

**Section 433, Parking Lot Landscaping – INTERNAL, QUANTITY**

320 ft<sup>2</sup> per parking space is an approximate conversion factor between parking spaces and area.

Existing	500 ft <sup>2</sup> planting area per 10 spaces for parking lots accommodating 10+ vehicles. <ul style="list-style-type: none"> <li>Between 10% and 13% of any parking lot above that size is landscaping</li> </ul>			
Adopted MCPC Model	One planting island / 200 ft <sup>2</sup> every 15 spaces. <ul style="list-style-type: none"> <li>No more than 15 spaces in a row without an island.</li> <li>Alternately: one canopy tree / 10 spaces in other planting areas at BoC discretion</li> </ul> Planting strips to divide parking lots into smaller sections. <ul style="list-style-type: none"> <li>40 stalls max in residential developments</li> <li>100 stalls max in nonresidential developments</li> </ul>			
Cheltenham	Minimum landscaping area graduates according to total vehicular use area, in <i>addition</i> to perimeter landscaping requirements.			
	VUA sqft	% required as landscaping	<i>Approx. Spaces</i>	<i>Sqftage req'd</i>
	0 – 4,999	0%	0 – 15	0
	5,000 – 14,999	6%	14 – 44	300 – 749.95
	15,000 – 49,999	8%	43 – 143	1,200 – 3,999
	50,000 – 99,999	10%	140 – 281	5,000 – 9,999
	100,000 – 149,999	13%	271 – 407	13,000 – 19,499
	>= 150,000	15%	398+	22,500 +
If add'l spaces are added to a lot under 5ksf, pushing it above 5ksf, percentage shall be calculated for all VUA on the site. Plantings will be distributed throughout the entire interior in parking lot additions.				
Planting islands and strips may be arranged in a manner to satisfy the percentage requirement.				
Whitemarsh	Minimum 10% any parking lot facility over 2,000 sqft			
L Merion	Minimum landscaping area graduates according to total vehicular use area, in <i>addition</i> to perimeter landscaping requirements.			
	VUA sqft	% required as landscaping	<i>Approx. Spaces</i>	<i>Sqftage req'd</i>
	0 – 4,999	0%	0 – 15	0
	5,000 – 14,999	6%	14 – 44	300 – 749.95
	15,000 – 49,999	8%	43 – 143	1,200 – 3,999
	50,000 +	10%	140+	5,000+
	If add'l spaces are added to a lot under 5ksf, pushing it above 5ksf, percentage shall be calculated for all VUA on the site. Plantings will be distributed throughout the entire interior in parking lot additions.			
	Planting islands and strips may be arranged in a manner to satisfy the percentage requirement.			

Section 433, Parking Lot Landscaping – INTERNAL, DESIGN

Existing	<p>Minimum island is 200 ft<sup>2</sup>, 6 ft x 33 ft</p> <p>Use curbs, bollards, railings, etc to protect planting material.</p> <p>Don't obstruct or interfere with pedestrian circulation.</p>
Model	<p>Minimum island is one parking stall, 10 ft x 20 ft</p> <p>Minimum strip is 15 ft wide, along the length of a parking row</p>
Cheltenham	<p>Any paved + curbed area &gt; 50 sqft shall incorporate a planting area.</p> <p>Minimum island is 324 ft<sup>2</sup>, 9 ft x 36 ft (eg 2 parking spaces)</p> <ul style="list-style-type: none"> <li>• Single loaded parking rows may be 162 ft<sup>2</sup>, 9 ft x 18 ft</li> <li>• Provided at end of all parking rows.</li> <li>• When accessible parking located at end of row, provide island in close proximity.</li> </ul> <p>Minimum planting strip is 9 ft wide</p> <ul style="list-style-type: none"> <li>• Required for parking lots with 100+ spaces</li> </ul>
Whitemarsh	<p>Planted to provide maximum shade for parked vehicles.</p> <p>Species selected should tolerate salt and heat. Avoid low-growing branches, gum or moisture that might drop on vehicles, or blossoms thorns seeds or pods that could clog drains.</p>
L Merion	<p>Distribute planting islands and areas to maximize tree canopy coverage.</p> <p>Encouraged to consolidate planting areas for more soil volume or stormwater management</p> <p>Any paved + curbed area &gt; 50 sqft shall incorporate a planting area.</p> <p>Minimum island is 340 ft<sup>2</sup>, 9 ft x 37 ft (eg 2 parking spaces)</p> <ul style="list-style-type: none"> <li>• Can be reduced to 270 sqft if compact spaces</li> <li>• Provided at the end of all parking rows and every 12 spaces <ul style="list-style-type: none"> <li>○ When accessible parking at end of row, provide island in close proximity</li> <li>○ Ratio of parking space : island can be altered at discretion of twp engineer or director of building and planning</li> </ul> </li> </ul> <p>Minimum planting strip is 5 feet wide</p> <ul style="list-style-type: none"> <li>• Noncommercial lots &gt; 50 cars require a 15 foot planting strip</li> <li>• Parallel rows of parking spaces not separated by a drive aisle shall be separated by a planting strip</li> <li>• A row of parking spaces between two drive aisles will be separated by one drive aisle by a planting strip</li> </ul> <p>Nonresidential Lots, 50-100 cars -&gt; One planting island every 10 spaces  Nonresidential Lots, 100+ cars -&gt; Use Planting strips to divide lots into sections &lt;100 stalls</p> <ul style="list-style-type: none"> <li>• Separate major drive aisles from parking spaces</li> </ul>

