

ORDINANCE NO. _____

**AN ORDINANCE OF THE TOWNSHIP OF LOWER MAKEFIELD, BUCKS COUNTY,
PENNSYLVANIA, AMENDING CHAPTER 178 – “SUBDIVISION AND LAND
DEVELOPMENT”, ARTICLE XI – “LANDSCAPE AND OPEN LANDS
REQUIREMENTS”, SECTION 81 – “STREET TREES”, AND SECTION 82 – “BUFFER
YARDS” TO REVISE AND CLARIFY CERTAIN PROVISIONS UNDER THE
SUBDIVISION AND LAND DEVELOPMENT ORDINANCE RELATING TO THE
REQUIRED PLANTING OF TREES.**

WHEREAS, the Township of Lower Makefield is a township of the second class, organized and operating in accordance with the laws of the Commonwealth of Pennsylvania; and

WHEREAS, pursuant to the Second Class Township Code of the Commonwealth of Pennsylvania, the Board of Supervisors of Lower Makefield Township (hereinafter referred to as the “Board of Supervisors”) has the authority to enact, amend, and repeal the provisions of the Lower Makefield Township Code of Ordinances (hereinafter referred to as the “Code”); and

WHEREAS, the Board of Supervisors has determined that Chapter 178 – “Subdivision and Land Development”, Article XI – “Landscape and Open Lands Requirements”, Section 81 – “Street Trees”, and Section 82 – “Buffer Yards” should be amended to revise and clarify certain provisions relating to the required planting of trees for the proper management, care and control of the Township and its finances, and the maintenance of peace, good government, health and welfare of the Township and its residents.

NOW, THEREFORE, be it and it is hereby resolved as follows:

1. The Board of Supervisors hereby repeals Chapter 178 “Subdivision and Land Development”, Article XI – “Landscape and Open Lands Requirements”, Section 81 – “Street Trees” in its entirety, and replaces it with the provisions set forth in **Exhibit “A”** hereto.
2. The Board of Supervisors hereby repeals Chapter 178 “Subdivision and Land Development”, Article XI – “Landscape and Open Lands Requirements”, Section 82 –

“Buffer Yards” in its entirety, and replaces it with the provisions set forth in **Exhibit “B”** hereto.

3. All other ordinances, portions of ordinances, or any section of the Code inconsistent with this Ordinance, are hereby repealed.
4. The provisions of this Ordinance are severable. If any section, clause, sentence part or provision thereof shall be held illegal, invalid, or unconstitutional by a court of competent jurisdiction, such decision of the court shall not affect or impair any of the remaining sections, clauses, sentences, parts or provisions of this Ordinance. It is hereby declared to be the intent of the Township Supervisors that this Ordinance would have been adopted if such illegal, invalid or unconstitutional section, clause, sentence or part of a provision had not been included herein.
5. This Ordinance shall be effective five (5) days after enactment.

ENACTED AND ORDAINED BY THE TOWNSHIP OF LOWER MAKEFIELD THIS
____ DAY OF _____ 2025.

BOARD OF SUPERVISORS
TOWNSHIP OF LOWER MAKEFIELD

By: _____,
(Vice) Chairperson

ATTEST:

David W. Kratzer, Jr., Township Manager

Exhibit “A”

Chapter 178 – “Subdivision and Land Development”

Article IX - “Landscape and Open Lands Requirements”

Section 81 – “Street Trees”

§178-81. Street Trees.

- A. General requirements. Within any land development or subdivision, street trees shall be planted along both sides of all streets where suitable existing street trees or natural wooded areas do not exist.
- B. One of the following street tree planting concepts shall be used:
 - (1) Formal allee of street trees.
 - (a) Use a uniform street tree variety along each side of the right-of-way.
 - (b) Coordinate new plantings with existing street tree plantings where applicable. A uniform canopy from both sides shall be provided.
 - (c) The location of street trees shall be outside the right-of- way, 30 feet to 35 feet on center.
 - (d) Where a formal row of trees exists, the subdivision or land development shall be planned in a manner which will preserve it, where possible.
 - (e) Trees shall be a minimum of 2 to 3 inch caliper when planted based on the standards of the American Standard for Nursery Stock (ANSIZ60.2) and ANSI A300 Tree Care Standards-2023.
 - (2) Naturalized street tree planting.
 - (a) Vary street tree varieties. The minimum size shall be 2 to 3 inch caliper.
 - (b) An average of one street tree shall be installed for every 30 feet of curbline.
 - (c) Planting design shall accentuate views and integrate contrasting landscape elements.
- C. At intersections, trees shall be located no closer than 30 feet from the intersection of the street right-of-way lines, except when governing standards increase the distance for clear sight.
- D. Each tree must have a setback of at least four feet from curbs and sidewalks, but

