

AN ORDINANCE ADOPTING THE AVON LAKE URBAN FOREST MANAGEMENT PLAN.

WHEREAS, the Ohio Department of Natural Resources (ODNR) recommends that municipalities develop and implement an Urban Forest Management Plan to effectively manage trees and the land on which they grow; and

WHEREAS, the Avon Lake Tree Commission was established to foster a community that is committed to the sustainable management of the urban forest by promoting the health and safety of the existing urban tree population and achieving a fully stocked, healthy, and resilient urban forest through its recommendations for tree planting on public lands and rights-of-way and advising the Public Works Director on arboricultural and urban forestry best management practices; and

WHEREAS, the Avon Lake Urban Forest Management Plan (Plan) is a strategic and long-term investment in Avon Lake's tree canopy through efficient and effective tree care, strengthening tree planting to maintain species diversity in the public tree population, equitable preservation, improving the character and aesthetics of neighborhoods and the quality of life; and

WHEREAS, the Avon Lake Tree Commission recommends the City adopt a Plan that will encompass the goals, objectives, actions, and specifications, which they have worked diligently on developing that will utilize the Plan's mission of maximizing the economic, environmental, and social benefits of a sustainable urban forest of the City; and

WHEREAS, Council, coming now to consider said recommendations, approves the Plan in full and desires to put it into effect.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF
THE CITY OF AVON LAKE, STATE OF OHIO:

Section No. 1: That the Avon Lake Urban Forest Management Plan is hereby adopted, a copy of which is attached hereto and incorporated herein.

Section No. 2: That it is found and determined that all formal actions of this Council concerning and relating to the passage of this Ordinance were adopted in an open meeting of this Council, and that all deliberations of this Council and of any of its committees, which resulted in such formal actions, were in meetings open to the public in compliance with all legal requirements, including Section 121.22 of the Ohio Revised Code.

Section No. 3: That this Ordinance shall be in full force and effect from and after the earliest period allowed by law.

1st reading: 3/24/2025

2nd reading: 4/14/2025

3rd reading:

PASSED: 4/28/2025

/s/ Jennifer G. Fenderbosch
Council President

POSTED: 5/2/2025

APPROVED: 4/29/2025

ATTEST: /s/ Valerie E. Rosmarin
Clerk of Council

/s/ Mark A. Spaetzel
Mayor

Avon Lake Urban Forest Management Plan

Mission Statement

Maximize the Economic, Environmental, and Social Benefits of a Sustainable Urban Forest for the Residents of Avon Lake, Ohio.

Goals

That must be reached to validate the Mission Statement

1. Maintain the health and vigor of all trees in the Urban Forest.
2. Plant the largest suitable tree at maturity for the site selected.
3. Achieve a fully stocked Urban Forest.

Objectives

Strategies necessary to reach the goals

1. Remove or prune, all dead, and hazardous trees each year.
2. Evaluate each tree every 2 years after planting for the first 10 years, and every 5 years for the balance of the trees' life and prune as needed.
3. Plant a diverse population of tree species. One tree for each removal (replace) on publicly owned land and 1/50 of the vacant sites based on the initial inventory (replant) (to be determined).
4. Educate the community decision-makers (residents, elected officials, hired employees, volunteers) on the value and need for a sustainable urban forest.

Actions

Actions that will meet the objectives

Specifications

Specific rules for the actions

Implementation

Performing the necessary actions

Action 1: An Inventory of Trees and Planting Sites on Municipal owned or managed property

Specifications

- Initiate and maintain a Tree Inventory with the following information:

- Species-Scientific and Common Name
- Size—Diameter at breast height (four and one-half feet) in inches and crown width and total height
- Condition—Excellent, Good, Fair, Poor
- Maintenance--Routine, High, Hazard
 - Action Recommended (Routine) - Scheduled Removal of dead or damaged branches
 - Action Recommended (High) - Immediate Removal of dead or damaged branches
 - Action Recommended - (Hazardous) Immediate Removal of hazardous branch(es) or immediate removal of tree
- Location
 - Address, street, GPS coordinates. Utility conflicts
- Tree lawn width (in feet)

Implementation

- The Public Works Director completes RFP with assistance of Tree Commission and approval from Avon Lake City Council.
- Best bid selected and survey protocols finalized.
- Tree survey initiated 2025
- Final report presented to Council and at public meeting by contractor and city staff.
- Data used to finalize annual and 5-year plans.

