

5.0

MANAGEMENT PLAN

Chapter 5 develops a Management Plan that promotes the long-term ecological, operational and fiscal sustainability of the entire site - including the Edwards Gardens and Toronto Botanical Garden, the surrounding City parkland and the ravine lands.

5.1 MANAGEMENT AIMS AND OBJECTIVES

This Management Plan sets out parameters to help guide the operations and management of Edwards Gardens and Toronto Botanical Garden as a single operational entity. It is the intent that this Management Plan will form the basis of a new management agreement between the City of Toronto, Parks, Forestry and Recreation Division and the Toronto Botanical Garden.

The overall Management Plan goals are as follows:

- To promote the long-term ecological, operational and fiscal resilience and sustainability of Edwards Gardens and Toronto Botanical Garden.
- To manage the Gardens as a local and regional botanical resource while giving recognition to its critical functions (horticulture, recreation, education, conservation, ecology, and science), and to continue to recognize and develop its national and international role as a botanic garden.
- To maintain the highest possible quality of horticultural and botanical displays, showing both the range of plants that may be grown in Toronto, Ontario and the appropriate uses of these plants.
- To develop the Gardens as an educational resource and allow for the sustainable utilization of its resources for research purposes.
- To encourage public appreciation of and access to the Gardens as a recreational space (City parkland), in a manner compatible with its horticultural and botanical emphasis, its ecological importance and its cultural heritage significance.
- To preserve the landscape values of the Gardens in a manner consistent with the legacy of Rupert Edwards and its situation within Toronto's ravine system.
- To conserve designated cultural heritage features within the Gardens.
- To manage the Gardens in accordance with this management plan.

5.2 ADMINISTRATION

Ownership of Edwards Gardens, located at 777 Lawrence Avenue East, is held by the City of Toronto. As part of the purchasing agreement, the land is to be preserved in perpetuity as parkland, with free public access, and is to be known as Edwards Gardens in recognition of Rupert Edwards, previous owner and creator of the Gardens.

A 20-year agreement between the City of Toronto and the Toronto Botanical Garden has been in place since 2004. This agreement assigned approximately 1.6 hectares of land in the northeast corner of the property to Toronto Botanical Garden. Through this agreement the City granted Toronto Botanical Garden an exclusive license for the use, occupation, management and operation of the Visitor Centre, New Gardens and Teaching Garden as a horticultural resource centre and botanical garden. As a charitable not-for-profit institution, Toronto Botanical Garden has been solely responsible for the Garden's, operational planning, staffing and volunteer management, promotion, program development and implementation, income generation, and fundraising activities.

Management duties outlined in the existing agreement include:

- Responsibility for the supervision of the programs, program participants and users of the buildings New Gardens and Teaching Garden;
- Provision of adequate janitorial and basic day-to-day maintenance services;
- Provision of adequate grounds keeping of the New Gardens and Teaching Garden; and
- Compliance with health and safety regulations.

All other parts of the property are currently staffed and maintained by the City of Toronto, Parks Recreation and Forestry Division and permitted through other relevant City Departments.

With the implementation of the Master Plan, a variety of new facilities and Gardens will be created providing new opportunities for programming, engagement and income generating opportunities, but also requiring new consideration of operation, regulation and management.

Objective: To manage the revitalized Edwards Botanical Gardens according to the policy framework set out by this Master Plan and Management Plan, and to comply with all relevant statutes, bylaws and Council policies.

5.2.1 GOVERNANCE AND CONTROL

Governance refers to the models, mechanisms, processes and relationships by which Edwards Botanical Gardens are operated, controlled and directed. It confirms the key partners are who will have oversight and decision making at the Gardens – the City of Toronto and Toronto Botanical Garden – describes the nature of their relationship, lays out roles and responsibilities, and outlines general principles for establishing monitoring and implementation policies by the members of the governing body.

Recommendations

- Edwards Botanical Gardens should be operated under a single not-for-profit governance structure led by TBG with requirement for reporting/input from the City of Toronto (land owner and park system manager).
- The management agreement between the City and TBG, which forms the basis of this relationship, should be renegotiated to reflect this change. However, change should be gradual and mirror the implementation of the Master Plan. Any new management agreement should include provisions which help to transition from the current dual-governance model to the new a single non-profit governance model. Under this new agreement:
 1. The City of Toronto will continue to own Edwards Gardens.
 2. The geographical scope of TBG's responsibilities should be gradually expanded from its current 1.6 hectares to encompass the entirety of Edwards Gardens (14 hectares) and its Gardens, forests, lawns, and facilities, as and when the various phases of the Master Plan are implemented.
 3. At the same time, TBG's managerial duties should be expanded to include future maintenance, management and development of Gardens, forests, lawns, and facilities within these geographical areas.
 4. The current investment that the City of Toronto allocates annually towards the management, maintenance and operation of Edwards Gardens through the Parks, Forestry and Recreation Division should continue. Funding levels will be reviewed regularly.
 5. As TBG gradually takes on more of the responsibility for operations and management of the Gardens, these funds will be transferred from the City to TBG to be applied accordingly.
- A Board of Directors will continue to have oversight over TBG as per the requirements of their Letters Patent and bylaws. This board should continue to function as a governance board, providing strategic direction, policy development, operational oversight, and fiscal responsibility.
- To ensure that City interests are considered and that it is able to continue to fulfill its role as steward, the City should appoint a member of staff to the

Toronto Botanical Garden Board of Directors.

- TBG should continue to develop its Board of Directors and membership so that it is composed of members reflective of the multi-cultural, socio-economic, gender and age diversity of the City.
- In addition to the management agreement, TBG should strive to uphold the principles of the Canadian Botanic Garden Charter and meet recognized public garden management practices in all facets of their operations.
- TBG should continue to develop their suite of institutional documents to help align organizational goals, guide future development and ensure a sustainable operating model. This should include a strategic plan, a business plan, an interpretive plan, a collections strategy, a partnership strategy, a research strategy, and an education and public program strategy. These documents should be reviewed and updated regularly on a 3-5 year basis.
- Consideration should be given to renaming the Gardens to uphold the Edwards name, but at the same time recognize efforts of the Toronto Botanical Garden, and incorporate the expansion of the horticultural and botanical efforts and programs across the whole of the Gardens. The suggested working title is Edwards Botanical Gardens. It will be important to agree on the name early as this will form the foundation of the future branding, fundraising and marketing efforts for the Master Plan and the Gardens in future.

5.2.2 STAFFING AND VOLUNTEERS

An expanded and enhanced visitor experience, and new services will require new staff and additional expertise. It is also likely that the roles and responsibilities of existing staff will change and duties for part-time staff may increase. Volunteers will continue to play a vital role in the operations of the Gardens, as will providing work experience and learning opportunities for students.

Recommendations

- TBG should continue to employ an integrated combination of full-time and part-time paid staff, and volunteer positions to ensure the smooth administration and operation of the Gardens, provide a high level of visitor services, program delivery and horticultural excellence, as well as to maintain the Gardens and its facilities.
- With expanded geographical scope, operations, programs and managerial duties, TBG should reconsider its current staffing needs and adjust its current human resources plan and organizational structure to be as efficient and effective as possible. Additional expertise and staffing capacity will likely be required in the following areas:
 1. Horticulture
 2. Curation and Collections Management
 3. Education, Interpretation and Programming
 4. Events, Permits and Rentals
 5. Garden Shop
 6. Administration
 7. Visitor Services
 8. Marketing
 9. Maintenance
- Professional standards for all positions, particularly horticultural positions, will need to be established. Skills, knowledge and ability should take

precedence in staffing a botanical garden.

- The use of volunteers will continue to be crucial to operations of TBG and minimizing staff costs, which are the largest expenditure of a cultural organization. TBG should look to grow volunteer support. Careful attention should be paid to which functions are fulfilled by paid staff and which are fulfilled by volunteers. The involvement of volunteers should complement and supplement the work of paid staff, rather than take the place of it. Also, as volunteers have limited time, some positions, such as the management of the Garden Shop and Reception, may need to become paid positions. This will ensure a consistent standard of service for an expanded, year-round operation of the Gardens.
- TBG should continue to provide and expand opportunities offered to youth and students to learn from Garden staff and be directly involved in day-to-day management, operations and activities at the Gardens. This could take the form of work experience, paid and unpaid internships, and apprenticeships.

5.2.3 PARTNERSHIP AND COMMUNITY INVOLVEMENT

Going forward, opportunities for partnerships and community involvement will be important to help TBG tackle increased needs for specialized knowledge and expertise, an expanded mandate for research, science and conservation, plant collection development and management, as well as with horticulture and garden maintenance, education and cultural programming. At the same time, TBG has a great deal of expertise to share and, as its reputation grows, it will likely be approached to partner with others.

Recommendations

The City of Toronto Parks, Forestry and Recreation will be TBG's primary partner in managing, operating and maintaining Edwards Gardens, as outlined in the management agreement. Parks, Forestry and Recreation is also an important partner in promoting the Gardens along with other Toronto parks and green spaces, and within the ravine system.

TBG will continue to work closely with Toronto Region Conservation Authority, Urban Forestry and Toronto Water to protect the ravine, Wilket Creek and sensitive ecological areas within the Gardens.

TBG should also explore potential partnerships with other relevant City divisions such as Economic Development and Culture and other arms-length City agencies such as Toronto Transit Commission, Tourism Toronto, Waterfront Toronto and Heritage Toronto to further promotion, programming and visitor services.