Section 433, Parking Lot Landscaping – INTERNAL, PLANTING REQUIREMENTS

Existing	<p>Per 500 ft<sup>2</sup></p> <ul style="list-style-type: none"> <li>• 2 canopy trees</li> <li>• 1 understory tree</li> <li>• 6 shrubs</li> <li>• Ground cover or mulch to 100%</li> </ul>
Adopted MCPC Model	<p>Per island (200 ft<sup>2</sup> landscaping)</p> <ul style="list-style-type: none"> <li>• 1 shade tree</li> <li>• Low shrubs and/or ground cover to 100%</li> </ul> <p>Per planting strip</p> <ul style="list-style-type: none"> <li>• 1 canopy tree every 25 ft</li> <li>• Low shrubs and/or ground cover to 100%</li> </ul>
Cheltenham	<p>Per 300 ft<sup>2</sup> landscaping</p> <ul style="list-style-type: none"> <li>• 1 canopy tree</li> <li>• Shrubs, grasses, and/or ground cover to 85%</li> <li>• Shrubs + grasses limit to 2 feet at corners</li> <li>• Prune trees for sight distance</li> </ul>
Whitemarsh	<p>Per 2 parking spaces (approx. 64 ft<sup>2</sup> landscaping)</p> <ul style="list-style-type: none"> <li>• One 3-inch caliper tree</li> </ul>
L Merion	<p>Per island (340 ft<sup>2</sup> landscaping)</p> <ul style="list-style-type: none"> <li>• 1 canopy tree</li> <li>• Shrubs, grasses, and/or ground cover to 85%</li> <li>• Shrubs + grasses limit to 2 feet at corners</li> <li>• Limb trees to 7 feet for sight distance</li> </ul> <p>New lots with more than 20 spaces must incorporate bioretention elements into the design.</p> <p>Per 200 ft<sup>2</sup> bioretention area</p> <ul style="list-style-type: none"> <li>• 2 large canopy trees OR 6 understory trees</li> <li>• 6 large shrubs OR 12 small shrubs and 8 grasses</li> </ul> <p>Between 25% and 50% of plant materials shall be evergreen</p>

Section 433, Parking Lot Landscaping – BUFFER WIDTH

Existing	<p>Off-street parking except single-family detached shall be landscaped.</p> <p>Buffers along front yard, as well as side and rear yard boundaries.</p> <ul style="list-style-type: none"> <li>• Screening – 10-15 feet</li> <li>• Softening - Min 15 feet</li> </ul>
Proposed Update to Zoning	<p>All parking lots and loading areas shall have a perimeter screening buffer.</p> <ul style="list-style-type: none"> <li>• 10-15 foot width</li> </ul>
Adopted MCPC Model	<p>All parking lots shall have a perimeter moderate-intensity buffer.</p> <ul style="list-style-type: none"> <li>• Min 10 foot width</li> </ul>
MCPC Updates to Model	<p>Parking lots abutting other properties</p> <ul style="list-style-type: none"> <li>• Min 15 foot width</li> <li>• If land use requires high intensity buffer, use that instead</li> </ul> <p>Street or sidewalk boundaries</p> <ul style="list-style-type: none"> <li>• Min 10 foot width</li> </ul>
Cheltenham	<p>Parking lots abutting other properties</p> <ul style="list-style-type: none"> <li>• Min 15 foot width</li> <li>• If land use requires more intense buffer, use that instead</li> </ul> <p>Street or sidewalk boundaries</p> <ul style="list-style-type: none"> <li>• Min 10 foot width</li> </ul>
Whitemarsh	<p>Nonresidential parking buffer- minimum 50 feet</p> <ul style="list-style-type: none"> <li>• None for industrial or other nonresidential parking</li> </ul>
L Merion	<p>Parking lots abutting other properties</p> <ul style="list-style-type: none"> <li>• Min 10 foot width</li> <li>• If land use requires higher intensity buffer, use that instead</li> </ul> <p>Street or sidewalk boundaries</p> <ul style="list-style-type: none"> <li>• In Medium Density Residential, Village Center, Town Center, and Rock Hill Road districts, if frontage is not occupied by a building, forecourt, or driveway, it will be occupied by a 'street screen' coplanar with the primary façade. Parking must be behind the screen.</li> </ul>



