SUMMARY FOREST STRATEGY AND MANAGEMENT PLAN

WILLIAMS & ASSOCIATES
Forestry Consultants Ltd.

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The Forest Strategy document contains detailed information gathered during this process. The following are highlights from that document.

Tree Inventory

A sample tree inventory was completed and included street, cemetery and park trees in Caledonia, Cayuga, Dunnville, Hagersville and Jarvis. Nearly 1,530 trees were surveyed to provide a reasonable indication of Haldimand's urban forest population. The inventory indicated that silver maple is the most common species (20% - primarily on streets), followed by Norway spruce (11% - most in parks & cemeteries), Norway maple (11%) and ash (9%, mostly in parks). Silver maple also had the highest number of large trees, most with maintenance needs. Silver maple has the most conflict with public utilities and because there are many large trees there are more maintenance requirements. Maintenance needs are high particularly on street trees. The ash component will drop out within the next few years as ash are removed due to emerald ash borer. Removal of ash in areas of high concentration will result in a number of potential planting areas.

Community and Staff Feedback

Staff also worked with W&A to host two feedback sessions regarding the draft Vision, Guiding Principles and Goals. One session was presented to the community in general (attendance 9) and the second was presented to Council and staff (attendance 13). Staff also posted the same feedback form online for those not able to attend the sessions (total responses 34). All of these sessions were advertised within the local newspapers, online and invitations were sent via email to CDP and EDT to community contacts.

Strategy Vision, Guiding Principals and Goals

A Vision Statement reflects the desired outcomes of successful implementation of the strategy and plan. It was developed in consultation with the Forest Strategy and Management Working Committee to meet the needs of the County for County-owned trees and forests.

VISION

> Haldimand County, being committed to preserving our natural beauty, values and is dedicated to protecting and managing its urban and rural forest, for the environmental, economic, community and health benefits these forests provide to its residents.
>
> Haldimand County will, in partnership with its residents, businesses and stakeholders work to promote and increase urban forest coverage that is a diverse, healthy and sustained asset for future generations.

Guiding principles are intended to guide the development of the Forest Strategy, Management Plan and implementation of the plan. These statements represent best practices in the urban and rural forest in Haldimand County.

GUIDING PRINCIPLES

1. Increased understanding of the County's urban forest will support more effective management.

2. Trees are municipal infrastructure and managed within an integrated asset framework.

3. The County strives to have efficient and cost-effective management of its urban forest.

4. County trees are maintained in a healthy and safe condition through good management practices.

5. The right tree is planted in the right place to establish and maintain an optimal level of age and species diversity, and to maximize benefits and minimize hazard, nuisance, hardscape damage, and maintenance costs.

6. The community is engaged in the support of the conservation, management and stewardship of the local urban forestry program.

7. County trees are monitored and assessed periodically.

8. An adaptive management approach is used to adjust management practices as needed using current information and research.

9. Well-managed privately owned trees also contribute to the urban forest.

10. Work towards optimal levels of tree/canopy cover to maximize urban forest benefits.

11. New technologies are used to integrate trees in existing and new developed settings.

12. Heritage tree policies are considered important.

Based on the guiding principles, Haldimand County will work towards a series of goals through the implementation of this strategy and subsequent management plans.

GOALS

1. To undertake an inventory of County-owned urban and roadside trees and forests to identify tree species, age, condition and recommendations for maintenance, removal and replacement.

2. To develop a policy framework, infrastructure and procedures for trees on County lands with respect to tree maintenance, removal and replanting practices so that the urban forest is recognized as green infrastructure and a municipal/community asset.

3. To improve the resilience of the urban forest to current and anticipated stressors, including climate change, pests and diseases by implementing policies and management practices that optimize tree species diversity, structure and age classes, with appropriate monitoring.

4. To utilize human resources efficiently and effectively to address the tree-related activities.

5. To prioritize protection and maintenance of mature, healthy trees and preservation of older large-canopied species to the greatest extent possible.

6. To transition towards proactive tree establishment and replacement whereby all potential plantable spots on the County lands are explored and apply "right tree, right place" principles, except where policy requires that new trees be planted on adjacent private property development

7. To build awareness and engagement among County staff and the community, regarding the importance and value of the urban forest and the County's efforts to sustain this resource.