Action 2: Master Planting Design

Specifications

- A Master Planting Design will be developed for every city-maintained street identifying primary and secondary species to be used on each tree lawn. The plan will be used to replace future trees removed or fill empty planting spots. Species will be selected based on species best suited for each site and distribution of species to ensure genetic diversity.
- Master Planting Design will begin in new developments that are prioritized for new tree lawn planting.
- For the remainder of the city, Master Planting Design will be developed first for street segments with the least tree cover beginning with street segments having both a curb and sidewalk (primary) proceeding to street segments with either a curb or sidewalk (secondary) (see Action 6).

- Site Selection Parameters (based on Ohio Division of Forestry standards):
 - Minimum overhead clearance for
 - Small Trees - 30 feet; Medium Trees - 50 feet; Large Trees - 60 feet
 - Minimum distances for ALL trees from
 - Overhead primary electric wires - 10 feet (lateral distance)
 - Underground utilities - 5 feet (lateral distance)
 - Side structures - 20 feet
 - Tree lawn width - 4 feet (small trees), 8 feet (medium trees), >8 feet (large trees)
 - Intersection - 40 feet
 - Visible utilities - 10 feet
 - Fire hydrants - 10 feet
 - Driveways (both planting side & opposite side) – 15 feet
 - Other trees and planting sites - 30 feet
 - Diversity parameters for urban forest population: Maximum for any species 10%, for any genus 20%, for any family 30%
- Appeals:
 - Property owners who feel that another species of tree is more appropriate for a given site may appeal the Urban Forester. Appeals must be made in writing and include what tree should be substituted and why the municipality's selected species is not a good choice and/or which species of tree should be planted and why. All appeals must include the scientific name for clarity and argument should be based on scientific reasoning for the benefit of the community and avoid personal taste or improvement of private property at taxpayers' expense.
 - The Urban Forester shall review all written appeals and may consult with the Tree Commission.

Implementation

- The Master Planting Design will be conducted by the Urban Forester with support from members of the Avon Lake Tree Commission over a 2–3-year period.

Action 3: Systematic Five-Year Hazard Assessment

Specifications

- Hazard Tree Assessment program through periodic Tree Inventory:
 - Identify trees with potentially hazardous structural defects that need to be removed.
 - Identify trees with potential structural defects that can be pruned to manage safety.
 - Data should include location, species, DBH, and description of hazard accompanied by photographs.
- Information collected by Urban Forester, Public Works staff, and trained volunteers to be verified by Urban Forester.
- Data to be added to Tree Inventory database as confirmed by the Urban Forester.

Implementation

- Work to be done by Certified Arborist with TRAQ (tree risk assessment qualification)
- Initial annual assessment will utilize the most recently updated tree survey data.
- Work may be done via drive through, but all potential hazardous trees must be individually assessed.

Action 4: Annual Work Plan and Budget

Specifications

- An annual budget for the following year will be prepared by October 1 with input from Public Works staff and Tree Commission.
- Resources should be allocated in the following order of priority:
 - Planning
 - Hazard tree removal
 - Dangerous branches removal
 - Stump Grinding
 - Watering (First through third year)
 - Young-tree-training
 - Large maintenance pruning
 - Site selection
 - Site preparation
 - Tree planting