- TBG should continue to work and develop close relationships with its current horticultural and environmental enthusiast groups and other community interest groups to assist with horticulture, garden maintenance, delivery of programs, events, etc.
- Edwards Botanic Gardens is located in close proximity to other key visitor attractions in the immediate area - Ontario Science, Aga Khan Museum, the Shops at Don Mills and Sunnybrook Park – as well as others accessible through the ravine system. TBG should develop closer partnerships with these leading destinations around promotion, joint programming and, most importantly, improving accessibility to the Gardens by public transit and through the ravine.
- With a view to strengthening the overall Toronto gardens network, TBG should work with other gardens and conservation organizations across the city such as the Toronto Zoo, Friends of Allen Gardens, Evergreen Brickworks, and The Bentway Conservancy. TBG should also continue to develop its network of botanic garden and horticultural partners provincially, nationally and internationally in order to build greater expertise and reputation.

- Partnering is both challenging and resource intensive. A partnership strategy is essential resource to help guide an organization in making robust decisions on investment in collaboration: the right issue area, the right type of partnerships, and the right type of partners to ensure the greatest value to the organization. TBG should consider developing a partnership strategy that will help to clearly define the areas of operation for which partnerships are desirable, how to choose partners, evaluating partnership requests, etc. As part of this strategy TBG should consider:
 1. With a view to increasing horticultural excellence and becoming a showcase for ecological restoration of degraded ravine and riparian landscapes, TBG should investigate and develop partnerships with relevant organizations and higher education institutions who have expertise in horticulture, conservation and environmental science, and who are furthering research in these areas.
 2. With a view to broadening its appeal as a botanic destination for locals and tourists, TBG should investigate and develop partnerships with relevant visitor attractions, organizations and higher education institutions who have expertise in hospitality, event planning, and heritage and cultural resource management.
 3. With a view to using the Gardens as a backdrop for offering a wider program of cultural events, exhibits, activities, and learning, TBG should investigate and develop partnerships with relevant organizations, cultural communities, higher education institutions and artists who have expertise in, collections related to and access to artists across a number of fields including visual art, music, performing arts, cultural programs, etc. In particular, TBG should investigate establishing relationships with Toronto's many recognized local, provincial and national organizations such as the Museum of Toronto, Toronto Symphony Orchestra, Art Gallery of Ontario, Royal Ontario Museum, National Ballet of Canada, Canadian Opera Company, etc.
 4. With a view to Indigenization, or a desire to infuse Indigenous knowledge and perspectives into the restoration and management of the Gardens, TBG should investigate and develop partnerships with Elders and knowledgeable Indigenous community leaders and organizations who have expertise in Indigenous teachings, culture, and landscape management practices.
 5. Other areas for partnership consideration could also include relevant organizations and higher education institutions who have expertise in recreation, and health and well-being (such as the nearby Sunnybrook Hospital).

5.3 RESOURCE MANAGEMENT

5.3.1 PLANT COLLECTION

The plant collection is the heart of any botanical garden. At EG/TBG, the plant collection will contribute to the overall vision of creating a world-class botanical garden for Toronto, by supporting the “four pillars” of the institution: Conservation, Research, Education and Display.

General Guidelines

- Contribute to overall biological diversity in the Toronto region
- Develop a detailed collections policy specific to the institution
- Expand the existing collection of 3500 taxa, setting a goal of including 10,000 taxa
- Include only plants of known provenance for native plants, and known pedigree for nonnative plants
- Maintain the current focus on plants in the genera Magnolia and Rhododendron
- Continue to use the BG-Base Documentation System for basic plant data, and expand this software to include Esri GIS Mapping software to record location of all plants in the collection
- Continue to allow public access to plant record databases, through membership in the North American Plant Collections Consortium (NAPCC)
- Seek accreditation by the American Alliance of Museums (AAM)
- Plant provenance, native plant material sourcing for ESA portion of site needs to be locally adapted, seed-source identified stock. Avoid non-native invasive species in all plant beds.

Conservation

- Continue the existing focus on plants native to the Greater Toronto Bioregion, including rare and endangered plants
- Continue to maintain best practices for ecological sustainability, as articulated by the American Public Gardens Association (APGA)

- Preserve existing natural ecosystems
- Restore and rehabilitate degraded ecosystems to their native form and function
- Protect and restore the ravine using methods as outlined in the City of Toronto Ravine Strategy, “to help support a ravine system that is a natural, interconnected sanctuary essential for the health and well-being of the city”, using principles of landscape ecology.
- Maintain a native seed bank repository of original native flora native to the ecoregion to preserve genetic diversity.

Research

- Build collections of research value
- Serve as a testing ground for ravine management and small scale pilot testing.
- Be a resource for universities to conduct research on conservation in urban settings
- Support “citizen science” programs, such as the National Audubon Society’s annual Christmas Bird Count

Education

- Support the ongoing educational programming of EG/TBG
- Serve as an educational resource for schools and universities
- Demonstrate to homeowners how to create gardens that are ecologically sustainable
- Creating resource materials for collection, propagation, and enhancement of native gardens

Display

- Develop special gardens and displays of the highest beauty and aesthetic value, for enjoyment and refreshing the human spirit
- Use only non-native plants that will not be invasive or otherwise impact the health of natural systems.
- Include plant displays that provide beauty in all seasons of the year

5.3.2 HERITAGE FEATURES

In 1817, Alexander Milne, a Scottish miller, settled his family and built his business on the site that we now know as Edwards Gardens. Before that, the landscape went through thousands of years of natural change and may even have been used by Indigenous peoples moving through the ravine system. In 1956, Edwards Gardens became an important public garden which has served Toronto for decades. Today the property contains several cultural heritage features such as the Milne House and Cemetery, and the Moriyama Pavilion.

Objective: To protect, conserve and celebrate the important tangible and intangible heritage features of Edwards Botanical Gardens, ensuring sustainable, continued use, maintaining their heritage value and increasing awareness of their significance.

Recommendations

- Designation of Edwards Botanical Gardens as a cultural heritage landscape should be considered, and recommendations from the assessment completed by ASI Archaeological & Cultural Heritage Services should be implemented.
- All designated and listed heritage features, and other significant heritage elements within the Gardens will be preserved. One of the best ways to preserve these heritage features is to ensure their continued relevance and use.
- Efforts should be made to celebrate and interpret important tangible and intangible heritage features of the Gardens.
- Maintenance and development of all designated and listed heritage features within the Gardens should adhere to City regulations and bylaws and the Standards and Guidelines for the Preservation of Historic Places in Canada and the Ontario Ministry of Tourism, Culture and Sport's Standards and Guidelines for Consultant Archaeologists.
- The City of Toronto's Heritage Preservation Services should be consulted on all proposed changes or alterations, and these will need to adhere to City regulations and bylaws.
- Use of all designated and listed heritage features is acceptable as long as they pose no physical threat to the heritage asset, and does not detrimentally affect its layout or the integrity of its heritage value.

5.3.4 ECOLOGICAL MANAGEMENT

EG/TBG contains a variety of rich ecosystems that require careful management. Wilket Creek Forest represents an Environmentally Significant Area (ESA) surrounding the Wilket Creek tributary of the Don River, which runs through EG/TBG south to Lake Ontario. ESAs are defined as “spaces within Toronto’s natural heritage system that require special protection to preserve their environmentally significant qualities”, and the northeast corner of the Wilket Creek ESA is located within EG/TBG (refer to AR-01 for approximate ESA boundary location). Studies recently completed for the Toronto and Region Conservation Authority (TRCA) indicated that a variety of uncommon flora and fauna remain in the watershed, including plant species such as the endangered butternut (*Juglans cinerea*) and locally uncommon birds such as the scarlet tanager (*Piranga olivacea*). While invasive plant species were prominent in some areas of EG/TBG, most plant communities are generally intact and could be prime candidates for long-term ecological preservation, stewardship, and education.

We propose the following guiding principles for ecological and edge management in EG/TBG:

1. Protect what is healthy and native to the area from all negative human impacts, such as trampling, erosion, trash accumulation, and plant collection.
2. Encourage natural regeneration of native species.
3. Remove all invasive plant species where possible and manage invasive plants to reduce ecological impact.
4. Plant with native species (especially disturbed and invaded areas) from local seed sources, manage invasive growth and allow time for natural processes to restore the area.

These guiding principles compliment existing strategic goals of Toronto’s Strategic Forest Management Plan to increase canopy cover (long-term), increase biodiversity, increase awareness, promote stewardship, and improve monitoring. Most of the property (including natural forest areas) is regulated by City of Toronto Municipal Code, Chapter 658, Ravines and Natural Feature Protection (RNFP - the Ravine Bylaw) administered by City of Toronto Parks, Forestry and Recreation; and Ontario Regulation 166/06 Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses, administered by the TRCA. The property is also a natural heritage site.