8. To expand stewardship initiatives, and develop more partnerships that support the urban forest with initiatives such as tree planting and maintenance.

9. To use new technologies in selected areas for integration of trees in hardscapes such as downtown centres and parking lots.

10. Based on the current plan, in year four, update the Forest Management Plan and associated Operating Plans to ensure the Forest Management Plan and operating budgets are updated on a regular basis.

The Management Plan contains information, recommendations and actions related to 7 key categories. The following are highlights of these categories. More detailed information is contained in the Management Plan document.

1. Service Framework

Tree maintenance is currently conducted on a complaint and/or risk basis. Complaints are processed through work orders, most of which are sent to Roads Operations (RO). Depending on the complexity of the situation, work is done by RO or contracted to a tree service. The number of RO work orders increased from 68 in 2012 to 253 in 2014, with 220 being generated in 2015. The budget for this work in RO is $110,000 annually with an additional $234,000 added as a capital project in 2016 to address the current backlog of work orders, which continues to grow. FAPO has also experienced increased tree maintenance and removal costs in various parks and cemeteries.

The service request backlogs are due to numerous trees with maintenance needs and emergency service requirements (e.g., from significant storm events) and limit staff's ability to respond to new requests in a timely fashion. The County also does not have a consistent approach to addressing tree replacement, pruning, inspections etc.

To provide a more focused and consolidated effort to address the immediate needs described in the Management Plan, a Forest Manager, working in FAPO is a feasible option to implement the Plan. This position would be involved in all aspects of the forest and would interact with all County departments. A Forest Working Group would advise on some components of the Plan. Services for complex tree removal and for tree maintenance would continue to be contracted out. Tree planting would be completed under a variety of scenarios.

2. Using Regulation to Protect, Manage and Grow the Urban Forest

Protecting, managing and growing the urban forest requires policy, regulation and resources, with support from the community. Regulatory approaches include: official plans; by-laws and policy documents that explicitly guide activities such as tree planting or tree removal.

The adoption and enforcement of various forest management policies and guidelines can support a change away from crisis management and reactive, to a more proactive, professional management response.

The lack of appropriate policies can result in poor tree management because of inefficient duplication or overlapping of efforts, and gaps in service and unmet needs. Without policies, agencies tend to operate with conflicting or inadequate urban forest management standards or direction. This also leaves no measure by which to judge whether the community objectives are met or not.

Changes are suggested to the Official Plan to define the urban forest, identifying it as a high priority for protection, and describing it as "green infrastructure" which should be actively managed. A by-law for public trees can protect trees during development and construction, provide for tree planting and maintenance to reduce risk. Protection can be

enhanced further through policies that specify planting and maintenance standards in new developments and municipal works, safe work practices, nuisance trees, planting site location and lists of approved and prohibited tree species.

3. Tree Health Maintenance and Risk Assessment

A tree maintenance plan is important for large property owners such as local governments. Ideally, tree maintenance starts with planting stock selection, followed by planting, then tending (e.g. watering, fertilizing, and mulching) to give the new trees a good start. Pruning to correct form problems is one of the most important maintenance practices for new and smaller trees. Haldimand has generally not conducted pruning for tree maintenance or health, but in response to problems or complaints. This has resulted in many trees with heavy branching, poor form, and/or weak forks. Pruning strategies must be designed for both young trees and for mature trees to minimize risks.

A block or grid cycle is most commonly used where trees in an area receive maintenance pruning periodically. For example, the County could be divided into seven sectors and tree maintenance would be conducted over seven years, one year in each zone. Over time, emergency needs are reduced, trees are healthier, costs are reduced and the public is safer as a stronger emphasis is placed on systematic pruning. There will always be situations where trees need immediate attention because of tree failures and issues identified by staff or citizens.

Before a proactive pruning program can be initiated, Haldimand must deal with the existing high-risk situations identified through an inventory. Tree risk management involves inspecting and assessing trees for their potential to injure people or damage property and mitigating the problem in a timely fashion. Tree risk mitigation can extend the life of a tree that might otherwise be considered a risk. Structural pruning on young trees and proactive maintenance will significantly reduce risk in the future. Developing and implementing a tree risk plan will improve public safety, reduce woody debris loads generated by storms, and move Haldimand towards a proactive urban forestry program.