Section 433, Parking Lot Landscaping – BUFFER CONTENTS

Existing	<p>Buffer type at BoC discretion.</p> <ul style="list-style-type: none"> <li>• Screening per 35 feet length <ul style="list-style-type: none"> <li>○ 1 canopy tree</li> <li>○ 1 understory tree</li> <li>○ 4 evergreen shrubs</li> <li>○ 4 deciduous shrubs</li> </ul> </li> <li>• Softening <ul style="list-style-type: none"> <li>○ 1 canopy tree</li> <li>○ 1 understory tree</li> <li>○ 1 evergreen tree</li> </ul> </li> </ul>
Proposed Update to Zoning	<ul style="list-style-type: none"> <li>• Per 35 feet length <ul style="list-style-type: none"> <li>○ 1 canopy tree</li> <li>○ 1 understory tree</li> <li>○ 4 evergreen shrubs</li> <li>○ 4 deciduous shrubs</li> </ul> </li> </ul>
Adopted MCPC Model	<ul style="list-style-type: none"> <li>• Per 100 feet length <ul style="list-style-type: none"> <li>○ 2 canopy tree</li> <li>○ 2 understory trees</li> <li>○ 5 evergreen trees</li> <li>○ 5 shrubs</li> </ul> </li> </ul>
MCPC Updates to Model	<p>Parking lots abutting other properties</p> <ul style="list-style-type: none"> <li>• Per 100 feet length <ul style="list-style-type: none"> <li>○ 2 canopy trees</li> <li>○ 2 understory trees</li> <li>○ 5 evergreen trees</li> <li>○ 5 shrubs</li> </ul> </li> <li>• If land use requires high intensity buffer, use that instead</li> </ul> <p>Street or sidewalk boundaries</p> <ul style="list-style-type: none"> <li>• Per 100 feet length <ul style="list-style-type: none"> <li>○ 1 canopy tree</li> <li>○ 2 understory trees</li> <li>○ 2 evergreen trees</li> </ul> </li> <li>• Alternatively, per 100 feet length <ul style="list-style-type: none"> <li>○ Max 3 foot tall stone, brick, or metal fence / wall + 4 canopy trees + 12 evergreen shrubs</li> </ul> </li> </ul>
Cheltenham	<p>Mix of evergreen, deciduous canopy, understory trees and shrubs.</p> <ul style="list-style-type: none"> <li>• ½ of trees will be evergreen.</li> </ul> <p>Alternatively, per 100 feet length</p> <ul style="list-style-type: none"> <li>• Max 3 foot tall stone or metal fence / wall</li> <li>• 4 canopy tree</li> <li>• 12 evergreen shrubs</li> </ul>
Whitemarsh	<p>Nonresidential parking buffer</p> <ul style="list-style-type: none"> <li>• Adjacent to office, retail, utilities -&gt; 2.5 canopy + 3.33 evergreen / 100 feet <ul style="list-style-type: none"> <li>○ Adjacent to residential -&gt; 12 evergreens / 100 feet OR 7 evergreens / 100 feet + 4 foot berm</li> </ul> </li> </ul>

L Merion	<p>Parking lots abutting other properties</p> <ul style="list-style-type: none"><li>• Per 100 feet length<ul style="list-style-type: none"><li>○ 2 canopy trees</li><li>○ 2 understory trees</li><li>○ 5 evergreen trees</li><li>○ 5 shrubs</li></ul></li><li>• If land use requires higher intensity buffer, use that instead</li></ul> <p>Street or sidewalk boundaries</p> <ul style="list-style-type: none"><li>• In Medium Density Residential, Village Center, Town Center, and Rock Hill Road districts, if frontage is not occupied by a building, forecourt, or driveway, it will be occupied by a 'street screen' coplanar with the primary façade. Parking must be behind the screen.</li></ul>
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Section 435, General Landscape Design Criteria

Existing	<p>Species of planting from list on file at township office</p> <p>30% maintenance bond for plants that are damaged in 18 months</p> <p>Tree species mix</p> <table border="1" data-bbox="396 474 1469 690"> <thead> <tr> <th>Number of trees</th> <th>Min. # species</th> <th>Max % of any 1 species</th> </tr> </thead> <tbody> <tr> <td>1 – 5</td> <td>1</td> <td>100%</td> </tr> <tr> <td>6 – 15</td> <td>2</td> <td>50%</td> </tr> <tr> <td>16 – 30</td> <td>3</td> <td>40%</td> </tr> <tr> <td>31 – 50</td> <td>4</td> <td>30%</td> </tr> <tr> <td>51 and over</td> <td>6</td> <td>20%</td> </tr> </tbody> </table> <p>Vegetation not to be installed as landscape material: Norway maple, Sycamore maple, Silver maple, Japanese honeysuckle, Morrow honeysuckle, Bradford callery pear, Japanese knotweed, Kudzu, Siberian elm, Poplars, Willows</p>	Number of trees	Min. # species	Max % of any 1 species	1 – 5	1	100%	6 – 15	2	50%	16 – 30	3	40%	31 – 50	4	30%	51 and over	6	20%
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16 – 30	3	40%																	
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51 and over	6	20%																	
Model	<p>Planting in arrangements and locations to mitigate adverse impacts of the proposed site development. Distribute plant material over the length and width of the required buffer.</p> <p>Trees shall be selected from an adopted list.</p> <p>Location, dimension, and spacing of plantings should be adequate for growth and maintenance, while considering visual mitigation requirements.</p> <p>Locate plantings where they will not be hazardous to public safety.</p> <p>Meet minimum health, form, root condition standards of AAN.</p> <p>Hardy to Springfield Township USDA hardiness zone. (Presently 7a, was previously 6b)</p> <p>Tree species mix</p> <table border="1" data-bbox="402 1381 1476 1598"> <thead> <tr> <th>Number of trees</th> <th>Min. # species</th> <th>Max % of any 1 species</th> </tr> </thead> <tbody> <tr> <td>1 – 5</td> <td>1</td> <td>100%</td> </tr> <tr> <td>6 – 15</td> <td>2</td> <td>50%</td> </tr> <tr> <td>16 – 30</td> <td>3</td> <td>40%</td> </tr> <tr> <td>31 – 50</td> <td>4</td> <td>30%</td> </tr> <tr> <td>51 and over</td> <td>6</td> <td>20%</td> </tr> </tbody> </table> <p>Existing healthy trees, shrubs, or woodlands may be substituted for plant material at discretion of BoC. Visual effect / quantities shall be equal to or exceed required buffer.</p>	Number of trees	Min. # species	Max % of any 1 species	1 – 5	1	100%	6 – 15	2	50%	16 – 30	3	40%	31 – 50	4	30%	51 and over	6	20%
Number of trees	Min. # species	Max % of any 1 species																	
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51 and over	6	20%																	
Additions to model	<p>If applicant requests waiver of landscaping requirements, grant of waiver may be condition on payment of a fee-in-lieu.</p>																		