EG/TBG areas outside of RNFP and TRCA boundaries are regulated as City-owned parkland, while trees on City boulevards at the periphery of the property are subject to Chapter 813, Article II, Trees on City Streets (the Street Tree Bylaw), administered by Tree Protection and Plan Review - North York (TPPR North). Any removal of invasive species, silvicultural activity, or removal of hazardous trees must be completed in accordance with the provincial Forestry Act and with appropriate municipal permits from City of Toronto Urban Forestry (RNFP and TPPR North) and the TRCA (refer to AR-01 for approximate location of RNFP and TRCA regulation lines). Adequate time for review and revision by RNFP, TRCA, and/or TPPR of all plans and associated tree impacts

must be allowed prior to any proposed construction or stewardship work (2-3 months minimum). An Ecological Land Classification (ELC) assessment of the EG/TBG property east of Wilket Creek showed sugar maple (*Acer saccharum*) tree canopy dominance and clay loam soils, suggesting a FOD5-3 Dry-Fresh Sugar Maple – Oak Deciduous Forest on slopes surrounding a small stream flowing west from Leslie Street into Wilket Creek. In addition to red oak (*Quercus rubra*), secondary tree species in the area include ironwood (*Ostrya virginiana*), basswood (*Tilia americana*), and dead ash (*Fraxinus* sp.). In addition to native chokecherry (*Prunus virginiana*), the understory showed significant presence of common buckthorn (*Rhamnus cathartica*) and Tartarian honeysuckle (*Lonicera tatarica*), which should be removed and replaced with native species. A silvicultural and/or stewardship plan will need to be produced and approved by RNFP for the work to be done.

South and west of the wooden bridge located southwest of the EG/TBG parking lot, a higher density of black cherry (*Prunus serotina*) suggests a shift to a FOD5-7 Dry-Fresh Sugar Maple – Black Cherry Deciduous Forest. Soils were sandier in some areas near the bridge, but still generally underlain by clay loams. Secondary tree species include white birch (*Betula papyrifera*), American beech (*Fagus grandifolia*), and more dead ash, among others. Fewer invasive plant species were present in this area beyond a patch of lily-of-the-valley (*Convallaria majalis*) and small areas of woody and herbaceous species, but regular monitoring in this area and throughout the park should be established to detect any new non-native plant encroachments.

North of the paved pathway, steeper slopes, shallower soil profiles, and greater abundance of white pine suggest a transition to a FOM2-2 Dry-Fresh Sugar Maple – White Pine Mixed Forest. An existing asphalt pathway runs through the forest in this area, and the steep slopes show moderate erosion, possibly due to runoff from surrounding hardscapes uphill. Few invasive tree and shrub species were present in this area, though a colony of invasive English ivy (*Hedera helix*) was present on the western forest edge adjacent to the pathway, as well as lily-of-the-valley at higher elevations, both of which should be controlled or removed if possible.

Forested areas closer to Wilket Creek showed higher moisture levels in soil profiles (unsurprising given the lower elevation), and the area south of the open grass lawn can therefore be classified as FOD6-5 Fresh-Moist Sugar Maple – Hardwood Forest. Native herbaceous species indicating high moisture levels were present in the wettest areas, such as sensitive fern (*Onoclea sensibilis*) and jewelweed (*Impatiens capensis*), while native shrubs were abundant in much of the understory, including chokecherry, alternate-leaved dogwood (*Cornus alternifolia*), and nannyberry (*Viburnum lentago*). Norway maple (*Acer platanoides*) was the most significant invasive plant species in the canopy, while common buckthorn and winged euonymus (*Euonymus alatus*) competed with native shrubs in the understory. All invasive woody plants should be cut and treated with herbicide wherever encountered to prevent resprouting.

On the valley wall on the west side of the creek, FOM4 White Cedar Mixed Forest is the most appropriate ELC classification for the area north of the main concrete pathway, as deciduous trees are generally dominant but with significant secondary conifer presence. The most common deciduous species

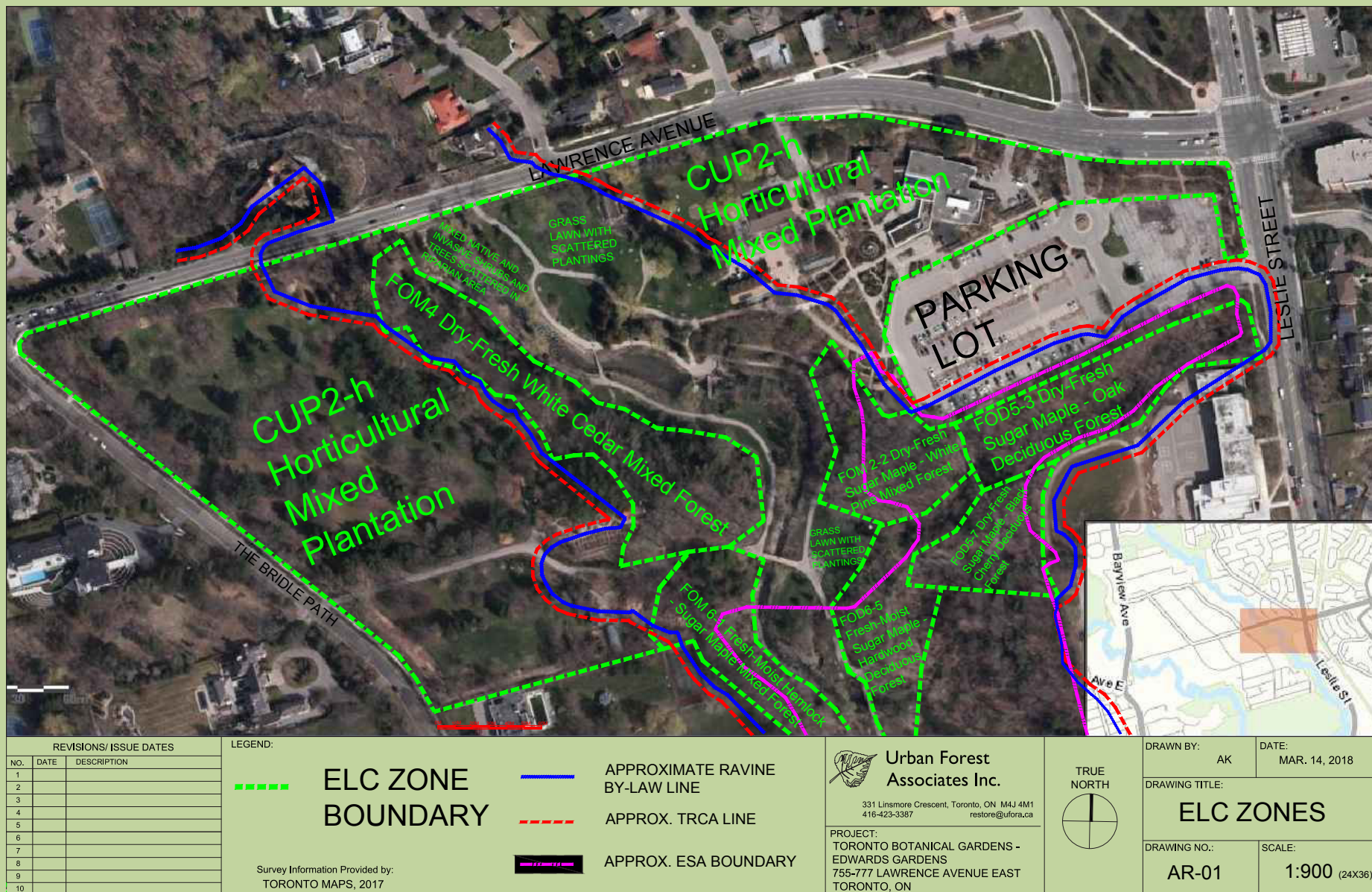
include black walnut (*Juglans nigra*), black cherry, white elm (*Ulmus americana*) and red oak, integrated with groves and individual coniferous trees such as white cedar (*Thuja occidentalis*) near the creek, while white pine (*Pinus strobus*) and red pine (*Pinus resinosa*) are located on the western periphery. Soil profiles were often shallow and were again generally clay loams with some sandy pockets.

Invasive plants are abundant in this area, and should be controlled. Trees include Norway maple and Manitoba maple (*Acer negundo*), while the most common invasive shrubs include winged euonymus, common buckthorn and Tartarian honeysuckle, with lower densities of others. Commonly-occurring invasive vines and herbs include English ivy, spotted dead-nettle (*Lamium maculatum*), and garlic mustard (*Alliaria petiolata*), with an especially dense colony of English ivy in the central area. Conifer plantations (primarily white and red pine) along the western edge of the forested area create a moderate buffer from the more highly-maintained areas to the west, but formal and informal pathways throughout the forest increase the risk of soil compaction and are potential vectors for further spread of invasive species. The forest should be monitored regularly for new invasive encroachment and other damage.

On the south side of the main concrete pathway, a dense grove of eastern hemlock (*Tsuga canadensis*) transitions to a hardwood forest further south. Sugar maple dominance in the hardwood areas and a very fresh drainage regime suggest an FOM6-1 Fresh-Moist Hemlock – Sugar Maple Mixed Forest as the best ELC classification. No invasive trees or shrubs are present on EG/TBG property in this area, but dense colonies of spotted dead-nettle, creeping euonymus (*Euonymus fortunei*), and lesser celandine (*Ficaria verna*) should be controlled. Along the creek bed, small colonies of multiflora rose (*Rosa multiflora*), coltsfoot (*Tussilago farfara*), and common reed (*Phragmites australis*) are generally contained, but should also be controlled to prevent further spread.