4. Tree Removal, Replacement and Establishment Protocol and Guidelines

Tree removal, replacement and establishment is a high priority in Haldimand. As a result of mortality from the EAB and the demise of other high risk older trees, some streets and parks will have fewer trees than desired. Tree removal and planting spots, identified during the course of inventory and forestry operations should be documented to plan for tree replacement and ensure that no available sites are overlooked.

Removing trees should be the last resort and conducted only when other corrective actions cannot reduce the level of risk to an acceptable level at a reasonable cost. However, trees of all ages and conditions may be candidates for removal because of construction or development projects. Candidate trees for removal should be evaluated to assess condition and hazard by an experienced certified arborist. Where the arborist recommends that a tree should be removed because of safety or other reasons, the work may be done by County staff where appropriate or by a contracted tree service where the volume of work or specialized skills and equipment is required. The visual and emotional affects of removing a tree can be substantial, so communications to neighbours or the community in general can be important.

Wood waste generated by urban tree management program has very limited marketability and generally represents a cost to operation. However, costs can be minimized by using many practices already employed by the County (e.g., making wood/chips available to the community) and some innovative marketing. Logs and wood from county-owned forests and natural parks can be marketed to forest products companies.

Preservation of existing trees and canopy should be a higher priority than replacement, partly because of the greater benefits provided by a single large tree compared to many smaller ones. Replacing trees and maintaining forest cover in urban centers is challenging, especially along roads and in parking lots. A tree replacement policy directs the number, sizes and species of trees to be planted to replace those removed. The policy would support the continued growth and development of the urban forest by providing that where trees are removed or damaged, that there will be funds available for this purpose. With few exceptions this would apply to all County urban trees. It is important to mention that replanting of trees may not occur within the area/spot a tree has been removed. Replacement may occur anywhere in the community or County where there is a need.

Current planting policies in new developments are to plant required trees on private lots/lands rather than the road allowance, to reduce county tree maintenance costs. However, this can result in limited planting success because of poor planning, planting and maintenance, with little assurance that these new trees will be retained in the long run. It is suggested that in new developments, a tree fee be collected from the developer and that the species, location, planting and maintenance be completed by the County to ensure successful growth.

Planting or replacement on road right of ways can be done in-house or through contractors. Volunteers or neighbours can be involved through maintenance such as watering or mulching. However fertilization and pruning should be done by qualified staff.

The principle of "right tree right place" emphasizes matching trees species to site conditions, considering soil/site issues, and physical limitations like wires and other hard infrastructure. It is a critical step in a successful urban forest management plan. The soil volume available for root growth is one of the most important factors in long-term health and growth of urban trees and is a major impediment to long-lived healthy trees on boulevards, in downtown areas and in parking lots.

Another challenge is to ensure that newly planted trees survive to maturity. The planting stock should meet required criteria and be planted according to specifications. Maintenance needs include watering, fertilizing, mulching, weed control, pruning, support systems, tree guards and pest and disease control. This should be backed up with regular inspections and good record keeping.

5. Education and Promotion, Stewardship, Partnerships and Funding Opportunities

A robust communication plan is important to recruit volunteers, announce events, educate the public and celebrate achievements. It can include development and circulation of flyers, publishing inserts or press releases for the local newspaper, electronic communications or door hangers to inform about tree planting, pruning or maintenance activities. The management plan should identify key messages and the best delivery methods. In addition to providing information, the community may also need incentives, support and encouragement to increase their engagement as stewards of the urban forest.

Websites are a primary and cost-effective tool to educate, promote and inform citizens about County forestry programs and to support better management of private trees in urban areas. Good communication commonly reduces the number of calls to staff and can be used as a way to immediately refer the public to information on policy, programs and issues. Better electronic access to tree-care information for County residents helps residents to understand and support public activities and improve management of private trees.

A stewardship approach helps sustain the quality and quantity of urban forests and requires ongoing involvement across the community. Urban forest stewardship should be fostered by engaging residents, the business community, and homeowners to plant trees and care for their growth and development. To increase community awareness of the benefits of trees, the County should encourage community involvement and create a shared sense of responsibility for the urban forest. Volunteers can be engaged in tree planting, monitoring forest health, inventory, pruning, watering and mulching small trees, and committee work. It is just as important to educate and promote forestry programs to all staff through staff information systems, training and regular updates.