Highest priority



Lowest priority

- Budget allocations may, as the circumstance dictates, vary from the priority list but only if it benefits the urban forest program or community as a whole and does not compromise safety or cost effectiveness.
- New tree planting: Determined by the most recent Tree Inventory. The maximum number of trees to be planted each year will equal the number of trees removed in the previous year plus 2% of total planting sites available. Priority will be given to new subdivisions with funds already deposited with the City Street Planting Program. The City may choose to increase the number of trees planted to complete the planting of a segment but will account for the excess in future plantings.
- Watering: Newly planted trees will have Gator Bags or similar ones installed and filled on a weekly basis as is needed for the first 2 years after planting.
- Young Tree Training: Trees shall be pruned if needed to train them for structure and form using the Ohio DNR, Division of Forestry's "7 Steps to Young Tree Training" at years 2, 4, 7, and 10 after planting. Pruning shall be done by trained and Certified Arborist supervised staff only between December 1 and April 1.
- Mature Tree Pruning: Trees over 10 years from planting shall be inspected every 5 years and pruned as needed for structure, health, and safety using ANSI A300 Standards. Pruning shall be done as conservatively as possible.

Implementation

Planting and pruning data shall be entered into the Tree Inventory database.

- Cost Table:
 - Insert cost tables for planting, mulching, watering, young tree training, mature tree pruning, tree removal.
- Develop budget, ensure funding.
- Schedule activities.

Action 5: Regular Educational Sessions, Arbor Day Activities

Specifications

- The scientific based and visible tree management by the City will be the major contributor to the education of residents on the proper care of trees on private property.
- Activities may include Arbor Day Activities, Big Tree Contest, Tree Care Workshop, Seminars, Community decision-maker walk-about, Administration, Staff, Finance Director, Council, Community Day presentations and demonstrations, summer camp activities for school-aged students, Newsletter, social media and Website contributions, News-Press coverage, and community TV spots.

Implementation

- The Tree Commission shall develop a marketing plan to include an Arbor Day activity suitable for Tree City USA requirements and conduct a minimum of two additional educational activities. The plan should be updated annually.

Action 6: Long Range (5 year) Work Plan and Budget

Specifications

- To integrate projects across City departments, the Tree Commission shall meet with the Public Works Director and/or Urban Forester to discuss future city projects that will impact trees. Information on street, sewer, building, or other projects will be reported to avoid undue damage to the city's urban forest and for incorporation into the long-range Urban Forest Plan. This will also avoid having trees planted in parks or near city buildings that may interfere with future development plans.
- Long Range Tree Planting Prioritization: The City will fill planting sites as governed by budget and maximum numbers established in Action Item 4.
 - The City will plant primary locations first. Primary locations have a curb and sidewalk, which provide a more protected environment for trees. Once primary locations are filled, secondary sites will be considered. Secondary sites have either curb or sidewalk, but not both. After all secondary sites are filled the Tree Commission will consider planting in tertiary sites. Tertiary sites have neither sidewalk nor curb.

- When selecting tree lawn planting locations, the City will attempt to first plant in areas with limited canopy cover and sites where complete Master Planting Design segments can be planted. The Tree Commission will also favorably consider resident requests and along main arteries where most residents benefit. The Tree Commission will strive to distribute plants throughout the community to enhance tree-age diversity of the community.
- New housing developments will be given priority because funding has already been deposited by developers and encourage tree cover in these cleared areas.
- Replacement of removals will be prioritized in the city's parks and other properties. Additional plantings will be made possible through donations.

Appendix A. Arboriculture Procedures

Typical Urban Forest Management Procedures

Site Preparation Procedure

- In the late summer or early fall of the year prior to transplanting, till and amend the soil (with approximately 15% to 20% organic material) in a curb-to-sidewalk square. Top dress with mulch.

Transplanting Procedure for Bare Root Stock

- In early Spring, rake back the wood chips and soil in the center of the site to a depth that will allow the root flare to be at grade
- Prune roots: above primary root flare
- Train branches by:
 - Identifying and subordinating, or removing super dominant branches
 - Prune to leave one central leader
 - Remove dead or broken branches and suckers from trunk
- First year watering program:
 - On a weekly basis, fill low-profile Gator Bag with approximately fifteen (15) gallons of water which does not contain fertilizer