The rest of the property represents a more highly-managed horticultural area (CUP2-h Horticultural Mixed Plantation). Grass lawns of various size and small groves of planted conifers are mixed with a variety of native, ornamental, and exotic planted trees, shrubs, and garden beds in this area. Small areas of riparian vegetation such as woolly-headed willow (*Salix eriocephala*), red osier dogwood (*Cornus stolonifera*), and silky dogwood (*Cornus obliqua*) are present along the stream (too small in area to merit their own classification), with large prominent weeping willows (*Salix x sepulcralis*) along the east side of Wilket Creek. Though prominent ornamental invasive species will generally be kept in place in the short-term, all new plantings must be either native species or non-invasive exotics in these areas.

5.3.4 ELC ZONE BOUNDARY CONCEPT



5.3.5 ECOLOGICAL MANAGEMENT

For locations of ELC Zones on EG/TBG property and immediately-adjacent areas, refer to drawing AR-01 for more information.

Objective: To maintain and improve high-quality native ecosystems throughout EG/TBG, especially in natural forest areas and edge habitats.

Recommendations:

1. Remove invasive trees and shrubs from forested areas, cutting the main stem as low as possible and treating the cut stump immediately with herbicide. Refer to drawing AR-02 for potential invasive removal locations. Leave all wood larger than 10cm in diameter on site, while smaller wood and branches can be chipped and used as mulch for new plantings. When trees fall naturally, leave all wood and branches on site if possible. The most abundant invasive species on the property are listed in Appendix A. All proposed removal of invasive plants, proposed stewardship activities, and compensation plantings in ravine-regulated areas must first be approved by RNFP.
2. Treat foliage of colonies of invasive herb and vine species in forested areas with herbicide (refer to drawing AR-02 for location). The most abundant species are listed in Appendix B:
3. A location-based invasive management plan should be prepared for individual zones as each zone may need to be treated independently depending on sensitivity of each area. It may take multiple years to completely control or eradicate invasive species, and at least five (5) years of maintenance after initial invasive plant removal will be required by RNFP. In some cases, the efficacy of treatment (mechanical or chemical) will need to be assessed on a case by case basis depending on the zone. This should be combined with a species- based approach in which priority species are targeted for removal wherever they occur on the site. This is especially important for species that are found in small numbers now but that could expand populations very quickly if left alone or treated as a low priority.
4. For more effective long-term follow-up, train gardening staff to recognize and control invasive species wherever they find them. Herbicide licensing is recommended for one or more staff members.
5. When prominent specimens of non-native tree species die (e.g. weeping willow), replace with native tree species (preferred) or non-invasive exotics. Ensure that all new plantings throughout the property are non-invasive.
6. Develop a long-term planting plan for open grassy areas and invasive species removal locations. Select native species compatible with the surrounding ecosystem and local soil/light conditions. Refer to Appendix C for more information.
7. Plant forest edges with aggressive native shrubs, and extend forest edges where possible by at least 5m, especially within grass lawns. Refer to Appendix C (Table 2) for a list of potential plantings, with aggressive forest edge colonizers noted.
8. Plant riparian areas directly adjacent to Wilket Creek with floodplain and moisture-tolerant native shrubs and herbs/ferns. Refer to Appendix C (Tables 2 and 3) or a list of potential plantings, with potential riverine and streambank species noted.

9. Establish policies/signage for park staff and the public to ensure that no dumping of grass clippings, yard waste, or any garbage/waste material occurs in forested areas.
10. Remove garbage periodically from all forested areas, possibly with the help of the public (e.g. community volunteers).
11. In consultation with the TRCA, stabilize any eroded areas and plant any newly-established soil with native plant species (refer to AR-02 for examples).
12. Encourage recreational uses on existing trails and maintained areas. A defined and well-maintained pathway should be implemented to prevent people from venturing out and making ad hoc trails. No new formal trails or recreational facilities are necessary in forested areas. If new trails develop, close them immediately and use heavy vegetation, dense woody debris, fencing and other forms of barriers to keep people and pets on established trails.
13. Establish a monitoring schedule for all forested areas to assess the success of invasive species control and planting projects, and to determine if invasive species are spreading to new areas. Monitor existing colonies of less common native herbs [e.g. white trillium (*Trillium grandiflorum*) and yellow trout lily (*Erythronium americanum*)] for encroachment by invasive species and trampling to ensure that colonies remain viable.
14. Establish a stewardship team to manage the natural areas of the property. For guidance on woody native species to use for plantings, consult the 2016 City of Toronto publication Trees, Shrubs and Vines of Toronto. This publication has the most up to date list of woody species and their natural status available.
15. Provide opportunities allowing native fauna to colonize the area to add to the biodiversity of the sites. These include plantings of native floral species to allow native butterflies and bees to pollinate, as well as increase bird habitat through provision of bird boxes and maintaining snags.
16. Spacing of native trees according to a management prescription is to be considered. This will avoid canopy density that is too dense, which could prevent sun infiltration, also preventing a diverse native forest adapted understory to grow. If needed, to increase light levels, canopy thinning is preferred rather than tree removal. Additionally, it is expected that removal of hazard and invasive trees will provide sufficient canopy openings. This can be assessed in collaboration with TRCA and RNFP when invasive and hazard tree removal is substantially complete.
17. Refer to TRCA resources as needed for the development and implementation of future plans, including forest edge management guidelines and native tree and shrub monitoring guide plan for the development and implementation of future plans.

5.3.5 PROPOSED INVASIVE CONTROL AND EDGE MANAGEMENT



5.3.6 WATER RESOURCE - FLOOD PLAINS

The management of the riverine valley flood plain of the Wilket Creek through the EG/TBG site will be directed by a set of inter-related considerations that include flooding, long term erosion and stability (i.e. creek geomorphology and potential movement of river banks), terrestrial ecology, aquatic biology, paths and walkways connectivity, plant collections and displays, heritage features (e.g. bridges, weirs), new valley features (e.g. the bridge), and accommodation of internal site drainage paths. Accordingly, the objectives for managing Wilket Creek and its flood plain will be considered within many portions of overall Master Plan implementation.

The flooding potential of Wilket Creek is well recognized, with these characteristics outlined in existing flood plain mapping and reporting available from the Toronto and Region Conservation Authority (TRCA). The existing Regulatory flood line, based on a Hurricane Hazel-type rainfall event within the watershed, has been translated onto the Master Plan and will continue to be a prime consideration through its implementation. All aspects of the Master Plan sited adjacent to the existing flood plain and valley slopes will require TRCA approval prior to implementation. Similarly, ongoing management of the flood plain by the City will require TRCA concurrence in approach.

Note: Stormwater runoff generated internally by the EG/TBG site will be addressed separately in the Stormwater Management section of this report. An additional section of this report titled Disaster Management and Resilience will also address Wilket Creek flooding. Ecological aspects of flood plain management will be addressed in the section of the report titled Ecological Management.

Characteristics of lesser storms in Wilket Creek have also been considered within the Master Plan. In managing the flood plain, the Master Plan will address all flow conditions within the creek including low, regular, bankfull, frequent overbank flooding, infrequent flooding, and catastrophic flooding. Each of these flow conditions has a corresponding objective or set of objectives relating to flood plain and channel form. Various EG/TBG Master Plan uses within the flood plain (e.g. bridges and pathways) will be configured to ensure that a suitable exposure to flood risk is maintained.

The city's previously completed Wilket Creek Rehabilitation Master Plan did not identify the reach of creek within EG/TBG site needing works, due to previously completed stream restoration projects, but outlines how creek restoration upstream and downstream of the site will progress. The existing Wilket Creek channel was subject to catastrophic flooding in 2005, which resulted in significant erosion protection and stability works being put in place by the city through the EG/TBG site. As a result of that previous work, the watercourse itself would otherwise not require significant additional stability treatment over the next decade. However, implementing EG/TBG Master Plan items will provide opportunity for completing some works that will improve creek functionality and habitat.

The natural processes of erosion will continue within Wilket Creek through the site, hastened by its uncontrolled upstream urbanized watershed. The long term management of the creek channel and its designed resilience to erosion will fall to the city and TRCA, in association with EG/TBG input that will be sought at an appropriate future time. Erosion control measures will be considered once they are required to ensure the ongoing health of the stream and the safety/stability of uses within the valley. It may be that creek works related to enhancement of fisheries will be considered in the future, with these works seen to be aligning with ecological objectives of the EG/TBG Master Plan. The three existing bridge crossings, including the existing weir that provides a pond feature within the creek, will be kept within the final Master Plan, although will be modified if required.

In Phase 1 of the Master Plan, flood plain management will be limited to upkeep of existing trails and bridges until such time as replaced by Phase 2 trails and bridge works. Nuisance flooding and associated debris buildup on trails will continue during Phase 1, requiring continued attention. At Phase 2, the treatment of new trails, elimination of old trails, and potential bridge modifications will consider measures to ensure long term viability with respect to creek erosion. Phase 2 will also include significant restoration of terrestrial habitat within flood plain areas, with suitable consideration for other EG/TBG uses and ongoing activities. Ongoing maintenance for debris cleanup in response to most flooding events should be lessened significantly by implementation of Master Plan items.

The significant valley-crossing pedestrian bridge outlined in the Master Plan will not impact the Wilket Creek flood plain in the long term. Constructibility plans will be implemented to ensure impacts are minimized in the short term. New trails within the valley will generally be set above the 25-year return period flood, to be adjusted with consideration for climate change. Trail connections to existing bridges will likely require lower elevation connections and therefore more frequent flood exposure. Detailed implementation plans for the flood plain portions of the Master Plan will require calculations of effect to ensure flood levels upstream of the site are not negatively affected.