	Before approval, applicant shall sign and record an operation and maintenance agreement, subject to review and approval by twp solicitor.
Cheltenham	<p>Alternate plant species / cultivars shall only be approved by BoC if one or more of the following:</p> <ul style="list-style-type: none"> <li>• Suggested alternative more effectively implements intent and goals of chapter</li> <li>• Plant materials are recommended for approval by shade tree commission</li> <li>• Plant materials are native to the region</li> </ul> <p>Invasive and watch list species on governmental list of invasive species</p> <ul style="list-style-type: none"> <li>• Prohibited from use for landscaping requirement</li> <li>• Must be removed when present on a site under development</li> </ul> <p>75% of planting material will be native plants, based on total number of individual plants proposed.</p> <p>Species mix on basis of plant type – eg, canopy tree, understory tree, shrub, etc.</p>
Whitemarsh	Some listed in individual zoning districts, but not the township as a whole.
L Merion	<p>In selecting locations for shade trees, consideration shall be given to aesthetic qualities of the site and to the protection of solar access.</p> <p>Planting plans are required, and must be prepared by an RLA.</p> <p>80% of planting material shall be native species, calculated separately by category.</p> <ul style="list-style-type: none"> <li>• Evergreen trees shall be 60% native.</li> </ul>



Section 436, Plant Material and Planting Specifications

Existing	<p>Canopy Trees</p> <ul style="list-style-type: none"> <li>• 2 ½ - 3 inches in caliper</li> <li>• Table of permitted canopy trees is on file</li> </ul> <p>Understory Trees</p> <ul style="list-style-type: none"> <li>• 2 – 2 ½ inches in minimum caliper</li> <li>• Table of permitted understory trees is on file</li> </ul> <p>Evergreen trees</p> <ul style="list-style-type: none"> <li>• Minimum height of 6 feet</li> <li>• Not for use as street trees</li> <li>• Table of permitted evergreen trees is on file</li> </ul> <p>Shrubs</p> <ul style="list-style-type: none"> <li>• Minimum height of 3 feet</li> <li>• Any locally grown shrub native or well-adapted to SE PA</li> </ul> <p>Shall not at maturity obstruct traffic signs, signals, or visibility at intersections, driveways, in parking lots</p> <p>All material should be locally grown nursery stock, free of insects, pests, and disease. Be in conformity with standards of AAN.</p> <p>Install to ensure sufficient soil, water, and drainage to sustain healthy growth. No impervious material in dripline of trees or shrubs at maturity.</p> <p>30 inches of soil, at least 12 of loose friable topsoil.</p> <p>Raise planter above ground level or subsurface drainage should be specified.</p> <p>Street trees shall have min. 2 ½ inch caliper and clearance of 7 feet under lowest branches</p> <p>Pruning of buffer, street, and parking lot trees is limited to</p> <ul style="list-style-type: none"> <li>• Provide 12 ft clearance above streets + sidewalks</li> <li>• Provide clear sight triangles at intersections</li> <li>• Provide 6 ft clearance radius for wires + cables</li> <li>• Remove hazardous tree limbs</li> </ul> <p>No topping of trees.</p> <p>Preserve natural form of tree during pruning.</p>
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	Required buffer, street, and parking lot trees that are damaged and must be replaced shall be replaced with trees of minimum 3 ½ inch caliper. Fine of \$1,000 for intentional damage / removal.
Model	<p>Canopy Trees</p> <ul style="list-style-type: none"> <li>• 30' min mature height</li> <li>• 30' mature spread</li> <li>• Deciduous</li> <li>• 2 ½ inch caliper at planting</li> </ul> <p>Ornamental Trees / Large Shrubs</p> <ul style="list-style-type: none"> <li>• 15' min mature height</li> <li>• Deciduous or evergreen</li> <li>• Distinctive ornamental characteristic like flowers, fruit, habitat, foliage, or bark</li> <li>• Trees – Min 6' height or 1 ½ inch caliper at planting</li> <li>• Large shrubs – min 2 ½ foot height at planting</li> </ul> <p>Small shrubs</p> <ul style="list-style-type: none"> <li>• 4' min mature height</li> <li>• Deciduous or evergreen</li> <li>• Min 18" planting height</li> </ul> <p>Evergreen Trees</p> <ul style="list-style-type: none"> <li>• 20' mature height</li> <li>• Min 7' planting height</li> </ul> <p>Sight triangles shall remain clear. Unstable limbs shall be removed. Property owner responsibility.</p> <p>Maintenance guidelines should be developed by planting plan designed for use by grounds maintenance personnel.</p>
Additions to Model	<p>Minimum Soil Volumes</p> <ul style="list-style-type: none"> <li>• If planting area is less than 1000 sqft, show compliance with soil volume on plans.</li> <li>• Large trees – 1200 ft<sup>3</sup> of soil, 900 ft<sup>3</sup> when clustered</li> <li>• Medium trees – 900 ft<sup>3</sup> of soil, 700 ft<sup>3</sup> when clustered</li> <li>• Small canopy or evergreen trees – 600 ft<sup>3</sup> of soil</li> </ul> <p>If volume cannot be attained due to limited planting areas, as determined by twp engineer</p> <ul style="list-style-type: none"> <li>• Structural soils</li> <li>• Suspended pavement system</li> </ul> <p>Property owner must maintain all plantings.</p>
Cheltenham	Same as model, with additions.
Whitemarsh	Street trees shall be of nursery stock, symmetrical growth, free of insects pests and disease, suitable for street use, and in conformance with the American Association of Nurserymen standards.

