

APPENDIX K

Maintenance Checklist for Trails within Burnaby Mountain Conservation Area

The following are general recommendations for trail maintenance in natural parks. The checklist has been adapted from that of the Greenways and Urban Trails Program in Denver, Colorado (Wagner 1998) and other trail manuals (Long and Bockarie 1994; Parks Canada 1996; Proudman and Rajala 1992; Ryan 1993; US Forest Service 1990).

A. Maintenance to be performed on a continuous, scheduled basis:

1. Trail User Safety

Safety is central to all maintenance operations, and is the single most important trail maintenance concern. Items for consideration include scheduling and documentation of inspections, the condition of railings, bridges, and trail surfaces, proper and adequate signage, removal of debris, and coordination with other groups (i.e., volunteers) who may be called upon to assist with trail maintenance efforts if appropriate.

2. Trails Inspection

Trails inspections are integral to all trail maintenance operations. Inspections should occur on a regularly scheduled basis, the frequency of which will depend on the amount of trail use, location, age, and type of trail construction. All trail inspections should be documented.

3. Trash and Graffiti Removal

Trash and graffiti removal from trail corridors is important from both a safety and an aesthetic point of view. This includes removing ground debris, emptying trash containers, and removing graffiti from signs or other structures. These tasks should take place on a regularly scheduled basis, the frequency of which will depend on trail use and location.

4. Tree and Shrub Pruning

Tree and shrub pruning should be performed for the safety of trail users. Pruning should be performed to specifications established for Burnaby parks as part of their management practices for hazard trees. The frequency of hazard tree assessments and the type of actions taken should be determined by the City's arborist.

5. Enforcement

Some enforcement effort is needed to ensure a safe and well-managed trail system. Local volunteers, park stewards or Burnaby Parks personnel should be recruited to perform this function.

6. Scheduling Maintenance Tasks

Inspections, maintenance, and repair of trail-related concerns should be regularly scheduled. Inspection and repair priorities should be dictated by trail use, location, and design. Scheduling maintenance tasks is a key item towards the goal of consistently clean and safe trails.

B. Maintenance to be performed on an irregular or as needed basis:

1. Trail Repair

Repair of trails will be closely tied to the inspection schedule. Prioritization of repairs is part of the budget and administrative process. Priorities will depend on a number of criteria. These include: whether the repair is required for safety reasons; whether the repair is needed to protect environmental values; and the extent of the repair.

2. Trail Replacement

The decision to replace a trail and the type of replacement will depend on many factors. These factors include the age of the trail and the money available for replacement. Replacement will normally involve either complete resurfacing of the entire trail or resurfacing and/or repair of extensive sections of the trail.

3. Trail Closure

Where trail closures are required for environment or public safety reasons, physical barriers and signs must be erected to prohibit use. Enforcement of trail closures by on-site personnel should also be considered if feasible.

4. Control of Invasive Species

Control of invasive species along trails can be important, particularly along rights-of-way that are periodically cleared of vegetation. Certain species can quickly re-establish along these routes encroaching upon the trail and creating potential hazards for users. Environmentally safe methods of removal should be used, especially near waterways. Burnaby should work with leaseholders to coordinate these efforts.

5. Trail Edging

Trail edging maintains trail width, and improves drainage. Problem areas include trail edges where berms tend to build up, and where uphill slopes erode onto the trails. Removal of this material will allow proper draining of the trail surface, allow the flowing action of the water to clean the trail, and will limit standing water on trail surfaces. Proper drainage of trail surfaces will also limit ice build-up during winter months.

6. Trail drainage control

In places where low spots on the trail catch water, trail surfaces should be raised or drains built to carry away water. Some trail drainage control can be achieved through the proper edging and grading of trails. If trail drainage is corrected near steep slopes, the possibility of erosion must be considered.

7. Revegetation

Areas adjacent to trails that have been disturbed, or sections of trails that have been closed for any reason, should be revegetated to minimize erosion and create habitat for wildlife.

8. Habitat Enhancement

Habitat enhancement may be achieved by planting vegetation along trails, mainly trees and shrubs. This can improve the aesthetic values of the trail, help prevent erosion and provide for wildlife habitat.

9. Trail Program Budget Development

A detailed budget should be created for the trails program. This should be reviewed and revised on an annual basis in consideration of current trail conditions and existing and projected demand by users.

10. Volunteer Coordination

The use of volunteers can help increase public awareness of trails, and provide a supplementary source of labour if desired and if not in conflict with civic forces. Sources of volunteers may include trail users, school groups, recreation clubs, and environmental associations.

11. Records

Accurate logs should be kept on trail management actions such as routine maintenance activities, hazards found and action taken, required maintenance, or observed use of trails. Records can also include surveys of the types and frequency of use of certain trail sections. This information can be used to prioritize trail management needs.

12. Mapping

From a maintenance standpoint, an accurate, detailed map of the trail system is important for internal park agency use and should be displayed for users of the park or conservation area. As trail locations or allocation change (e.g., trail closures or reallocation between users) maps should be updated accordingly and posted in obvious locations.

C. Other trail-related programs that require maintenance support

1. Trail Signage

Trail signs fall into two categories: safety and information. Trail users should be informed where they are, where they are going, and how to use trails safely. Signs related to safety are most important and should be considered first. Information signage can enhance the trail users experience.

2. Public Awareness

Creating an understanding among trail users of the purpose of trails and their proper use is a goal of public awareness. Basic concepts of trail use include resolution of

user conflicts and speed limitations. Users should have easy access to this information through either printed materials (e.g., maps, displays or pamphlets) or on-site staff.

3. Education and Interpretation

Many segments of the trail system contain a wealth of opportunities for education and interpretation. Trails that cross watercourses, for example, provide good opportunities to teach and study concepts about urban wildlife and ecology. Educational opportunities range from interpretive signage to educational tours.

4. Training of Employees

Properly training maintenance employees is essential to the efficient operation of the trails maintenance program. All employees should be thoroughly trained to understand and be aware of all of the above-mentioned aspects of trail maintenance and of the overall objectives and principles of an area's Management Plan.