The east ravine area of the site is not considered flood plain where it is upstream of the Wilket Creek flood plain. The east ravine area will be relevant to the Master Plan due to its current significant and ongoing erosion and a continued requirement to convey its flow through the EG/TBG site to Wilket Creek. The source of flow to the east ravine is an existing large storm sewer outlet located at Leslie Street, augmented by surface and existing piped runoff from the EG/TBG site and adjacent lands to the south. The Master Plan will allow for the EG/TBG portion of this flow to be significantly controlled within Phase 3 of development, but the other contributions will continue unabated. Remediation of the east ravine drainage feature to control erosion will be required as a part of Phase 2 works, which also may require some temporary drainage works on site near parking areas prior to Phase 3.

Objective: Implement a Flood Plain Management Strategy to ensure Master Plan items (especially trails and bridges) do not negatively affect flood levels and are only exposed to understood and well-managed flood risks.

Recommendations:

- Ensure that flood plain management objectives and considerations continue to be a part of detailed Master Plan implementation documents, including considerations for phasing.
- Confirm the appropriate level of service (storm return period) required to set elevations for new trails within flood plain areas.
- Ensure all Master Plan works do not detrimentally affect flood levels by completing adequate hydraulic modeling.
- Work with TRCA and other city departments to ensure any longer term objectives of required Wilket Creek erosion works are also integrated into Master Plan implementation works.
- Develop the flood plain management strategy for the Wilket Creek valley and the east ravine area with consideration for integrating relevant aspects of the stormwater management implementation plan for the Master Plan, including consideration for phasing.
- Ensure all flood plain management works and strategies incorporate recommended ecological objectives from the Master Plan.

5.3.7 WATER RESOURCE - STORMWATER MANAGEMENT

The management of stormwater from the EG/TBG site will be accommodated by measures following a Low Impact Development approach. Green Infrastructure, such as green roofs, enhanced swales, and bioretention facilities, will be implemented to treat and control internal runoff from the site. Master Plan implementation will thereby improve stormwater quality beyond existing conditions. Proposed site development will also result in improved site hydrology, again providing a restorative function for the larger watershed receiving storm runoff from EG/TBG.

Note: Riverine flows within Wilket Creek and external flows entering the site from the east ravine area will be addressed separately in the Flood Plain Management section below.

Internal site runoff will be managed to avoid potential erosion of valley areas. Generally, runoff should be managed at-source, with areas of concentrated flows to be avoided. Where concentration of runoff is required, flows should be conveyed and directed to the receiving valley by erosion resilient approaches which require less long term maintenance.

Detailed implementation plans for the overall Master Plan will require an accompanying stormwater management implementation plan for the site. The stormwater management implementation plan should be structured to allow implementation in phases concurrent with other site development phasing considerations. Internal site stormwater designs and phasing will also integrate with works associated with the Wilket Creek flood plain and east ravine area.

Stormwater infrastructure, including green infrastructure, will be managed and maintained according to its location within the site. The stormwater management plan for the site will also make provision for snow management and winter maintenance, including items such as salt management. Implementation of stormwater management approaches such as permeable pavements should be explored given their potential for both summer and winter management benefits.

Objective: To ensure the development of the site results in net improvements to site hydrology, water quality of stormwater runoff, and drainage connections to valley areas.

Recommendations:

- Develop a 'Stormwater Management Implementation Plan' concurrent with detailed Master Plan implementation documents, including considerations for phasing.
- Utilize a Low Impact Development approach for stormwater infrastructure, including implementing recognized Green Infrastructure wherever feasible.
- Integrate Green Infrastructure into all site development elements where feasible (e.g. rooftops and parking areas).
- Ensure winter maintenance and snow management considerations are referenced in the stormwater management report given the close connectivity of issues such as water quality.
- Develop a stormwater management implementation plan to also consider and integrate with works and phasing outlined in the Flood Plain Management Plan for the Wilket Creek valley and the east ravine area.

5.3.8 RESILIENCE AND CLIMATE CHANGE

Building adequate resilience into works was an identified goal by both project team and the public contributors during the EG/TBG Master Plan project. Resilience as a general term is and always has been a hallmark result of good planning, i.e., ensuring that our desired approaches will have longevity. Future unknowns, whether they come as slowly evolving inputs or sudden shocks to the system, will arrive and test system readiness. More recent reference to resilience also connects us to Climate Change in particular, and this section of the report will also focus on its potential effects. Resilience to physical changes outside of the EG/TBG site, especially related to water, is also discussed. Other important areas of resilience in the Master Plan for EG/TBG, such as financial, will be considered within their relevant programs, designs and ongoing management schemes. Ecological resilience, itself so closely related to water and climate, is addressed in the section of this report titled Ecological and Edge Management.

Climate change poses extra challenges for site, with increased variations in temperature and precipitation predicted beyond our identified norms. That the climate is changing is not in dispute, although its end points and pace of change is not known and only estimated. Within highly managed areas of the EG/TBG site, opportunities will be much greater to respond to climate change challenges, thereby better ensuring that various plant collections and arboretum areas will be resilient and wisely planned. Adaptation to a changing climate is also already a well-known discussion point for managers of botanical gardens, and considerations for climate change will continue to guide decisions at EG/TBG.

The requirements for long term water supply have not in the past been an issue for the EG/TBG site, and no immediate risk is likely given the reliable supply of nearby Lake Ontario. In the longer term, consideration may be given to the potential for rainwater harvesting as a hedge against rising energy costs and increased water charges. The captured water is also well suited for plant irrigation purposes without requiring treatment. Rooftop capture to cisterns should continue to be considered for future building phases, although its economics may require that other priorities are pursued first.

Resilience will be required in all management and future design considerations of items related to the Wilket Creek flood plain and watercourse. Principles of resilience in watercourse design and erosion control are becoming more well-known, and given that the stewardship of the creek will be shared with the city and Toronto and Region Conservation Authority (TRCA), these principles will be followed. Consideration of climate change in determining flood risk is also an objective of the TRCA. The design of pathways, new treatments for bridge crossings, and the new pedestrian bridge itself, should be completed with an eye to future climate changes and resilience to the creek's changing flow regime. These would include more frequent flood events, as well as more frequent drought events.

Current conditions within the upstream watershed are largely to blame for the large flow variations experienced in the Wilket Creek. Both flood flows and lack of base flows result from the largely unmitigated watershed urbanization/paving and creek channelization that was practiced until only the most recent two decades. These conditions will continue to test even the most resilient designs through the EG/TBG site and elsewhere, even without the

added stresses of climate change. Although not imminent nor currently planned in any large scale, the condition of the upper Wilket Creek watershed may be changed ever so slowly over time. The very same approaches for Low Impact Development-type stormwater approaches which are recommended within the EG/TBG Master Plan (see section titled Resource Management – Stormwater Management) have garnered wider interest for general implementation by the water management sector. Demonstration sites are being considered and implemented in other portions of the City of Toronto as there is a general recognition of resilience inherent in these types of designs. The EG/TBG site will contain these resilient stormwater management elements, and consideration should be given to highlight their implementation for others as an example.

As a general rule, and especially with respect to the Wilket Creek and larger Don River watersheds, the EG/TBG management group should continue to look outward from their physical site to ensure they are well integrated into their surroundings. Integration, interconnection and sharing of ideas provide strength in design and will result in better resilience.

Objective: Implementing resilience into the design and ongoing management of Master Plan items, especially for flood plain valley features and water management.

Recommendations:

- a) Ensure that all items within the Master Plan consider resiliency of design for climate change effects through to implementation and within long term management strategies.
- b) Ensure that resiliency of design also extends to other potential physical and policy-related disruptions in water management strategies, including stormwater management and designs within the Wilket Creek channel, flood plain, and also for the east ravine area.
- c) Consider potential climate change effects when determining appropriate level of service (i.e. storm return period) for elevations for new trails within flood plain areas.
- d) Consider use of rainwater harvesting as an alternative source of irrigation water.
- e) Continue to be aware of larger watershed issues, lending support where possible to expanding greater resilience outside of the EG/TBG site.
- f) Showcase resilient designs completed on the EG/TBG site such as Low Impact Development-type and Green Infrastructure thereby increasing watershed resiliency through the exchange of ideas.
- g) Create additional ecological resilience by insuring strong linkages to the management of water and stormwater at the EG/TBG site, including through creek designs and associated trails and bridges.

5.4 MAINTENANCE, REPAIR AND ALTERATION

Buildings And Structures

Edwards Botanical Gardens has a variety of buildings and structures, contemporary and historic, that perform both an aesthetic and functional purpose. This includes visitor facilities such as the George and Kathy Dembroski Centre for Horticulture, historic structures such as the Milne horse barn and Moriyama Pavilion, functional buildings like the greenhouses and maintenance yards, to other features such as new fencing, stairs and gates.

It is important that buildings and structures do not detract from the Garden's overall character and beauty, or its role as a recreation reserve.

Objective: To ensure that the buildings and structures of Edwards Botanical Gardens achieve their functional purpose without detracting from the overall character and landscape values of the Gardens and contribute to a greener future.