Partnerships with tree nurseries and garden centers could be especially fruitful and could be encouraged to stock more native trees.

Additional fiscal resources may be necessary to implement many of the recommendations in the Management Plan. The Community Beautification program could be expanded to encourage and enhance more tree planting opportunities.

A Forest Recovery Fund could receive funds from developers, damage compensation, private contributions, wood sales and external funding. Some external funding opportunities include Forests Ontario, Tree Canada and the Ontario Trillium Foundation.

6. Emerald Ash Borer Management Plan

The greatest current threat to North America's urban forests is the Emerald Ash Borer (EAB), which has the potential to eliminate most of the ash population. It is expected that 99 percent of ash trees in urban and rural areas will be killed unless they are protected with pesticides. The loss of ash from the landscape will cause significant economic and environmental distress. Ash mortality is currently obvious in urban and rural areas throughout Haldimand.

There are no control methods for EAB. However, important individual trees can be retained by treatment with insecticides. Specific objectives for EAB Management in Haldimand are to minimize:

- costs associated with EAB;
- liability from dead trees;
- environmental impacts;
- and; increase tree species diversity.

Removal of dead and dying ash will be a priority for the next few years as more succumb to EAB and become hazardous. Haldimand is in the mid-to later-stages of EAB-induced ash mortality, where tree removal costs may triple over normal levels due to ash mortality.

Ash street trees are the biggest concern and the highest cost for removal. The sample inventory suggests there remain about 200 ash street trees, perhaps 50 to 60 in cemeteries and several hundred in parks and other areas.

7. Cost Estimates for Haldimand Forest Management Plan

Urban forestry program budgets are typically presented on an annual basis for a period of five to ten years. The budget estimate developed for the Management Plan outlines the costs for 2017 and 2018 with projections to 2021 and include completing the inventory, tree maintenance and removal (including EAB) and tree replacement. Budgets for the recommended pruning and planting cycles were phased in over time as the costs for reducing the maintenance/removal backlog are cleared up.

The current budget estimate below, was compiled by estimating expenditures from the various departments conducting tree maintenance work, mostly FAPO and RO. Estimates for the first three years are generally higher than current, because they include ash removal efforts that are currently underway and completing the tree inventory for the County. Each year also includes the cost estimates for a recommended Forest Manager position, which may be a new full time position or be created through contractual arrangement.

The budgets estimate generally exceeds current levels because the plan recommends more comprehensive activities than currently practiced. This consideration recognizes that the urban forest is green infrastructure that requires maintenance and renewal rather than ad hoc-responses to problems. Green infrastructure requires management and renewal, the same as grey/hard infrastructure.

The costs associated with managing Haldimand's inventoried trees are an investment back into the community. In 2015, the County's total related operating expenditures for inventoried trees were approximately $397,246. This represents approximately 0.6 percent of the County's operating total budget. Approximately $58 per street tree was spent in 2015. Approximately 45,000 people live in the County and $8.82 per citizen was spent on trees. This does not account for the capital expense in 2016 for ash tree removal.

The recommendations below address immediate risk management issues to clear a backlog of work orders, identifies a coordinated approach to utilizing resources (budgets and workforce) and then, addresses the long term approach to mitigating risk.

RECOMMENDATIONS

Recommendations/Action FM = Forest Manager	Priority	2017	2018	2019	2020	2021	2022 - 2026	Source
Multi-year								
2.4a - Complete an inventory for County-owned trees during the first two years of the management plan. Inventory priority should be street trees, park trees, rural roads, and County-owned cemeteries and County-managed cemeteries. Include attribute space in the database for management actions taken post-inventory.	High	x	x					Contract
3.4.2 - Develop budget projections on an annual basis within the next five annual Operating Plans for inventory updates, tree maintenance, and removal and replanting. Create a cost accounting system for urban forestry-related activities.	High	x	x	x	x	x	x	FM and Finance
6.1b- Remove trees as required based on inventory and risk management policy.	High	x	x	x	x	x	x	Contract
8.4.3 - Continue ash removals between 2017 and 2019. Priority is to remove dead and dying larger trees on the streets, high-use park trail and cemeteries followed by medium risk and smaller size tree on streets, parks, high-use park trails and cemeteries, and woodland trails. Roads Operations will do low risk trees and most trees on rural roads.	High	x	x	x				Contract and Roads
8.4.4 - Identify and treat candidate prominent healthy trees for treatment. Signage should be developed to identify treated trees and their benefits to the public.	High	x		x		x	x	Contract
2.4d - Ensure that the inventory is maintained by updating the data as work is conducted. This work would include when trees are pruned, removed or planted.	High	x	x	x	x	x	x	FM
6.2 - Replace trees that are removed from streets, with a new tree (6 to 10 cm caliper) for every 20- cm of diameter in trees that are removed. Replace trees from parks and cemeteries at a 2:1 ratio. Replacement trees should be of appropriate native species and non-invasive exotic species and planted in locations determined in the inventory.	High	x	x	x	x	x	x	Contract/ volunteers with FM
6.3.3b - Consult and cooperate with local nurseries, arborists, landscapers, etc. (urban forestry services) to embrace County urban forest goals and objectives. Establish a nursery growing contract with more than one grower to supply trees	High		x	x	x	x	x	FM