L Merion	<p>All plant material used on the site shall have been grown within the same USDA hardiness zone as the site and shall be nursery grown.</p> <p>Any plant material that presents high or extreme risk based on ANSI Tree Risk Assessment Standards should be managed to mitigate the risk.</p> <p>Otherwise same as model.</p>
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### Section 433. Parking Lot Landscaping.

A. Intent. The intent of this section is as follows:

1. To promote well-designed and sustainable parking lot design and retrofit designs which produce environmental benefits.
2. To incorporate appropriate native plant species into the suburban environment to promote greater landscape resiliency and to enhance the natural environment of the Township.
3. To integrate stormwater management and landscape design by the use of plants to promote compliance with state water quality mandates by encouraging the detention, treatment, infiltration, and groundwater recharge of rainwater.
4. To shade paved surfaces to mitigate the urban heat island effect from large areas of pavement.
5. To improve the performance of existing parking lots when a redevelopment or retrofit is proposed.
6. To provide effective landscape buffers for visual screening and noise abatement of vehicular uses and parking.

#### **Options For the Planning Commission to Consider:**

B. Applicability. All off-street parking areas and all loading areas shall be landscaped in accordance with the requirements of this section.

B. Applicability. Unless otherwise expressly stated, the requirements of this section shall apply to any of the following:

1. Any newly constructed parking or loading area.
2. The expansion of an existing parking or loading area if the expansion would increase the parking or loading area beyond ten parking spaces.
3. The in-place reconstruction of an existing parking or loading area larger than ten parking spaces, if such work involves the full-depth pavement removal of [50%] or more of said parking lot.

C. Interior Landscaping Area Standards. Each surface parking lot shall be landscaped in accordance with the following standards:



**Options For the Planning Commission To Consider:**

- 1. Minimum interior landscaping area requirements. The minimum required interior landscaping area of parking and off-street loading areas shall be a percentage of the total parking and off-street loading areas on a lot, in accordance with [figure] below.

Vehicle Use Area (VUA)	% of VUA Required as Interior Landscaping Area
0 to 4,999 square feet	0%
5,000 to 14,999 square feet	6%
15,000 to 49,999 square feet	8%
50,000 square feet or greater	10%

- 1. A minimum of 15% of any off-street parking or loading area over ten parking spaces, whether constructed immediately or reserved for future needs, shall be devoted to landscaping, inclusive of required trees.
  - a. If additional area is added at a later date which increases the lot beyond ten parking spaces, then the percentage of interior planting area required shall be calculated for the gross area of all off-street parking and loading areas on the site.
  - b. Plantings shall be distributed throughout the entire interior, including as part of the expansion of an existing off-street parking or loading area.
  
- 1. For each 10 spaces or portions thereof, at least 500 square feet of interior landscaping shall be provided.

2. Interior landscaping shall be composed of planting islands and planting strips, within which are planting areas. The sum of the pervious surface areas composed of planting soil with the depth and composition as required in this chapter shall constitute the interior landscaping area.
    - i. Planting Islands. All parking rows shall be terminated by a planting island, provided that in such cases where accessible parking and gore areas are provided at the end of row, planting islands shall be accommodated elsewhere along the row in close proximity to the row end.
      1. The minimum size of each planting island shall be equal to a single parking space, measured from the outside of the curb. Where the parking row is double-loaded, the minimum size of the planting island shall be 324 square feet with a minimum width of nine (9') feet, measured from the outside of the curb.
    - ii. Planting Strips. Planting strips shall be located parallel to rows of parking to separate main access driveways from rows of parking spaces, to separate other major driveways from rows of parking spaces, and to separate larger parking areas into smaller units consisting of no more than six (6) rows of parking stalls. Planting strips shall have a minimum width of five (5) feet.
  3. Minimum ground coverage and canopy coverage of planting material shall be 85% of the designated interior landscaping area, as determined by the design canopy / ground coverage of the plant species proposed.
    - iii. A minimum of one canopy tree shall be provided for each three hundred (300) square feet of interior landscape areas provided or fraction thereof. Such canopy trees shall be well-distributed throughout the VUA.
  4. The applicant shall provide the number and locations of planting areas, islands, and strips on submitted plans.
- D. Perimeter Landscape Strip Requirements. For all parking lots which abut an adjacent property where no right-of-way intervenes, a fifteen (15') foot wide landscaping strip satisfying the requirements of a moderate-intensity buffer as listed in §435.B shall be provided between the parking lot and the property line. If any of the proposed land uses or site elements of the property are already subject to a buffer requirement as required in Section [432, Buffer Plantings] or in Chapter 115, Zoning, the greater buffer width and planting requirements shall apply.
- E. Street and Sidewalk Buffer Requirements. For vehicular use areas of any size abutting a public street, private street, or sidewalk, the applicant shall provide one of the following buffer options along the entire frontage of the vehicular use area:

1. A ten (10') foot wide landscape strip satisfying the requirements of a low-intensity buffer in §435.B; or
  2. A wall or fence, no greater than three (3) feet in height, comprised of natural stone, brick, decorative metal, or a combination thereof, along with one (1) large canopy tree and three (3) evergreen shrubs for every twenty-five (25') linear feet of frontage, or portion thereof.
- F. Parking Landscaping Design Standards.
1. Interior landscaping areas should be distributed throughout the parking lot to maximize tree canopy coverage over the entire parking lot. However, interior landscaping areas may be consolidated into larger islands in order to provide greater soil volumes for plants, or to accommodate stormwater BMPs.
  2. Curb Cuts and Inlets. Curb cuts and inlets at the edge of planting islands, planting strips, and perimeter buffers serving as infiltration areas shall be provided to allow rainwater to enter the planting areas. Curbs separating landscape areas from parking shall have cuts or other features to allow stormwater to flow to the bioretention area.
  3. Maintenance. The design and planting schemes for all bioretention or other stormwater management features shall take into account future maintenance capacity. Specific maintenance guidelines shall be provided with the plans.
  4. For parking areas without curb inlets that use wheel stops and a continuous parking edge, a stone buffer area between the paved surface and planting area is required to retard sheet flow and minimize erosion into the absorbent areas. Stones can be used at curb depressions to dissipate sheet flow along parking lots.
  5. At least 25% but no more than 50% of the plant materials shall be evergreen.

#### Section 435. General Landscape Design Criteria.

The following design criteria and specifications shall apply to all plants and landscaping provided in subdivisions and land developments regulated by this chapter.

- A. Plantings shall be placed in arrangements and locations to best mitigate the adverse impacts of the proposed site development. The required plant material shall be distributed over the entire length and width of any required buffer area.
- B. Plantings shall be spaced to comply with the visual mitigation requirements with consideration given to the provision for the future growth habits and mature sizes of selected plant species.
- C. Existing healthy trees, shrubs, or woodlands may be substituted for part or all of the required plant material at the discretion of the Board of Commissioners. The minimum quantities and/or visual effect of the existing vegetation shall be equal to or exceed that of the required buffer. In order for existing vegetation to qualify for required buffer plantings,



proof must be provided to demonstrate that adequate protection measures, particularly in the plant's root zone, are incorporated into the plan.

1. Existing on-site plants may be transplanted and will count, provided that an ISA-certified arborist or other qualified professional attests to their likely survival.
- D. In the event that an applicant requests a waiver from the landscaping requirements of this article on the basis that compliance with such requirements would represent an undue hardship, the grant of any such waiver may be conditioned upon the payment to the Township of a fee-in-lieu of planting such required landscaping in accordance with the following:
1. The developer shall provide sufficient plans and documentation to establish what landscaping is to be waived and to permit the proper evaluation of the effect of the grant of the proposed waiver and the reasons for such waiver.
  2. The fee shall be based upon the value of the required landscaping that is to be waived. The calculation of which value shall be performed by a registered landscape architect licensed by the Commonwealth of Pennsylvania, and shall be based on the costs of materials, installation, relocation, and guaranty of the landscaping that is not to be installed.
  3. The fee-in-lieu of the provision of the required landscaping shall be used, unless the developer paying such fee shall agree otherwise, only for the purpose of providing for the planting of trees and other landscaping on Township-owned lands or along the streets or highways of the Township.
- E. Prior to final approval of the site's landscape plan, the applicant shall sign and record an operation and maintenance agreement or covenant. The agreement shall cover ongoing maintenance of all required plantings on the site in accordance with the approved plan. The agreement shall be subject to review and approval by the Township solicitor.

#### **Section 436. Plant Material and Planting Specifications.**

The following specifications shall apply to all plants and landscaping provided in subdivisions and land developments regulated by this chapter, and shall be demonstrated on the required landscape plans.