Young-Tree-Maintenance Program for first ten years following transplanting

- 1st year
 - Early Spring
 - Remove support stake
 - Refresh mulch
 - Summer
 - Control weeds and maintain mulch bed
- 2nd year
 - Late winter (December 1st – April 1st)
 - Young tree train (See 7 Steps)
 - Early Spring
 - Refresh mulch
 - Summer
 - Control weeds and maintain mulch bed
- 3rd year
 - Early Spring
 - Refresh mulch
 - Summer
 - Control weeds and maintain mulch bed

- 4th year
 - Late winter
 - Young tree train (See 7 Steps)
 - Early Spring
 - Refresh mulch
- 5th & 6th years
 - Early Spring
 - Refresh mulch
 - Summer
- Control weeds and maintain mulch bed
- 7th year
 - Late winter
 - Young tree train (See 7 Steps)
 - Early Spring
 - Refresh mulch
- 8th & 9th years
 - Early Spring
 - Refresh mulch
 - Summer
 - Control weeds and maintain mulch bed
- 10th year
 - Late winter
 - Young tree train (See 7 Steps)
 - Early Spring
 - Refresh mulch

Five-year Tree Maintenance for trees older than 10 years (5 sectors of village street trees)

- Five-year Tree Maintenance program for the life of the trees:
 - Remove dead and broken branches for trees Young Tree Training
 - Retro-prune for trees not having had Young Tree Training
- Five-year Tree Maintenance program for the life of the tree:
 - Remove dead and broken branches for trees following Young Tree Training
 - Retro-prune for trees not having had Young Tree Training

Appendix B. Management Standards and Resources

ANSI Z133 Safety Standards, ANSI A300, US Forest Service, ODNR, and ISA Standards.

Appendix D. Additional Information

1. The following identifies the footnotes for the **Mission Statement**:

Maximize the **Economic**¹, **Environmental**², and **Social**³ Benefits of a Sustainable Urban Forest for the Residents of Avon Lake, Ohio.

¹Economic: Trees provide a tremendous economic benefit to the community. Trees have been shown to:

- increase property value and resale value
- reduce crime and vandalism thereby reducing insurance rates
- improve test scores and life decisions among school age girls reducing the need for social services
- reduce energy consumption by reducing the need for air conditioning
- reduce storm water runoff thereby reducing the need for expanded sewer systems

Sources: USDA Forest Service, University of Illinois

²Environmental: Trees have been shown to improve the environment of the community by

- removing carbon from the air as well as preventing carbon from being burned by reducing the need for air conditioning. Less air conditioning - less electricity needed, less electricity - less coal burned and less CO₂ and air pollution
- filter out air pollution and particles
- improves water quality by intercepting and slowing rainfall and allowing it to seep into the ground to be filtered rather than flooding into the storm sewer carrying street grime and pollutants with it

Source: USDA Forest Service

³Social:

- reduces crime and vandalism thereby reducing insurance rates
- improves test scores and life decisions among school ages girls reducing the need for social services
- Reduces stress

Source: University of Illinois

2. The following identifies the footnotes for the **Goals**

1. Maintain the **health and vigor**⁴ of all trees in the Urban Forest.
2. Plant the **largest suitable tree**⁵ at maturity for the site selected.
3. Achieve a **fully stocked**⁶ Urban Forest.

⁴Health and Vigor:

- Healthy, vigorous trees live longer and require less maintenance; thereby maximizing benefits while minimizing cost.

Source: USDA Forest Service, University of Florida

⁵Largest Tree:

- Large trees live longer and provide greater economic benefits than small trees. Undersized trees fail to maximize the potential of the site. This failure is lost value for the community.

Sources: USDA Forest Service; Cost Model by Alan Siewert, ODNR Division of Forestry

⁶Fully stocked:

- Fully stocked means every available site has a tree growing in it. To maximize the benefits for the community all sites need to be stocked and functioning. Allowing a site to remain fallow or empty costs the community.

Note: When restoring an urban forest, mass planting to restock to 100% rapidly is not desirable as it will cause a "Baby Boom". Restocking requires time to develop an all-age, stable population.

Sources: USDA Forest Service Theoretical Urban Forest Model by Alan Siewert, ODNR Division of Forestry