

# **LANDSCAPE AND LAND USE BUFFERING**

## **Content and Format Standards**

### **City of Kuttawa Zoning Ordinance**

#### **Addendum**

**Adopted: Jan. 14, 2013**

# TABLE OF CONTENTS

<b>Purpose .....</b>	<b>1</b>
<b>Sites Affected .....</b>	<b>1</b>
<b>Property Perimeter Landscape Requirements, Vehicular Use Areas and Non-Compatible Use Buffers .....</b>	<b>1</b>
<b>Landscape Standards and Specifications .....</b>	<b>3</b>
<b>Tree Requirements .....</b>	<b>6</b>
<b>Landscaping at Driveways and Street Intersections .....</b>	<b>6</b>
<b>Landscape Materials.....</b>	<b>6</b>
<b>Maintenance and Installation .....</b>	<b>7</b>
<b>Plan Submission and Approval .....</b>	<b>8</b>
<b>Plan Review .....</b>	<b>8</b>
<b>Variance.....</b>	<b>8</b>
<b>Appendix A: Acceptable Plant List .....</b>	<b>9</b>

## LANDSCAPE AND LAND USE BUFFERING

### PURPOSE.

The intent of this chapter is to improve the appearance of properties, vehicular use areas (VUA's), and property abutting public right of ways; to provide standards for buffering between non-compatible land uses, and to protect, preserve, and promote aesthetic appeal of properties, character, and value of the surrounding neighborhoods; to promote public health and safety through the reduction of noise pollution.

### SITES AFFECTED.

This chapter applies to all new developments subject to site plan review, to include all new commercial and multi-family developments, as well as all Planned Unit Developments (P.U.D.). Industrial and one and two-family developments which are not P.U.D.'s or Zero Lot Line (Z.L.L.) developments, are exempt from these requirements. The requirements stated in this section shall be addressed during the applicable site plan review process. The provisions of this section shall apply to:

1. New sites currently undeveloped: No new site development, building, or structure shall be constructed or vehicular use area created unless landscaping is provided as required by the provisions of this section.
2. Existing sites currently developed are exempt, but any expansion of these sites that meet the following guidelines will be required to meet the provisions of this section. They are as follows:
  - a. Improvements to an existing site that include building additions and/or vehicular use area expansions of less than 25% of the existing site shall not be required to provide landscaping in accordance with this section.
  - b. Improvements to an existing site that include building additions and/or vehicular use area expansions of greater than 25% but less than 50% of the existing site shall be required to bring only the new improvements into compliance with the requirements of this section.
  - c. Improvements to an existing site that include building additions and/or vehicular use area expansions of greater than 50% of the existing site shall be required to bring the entire site into compliance with the requirements of this section.

### PROPERTY PERIMETER LANDSCAPE REQUIREMENTS, VEHICULAR USE AREAS AND NON-COMPATIBLE USE BUFFERS.

1. ***Property Perimeter Landscape Requirements:*** A landscape easement is required as part of a perimeter landscape on all sites. The perimeter landscape easement shall meet the following guidelines:
  - a. ***Front Yard:*** A minimum front yard landscape easement with an average of 10 feet with a minimum of 5 feet shall be provided in the required front yard of structures.

This front yard landscape easement does not include the right-of-way of any public or private street. The landscape materials shall include a combination of grass, low ground cover, shrubs, and trees.

- b. **Side Yards:** A minimum side yard landscape easement of 3 feet shall be provided in the required side yard of structures. If parking spaces abut the side yard landscape easement, the side yard landscape easement shall be 5 feet with curbs or wheel stops that prohibit the front of vehicles from overhanging into the side yard landscape easement no more than 2 feet. This front yard landscape easement does not include the right-of-way of any public or private street. The landscape materials shall include a combination of grass, low ground cover, shrubs, and trees.
- c. **Rear Yard:** A minimum rear yard landscape easement with an average of 10 feet with a minimum of 5 feet shall be provided in the required rear yard of structures. This rear yard landscape easement does not include the right-of-way of any public or private street. The landscape materials shall include a combination of grass, low ground cover, shrubs, and trees.

2. **Vehicular Use Area (V.U.A.) Landscaping:** V.U.A's, for the purposes of this section, refers to any area occupied in whole or in part by motorized vehicles, including, but not limited to, parking lots, parking stalls, driveways and service areas. For the purpose of this section, Vehicular Use Area (V.U.A.) does not include areas devoted to the sole purpose of the display of merchandise for sale (IE, auto sales lots). V.U.A. landscaping is required in the form of a continuous hedge that will reach between a maximum 2 ½ and 3 feet tall to screen the VUA from all public streets. This hedge must reach this maximum height within 3-4 years of planting. Plant materials shall be at least 2 feet tall at the time of installation. VUA screening hedges must be of a type of shrub that has an 80% opaque screen year-round (e.g., evergreen). An earth mound with a maximum height of 2 ½ to 3 feet high could be used to substitute for a hedge. If used, an earth mound must be sodded and have slopes not greater than 1/3 for easy maintenance. For sites that are planning more than 20 parking spaces, five (5) percent of the interior of the VUA must be landscaped with landscaping islands or landscaping peninsulas as explained in this section.