Recommendations/Action FM = Forest Manager	Priority	2017	2018	2019	2020	2021	2022 - 2026	Source
for County plantings and trees used in public planting initiatives. Work with volunteer groups to the same end.								
8.4.5a Replace **ash** trees that are removed from streets, with a new tree (6 to 10 cm caliper) for every 20+ cm of diameter in trees that are removed. Replace ash trees from parks and cemeteries at a 2:1 ratio. Replacement trees should be of appropriate native species and non-invasive exotic species and planted in locations determined in the inventory.	High		x	x	x	x	x	Contract/ volunteers with FM
5.1.1.2a - Establish and implement a seven-year pruning cycle and a "grid" pruning program for street, park and cemetery trees to shift from a reactive to a proactive maintenance mode.	High			x	x	x	x	Contract
7.1.2b - Increase public awareness about threats to the urban forest, best forest management practices, the forest ecosystem and tree conservation.	Medium	x	x	x	x	x	x	FM
3.4.5 - Monitor the progress of the Management Plan, by applying Criteria and Principles as proposed by Kenney et al. (2011,) every five years.	Medium	x	x	x	x	x	x	FM
2017								
3.4.1 - Option 1 - Create a permanent Forest Manager position to manage the County forest program and to coordinate tree/forest issues. Option 2 - Create a Forest Manager position for a five-year period to manage the County forest program and to coordinate tree/forest issues. Option 3 - Contract a Forest Manager for a three-year period to manage the County forest program and to coordinate tree/forest issues.	High	x						SMT
2.4b - Compile the tree inventory data in a format that is compatible with GIS, work-order and other software used by the County. Develop an approach that provides input into other programs that monitor tree canopy (i.e., UTC GIS Toolbox (ESRI)).	High	x						Contract
3.4.3 - Create a designated operating budget for forestry activities including funds for contracting or in-house priority policy development.	High	x						Finance
3.3 - Develop a MOU among Roads Operations, Community Development and Partnerships, Facilities and Parks Operations, Engineering Services, Planning	High	x						FM and staff

Recommendations/Action FM = Forest Manager	Priority	2017	2018	2019	2020	2021	2022 - 2026	Source
and Development and Communications (others) to identify and collaborate on urban and rural forest related issues.								
8.4.2 - Conduct a windshield inventory to locate and determine general size and condition of ash trees throughout roads, parks and cemeteries.	High	x						Contract
5.4.3.4a - An Urban Forest Risk Management Policy should be developed regarding tree inspections, and maintenance practices that identifies, prioritizes and resolves potentially hazardous situations associated with County trees and forests.	High	x						Contract
6.1a - Develop and adopt standard practices for tree removal based on a risk management approach.	High	x						FM
8.5a. - Identify an EAB Coordinator who will be responsible for the communications, coordination and activities among staff and the public.	High	x						FM and Communi-cations
8.5b - Create an EAB/Ash section on the web site with links to information management resources on the internet to support landowner with ash trees on their property.	High	x						FM and Communi-cations
6.1.3.3.3 - Work with the HAWOA to market small or specialty wood and saw logs.	Medium	x						FM
7.4.1a - Establish a Forest Recovery Fund to support forestry initiatives. Funds could be received through initiatives such as damage compensation, permit and plan review and inspection fees, development fees, utility company fees, private donations and corporate sponsorships, memorial and honor trees, and firewood, mulch, and wood sales.	Medium	x						Finance
2018								
6.3.1 - Adopt tree planting guidelines based on recommended arboricultural practices such as ISA standards regarding tree planting and tree planting technical details.	High		x					FM