no more than 15 feet beyond the street right-of-way line and be planted outside any utility easements.

E. Street tree standards.

- (1) Branching height. The height of branching shall bear a relationship to the size and kind of tree, so that the crown of the tree is in good balance with the trunk. Those trees selected for street tree usage shall have a minimum clearance height of seven feet above grade before branching begins.
- (2) Caliper. The minimum trunk diameter shall be 2 to 3 inches. Caliper of the trunk shall be measured six inches above the ground level up to and including four-inch caliper size and 12 inches above the ground level for larger caliper sizes.
- (3) Height. The table lists the approved range permitted:

Caliper (inches)	Minimum Height Range (feet)
2 to 3	12 to 14
3 to 3 1/2	14 to 16
3 1/2 to 4	14 to 16
4 to 5	16 to 18
5 to 6	18 and up

- (4) Root ball standards. All trees to be installed shall be balled and burlapped in accordance with ANSI Z60.2 and ANSI A300 specifications. The ball depth shall be not less than 60% of the ball diameter and in all cases contain the maximum of the fibrous roots of the tree. Bare root material is also acceptable (ANSI Z60.2 and ANSI A300 standards apply). The following standards shall apply to root ball diameters:

Caliper (inches)	Minimum Root Ball Diameter (Inches)
2 to 3	24
3 to 3 1/2	32
3 1/2 to 4	38
4 to 5	42
5 to 6	54

F. Trees should be planted outside any underground utility line easements. Also, trees planted under overhead utility lines shall be of a type that when mature shall not substantially grow through such lines. To help prevent tree branches from growing into wires, the following guidelines are recommended: low-growing trees (e.g., maximum of 25 to 30 feet high at maturity) can be planted within 15 feet of utility wires and in narrow planting areas (at least three feet wide); medium-sized trees (e.g., 45 feet maximum height) should be planted a sufficient distance from overhead wires such that their branches do not extend within 15 feet of, or grow over, utility wires; large trees (e.g., over 45 feet high) generally should not be planted within 40 to 50 feet of utility wires nor within 35 feet of a building.

G. Trees shall be planted according to the following procedures:

- (1) Dig hole 2 1/2 to three times the width and as deep as the rootball.
- (2) Backfill with native/existing soil, removing any large debris.
- (3) Create a circular ridge of soil at the edge of the root zone forming a saucer so that rainwater flows towards the tree roots.
- (4) Always remove the nursery stake.
- (5) Tree guying/staking. General tree staking/guying is not recommended except for the following:
 - (a) Where the tree falls over after the nursery stakes are removed.
 - (b) In high-wind areas.
 - (c) If required, guying/staking shall follow best current practices as approved by the Township's Plant Expert.
- (6) If guyed, remove all tree guying material one year after planting.
- (7) All plantings should be mulched to a depth of three inches in a six-foot diameter ring around the base of each tree or continuous beds if trees or shrubs are less than six feet apart. Mulch should not be placed against tree trunks and should be placed four inches to six inches away from the tree trunk flare.
- (8) Pruning. Based on best current ANSI A300 and ANSI Z60.2 practices, each plant shall be pruned to preserve the natural character of the plant.
- (9) Plant material. Trees shall be nursery grown stock of specimen quality. They shall be of symmetrical growth or typical of the variety and supplied from sources in the same hardiness zone as the development is located and free of insect or disease problems.
- (10) Alternate planting methods are acceptable upon approval of the Township's Plant Expert.