3. **Land Use Buffer Screening Requirements:** The necessity of screening non-conforming land uses and the type of screening required varies greatly with each particular situation. Therefore, it is the intent of this section to provide a discretionary measure in deciding the appropriate height, width and type of screening necessary. The majority of new sites being developed will be surrounded by other commercial properties and would not require buffer screening. However, for those adjacent to residential zones or sensitive areas, screening shall be required and adequately maintained in the following situations:
- a. Where a business or service zone abuts a residential zone, a buffer landscape screen will be required along the boundary of the adjacent residential zone
  - b. Where a business or service zone abuts a Lake Resort Zone, a screen will be required along the boundary of the business property adjacent to the Lake Resort property.
  - c. When a planned unit development (P.U.D.) or zero lot line (Z.L.L.) development abuts any residential zone containing single-family dwelling units.
  - d. Uses specified above as requiring buffer screening shall provide a visual obstruction from adjacent properties in conformance with the following standards: The screen may be composed of view-obscuring vegetation, wall or fence. The items may be used individually or in combination. Fences constructed of chain link, barbed wire,

stock wire, chicken wire or other similar type fences are not permitted when used for screening. The result shall be opaque 80% screen, which obscures views from the ground to a height of the object being screened; however, the screen is not required to exceed 8 feet. Plant materials shall be at least 2 feet tall at the time of installation and reach the desired height within 3 to 5 years. When a combination of features is proposed, ¼ of the surface area of walls or fences that face off-site must be covered with plant material within 3 to 5 years. Additionally, screen areas shall be sufficient to allow for the mature growth of plant materials when used.

## **LANDSCAPE STANDARDS AND SPECIFICATIONS.**

1. All landscaping materials shall be installed in a sound manner and according to accepted good construction and planting procedures. Any landscape material, which fails to meet the minimum requirements of this chapter at the time of installation, shall be removed and replaced with acceptable materials. A list of suggested and undesirable plant material is available in Appendix A.
2. Elkton, Kentucky is located within the Plant Hardiness Zone 6b.
3. Existing landscape features shall be preserved where possible or feasible. Existing landscape features which are preserved may be used to fulfill the landscape requirements. The landscape elements to be preserved must be illustrated on the Landscape Plan and approved by the Planning Commission as part of the Development Plan approval process.
4. Surfaces denuded of vegetation shall be seeded or sodded to prevent soil erosion.
5. Landscape materials placed near street intersections shall meet the following requirements:
  - a. Obstruction of vision at street intersections is prohibited. Additionally, lots adjacent to an intersection shall not obstruct vision of the intersection within a 30-foot sight triangle. The 30-foot sight triangle is defined as a triangle consisting of the edge of street pavements intersecting at a point forming the outer boundaries of the lot and an imaginary line drawn 30 feet from the point of intersection in either direction. No obstruction to vision between a height of 2 ½ feet and 12 feet above the imaginary plane defined by those three points of intersection are permitted.
  - b. No structure, wall, fence, shrubbery, or trees shall be erected, maintained, or planted on any lot which will obstruct the view of the driver of a vehicle approaching an intersection, except that shade trees will be permitted where all branches are not less than eight feet above street level.
  - c. No obstruction shall be placed in the right-of-way.
6. The person in charge of or in control of the property whether as owner, lessee, tenant, occupant, or otherwise shall be responsible for the continued proper maintenance of all landscaping materials and shall keep them in a proper, neat, and orderly appearance free from refuse, debris, noxious weeds, and unwanted grass at all times. All unhealthy or dead plant material shall be replaced within four months or by the next planting season, whichever comes first; while other defective landscape material shall be replaced or

repaired within two months. All plant material shall be maintained according to accepted horticultural practices.