- A. Plant species selection shall be based on the following considerations:
1. Planting materials including trees and shrubs shall be chosen from the applicable category of approved plants from the lists maintained by Springfield Township.
  2. Any plant materials proposed but not included in the List of Approved Plants shall only be approved by the Board of Commissioners, provided the applicant demonstrates the alternative plant materials chosen satisfy at least one of the following conditions:



- i. The proposed plant materials more effectively implement the intent and goals of this chapter than all other applicable plant species in the List of Approved Plants;
  - ii. The proposed plant materials have received a recommendation for approval from the Springfield Township Shade Tree Commission; or
  - iii. The proposed plant materials are native plants to the region.
- 3. Existing site conditions and their suitability for the selected plants based on the site's soils, hydrology and microclimate.
- 4. Specific functional objectives of the plantings which may include but not be limited to visual screening, noise abatement, energy conservation, wildlife habitat, erosion control, stormwater management, and aesthetic value.
- 5. Maintenance and replacement considerations such as hardiness, resistance to insects and disease, longevity, availability, and cost of plant materials.
- 6. Minimum Native Species. A minimum of 75% of all planting material proposed shall be composed of native plants, based on the total number of individual plants proposed.
- 7. Invasive and Noxious Plants Prohibited.
  - i. Invasive and "watch-list" species listed on any governmental list of invasive species, including the Pennsylvania Department of Conservation and Natural Resources' "DCNR Invasive Plant List," and any other list as maintained and updated by DCNR for use on state lands, any state or US Department of Agriculture lists, as well as any list adopted by Springfield Township, shall be prohibited to be planted as part of any subdivision or land development in the Township.
  - ii. Such plants shall be required to be removed when present on a site under development and such plants shall not be used to satisfy any landscaping requirement of this chapter.
- 8. Minimum Species Diversity. A minimum variety of tree species per plant type (canopy tree, understory tree, shrub, etc) is required as follows. Compliance with this requirement shall be documented on the landscape plan.

Number <u>of Plants Required</u> <u>Per Plant Type</u>	Minimum Number of Tree Species <u>Per Plant Type</u>	Maximum % of Any One Species <u>Per Plant Type</u>
0-5	1	100%
6-15	2	50%
16-30	3	40%
31-50	4	30%
51+	6	20%

B. General Requirements.

1. Tree species shall be selected from the tree listing in the appendix.
2. The location, dimensions, and spacing of required plantings should be adequate for their proper growth and maintenance taking into account the sizes of such plantings at maturity and their present and future environmental requirements and tolerances including wind, moisture, and sunlight.
3. Plantings should be selected and located where they will not contribute to conditions hazardous to public safety. Such conditions include, but are not limited to, public street rights-of-way, underground and above ground utilities, and sight triangle areas required for unobstructed views at street intersections.

C. Plant Specifications.

1. All plants shall meet the minimum standards for health, form, and root condition as outlined in the American Association of Nurserymen AAN Standards.
2. All plant material shall be hardy and within the USDA Hardiness Zone applicable to Montgomery County, Pennsylvania.
3. The location, dimensions, and spacing of required plantings should be adequate for their proper growth and maintenance taking into account the sizes of such plantings at maturity and their present and future environmental requirements and tolerances including wind, moisture, and sunlight.
4. Minimum plant size and spacing at time of planting shall be:

<u>Plant Type</u>	<u>Minimum Caliper at time of Planting</u>	<u>Minimum Height at Time of Planting</u>	<u>Minimum Spacing at Time of Planting</u>	<u>Minimum Species Height at Maturity</u>
<u>Understory tree</u>	<u>2-2 ½ inches</u>	<u>--</u>	<u>15-20 feet</u>	<u>15 feet</u>
<u>Small canopy tree</u>	<u>2-2 ½ inches</u>	<u>--</u>	<u>15-20 feet</u>	<u>25 feet</u>
<u>Medium canopy tree</u>	<u>2-2 ½ inches</u>	<u>--</u>	<u>20-25 feet</u>	<u>25 feet</u>

<u>Large canopy tree</u>	<u>2-2 ½ inches</u>	<u>--</u>	<u>35-40 feet</u>	<u>25 feet</u>
<u>Large shrub</u>	<u>--</u>	<u>30 inches</u>	<u>**</u>	<u>15 feet</u>
<u>Small Shrub</u>	<u>--</u>	<u>18-24 inches*</u>	<u>**</u>	<u>--</u>
<u>Evergreen Tree</u>	<u>--</u>	<u>5-6 feet</u>	<u>--</u>	<u>20 feet</u>

\*Excludes evergreen shrubs, which may be shorter

\*\*Dependent on estimated mature width.

