CONSERVATION USE PLAN

EXECUTIVE SUMMARY

Maintaining Grange Park's Ecological Health
to Create a Sustainable Park for the Future

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Introduction

Grange Park is a heavily-used park with a beautiful canopy of mature trees that are mainly healthy and well appreciated by visitors and residents alike.

This short summary of "Conservation Use Plan - Maintaining Grange Park's Ecological Health to Create a Sustainable Park for the Future" is intended as a guideline to the findings and recommendations in the larger report.

Estimates of potential costs are not intended to definitively address cost issues, but are order of magnitude estimates for preliminary planning purposes only.

Findings

Trees

Ninety percent of the trees in the Park are healthy. Sixtenn trees are identified as significantly damaged or in ill health and should be removed.

A large number of trees require pruning, although there is evidence of recent pruning on quite a few. Soil compaction is a concern in most of the Park, and roots are exposed in some places from trampling.

Soils

Grange Park's soil is loam, ideally suited to growing agricultural crops. Loam soil also retains water well, reducing the need for an intensive irrigation program.

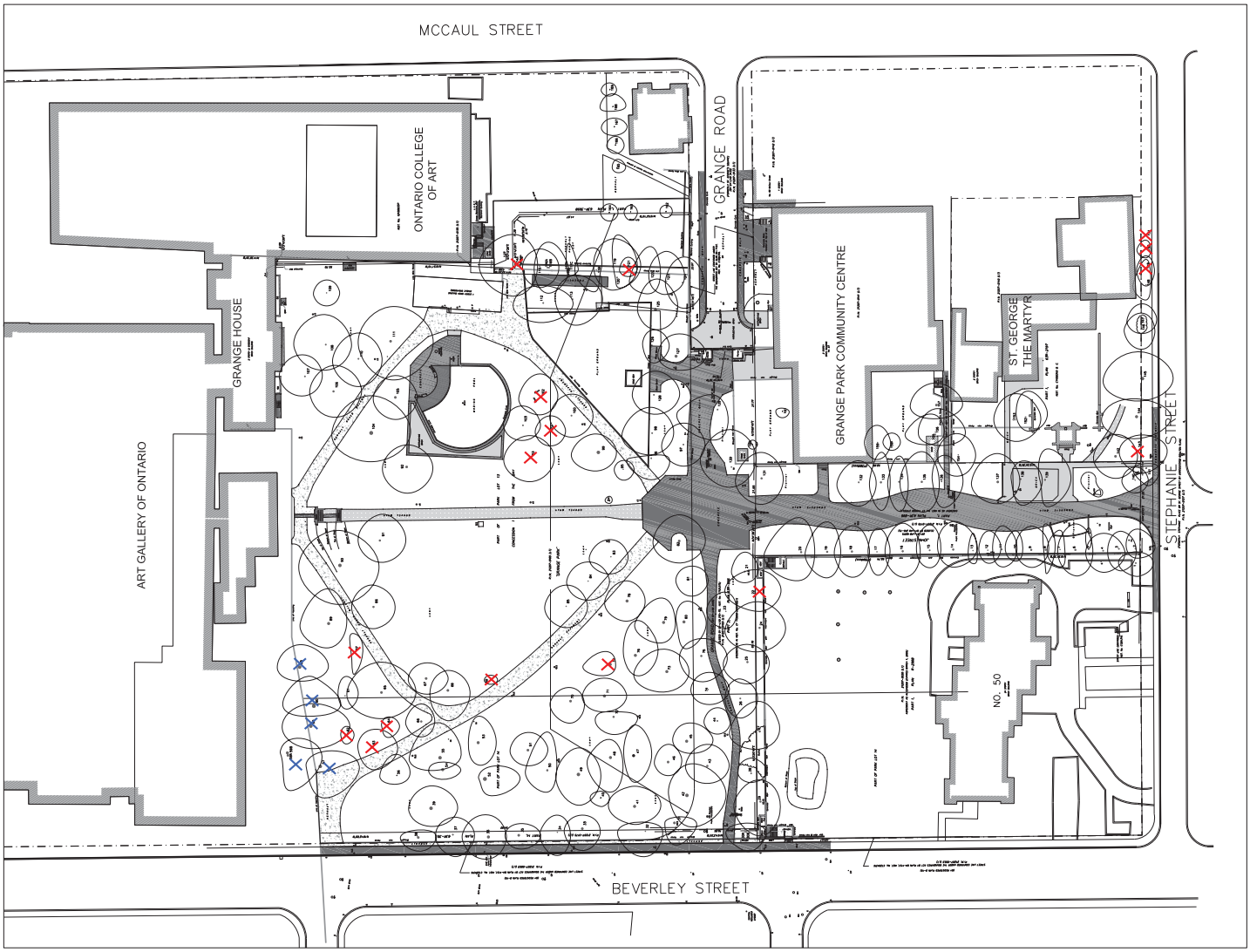
The soils tested well for calcium and minor elements, phosphorous, potassium and magnesium could be improved. Organic matter, necessary to hold the chemical elements that plants need to grow, tested as strong.