Recommendations

- As a botanic garden with conservation at the heart of its mandate, TBG should ensure that new buildings and structures employ innovative “green” design throughout in order to not only limit any negative environmental impact, but to provide a demonstrated example of excellence.
- As an important cultural attraction and tourist destination, TBG should ensure that new buildings and structures are designed in such a way as to contribute to, but not overwhelm, the visual impact of the Gardens and the surrounding neighbourhood.
- TBG should ensure that the public is consulted on all new significant buildings and structures proposed for the Gardens.
- All designated and listed heritage buildings and their associated features will be preserved. Heritage features will be maintained in a timely manner and to a historically relevant condition, as resources permit. Where possible, TBG should ensure that existing buildings and structures are upgraded and maintained to be sympathetic to the heritage character of these structures and the cultural heritage landscape of the Gardens.
- Fences shall be erected where possible to provide physical barriers to entry during the hours of darkness, and these shall be constructed and maintained to a standard that does not detract from the heritage character of the Garden.
- All buildings and structures on site will meet appropriate planning regulations and bylaws around physical accessibility, and health and safety, and will be subject to regular planning approvals of the City.

5.4.1 EVENT AND PERMITTED SPACES

Increased programming, visitor attendance, rentals and permitted events will have an impact on the wear and tear of the gardens, spaces and facilities at Edwards Botanical Gardens. It will be important that these spaces are well maintained and kept in good order so that they can continue to be used to generate income to support operations and maintenance of the Gardens as a whole, but also for the continued enjoyment of these spaces by the public. Most importantly, good maintenance will ensure wider site sustainability and minimize the impact on ecology.

Objective: To ensure that designated spaces at Edwards Botanical Gardens can continue to be used for events, functions and permitted activities without detracting from the overall character and landscape values of the Gardens and enjoyment by the public.

Recommendations

- Appropriate use of indoor and outdoor event and function spaces at Edwards Botanical Gardens should be regulated and administered through a formal permitting process to prevent damage and unauthorized alterations to the Gardens. TBG will only issue permits for acceptable uses.
- Any spaces – indoor and outdoor – used for events, functions and other permitted activities should be maintained by TBG to a standard that will ensure that permitted spaces look as good or better after the event or function, as it did before the event or function occurred.
- Guidelines, specific to TBG group activities and events held in natural areas should be developed as part of the management agreement with the City. This would include guidelines for permitted activities, attendance/capacity, number of events per zone, number of events per year, etc.
- Permit users will be expected to comply with the City's existing guidelines on Group Activities in and/or around Natural Environment Areas.

5.4.2 PLANT CARE, TREES, SHRUBS & LAWN

Plant care will be undertaken by both paid and volunteer staff (as it currently is). Focusing on the key mandates of Display, Conservation, Education and Research for a botanic garden, maintenance practices will include:

- Control of invasive plant species
- Support and protect of pollinators
- Watering
- Soil health
- Nutrients
- Control of pests and diseases
- Pruning
- Vandalism repair
- Repairing damage due to environmental events (wind, snow, ice, seasonal flooding, etc.)
- Seasonal maintenance
- New planting
- Turf management

EG/TBG will undertake a holistic approach to the overall site. Management will focus on low, medium and high intensity horticulture. For instance, planters and annuals may require daily care during the summer; forbs, grasses, hedges and topiary may need monthly care; woody shrubs may require twice annual pruning; and, trees may only need maintenance on an as needed basis.

5.4.3 MAINTENANCE YARD

The Maintenance Yard will be utilized by staff only (public access will not be allowed). Access will be controlled by card access through gates, both for individual and vehicular use. Card access (rather than key) would also be preferred for the various Maintenance Yard buildings: green house, garage and staff building.

The facility will be screened by a dense, mixed planting screen on top of an earthwork berm. This planting should be maintained to the same high standards as the rest of EG/TBG.

5.4.4 PARKING

The reconstructed west surface parking area will have 177 spaces, with its storm water management features retained. These features (permeable paving and) require regular review for operational functionality and aesthetics. Furthermore, these features should incorporate educational, interpretive and research components.

The permeable paving joints should be cleaned with a sweeper or vacuum truck annually as recommend by the paver manufacturer. Paving joints should be topped up annually with the appropriate joint material. Paving surfaces should be checked regularly and repaired such as cracking and differential settlement that could be a tripping hazard. Appropriate traction and de-icing materials should be utilized to minimize harm to flora, fauna, soils and watershed. Snow ploughing should be undertaken with the knowledge of the various paving surfaces installed. For instance, nylon discs under the plough may be necessary to raise the blade slightly to avoid catching the pavers.

The planted infiltration galleries should be maintained to a high level. These are among the first horticultural displays visitors who arrive by automobile will see. Beds should be cleaned of garbage, mulches topped up, plants pruned, and any dead or diseased plants removed and replaced promptly.

The three-level parking structure, accommodating 277 vehicles and a roof which will accommodate photo-voltaic cells for sustainable power generation should incorporate the highest levels of design excellence and sustainability. As the structure is proposed to incorporate planting on at least one of its facades, the design of this feature must take into consideration the maintenance abilities of EG/TBG staff. For instance, will plants require staff to use a boom truck to access them for maintenance or will maintenance be available from within the structure? As the structure itself should receive regular power washing of its vertical and horticultural surfaces, the potential for rain-water harvesting and storage should be incorporated into the building.

5.5 REVENUE GENERATION

Typically, a Canadian botanic garden is operated as a not-for-profit or charity and is able to generate income from three sources – earned income, contributed income and government support. With a revitalized and expanded visitor offering at EG/TBG, there will be greater opportunity for EG/TBG to generate earned income from its activities to help support the wider operations, management and maintenance of the Gardens. This is important for reducing the organization's reliance on fundraising activities and helping to provide a more balanced and sustainable business model – the ideal being 1/3 generated from each category. Earned income represents revenues generated by an organization from its activities such as offering programs, goods and services, and use of its facilities. Typically for a botanic garden this includes revenues generated from admissions, memberships, events and programs, rentals and functions, gift shop sales, café sales, and other services offered. Earned income is also generated through interest made on investments such as an endowment. The endowment is a gift to be held untouched, in perpetuity, however the interest generated from the investment can be used to support operations.

TBG's status as a charitable organization also provides it the opportunity to access other funding sources through fundraising and grants that a City department would not be eligible for. Contributed income is defined as cash or in-kind resources that were given (not loaned) to the organization in the form of a gift or grant. Usually, this includes donations, grants from public sector organizations and private foundations, and corporate sponsorship. Government support, represents regular direct funding from local, provincial and federal government departments for ongoing operations, rather than one-off capital grants.

Objective: To ensure that all potential opportunities for revenue generation are optimized to produce the level of funding required to maintain sustainable operations, ensure good fiscal responsibility and guarantee regular invest in the management, maintenance and future development of the revitalized Edwards Botanical Gardens.

5.5.1 EARNED INCOME

Recommendations

- EG/TBG should be granted full and exclusive use and control of the Gardens and its facilities for earned income generating activities by EG/TBG and by other outside third-party users.
- Regular, day-time access to EG/TBG must remain free of charge to the public throughout the year. The management agreement with the City will outline to what extent.
- EG/TBG should continue to develop its membership program, offering such benefits as priority access to programs, facilities and spaces across the Gardens (of which it has control) and discount pricing, etc., so long as they do not inhibit public access and reasonable enjoyment of the Gardens.
- EG/TBG should continue to deliver a mix of free and charged activities for its members and the public, and expand its program of events, education, and activities as necessary. These activities should be directly related to the mission, vision and mandate of the organization, and relevant strategies and plans. Charges for participation in these activities should be developed according to the business plan and should not be so cost prohibitive as to create barriers for people from lower socio-economic brackets.
- EG/TBG should be able to provide, or contract an external-third party to provide, related income generating amenities and services such as food services, event catering, retail, etc. across the Gardens and facilities, where these amenities and services directly relate to providing a high-quality visitor experience, support the business plan and have no detrimental effect on the Gardens or public enjoyment of them.
- EG/TBG should be granted control of administering, issuing and charging for any permits related to the use of the Gardens, its spaces and facilities by outside third-parties for activities such as photography, weddings, functions, events, etc.
- EG/TBG should be granted control of the surface parking lot and the proposed parking structure and be given permission to charge for parking accordingly. Charges for parking should be developed according to the business plan and should not be so cost prohibitive as to create barriers for people from lower socio-economic brackets.
- EG/TBG should establish an endowment fund to help generate a level of investment income that will help to off-set operational expenses. Further advice should be sought as to ideal the size of the endowment principle needed to generate the appropriate level of investment income and to the feasibility of raising such a sum.

5.5.2 CONTRIBUTED INCOME

Recommendations

- EG/TBG should be granted permission to and be responsible for generating contributed income through fundraising to support regular operations, special projects, events and initiatives, research, and capital campaigns, etc. Contributed income can be developed through:
 1. Applying for grants from public bodies and private foundations
 2. Soliciting individual and group charitable donations and gifts
 3. Offering a high-level patron's membership scheme
- EG/TBG should be granted permission to generate contributed income by offering naming rights throughout the Gardens for the themed gardens, events, programs, facilities, and amenities where appropriate, except for:
 1. The Gardens as a whole, which shall remain as Edwards Gardens, as per the purchasing agreement or the accepted name change
 2. The Moriyama Pavilion
 3. The Milne family cemetery
- All naming of assets will require the consent of the City, via established Council approval process and policies. Further consent should be sought from existing donors when choosing to rename assets which already bear a funders name.
- EG/TBG should be granted permission to generate contributed income by offering opportunities for corporate sponsorship for the Gardens' events, programs, facilities, and amenities where appropriate, so as long as association with the sponsor does not impact negatively the reputation or credibility of either the EG/TBG or the City. Corporate sponsorship opportunities should be developed and considered based on principles of best practice and ethics, and in accordance with the EG/TBG's fundraising strategy.