Recommendations/Action FM = Forest Manager	Priority	2017	2018	2019	2020	2021	2022 - 2026	Source
6.3.3a - Develop an Urban Forest Renewal Plan that guides tree planting and maintenance to encourage diversity of tree species and age classes in each community.	High		x					FM
6.4 - Adopt technical planting and maintenance standards for new planting such as those found in the Markham Streetscape Manual, 2009.	High		x					FM
7.1.2a - Develop a simple forestry website that can be expanded to provide public access to information about Haldimand's forest. In the longer term build a more comprehensive website to focus on customer service, with seasonally appropriate information about the urban forest, provide information about upcoming forestry events and provide updates related to forest strategy objectives.	High		x					FM and Communi-cations
7.1.4 - Explore mechanisms to improve inter-departmental coordination regarding proper protection, maintenance and replacement of the County's green infrastructure (i.e. its trees) and inform staff about tree protection guidelines, policies and best practices.	High		x					FM
4.2b - Update the Forest Conservation Bylaw to current standards and consider measures that affect woodlands of all sizes and natural areas that do not meet the definition of a woodland, and to prevent pre-development clearing of trees and woodlands.	High		x					FM and Enforce-ment
6.3.5 - In new developments, a 'tree fee' be collected from the developer and that the species, location, planting and maintenance be completed by the County to ensure successful growth.	High		x					FM
6.3.1.1 - In conjunction with a tree inventory, the County should use the Urban Site Index process to guide new plantings in along urban streets, and in County parks and cemeteries.	High		x					Contract
6.1.3.3.2 - Formalize a policy that describes procedures for disposal of wood waste from urban forest tree management This would include: • Public salvage of wood/chips left at the work site • Delivery of wood/chips to private owners and institutions. • Public removal of chips and wood from public facilities (including signage and monitoring)	High		x					Waste Manage-ment

Recommendations/Action FM = Forest Manager	Priority	2017	2018	2019	2020	2021	2022 - 2026	Source
• Marketing of wood from County facility • Disposal of unmarketable/unsalvageable wood from County facilities.								
3.4 - Establish a Forest Working Group that includes representatives from County departments involved in tree issues and from agencies and organizations or citizens with an interest in tree/forest management.	Medium		x					FM and staff
5.1.1.2c - Train staff (particularly the Facilities and Parks Operations Division) in proper pruning and maintenance practices.	Medium		x					Contract
5.4.3.5c - A risk management policy for woodland trails should include signage at the entrances of County owned woodland trails that direct users to stay on the trails and enter at their own risk. Maintained woodland trails should be inspected every five years and after significant storm events to recommend tree pruning or removal of trees within falling distance of the trails.	Medium		x					FM and staff
5.4.4 - Develop a directed emergency response plan within the broader Haldimand County Emergency Response Plan to ensure that risks are mitigated as required and that the necessary resources are allocated to the planning-through-recovery stages of a significant storm event.	Medium		x					Staff team
7.3c - Engage local Service Clubs in tree planting and reforestation projects.	Medium		x					FM
7.4.1b - Improve promotion of the Community Beautification Fund and participation of citizen and business groups. Annually transfer unused funds into the Forest Recovery Fund to improving communications, workshops, subsidies for trees on private properties, and young tree maintenance.	Medium		x					CDP and Finance
7.1.3 - Explore options for providing support and coordination of ongoing and potential volunteer activities related to Haldimand's forest.	Medium		x					FM
2019								
5.1.1.1. - Hire contract/seasonal technicians for a minimum two-year period to conduct tree maintenance and structural pruning on young trees.	High			x	x		x	Contract
4.1a - Ensure that all policy revisions and updates, such as the Official Plan, define the urban forest, identify it as a high priority for protection, and describe it as "green infrastructure" which needs to be actively managed.	High			When scheduled				Planning