- (11) Approved street tree list (see Exhibit 1 located at the end of this chapter). Other native species not listed and native cultivars may be used with prior approval of the Township's Plant Expert.

H. Applicable Standards.

- (1) ANSI A300 Tree Care Standards-2023. Tree Care Industry Association (TCIA) <https://treecareindustryassociation.org/business-support/ansi-a300-standards/>
- (2) American Standard for Nursery Stock, ANSI Z60.2-2025. American Horticulture Industry Association d/b/a American Hort an ANSI-accredited Standards Developing Organization www.AmericanHort.org
- (3) Hortus Third, the Staff of the L.H. Bailey Hortorium. 1976. MacMillan Publishing Co., New York.
- (4) All standards shall include the latest additions and amendments as of the date of advertisement for bids.
- (5) Any standards necessary for and incidental to the execution and completion of planting not expressly addressed by this section shall be found in the applicable standards specified herein.

Exhibit “B”

Chapter 178 – “Subdivision and Land Development”

Article IX - “Landscape and Open Lands Requirements”

Section 82 – “Buffer Yards”

§178-82. Buffer Yards.

- A. All buffer requirements of the Lower Makefield Township Zoning Ordinance regarding requirements for buffers, type of buffer, buffer width and planted area shall be met.
- B. Type I buffer. Buffer design and plant materials (nonresidential/residential separation buffer and single-family/multifamily separation buffer) shall be as follows:
 - (1) A twenty-five-foot wide buffer is required.
 - (2) Berming shall be provided. Berms shall be between two and five feet in height and shall meander in a naturalistic fashion without adversely affecting drainage. Slope-to-height ratios shall not be less than three to one.
 - (3) Evergreen trees shall be a minimum of 5 to 6 feet in height and balled and burlapped or containerized; evergreens shall be planted in a naturalistic fashion, averaging one tree for each 20 feet of buffer, and planted in a manner as to not overtake walks, paths, sidewalks, drives and roadways at the planting's maturity. Evergreen trees shall be planted a minimum distance of 12 feet from any sidewalk.
 - (4) Shade trees shall be a minimum of 2 to 3 inches in caliper; one shade tree for every three evergreen trees.
 - (5) Ornamental flowering trees shall be a minimum of 6 to 8 feet in height; minimum of 1½ to 2½ inch caliper. One flowering tree is required for every three evergreen trees.
 - (6) Shrubs shall be not less than 18 to 36 inches in height and planted in naturalistic groupings of mixed plant varieties and sizes in masses within mulched planting beds; five shrubs for every evergreen tree with not more than 75% being deciduous varieties and not less than 50% being ornamental flowering varieties.
 - (7) Groundcovering plants shall be 18 inches in height maximum at maturity; planted in masses with shrub beds at a rate of one per square foot of shrub bed area with a minimum of 10 plants for each shrub.

Summary of Type 1 Buffer Planting Requirements

Plant Types	Size	Plant Quantities Required
Evergreens	5 to 6 feet minimum height	1 evergreen per 20 feet of buffer length
Shade trees	12 to 14 feet minimum height; 2 to 3-inch minimum caliper	1 shade tree per every 3 evergreens or approximately 1 per 60 feet of buffer length
Ornamental flowering trees	6 to 8 feet minimum height; 1 ½ to 2 ½-inch minimum caliper	1 flowering tree per every 3 evergreens or approximately 1 per 60 feet of buffer length
Shrubs	Minimum of 18 to 36 inch height	5 shrubs for every 1 evergreen tree or approximately 1 per 4 feet of buffer length
Groundcovering plants	18 inch maximum height at maturity	10 plants for every 1 shrub

C. Type II buffer. Buffer design and plant materials (reverse frontage buffer) shall be as follows:

- (1) Minimum screened planted area of 25 feet closest to the street or bordering lot line.
- (2) Preserve existing native trees and supplement with shade- tolerant evergreens, ornamental trees and shrubs selected from the Township's plant list. (See Exhibit 1 located at the end of this chapter.)
- (3) Planted area shall completely screen the views of abutting yards from the street from ground level to six feet above ground level at plant maturity.
- (4) Berming shall be provided; vertically and horizontally meandering berms suggesting a rolling landscape shall be incorporated into the grading design without adversely affecting drainage. Berms shall be two feet to five feet in height and shall vary in height and slope. Slope shall not exceed three to one.
- (5) Planting requirements.