Unfortunately, when loam soil is situated in areas that receive a high volume of foot or vehicular traffic, soil aggregates will lose structure resulting in soil compaction.

Representative Bulk Density measurements created by removing soil samples from bore holes found that the soil compaction levels within the root zone were 41% to 64% higher than recommended maximum compaction levels.

Sun

The majority of the Park does not receive enough sunlight to grow a vigorous turf that can survive the



× Remove: 22 62 63 64 69 77 87 93 101 102
114a 121 143 149 150 151

× Damaged: 57, 58a, 58b, 59, 60, 88

Recommended Tree Removals

impact of the Park's volume of pedestrian traffic. Only small areas receive the 6-8 hours of sunlight required.

Areas receiving lesser amounts of sunlight are appropriate for shade-tolerant, low traffic vegetation. Some areas do not receive enough light for vigorous vegetative cover.

Usage

The unique geographic location of Grange Park, its proximity to major cultural attractions and the way it functions as the terminus for John Street, ensures it will be a prime location for pedestrian and cyclist short-cuts, dog walkers, friends meeting, users of the playground and wading pool, and people seeking restful contemplation. Providing an ecologically supportive environment is a challenge under the volumes of foot traffic the soils experience.

Current Park Usage / Functional Areas

Grange Park is a destination park that experiences a great deal of use for its size. With the increases in traffic that has occurred as the site transitioned from a family home to a public park, and then to a destination park, maintenance and supervision needs have increased.

Given the soil conditions that exist within the site, the Park is actually too small to use in its current form without impacting the ground and vegetative conditions. It is reasonable to believe that the number of people that use the Park will increase as the City of Toronto's population densifies and the AGO's renovation program successfully attracts new visitors. We foresee that the Park cannot cope in its present form. Either the surface conditions or the usage of the Park (or perhaps both) must adapt to the future. Historically the centre of the park was meant to be open. As tree canopies enlarged and new trees were planted, the openness (and available sunlight) has decreased. Users seeking sunlight have been drawn to an increasingly smaller area.

Recommendations

Schematic recommendations from the full report are included at the end of this summary document. This section outlines the recommendations by immediate actions, actions related to re-design of park elements, and ongoing maintenance.

Immediate

Trees:

- Retain a certified arborist to remove trees as recommended in the arborist report and refine the assessment of specific trees quoted in the report by climbing.
- Six trees impacted by the AGO renovation will require targeted, deep soil de-compaction, fertilization, and mulching in the spring of 2009.
- Remove all deadwood in remaining trees as indicated in the arborists' report.
- Assess holes in chesnut trees for rot through climbing.
- Thin the canopy of heavy shade trees by 25% through pruning.
- De-compact soils where possible, to a depth of 50cm to provide benefits to trees.

Preliminary Cost Estimates

- Tree removal, debris removal, stump removal for severely damaged or dead trees only - $10-15,000.
- Soil de-compaction, fertilization, and mulching of six trees - $5,000.
- Climb chesnuts for assessment - $5-10,000
- Tree pruning, remainder of Park - $75-90,000
- Air spade decompaction in critical root zone with rough aeration to extent of canopies of most trees - $15-20,000.
- Mulch trees in Zone A to driplines of trees $20,000 (assumes mulch purchased from a supplier and applied with a blower truck.

Future Use Planning and Re-design

Altering the design of the Park can reduce the stresses upon the trees and vegetation of Grange Park. Three key steps are required to chart a path for the future. GPAC should:

- Attach value to and prioritize uses
- Set a design plan for the future
- Be open to new visions that create a viable ecosystem

During this process, the GPAC should ensure that the new design:

- aligns path network and planting scheme with the use plan and ecological constraints,
- applies conservation guidelines and approaches, and
- re-evaluates the use of and success of barriers.