5.5.3 GOVERNMENT SUPPORT

Recommendations

- The current investment that the City of Toronto allocates towards the operation and maintenance of Edwards Gardens through the Parks, Forestry and Recreation Division should continue. As EG/TBG gradually takes on more of the responsibility for operation and management of the Gardens, these funds will be transferred from the City to EG/TBG for distribution. Funding levels will be reviewed regularly.
- The City will lend its full support to EG/TBG in order to leverage relevant government support from Provincial and Federal sources.

5.6 USE/PURPOSE

As City parkland, EG/TBG is open freely to the public and the public is encouraged to use the Gardens for their well-being and enjoyment. Amongst the many parks and green spaces in the city, EG/TBG is unique. As a botanic garden, its purpose goes beyond the provision of a recreational amenity and defines its use. The mandated areas of a botanic garden are education, horticulture, conservation and science.

Through the continued efforts of the EG/TBG and the implementation of the Master Plan, EG/TBG has the opportunity to better meet this mandate. The Gardens have been transformed into a place for greater horticultural display, the quality and integrity of which determines the public appeal and utility. It is also natural, living resource and a place for those seeking greater knowledge of horticultural science, botany, ravine ecology, and riparian landscapes.

The degree to which the Gardens are fulfilling these purposes defines the extent to which it deserves the title “Botanic Garden”.

Objective: To ensure that usage of EG/TBG is appropriate to preserve the character of the Gardens and compatible with the purpose of a botanic garden.

5.6.1 PUBLIC USE

Recommendations

- The public will continue to have regular, day-time access to EG/TBG, free of charge throughout the year.
- Appropriate public use of the Gardens should be in keeping with Parks, Forestry and Recreation rules and regulations. Where some passive recreational activities are appropriate, sporting activities should not be permitted. Overall, EG/TBG and the City should enforce appropriate public uses at Edwards Botanical Gardens that:
 1. Pose no physical threat to the plant collections.
 2. Do not hinder the staff in the execution of their normal duties.
 3. Do not detrimentally affect the layout or integrity of the Gardens.
 4. Do not detract from the enjoyment of the Gardens’ program participants.
- The functions and purposes of EG/TBG should continue to be promoted by the City and TBG to increase public understanding and awareness. Public

awareness of those activities which are and are not compatible with the horticultural and botanical emphasis of the Gardens – e.g. picking or digging up flowers – should be increased by both.

5.6.2 COMMERCIAL ACTIVITIES

Recommendations

- Only EG/TBG, or as external-third party contracted by EG/TBG should be permitted to engage in commercial activities in the Gardens. These activities should directly relate to providing a high-quality visitor experience, support the business plan and have no detrimental effect on the Gardens or public enjoyment of them.

5.6.3 PERMITTED USES AND SPACES

Recommendations

- TBG should be granted control of administering, issuing and charging for any permits related to the use of the Gardens, its spaces and facilities by outside third-parties. Appropriate uses should be left to the discretion of TBG, but could include:
 1. Wedding Ceremonies
 2. Functions and Events
 3. Photography and Filming
 4. Concerts and Performances
 5. Markets and Fairs
 6. Exhibitions
- Only those who have paid for, been issued a permit by TBG and display that permit should be authorized to engage in use or activity in the Gardens.
- Musical performances with amplified sound should only be permitted in the Barn Courtyard area. These performances should be assessed to ensure that they do not cause damage to the area, detrimentally impact the passive enjoyment of the Garden by other users, or disturb the neighbouring residents.
 1. Areas that pose a danger to the users
- All musical performances and night time events must comply with all City bylaws.
- TBG should be granted permission to determine which areas of the Gardens and its spaces and facilities it will require permits for use of or rental, except for:
 1. The Milne cemetery
 2. Ecologically sensitive areas
- TBG and its permit holders should be granted permission to restrict access to these areas to ticket holders only, so long as the public maintains access and enjoyment of the majority of the Gardens, restricted access to these areas is only for short duration, and the blocking, inhibiting or restricted access of paths is minimized. The City should consider setting restrictions based on the level of free public access it requires.
- Any spaces – indoor and outdoor – used for events, functions and other permitted activities should be maintained by TBG to look as good as, or better than it was before the use occurred.

5.7 INTERPRETATION, EDUCATION AND PUBLIC PROGRAMS

5.7.1 INTERPRETATION

The expansion and enhancement of the Gardens will not only provide a compelling new visitor experience but will also provide new opportunities to grow public and educational programs, improve interpretation, and hold special events.

Objective: To maintain a consistently high standard of interpretive and educational material, public programs and a strong investment in education and horticultural training.

Recommendations

- TBG should develop an Interpretive Plan to bring all new elements of the revitalized Edwards Botanical Garden together in a cohesive narrative.
- The Interpretive Plan should be used by TBG to form the basis for planning, developing and making decision about the design of new themed gardens, permanent and temporary interpretive panels, displays and exhibitions, as well as year-round public programs, education and events.
- To reflect the growing diversity of the city and recognize its Indigenous legacy, TBG should ensure a multi-cultural approach to programs, education, displays and interpretation, with a focusing on finding creative ways to incorporate language, particularly Indigenous language into the Gardens.
- All signage, wayfinding, interpretation and environmental graphics used across the Gardens (indoor and out) should have a coherent design approach consistent with the new brand identity created for the Gardens.
- TBG should continually develop and maintain interpretive materials shall at a standard that is accurate, up-to-date, engaging, and accessible.
- TBG should continue to explore ways of leveraging and incorporating digital opportunities across the Gardens as a means of expression for interpretation, but in ways that enhance but do not detract from the enjoyment of the natural environment. Digital tools for providing greater access to information and the collections, engaging more people with content and research, and reaching a younger and broader audience should be explored.

5.7.2 EDUCATION AND PUBLIC PROGRAMS

Recommendations

- TBG should leverage a multifaceted, year-round program of courses, lectures, events, and activities to expand audiences beyond garden enthusiasts, particularly youth and newcomers. Potential activities could include:
 1. Art exhibits, particularly sculpture and glass art;
 2. Environmental or Earth Art shows;
 3. Cultural events of interest to particular ethnic or multicultural communities and to the wider community;
 4. Evening light shows, either holiday-themed or specific to the creations of a particular artist;
 5. Enhanced docent-led tours, including cart tours for those with accessibility issues;
 6. Enhanced self-guided tours and interpretation, available in multiple languages, through means of a smart-phone “Garden App” and garden-wide
 7. wi-fi infrastructure;
 8. Plants of tremendous public interest (“wow plants”) such as *Amorphophallus titanum* and *Nymphaea amazonica*, introduced to dispel the phenomenon known as “plant blindness”;
 9. An expanded concert series, including small ensemble chamber concerts;
 10. Expanded outdoor wedding/event opportunities;
 11. Other performance art such as dance, opera & more;
 12. Expanded course and lecture offerings;
 13. Expanded school programs to bring more Toronto and region students to the new garden;
 14. Organized symposia on environmental, horticultural and botanical themes
- TBG should use the Gardens as an opportunity to exchange Earth knowledge by incorporating formal and informal learning opportunities throughout the Gardens using a variety of perspectives and interpretive and communication methods. Potential interpretive themes include:
 1. Plants, horticulture and life science

2. Landscape restoration, design and management
 3. Urban gardening
 4. Green building and resiliency engineering
 5. Wildlife and habitats
 6. Cultural heritage, including Indigenous teachings
- Use of the Gardens as an educational facility for schools, tertiary institutions and the general public should be encouraged.
 - TBG should continue to develop its partnerships with the Toronto District School Board, and the Toronto Catholic District School Board to continue to deliver a high-quality school program that is strongly linked to the provincial curriculum. Partnerships with the Toronto Zoo, Evergreen Brickworks and Friends of Allen Gardens would help to strengthen programs and avoid duplication.
 - TBG should continue to develop its partnerships with relevant high education institutions, colleges and universities in Toronto, Ontario and across Canada to develop horticultural internships, apprenticeships, training programs, and certifications.
 - TBG should also act as a horticultural and botanic resource and develop research partnerships with relevant high education institutions, colleges and universities which leverage TBG assets for research.
 - TBG should consider working with health care providers and their neighbours at Sunnybrook Hospital in further developing horticultural therapy practice and courses.

5.7.3 MONITORING AND EVALUATION

Recommendations

- TBG should develop wider monitoring and evaluation mechanisms in order to better track visitors to the outdoor Gardens, engagement through digital platforms, program enrollment, and attendance at events. These metrics will be important for demonstrating impact with the City, donors and grant funders.

5.8 ACCESS

5.8.1 HOURS OF OPERATION

The hours of operation for EG/TBG are as follows:

Gardens:

The gardens are open daily, from dawn until dusk.

Buildings

Weekdays, 9 a.m. to 5 p.m. | Weekends, 10 to 5 p.m.

