was fertilized again in July as per the service level.

The September application was tricky due to dry and hot weather. Applications to irrigated locations were carried out as per the schedules, however many of the non-irrigated locations had to wait for cooler temperatures and the promise of rain. While all locations did receive the important fall application, some locations were fertilized somewhat later than would have been ideal. The dormant application to active turf and high profile passive turf went as planned in late October and early November.

It should also be noted that it has been two growing seasons since the last soil fertility tests were carried out and staff plan to test various locations in 2005. This is to ensure that proper amounts of the different nutrients are being applied. Fertilizer nutrient ratios and amounts will be adjusted accordingly.

### **Aerating**

While weather conditions caused certain problems for some cultural practices, the same conditions clearly benefited aerating schedules. The timely rains during the summer allowed staff to continue to aerate for most of the season. The aerating cycle was delayed in May due to wet conditions, however once the ground firmed up in June aerating was able to be carried out even on non-irrigated turf for the rest of the season.

All active turf was aerated at least twice, with many non-irrigated locations being aerated a third time. This has not been possible in past years due to dry conditions and this should improve the turf at these locations. Many of the high use active irrigated fields were aerated four times this past season.

Most high-profile passive locations were aerated twice in 2004, as staff again took advantage of the extended windows that the timely rains provided. Conditions also allowed staff to aerate many high profile boulevards with deeper tynes this past season and this will help the turf develop deeper roots at these locations.

### **Irrigation**

New irrigation systems were installed at the baseball fields at Kerns, Aldershot and Sheldon Parks. Upgrades were carried out on systems at Brant Hills, Millcroft, Sherwood, Nelson, Palmer and Tansley Parks in 2004. These upgrades will ensure that the systems are more efficient and that less water is wasted.

As the systems are being upgraded, staff from Roads and Parks Maintenance (RPM) and Parks & Recreation (P&R) are working with an irrigation contractor to develop irrigation schedules specific to each location. Using system specifications such as sprinkler head type, nozzle size, head spacing, etc., schedules are being determined which will deliver the recommended 1" of water needed per week. Soil types are also being factored into the schedules. From this research it has been determined that, for example, to deliver 1" of equivalent precipitation to the north soccer field at Brant Hills the heads should run for 2 cycles of 14 minutes each for **four** nights

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per week. This contrasts with Palmer football field that only requires **three** nights of water per week to achieve the required 1” of precipitation based on the system specifications and soil type. When these new schedules are programmed in for 2005 both water and energy savings will be realized. Staff plan to develop similar schedules for all systems.

### **Overseeding**

The overseeding programs of the past three seasons have proven successful. Areas that have been overseeded on a yearly basis have realized a marked increase in turf cover and weed thresholds have been reduced. Good examples of this success include Forestvale and Dryden Parks.

In a typical year, the best period to overseed is from mid-August to mid-September as soil moisture and temperatures should be optimum for germination and the seedlings have a long period to establish prior to winter. For the past two growing seasons, however, this period has been drier than normal and, as a result, overseeding has been somewhat scaled back at non-irrigated locations. That said, a number of locations were overseeded in 2004 once rains were forecasted in late September using blends of perennial rye grass that establish very quickly. Locations overseeded included areas at Nelson Park, the boulevards on New Street, Cornation Park, Glen Afton Park, Spencer Smith Park and areas at Central Park.

For 2005, staff are planning to carry out a spring overseeding program to supplement the late summer program. Staff will also be trying a new roadside mixture on some high profile boulevards. This mixture includes 35% Fults Alkali Grass, a salt tolerant grass that grows well in harsh conditions.

### **Topdressing**

In order to rectify “bumpy” field conditions on various sports fields, staff topdressed aggressively in 2004. Although topdressing is a cultural practice that has a role in pest control, staff are beginning to focus more on the role that it can play in improving playing conditions on sports fields. Fields that are topdressed on a regular basis will have a more consistent, level playing surface.

In 2004 fields that received topdressing include locations at Sherwood, Nelson, Iroquois, Palmer, Central, Maple, and Brant Hills parks. Staff will continue to monitor all playing fields. Primary fields will continue to be topdressed as part of a program and secondary fields will be topdressed as required.

### **Sod Restoration**

The sod restoration program began later in the year in 2004 than in past years due to weather conditions and extended fall use by user groups. That said, all work was completed except for some limited areas on football fields. All City owned soccer fields were inspected in the fall and all bare areas and low spots were levelled and sodded. Restoration work to eliminate ridges at the infield/outfield transition areas was completed on the primary baseball diamonds at Millcroft, Ireland and the west diamond at Nelson Park. The centre portions of the football fields at Palmer

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and Cumberland Parks were resodded as well. Some of the restoration (e.g. the fields at Pearson, Palmer and Cumberland) was completed under less than ideal, i.e. wet, conditions. Staff will return to these locations this spring to edge and roll any poor areas.

In order to increase the window available for sod restoration staff from RPM and P&R have met with the Soccer Council and have proposed a shortened season. It was agreed at this meeting that all fields, with a few exceptions to be determined by the City, would be closed on October 1<sup>st</sup>. This would bring Burlington in line with surrounding communities that close their fields in late September and early October. Traditionally Burlington fields have remained opened until the end of October and in some cases into November. This will allow staff take advantage of better weather conditions in early October to complete restoration work. Staff hope to meet with the football user groups to discuss a shorter season for the City's football fields, however this may prove difficult as the football season traditionally goes into November.

### **5.0 FINANCIAL MATTERS:**

The only proposed increases for 2005 will be to expand the existing level of service to growth areas. No program changes are being proposed.

### **6.0 ENVIRONMENTAL MATTERS:**

Pesticide free turf management continues to be the rule, rather than the exception, for municipalities across Canada. Staff continue to keep current on best practices by attending seminars and conferences. It should be noted that seminar offerings at the various conferences and trade shows reflect a trend towards pesticide-free and organic turf management. Slowly there is a realization within the turf grass industry that it must adjust and move away from wide spread chemical applications and develop alternative methods in pest management.

Staff also continue to investigate Integrated Pest Management (IPM) accreditation. In 2004 accreditation was only available for the Lawn Care and Golf sectors. Accreditation for the Municipal Parks sector is being developed for 2005. Staff at Tyandaga Golf Course have successfully completed the IPM (Golf) exam, which represents the first step towards accreditation. In addition to this, Tyandaga is a member of the Audubon Cooperative Sanctuary System and are pursuing Certification with this organization.

### **7.0 COMMUNICATION MATTERS:**

N/A

### **8.0 CONCLUSION:**

Much like 2003, conditions were favourable for growing turf grass in 2004. Overall, active and passive turf areas have appeared more aesthetically pleasing for the past two seasons. The

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combination of favourable weather and aggressive cultural practices has given turf a competitive advantage over weeds. However, conditions do change from year to year and conditions will dictate the extent of the “show “ or flowering of various weed species. Staff will continue to monitor all turf areas and adjust the cultural practices schedules accordingly.

Respectfully submitted,

Brian Adriaans  
Field Services Technician

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**Appendices:**

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<b>Staff / Others Consulted:</b>	Name	Telephone
	Doug Pladsen	7627
	Lynn Robichaud	7931
	Fleur Storace-Hogan	7580
	Gavin Kellogg	905-336-7786

<b>Notifications:</b>	Name	Mailing or E-mail Address

**Special Instructions:**

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