7. All shade trees shall be a minimum of 2.0" caliper; ornamental trees shall be 1.0" caliper; evergreen trees shall be 5' tall, when planted. Tree type shall be approved by the Zoning Administrator.
8. Only a small tree that reaches a mature height no greater than 25 feet may be planted within 20 lateral feet of overhead utility lines.
9. Soil in tree, shrub, or plant zones (defined as twice the diameter of the root ball) must be free of asphalt, construction and trash material. Soil must be at least 50% desirable planting topsoil or media thoroughly mixed with existing soil. If previously undisturbed natural topsoil is available, no amendments are necessary. Subsoil is not acceptable for planting.
10. Staking is not required on any trees.
11. Plastic or other impervious materials shall not be used in landscaped areas as weed control barriers.
12. Mulch shall be applied to all non-turf, landscaped areas at planting. Mulch is not required on groundcover after it becomes fully established. The desirable recommendation for mulch is composed wood chips, pine bark, pine straw, and shredded hardwood bark. Mulch shall be applied and maintained at 2 to 4 inches deep and with no more than one inch touching any part of the plant. Other organic and non-organic materials may be used as long as they are pervious to air and water. Crushed limestone is not acceptable.
13. Trees shall be protected from potential damage by vehicles.
14. Thirty percent of required trees shall be placed within the perimeter of the actual parking surface area in those parking lots of over 20 spaces.
15. All parking lots of more than 5 parking spaces shall include planted trees in accordance with *Table 1, Tree Planting Requirements*, below:

**Table 1**  
Tree Planting Requirements

Parking Spaces	Requirements	# of Required Trees	Minimum Required Variety of Trees	Maximum of Any One Variety
1 to 5	no trees	n/a	n/a	n/a
6 to 30	1 tree for each 6 spaces or fraction thereof up to 30 spaces	1 to 5	n/a	n/a
31 to 100	5 trees for the first 30 spaces, plus 1 tree for each additional 7 spaces or fraction thereof	5 to 15	2	65%
101 to 196	15 trees for the first 100 spaces, plus 1 tree for each additional 8 spaces or fraction thereof	15 to 27	3	50%
197 to 304	27 trees for the first 196 spaces, plus 1 tree for each additional 9 spaces or fraction thereof	27 to 39	4	40%
305 to 504	39 trees for the first 305 spaces plus, 1 tree for each additional 10 spaces or fraction thereof	39 to 59	5	35%
505 or more	59 trees for the first 505 spaces plus, 1 tree for each additional 11 spaces or fraction thereof	59+ 6	30%	

**Interior landscaping for vehicular use areas (VUA's):** Landscaping shall be provided for vehicular use areas in accordance with the following standards:

1. A minimum of 5% of the total VUA shall be landscaped and the landscaping shall be dispersed throughout the paved area. The VUA landscaping shall only be required for uses that have more than 20 parking spaces. This section shall not apply to parking lots used for the sole purpose of displaying merchandise for sale.
2. The VUA landscaping shall contain a variety of plant materials and be dispersed in the form of planting islands or peninsulas throughout the VUA. The minimum size of planting areas shall be 80 square feet.
3. Planting islands within the VUA shall be required within every other parking row, when parking rows are provided in the interior portions of the parking lot. Planting islands may be placed in a staggered or linear design.
4. All planting islands shall be planted with grass, low ground cover, shrubs, flowers, trees, or any combination of these. Hard surfaces or gravel are not permitted.
5. All planting islands shall have a minimum of 6 inch curbs installed to protect the planting area from vehicular traffic.
6. All plant material (other than grass, or ground cover) located within landscape islands where vehicle overhangs are needed shall be setback a minimum of 2 feet 6 inches from the edge of pavement or face of curb.

7. Landscaping materials shall be located between the structure and all common boundaries including the side yard and frontage of parking lots.
8. Trees used in planting islands 2 to 4 feet wide are restricted to mature height of 10 to 25 feet and defined as small sized trees. Trees used in planting islands 4 to 8 feet wide may use small trees or trees that reach a mature height of 25 to 50 feet and defined as medium sized trees. Trees used in planting islands greater than 8 feet wide are not restricted by size.

**Sign landscaping.** Landscaping shall be located around the base of freestanding signs. The landscaping shall be ornamental in nature with shrubs, flowers, and other ornamental plant materials. Sign landscaping is not required for free-standing signs permitted before the adoption of this ordinance. The amount of landscape area required shall be 1 square foot of landscape area per 1 square foot of sign area. At least 50% of the required landscaping area shall be planted with small size trees and/or shrubs.

## **TREE REQUIREMENTS**

The required perimeter landscape easements shall be used to determine the number of large shade trees required for the site. The site must contain a minimum of one large shade tree per 40 feet of linear boundary, or fraction thereof. Trees do not have to be equally spaced, but may be grouped. Existing trees shall be preserved where possible. Tree type shall be approved by the Zoning Administrator and shall be protected from potential damage by vehicles. All shade trees shall be a minimum of 2.0" caliper when planted. See Appendix A for suggested tree sizes and types.

## **LANDSCAPING AT DRIVEWAYS AND STREET INTERSECTIONS**

To insure that landscape materials do not constitute a driving hazard, a sight triangle shall be observed at all street intersections or intersections of driveways or alleys with streets. Within this sight triangle no landscape material nor other fixed object shall obstruct vision between a height of three feet and a height of 12 feet above the average elevation of the existing surfaces at the center line of each street, driveway, or alley.