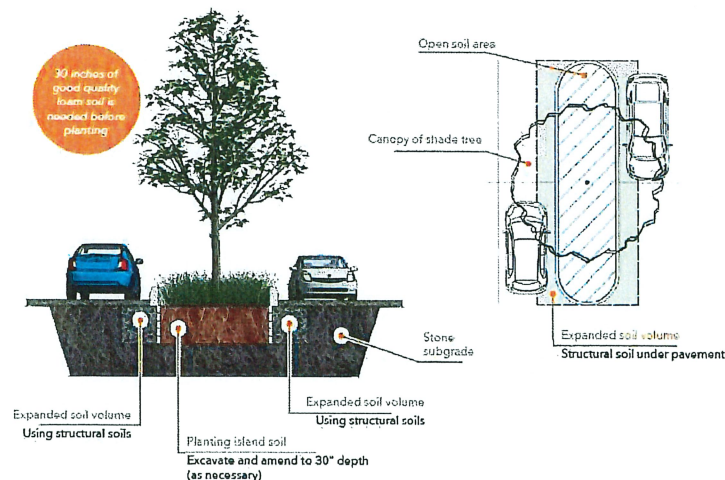
5. Small shrubs may be evergreen or deciduous.
  6. Evergreen trees shall remain evergreen throughout the year.
  7. Canopy trees or shade trees, shall reach a minimum height and spread of twenty five (25') feet at maturity as determined by the AAN Standards and shall be deciduous. New trees shall have a minimum caliper of two and a half (2 ½") inches at planting. Larger size trees may be required as street trees in commercial areas.
  8. Ornamental trees or large shrubs shall reach a typical minimum height of fifteen (15') feet at maturity, based upon AAN Standards. Trees and shrubs may be deciduous or evergreen and shall have a distinctive ornamental characteristic such as prominent flowers, fruit, habitat, foliage or bark. New ornamental trees shall have a minimum height of six (6') feet or one and a half (1 1/2") inch caliper at the time of planting. New large shrubs shall have a minimum height of two and a half (2 1/2') feet at the time of planting.
  9. Small shrubs may be evergreen or deciduous and shall have a minimum height at maturity of four (4') feet based upon AAN Standards. New shrubs shall have a minimum height of eighteen (18") inches at the time of planting.
  10. Evergreen trees shall reach a typical minimum height of twenty (20') feet at maturity based upon AAN standards for that species and shall remain evergreen throughout the year. New evergreens shall have a minimum height of seven (7') feet at the time of planting.
- D. Minimum Soil Volumes. For any planting area of less than 1,000 square feet, the site plan shall include details showing a longitudinal section and depth of said planting area demonstrating compliance with minimum soil volume standards.
1. Large canopy trees: 1,200 cubic feet of soil; 900 cubic feet when clustered.
  2. Medium canopy trees: 900 cubic feet of soil; 700 cubic feet when clustered.



3. Small canopy or evergreen trees: 600 cubic feet of soil.

- E. Planting Soil Composition. Planting soils shall be a loam soil capable of supporting a healthy vegetative cover, which is amended with composted organic material, such as mushroom compost or leaf mulch, resulting in an organic amended soil containing 20% to 30% organic material (compost), and 70% to 80% topsoil screened of rocks, sod, and debris. The minimum depth of the planting soil shall be 18 to 30 inches depending on the size of the individual planting. A soil improvement detail and notes, including the removal of all construction debris and existing compacted soil and the proposed soil improvement mix, should be provided with the landscape plan. Ensure trunk flare sits above finished grade; compact soil below root ball as necessary.
- F. Alternative Methods. The alternative methods are for limited street planting areas, where required soil volumes are unattainable without implementing these methods. If the minimum soil volumes cannot be achieved, as determined by the Township Engineer, the following alternative options may be utilized:

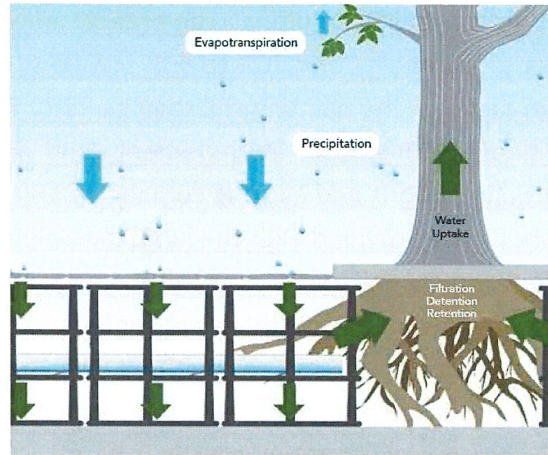
1. Structural Soil Composition. Structural soil shall be a mix of 80% AASHTO No. 57 stone and 20% loam soils. Such soil may be used to supplement planting soil volume, provided it satisfies all of the following conditions:
  - i. Structural soils shall be used under impervious paving where the tree planting area is surrounded by paving for the purpose of expanding the soil volume to meet minimum soil volumes specified above.
  - ii. Structural soils shall be entirely below pavement areas and shall not be exposed at the surface.
  - iii. Structural soils shall be located adjacent to planting soils.



2. Suspended Pavements System (Figure 4). A tree/pavement support system may be utilized that supports the weight of the pavement and improves the urban tree health. The support structure, as well as a pervious flexible pavement,



creates a void space for increased tree root/soil volume. The space shall be filled with a combination of structural soils and native excavated soil, provided that it's quality material, or a specified soil mix.



G. Maintenance.

1. It shall be the responsibility of all property owners to maintain all plantings and architectural elements to ensure a safe environment.
2. Plantings shall be selected, located, and maintained so that they do not contribute to conditions hazardous to public safety. Such conditions include, but are not limited to, public street rights-of-way, underground and above ground utilities, and sight triangle areas required for unobstructed views at street intersections.
3. Within required sight triangles, shrubs must be maintained at a maximum height of two (2') feet and trees must be maintained so that the lowest branches are a minimum of seven (7') feet above grade.
4. Any plant materials that could endanger safety such as unstable limbs shall be removed and the plant materials shall be replaced if necessary.
5. Maintenance guidelines for the plantings should be developed by the planting plan designer to be used by grounds maintenance personnel.