Ongoing Maintenance

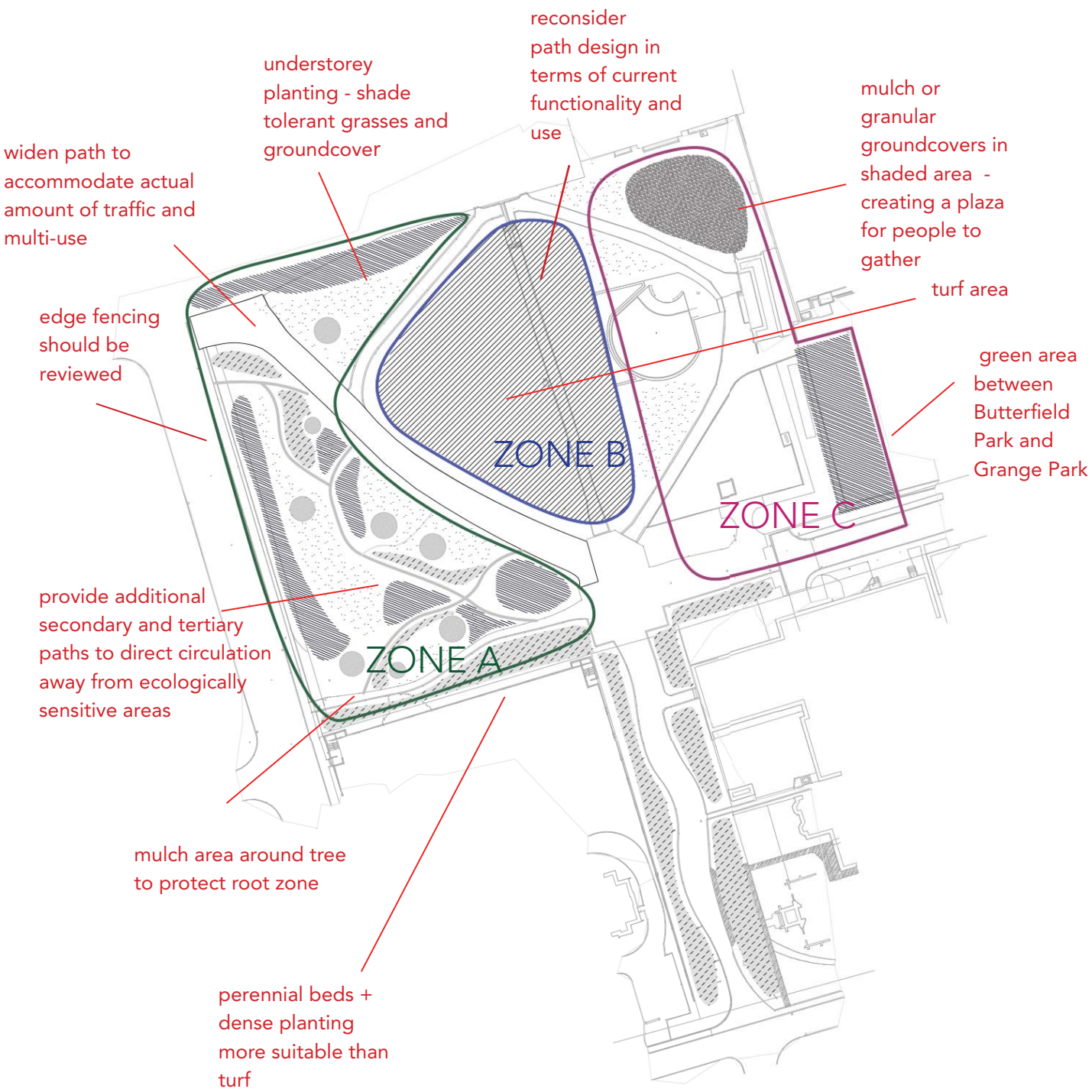
Pruning Practices
An ongoing pruning schedule should be established to include corrective pruning and removal of deadwood. Pruning of the existing canopies by 25% to increase light available to the groundcover can improve groundcover health and increase air circulation in the canopy.

Root Zone Protection Practices
Mulch within the tree canopies should be renewed and soil decompaction performed annually.

Regular Re-planting
Re-planting of trees as the existing trees reach maturity and decline should include species with open structures that allow filtered light. Minimum planting distances of 9-12 m stem to stem should be strictly observed.

Preliminary Cost Estimates (Annual) - if nothing changes, excluding impacts of re-design efforts.