Plant Types	Size	Plant Quantities Required
Shade Trees	12 to 14 feet minimum height; 2 to 3-inch minimum caliper	50 trees per 1,000 linear feet of buffer
Evergreen	5 to 6 feet minimum height	55 trees per 1,000 linear feet of buffer
Ornamental flowering trees	6 to 8 feet minimum height; 1 ½ to 2 ½-inch minimum caliper	10 trees per 1,000 linear feet of buffer
Shrubs	18 to 36 inches minimum height	150 shrubs per 1,000 linear feet of buffer

D. Type III buffer. Buffer design and plant material (farmland buffer) shall be as follows:

- (1) The buffer width shall be 35 feet, in which a ten-foot-wide planted area is required on the farmland side of the property line.
- (2) The farmland area shall be separated from the residential area by a five-foot-high chain link fence or approved substitute placed at the property line.
- (3) The 10 feet immediately adjacent to the fence on the residential side of the property line shall be planted with appropriate native species in informal groupings to achieve a naturalized farmland buffer as an adequate separation between farmland and developed land.
- (4) The remaining 25 feet abutting the farmland on the farmland side of the property line shall be planted in grasses or wildflowers to be mowed or groundcover plants. Buffer areas having a slope of four to one or steeper shall require groundcover plantings.
- (5) Planting requirements.

Plant Types	Size
Shade Trees	12 to 14 feet minimum height; 2 to 3 inch minimum caliper

Evergreen	5 to 6 feet minimum height
Ornamental flowering trees	6 to 8 feet minimum height; 1 ½ to 2 ½ inch minimum caliper
Shrubs	18 to 36 inches minimum height

E. Type IV buffer. Buffer design and plant materials (separates institutional use from residences and accessory uses) shall be as follows:

(1) A twelve-foot-wide buffer area is required.

(2) Provide berming two feet to three feet in height with masses of evergreen, shade and ornamental trees and shrubs. All neighboring properties shall be screened from parking areas using a double row of ornamental shrubs or upright habit evergreens. The screening shrubs should be spaced to form a compact hedge.

(3) Planting requirements.

Plant Types	Size	Plant Quantities Required
Shade Trees	12 to 14 feet minimum height; 2 to 3-inch minimum caliper	1 tree per 25 linear feet of buffer
Ornamental flowering trees	6 to 8 feet minimum height; 1 ½ to 2 ½-inch minimum caliper	
Shrubs	3 feet minimum height	5 shrubs per each shade tree

F. Type V buffer. Buffer design and plant materials (vision screen for storage and maintenance activities) shall be as follows:

(1) A buffer wide enough to accommodate a fence and plantings abutting the fence, as described below, is required.

(2) A solid approved fence shall be provided and shall be placed within the building envelope and not in any required yard area. The fence height shall be adequate to provide a complete visual screen from adjoining properties but not to exceed eight feet in height. Fence details shall be provided with the landscape plan and are subject to approval by the Township.

(3) Along the exterior face of the fence there shall be a row of ornamental shrubs and/or

evergreens in a hedge-like configuration planted at a rate to obscure the appearance of the fencing after a five-year growing period. Minimum shrub and upright habit evergreen height at planting shall be three feet.

G. Type VI buffer. Buffer design and plant materials (placed between a commercial, industrial and shopping center use and the street) shall be as follows:

- (1) A ten-foot-wide buffer area is required.
- (2) Shrubs with a planted minimum height of three feet shall be planted, with shade trees interspersed, in a continuous band with a spacing not exceeding five feet on center for shrubs and 30 feet on center for trees.
- (3) Planting requirements.