Recommendations/Action FM = Forest Manager	Priority	2017	2018	2019	2020	2021	2022 - 2026	Source
5.3 - In conjunction with grid pruning operations develop communications tools, such as door hangers, to advise the public of impending tree work.	High			x				FM and Communi-cations
4.2a - Develop a comprehensive tree bylaw that protects public trees in general, and during development and municipal works, and provides for replacement, planting and maintenance of new trees.	High			x				Contract
6.3.2a - Soil volume specifications should be adopted for use in downtown areas and new developments.	High			x				FM
4.3.2 – For tree protection in site development, require that a comprehensive tree preservation and/or landscape plan is part of the plan/site review process and ensure that the Forest Manager has an official role in all phases from application review to final approval and construction.	High			x				FM and Planning
4.3.3 - For all County projects where trees are present, require that a comprehensive tree preservation and/or landscape plan be developed This plan would show how trees are being retained, protected and restored, and would be completed by an approved professional.(e.g., Certified Arborist, RPF)	High			x				FM
2.4c - Evaluate different inventory management software that fits with the current and potential County asset management software.	Medium			x				FM
4.1b - Develop a Tree Operations Protocol for Roads, Parks, Engineering and Planning to utilize when addressing tree issues in the field, and during municipal works and the development process.	Medium			x				FM and staff
5.1.1.2b- Develop guidelines for tree maintenance and other practices to support the preservation of large canopied trees that can be consistently applied to County properties and projects.	Medium			x				FM
7.4.2 - Explore external sources to identify funding opportunities to support tree planting.	Medium			x				FM
6.3.2b - Develop and implement policies to support improved tree habitat by retaining native topsoil, or other means (e.g., cultivation or soil amendments) on-site post development to improve the quality of tree planting sites.	Medium			x				FM
6.3 - Investigate alternative planting locations that will aid in increasing canopy cover.	Low			x				FM

Recommendations/Action FM = Forest Manager	Priority	2017	2018	2019	2020	2021	2022 - 2026	Source
2020								
4.3.1a - Update the Haldimand County Design Criteria (Section O) to latest ISA standards. This includes more detailed information on stock selection process and setting standards for retention of native topsoil, increased soil volumes and soil quality to support improved tree habitat.	Medium				x			FM
4.3.1b - Specify minimum professional requirements for those developing tree-planting plans (e.g., Certified Arborist, RPF)	Medium				x			FM/staff
4.3.4 - Adopt a "nuisance tree" policy that can be equitably applied and enforced County-wide.	Medium				x			FM/staff
5.2 - Consideration should be given to cabling and bracing high value trees when they are identified.	Medium							As needed
2021								
7.1.1 - Develop and implement a comprehensive communication strategy to facilitate public understanding of urban forest management. Ensure that the strategy is coordinated by Communications staff and all County departments participate in its development so that initiatives are coordinated and can be rolled out smoothly in the appropriate season. Ensure that new policies and guidelines are included.	High					x		FM and Communi-cations
3.4.4 - Update a Strategic Forest Management Plan with a 20-year period with five-year Operating Plans and associated Annual Operating Plans.	High					x		FM
6.3.5 - Investigate means such as soil cells, pavement bridges and open planters to grow healthy trees in downtown areas.	Low -				As opportunities arise			FM

Next plan period									
7.2 - Consult and cooperate with citizens at the community/neighbourhood level to embrace County urban forest goals. Develop community/neighborhood tree plans within the context of the larger plan.	High							x	FM
4.3.5 - Develop a plan to identify and designate heritage trees based on the approach of the Ontario Heritage Tree Alliance.	High							x	FM
5.4.3.4b - County trees on streets and developed areas of parks and cemeteries should be assessed on an average of seven to eight years regarding safety and maintenance issues, and the inventory updated to reflect current conditions.	Medium							x	FM and staff
7.3a - Consult and cooperate with large private landholders and business owners to embrace County urban forest goals and objectives and particularly to increase tree cover and improve tree health and tree care in commercial and industrial zones.	Medium							x	FM
7.3b - Encourage the development community to actively steward the urban forest. Revise brochures and other communications for the development community to explain their roles in protecting and the urban forest by using best development and construction practices. Outline the importance of the urban forest.	Medium							x	FM
5.5 - Develop and implement a strategy to monitor forests for existing and potentially invasive and exotic species that can affect natural ecosystems and impact tree health and maintenance requirements.	Low							x	Contract