Garden Cafe Family-style Bistro:

Daily, 9 a.m. to 5 p.m. | Open Seasonally, May through October

Garden Shop:

Daily, 10 to 4 p.m.

Reception Desk:

Weekdays, 9 a.m. to 4 p.m. | Weekends, 10 a.m. to 4 p.m.

Weston Family Library:

Weekdays, 10 a.m. to 4 p.m.

Weekends, noon to 4 p.m.

EG/TBG is closed on all statutory holidays including New Year's Day, Family Day, Good Friday, Victoria Day, Canada Day, Civic Holiday, Labour Day, Thanksgiving Day, Christmas Day, and Boxing Day. However, most of the exterior gardens are open and accessible during statutory holidays.

5.8.2 VEHICLE ACCESS AND PARKING

Vehicle access will be limited to Lawrence Avenue East and Leslie Street, to maintain EG/TBG as a safe pedestrian environment. Vehicle access within EG/TBG is limited to maintenance and service vehicles which will have a separate, gated entry off The Bridle Path. The three existing access driveways from Lawrence Avenue East and one driveway from Leslie Street will remain. Primary vehicular access to EG/TBG will be from Leslie Street and Lawrence Avenue East. Back-of-house entry and deliveries will be from the two driveways west of Banbury Road.

The surface parking lot will be improved and expanded to include a drop-off area and a tour bus parking zone, located at the northwest corner of the surface parking lot, next to the main entry. The Bridal Path access road will be the primary entry for maintenance vehicles and school buses. A new bus loop will be built adjacent to the teaching garden to accommodate school tours. In the southwest corner, a new surface parking lot for staff and a maintenance yard will support the relocated maintenance building and a new greenhouse. The existing maintenance access lane from Lawrence Avenue East to dredge the creek will remain and be reconfigured to connect to the Secondary Maintenance Circulation path.

A new parking structure will be built adjacent to the main entry surface parking lot to accommodate future parking demand, especially during peak visitation times and special events. The parking structure will share access driveways from Lawrence Avenue and Leslie Street with the surface parking lot. Currently parking is free of cost, but EG/TBG reserves the right to charge for parking in the future. A shuttle bus between nearby cultural institutions and EG/TBG could offer access for visitors and reduce demand for private vehicle access and parking.

Objective: To provide a pedestrian-oriented EG/TBG, with limited vehicular access (See Guiding Principle 5: Improve Operation Functionality)

Guidelines:

- Restrict private vehicle access to the two main entrance driveways into the parking lots.
- Provide information on the EG/TBG website with directions to the Gardens for all modes of transit and encourage visitors to arrive by public or active transportation.
- Improve visual links and pedestrian access to encourage the use of public transportation to reduce reliance on private vehicles and parking congestion.
- Prohibit the use of motor vehicles within EG/TBG, other than maintenance vehicles, emergency vehicles, and other authorized vehicles. Park maintenance vehicles will not exceed 10km/hr.
- Motorized wheelchairs and mobility assistance vehicles may be used within EG/TBG.
- Coordinate with tour bus operators to ensure that arrival and departure times can be accommodated.
- Manage deliveries of goods and services to be scheduled during non-peak hours.
- Maintain safe, visible, well-lit, year-round service to the Primary Maintenance Circulation route path.

5.8.3 PEDESTRIAN ACCESS, BICYCLE ACCESS AND CIRCULATION

EG/TBG is a key entrance and exit from the Wilket Creek multi-use trail which connects into the larger ravine trail system. As pedestrian and bicycle conflicts were a hazard as both nodes met and mixed within EG/TBG, a new multi-use path will provide a direct connection between Leslie Street and the Wilket Creek trail.

The new path will utilize an existing bridge over Wilket Creek, the existing long span bridge over the east ravine and run along the south side of the parking area. Cyclists approaching from roads will use the Leslie Street side to access the new multi-use pathway. Cyclist access from The Bridal Path will no longer be allowed.

As bicycles are not allowed within EG/TBG, safe and adequate locking facilities will be provided. Bicycle parking facilities will be provided at the east Garden Gateway, the central Entry Plaza, and the south Valley Gateway. An additional bicycle parking area will be provided at the south-west corner of the surface parking area. Where possible, covered facilities will be provided.

Objective: To provide a clear delineation between pedestrians and cyclists for a safe and pleasant experience for both and a functional connection for cyclists between the adjacent road network and the valley trails. See Guiding Principle 3: Improve Accessibility

Recommendations:

- Develop a new asphalt multi-use trail between Leslie Street and the Wilket Creek trail through EG/TBG.
- Provide bicycle parking facilities, covered where possible, at each of the main entrances into EG/TBG.
- Provide wayfinding signage that matches the valley system trails to allow clear navigation on bicycle through the site
- Engage a transportation planner to calculate existing and future numbers of cyclists to accurately calculate number bicycle parking required

5.8.4 SIGNAGE AND WAYFINDING

The current signage and wayfinding at EG/TBG will be coordinated, updated and expanded to accommodate the merging of Edwards Gardens and Toronto Botanical Garden. A new branding, wayfinding and signage strategy will be developed to provide an enhanced visitor experience. Interpretation of the site, collection and research will be supported by the new brand, signage and wayfinding. Physical signage will be supported by digital, virtual and augmented reality applications for smart phones. However, sign and digital applications should not interfere with the primary user experience of the unique site, including plant collections, native forest, tableland, valley and river of EG/TBG.

Objective: To provide a signage and wayfinding network that will celebrate the Gardens' unique character and provide an enhanced visitor experience. See Guiding Principle 8: Enhance Visitor Experience.

Guidelines:

- Develop and provide a new signage and wayfinding that refers to the Toronto Botanical Garden and Edwards Gardens with one combined name (to be determined).
- Establish a consistent language for all site furniture including: benches, trash/recycling receptacles, lighting and signage throughout the site.
- Create a wayfinding system which identifies appropriate visitor welcome and orientation at gateways, viewpoints, connections and key destinations. Map boards should be provided with navigation signage at major intersections/decision points.
- Coordinate EG/TBG signage between City of Toronto Parks & Trails Wayfinding Strategy and to provide clear and easily understood navigation.
- Provide multi-lingual interpretive signage. Place and plant names in English, French, Latin and Anishinaabemowin will be integrated into the Garden-wide signage network.
- Coordinate with new combined EG/TBG brand to ensure a consistent and recognizable graphic language.
- Introduce new technology (smart-phone self-guided tour "Garden App," touch-screen kiosks, interactive displays, virtual reality, augmented reality, free site-wide Wi-fi, etc.) to allow multiple ways of interpretation to enhance visitor experience
- Support programmers of special events (art exhibits, , cultural events, concerts, performance art, education, lectures, school programs, symposia, etc.) with appropriate maps and graphic materials to incorporate into their own marketing material.
- Provide clear hierarchy and distinction between Circuit Path, Primary Paths, Secondary Paths and the Multi-use Trail, in the signage and wayfinding network.

5.9 MARKETING AND PROMOTION

With the expansion and enhancement of EG/TBG through the Master Plan, new opportunities for additional and a wider diversity of programs, events and offerings will be possible. This, coupled with a change in name and a revised mandate for the TBG, will require revisions to current branding, marketing approaches and promotional materials to appropriately showcase the Master Plan improvements, new products and offerings, communicate a new identity, and ensure consistent and cohesive messaging.

Objective: Increase awareness of Edwards Botanical Garden as an important public asset and keep it top-of-mind with Torontonians and visitors to the city as a botanic and cultural destination to ensure continuous and appropriate use by all.

5.9.1 BRANDING AND ACKNOWLEDGMENT

Recommendations

- EG/TBG should be responsible for rebranding of the Gardens using the agreed name – suggested working title is Edwards Botanical Gardens.
- EG/TBG will acknowledge City of Toronto, Parks, Forestry and Recreation as primary partner in all marketing, media, press, and promotion. The City of Toronto will acknowledge EG/TBG similarly.
- The legacy of the Edwards family will be appropriately recognized, interpreted and celebrated.
- All signage, wayfinding, interpretation and environmental graphics used across the Gardens (indoor and out) should have a coherent design approach which features any new logo and should be consistent with the new brand identity created for the Gardens. EG/TBG is ideally placed to lead on this.

5.9.2 MARKETING AND PROMOTION

Recommendations

- To ensure that the expanded and enhanced Gardens becomes and continues to be top-of-mind as a community resource, destination and tourist attraction, EG/TBG should update their Marketing Strategy.
- EG/TBG and the City should actively promote the Gardens as a premier cultural attraction and botanic destination for residents and visitors to Toronto alike. Greater consideration should also be given to the promotion of Toronto's network of public gardens as a whole.
- Partnerships will be essential in promotion of the new Gardens. EG/TBG should pursue partnership opportunities with agencies, organizations and institutions as discussed above for joint promotion of the Gardens.

5.9.3 WEBSITE AND SOCIAL MEDIA

Recommendations

- The City of Toronto and EG/TBG should continue to be responsible for their own websites and social media, ensuring proper acknowledgment as above and hyperlinks between pages.
- EG/TBG should ensure that they are able to provide a high level of visitor engagement and service by exploring and implementing an omnichannel approach which provides a seamless and consistent visitor experience across physical and digital channels.
- Communication through online platforms should be kept up to date with technological advances and changing visitor preferences and needs.

