

PF&R Shade Audit Strategy for Playground and Waterplay Facilities

Date:	January 29, 2008
To:	Parks and Environment Committee
From:	General, Manager, Parks, Forestry and Recreation
Wards:	All
Reference Number:	

SUMMARY

The purpose of this report to present a strategy for conducting shade audits at Parks, Forestry and Recreation (PF&R) playground and waterplay facilities (wading pools and splash pads). Shade audits will assess existing shade provision and patterns of use at these facilities and make recommendations for the provision of adequate shade and Ultraviolet Radiation (UVR) protection.

Playgrounds, splash pads, and wading pools are areas that can be of high risk for UVR exposure to vulnerable segments of the population such as children, whose exposure to UVR during the early years of life is a major determinant of lifetime risk of skin cancer. Shade is beneficial as well for the comfort of all park and facility users (e.g. provide relief from heat).

The provision of shade, either natural (trees) or constructed (overhead structures), should be an essential element in the planning of new and retrofitted playground and waterplay facilities. These facilities are primarily used during summer when UVR levels are at their highest, users typically wear minimal clothing and there may be high levels of indirect UVR reflected from surfaces.

A preliminary assessment of PF&R playgrounds and waterplay facilities indicates that most of the facilities need significant improvements in the level of shade provided.

RECOMMENDATIONS

The General Manager of Parks, Forestry and Recreation recommends that:

1. PF&R staff work with Toronto Public Health and the Shade Policy Committee to adopt standards for shade provision and confirm a Shade Audit Process to guide the preparation of shade audits by staff and consultants;
2. 'Pilot' shade audits and shade plans be developed for priority playgrounds and waterplay facilities and that staff report back on the plans, including their capital and operating costs. The knowledge gained from the 'pilot' is to serve as a basis for conducting shade audits for the entire system of playgrounds and waterplay facilities; and
3. The Policy for the Provision of Shade at Parks, Forestry and Recreation Sites will be incorporated into existing playground and waterplay projects where possible and worked into planning and design already being carried out at specific sites.

Financial Impact

There are no financial impacts resulting from the adoption of this report. Future financial implications may result from consultant or staff resources needed to conduct shade audits and future Capital work required to implement improvements to facilities.

DECISION HISTORY

On January 23, 2007, the Parks and Environment Committee requested that the General Manager of Parks, Forestry and Recreation report on:

- Efforts being made by the division to address the provision of shade at Parks, Forestry and Recreation sites;
- Provide information outlining the City playgrounds that have sufficient shade and those that are deficient in this area; and
- To develop a strategy for shade coverage.

<http://www.toronto.ca/legdocs/mmis/2007/pe/decisions/2007-01-23-pe01-dd.pdf>

In response to the direction from Parks and Environment Committee, an information report on the division's shade policy guidelines was submitted to the April 10, 2007 Parks and Environment Committee. The report identified that PF&R Division had policy guidelines in place to address shade provision wherever feasible. The report also indicated that staff were in the process of developing a strategy for conducting shade audits to assess the deficiencies that may exist at PF&R playground facilities and would

be reporting back to the Parks and Environment Committee on the implications of undertaking this work. The report was received by the Committee.

<http://www.toronto.ca/legdocs/mmis/2007/pe/bgrd/backgroundfile-2372.pdf>

ISSUE BACKGROUND

Since 2002, PF&R staff have been working with the Shade Policy Committee of the Ultraviolet Radiation Working Group led by Toronto Public Health to develop a comprehensive shade policy for the City of Toronto. On September 19th, 2007, The Board of Health endorsed the shade policy statement and requested the Medical Officer of Health to direct the Shade Policy Committee to develop specific guidelines, by Summer 2008, to assist City agencies, commissions and divisions to operationalize the Shade Policy.

<http://www.toronto.ca/legdocs/mmis/2007/hl/bgrd/backgroundfile-6600.pdf>

In February 2007, Parks, Forestry and Recreation division adopted a divisional operational policy to guide the design and development activities of its parks and facilities: “Policy for the Provision of Shade at PF&R Sites” (Attachment A).

The policy states that the Parks, Forestry and Recreation Division recognizes that shade (both natural and constructed) can be an effective way to reduce exposure to UVR and shade provision will be increased, wherever feasible, as part of the Division’s approach to designing and retrofitting its assets.

According to the Canadian Dermatology Association, one in seven children born today will develop skin cancer due to over-exposure to UVR. Playground and waterplay facilities are a priority for shade because they are primarily used by children, the age group most vulnerable to the long-term effects of solar ultraviolet radiation (UVR). These facilities are primarily used in the summer months and during critical UVR exposure times (between 10 am- 4 pm),

COMMENTS

Strategic Direction

Our Common Grounds is the City’s strategy for Parks, Forestry and Recreation. The strategy notes that to enhance quality of life in the city, Parks, Forestry and Recreation must:

- Steward the environment around us
- Promote and enhance the social and physical development of our children and particularly our youth.