Plant Types	Size
Shade Trees	12 to 14 feet minimum height; 2 to 3 inch minimum caliper
Ornamental Flowering Trees	6 to 8 feet minimum height; 1 ½ to 2½ inch minimum caliper

H. Plant materials suitable for buffers may be found in Exhibit 1, Lower Makefield Township’s Native Plant List, located at the end of this chapter. Other native species not listed and native cultivars may be used with prior approval of the Township’s Plant Expert. All required plants shall be native plants with the exception that not more than 10% of required ornamental flowering trees and shrubs may be non-native species subject to the approval of the Township.

I. Buffer yards within the Historic District. The following buffer standards shall apply and supersede all other provisions of this subsection for the Historic District, which includes all or a portion of the following zoning districts:

H-C	Historic Commercial
C-1	Commercial Neighborhood Shopping
R-2	Residential Medium Density
R-4	Residential Multiple-Family High Density

- (1) Summary of buffer locations and types.

Required Locations	Types of Buffer				
	I	II	III	IV	V
Nonresidential/ residential	X				

separation buffers			
Single-family/ multifamily separation buffers	X		
Farmland preservation buffer		X	
Institutional/ residential separation buffers			X
Residential accessory uses in residential districts			X
Visual screen for storage and maintenance activities			X

(2) Types of buffer.

(a) Nonresidential/residential separation buffers. A buffer shall be provided wherever a nonresidential use abuts a residential use or a residentially zoned district. The buffer shall be located on the nonresidential property and shall be located along the side and/or rear property line(s) abutting the residential use or district.

- [1] A Type I buffer shall be required.
- [2] The minimum buffer width shall be five feet.
- [3] There shall be an approved solid board fence a minimum of five feet in height.
- [4] For buffer design and plant materials, see Chapter 178, Subdivision and Land Development, for Type I buffer design and planting standards.

(b) Single-family/multifamily separation buffers. Buffers shall be provided wherever a multifamily residential development, single-family attached development or a mobile home park abuts a single-family residential use or district. The buffer shall be located on the multifamily or mobile home park property.

- [1] A Type I buffer shall be required.
- [2] The minimum buffer width shall be five feet.
- [3] There shall be an approved solid board fence a minimum of five feet in height.
- [4] For buffer design and plant materials, see Chapter 178, Subdivision and Land Development, for Type I buffer design and planting standards.

(c) Preserved open space buffer, such as woodland or farmland. A buffer yard shall be required adjacent to all preserved open space on the side where open space abuts adjacent residential uses or land zoned for residential uses.

- [1] A Type III buffer shall be required.
- [2] The minimum buffer width shall be five feet.
- [3] There shall be a split rail fence with turkey wire attached, or approved substitute, a minimum of four feet in height.
- [4] For buffer design and plant materials, see Chapter 178, Subdivision and Land Development, for Type III buffer design and planting standards.

(d) Institutional/residential separation buffers. A buffer shall be provided by an institutional use which abuts a residential use or residential district.

- [1] A Type IV buffer shall be required.
- [2] The minimum buffer width shall be five feet.
- [3] There shall be an approved solid board fence a minimum of five feet in height.
- [4] For buffer design and plant materials, see Chapter 178, Subdivision and Land Development, for Type IV buffer design and planting standards.

(e) Residential accessory uses in residential districts. A buffer shall be provided by a residential use where an accessory use has been permitted by special exception which shall separate parking areas and yard areas from adjacent residences or residential districts.

[1] A Type IV buffer shall be required.

[2] The minimum buffer width shall be five feet.

[3] There shall be an approved solid board fence a minimum of five feet in height.

[4] For buffer design and plant materials, see Chapter 178, Subdivision and Land Development, for Type IV buffer design and planting standards.

(f) Visual screen for storage and maintenance activities. An approved solid fence with evergreen plantings along the exterior face shall be required to be planted around storage areas and maintenance yards to provide security and a complete visual screen.

[1] A Type V buffer shall be required.

[2] The minimum buffer width shall be five feet.

[3] There shall be an approved solid board fence a minimum of five feet in height to a maximum of seven feet.

[4] For buffer design and plant materials, see Chapter 178, Subdivision and Land Development, for Type V buffer design and planting standards.

(g) Parking lot periphery for commercial, institution and office use. A landscaped area with a minimum of five feet in width shall be provided at the periphery of all lots used for commercial, office or industrial activities.