- Mulching (3000 m^2) $2000
- Ongoing aeration of trees in Zone A (3000 m^2) *$250* (this assumes only the use of the cheapest method)



Schematic Recommendations

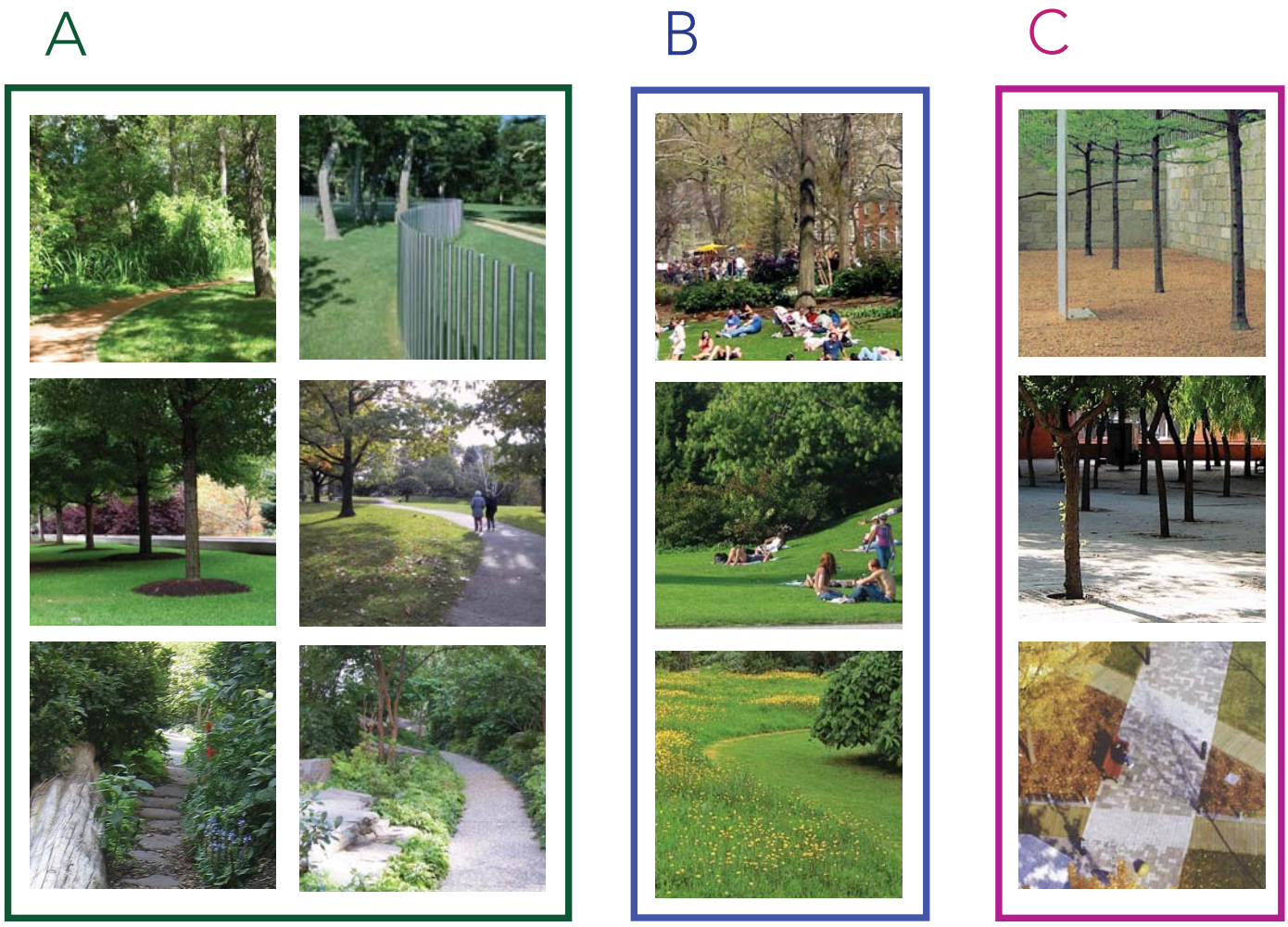


Figure 12: Images above display the landscape qualities of the recommended schematic "zones" indicated on the plan to the left.

ZONE A - 'The quiet, shady area' 'requires more planting beds, shade-tolerant grasses and alternatives to turf for groundcover. Trees in this area should be located at least 2.4 m from the main path. It is also recommended that secondary and tertiary paths be incorporated into the redesign of this area of the park. The paths will allow pedestrians to meander under the tree canopy in the shade, but will also direct movement away from ecologically sensitive areas. Mulch or fencing can be used around the trunk of the trees will be technique used to protect root zone.

ZONE B - 'The Lawn area'
This area receives the most amount of sunlight during the growing months, which is the best condition for turf. Mowing patterns and understorey growth around trees at the perimeters of the lawn area are helpful buffers that provide vegetative diversity.

ZONE C - 'The active area'
The portion of the park identified as Zone C includes the active programming in the park (the wading pool and playground), and the North-Eastern corner, which is relatively unused at this time. Considering the size of the park with relation to its use, it is recommended that this corner be activated by creating a plaza using granular or mulch groundcover (due to the lack of sunlight) . This secondary gathering area will be away from the major pathway intersection of the park (the most trafficked area), allowing people to relax.