- Lead the way to lifelong physical activity among all Toronto residents.

Our Common Grounds also identifies an environmental stewardship target to extend the tree canopy from its current 17 per cent to 30 to 40 per cent of the city. It is also important to note that the target is complementary to the policy which states that:

...”the Parks, Forestry and Recreation Division recognizes that shade (both natural and constructed) can be an effective way to reduce exposure to UVR and shade provision will be increased, wherever feasible, as part of the Division’s approach to designing and retrofitting its assets”.

Objectives of a Shade Audit

As outlined in the PF&R policy guidelines (Attachment A), conducting a shade audit is a technical and analytical process that requires expertise to: predict solar angles at different times of the year and different times of day; understand, growth patterns and amount of shade provided by different tree species; and, assess the patterns of use at a specific site.

As there is not one shade design that will suit all situations, it is necessary to assess each site individually. A confirmed Shade Audit Process is necessary to provide a detailed checklist of steps and ensure a consistent approach. Generally, a shade audit consists of four components:

- 1) Interviews- with Park Supervisors and users to determine site usage patterns, number of people using site, time of day site is used, activities being carried out at site, etc.
- 2) Site Examination/Fieldwork- collection of site data such as location, species and height of trees, documenting reflective surfaces, location of buildings/structures, observation of site use, etc.
- 3) Assessment- assessing the quantity and usability of existing shade and the need for additional shade by analyzing sun angles, impact of indirect (reflected) UVR, future tree growth, location of existing shade, etc.
- 4) Recommendations- developing a strategy for achieving desired shade/UVR protection goals for the site, including a proposed timeframe, project management approach and financial considerations.

Challenges

- Conducting shade audits requires a project team skilled in site surveying and measurement, urban forestry and understanding sun angles.

- Building in-house expertise would require staff training. Conducting shade audits would place additional pressures on operating budgets. Costs are associated with acquiring the necessary technology (computer design and analysis (e.g. CAD) software to complete shade projections).
- Engaging consultants poses a challenge due to a knowledge gap within relevant professions (e.g. landscape architects, architects). Shade audits are a newly emerging area that needs to be incorporated into professional practices. Consulting costs are associated with this option.

Existing Shade Availability in Playground and Waterplay Facilities

A preliminary assessment of existing shade at PF&R playground and waterplay facilities revealed that fewer than 20 percent of sites currently provide significant levels of shade/UVR protection, which would require only minor levels of improvement. Park Supervisors were asked to evaluate playground and waterplay facilities on the basis of whether they felt the facility:

- has little to no shade and requires major planting, structures or moving of the facility to provide shade;
- has some shade but requires significant infill planting, replacement of old trees, or/and addition of structures to provide shade;
- has significant shade and needs only a small amount of infill planting, replacement of old trees, or shade structure to provide shade; or
- is well shaded and needs minimal or no extra trees or structure to supplement existing shade.

Preliminary Assessment of Shade Availability in PF&R Playground Facilities

Little to No Shade=Requires Major Improvements	319	38%
Some Shade=Needs Significant Improvements	360	43%
Significant Shade=Needs Minor Improvements	108	13%
Well Shaded=Needs Minimal or No Improvements	52	6%
Total Playground	839	100%

Preliminary Assessment of Shade Availability in PF&R Waterplay Facilities

Little to No Shade=Requires Major Improvements	79	45 %
Some Shade=Needs Significant Improvements	67	38%
Significant Shade=Needs Minor Improvements	23	13%
Well Shaded=Needs Minimal or No Improvements	6	4%
Total Waterplay	175	100%

The Next Steps

The preliminary assessment of existing playground and water play facilities demonstrated that many of the playgrounds and waterplays have little or no shade. While there are presently no standards in place for shade for such facilities, there are opportunities to advance a city-wide approach and improve the provision of shade in many of the sites.

It is recommended that:

1. PF&R staff work with Toronto Public Health and the Shade Policy Committee to adopt standards for shade provision and confirm a Shade Audit Process to guide the preparation of shade audits by staff and consultants;
2. 'Pilot' shade audits and shade plans be developed for priority playgrounds and waterplay facilities and that staff report back on the plans, including their capital and operating costs. The knowledge gained from the 'pilot' is to serve as a basis for conducting shade audits for the entire system of playgrounds and waterplay facilities; and
3. The Policy for the Provision of Shade at Parks, Forestry and Recreation Sites will be incorporated into existing playground and waterplay projects where possible and worked into planning and design already being carried out at specific sites.

By implementing such an approach, the PF&R division can address shade measures in all new projects and specifically address shade provision and UVR protection for priority playground and waterplay sites as a 'pilot' project. The pilot project will also serve as a learning opportunity with respect to best practices as well as capital and operating requirements.

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SIGNATURE

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ATTACHEMENTS

Attachment A - Policy for the Provision of Shade at Parks, Forestry and Recreation Sites