Within the sight triangle, trees shall be permitted as long as, except during early growth stages, only the tree trunk (no limbs, leaves, or the like) is visible between the three- and 12-foot limitations mentioned above. A similar exemption is allowed for utility poles and traffic signs or lights.

## **LANDSCAPE MATERIALS.**

The landscaping materials to be utilized shall consist of the following:

1. **Walls and fences.** Walls shall be constructed of natural stone, brick, or artificial materials arranged in a linear, serpentine, or other alignment; fences shall be constructed of wood. There shall be a three-foot height restriction for walls or fences in front yards, and an eight-foot height restriction in all other required yards. All walls or fences shall have a minimum opacity of 80%.
2. **Earth mounds.** Earth mounds shall be constructed with proper slopes and adequate plant material to prevent erosion.



3. **Plants.** All plant materials shall be living plants (artificial plants are prohibited). If plant material not included in the adopted list is to be used, the developer shall receive prior approval from the Zoning Administrator.
4. **Quality.** Plant materials used in conformance with the provision of this chapter shall conform to the standards of the American Association of Nurserymen.
5. **Deciduous trees** (trees which normally shed their leaves in the fall). Deciduous trees should be a species having an average mature crown spread of greater than 15 feet and having trunks which can be maintained with over five feet of clear wood in areas which have visibility requirements.
6. **Evergreen trees.** Evergreen trees shall be a minimum of five (5) feet high with a minimum caliber of one and one-half inches and a minimum spread of three (3) feet immediately after planting.
7. **Shrubs and hedges.** Shrubs and hedges shall be at least two (2) feet to three feet in average height or spread when planted and shall conform to opacity and other requirements within three (3) to four (4) years after planting.
8. **Vines.** Vines shall be at least 12 to 15 inches high at planting and are generally used in conjunction with walls or fences.
9. **Grass or ground cover.** Grass (of common mixtures of Fescues, Bluegrass, and Rye) shall be planted in species normally grown as permanent lawns in the city, and may be sodded, plugged, sprigged, or seeded; except in swales or other areas subject to erosion where solid sod, erosion-reducing net, or suitable mulch shall be used.
10. A minimum of 20% of the landscape planting required shall be of evergreen trees and shrubs.

#### **MAINTENANCE AND INSTALLATION.**

All landscaping materials shall be installed in a sound, workmanlike manner, and according to accepted good construction and planting procedures. Any landscape material, which fails to meet the requirements of this chapter at the time of installation, shall be removed and replaced with acceptable materials. Inspections will be conducted by the Zoning Administrator after installation of landscaping to assure compliance with the submitted and approved site plan.

The person in charge of or in control of the property whether as owner, lessee, tenant, occupant, or otherwise shall be responsible for the continued proper maintenance of all landscaping materials and shall keep them in a proper, neat, and orderly appearance free from refuse, debris, noxious weeds, and unwanted grass at all times. All unhealthy or dead plant material shall be replaced within four months or by the next planting period, whichever comes first; while other defective landscape material shall be replaced or repaired within two months. Plant material shall not be severely pruned such that the natural growth pattern or characteristic form is significantly altered. Surfaces denuded of vegetation shall be seeded or sodded to prevent soil erosion. The removal or destruction of landscape material previously approved by the Planning Commission shall constitute a violation of the Zoning Ordinance. Replacement of landscape material shall be of like type as that which was removed or destroyed. Surety bond or irrevocable letter of credit for the landscaping will be submitted as a part of the public improvements for 125 percent of the landscaping improvements.

Violation of these installation and maintenance provisions shall be grounds for the Zoning Administrator to refuse a certificate of occupancy permit, require replacement of landscape material, and will subject those in violation to established fines and penalties of this chapter.

## **PLAN SUBMISSION AND APPROVAL.**

Whenever any property is affected by these landscaping requirements, the property owner or developer shall prepare a landscape plan for submittal to, and approval by, the Planning Commission. The Planning Commission shall follow the requirements of this chapter in approving or disapproving any landscape plan required by this chapter. Landscape plans also may be submitted as part of any plan review required by the Planning Commission. The property owner or developer shall submit the Landscape Plan to the Planning Commission as part of the Site Plan Review process.

## **PLAN REVIEW.**

The contents of the Landscape Plan shall include the following:

1. Site plan, drawn to a scale not to exceed one inch to fifty feet, showing the labeling by name and dimensions all existing and proposed property lines, easements, buildings, and other structures, vehicular use areas (including parking stalls, driveways, service areas, square footage, etc.), water outlets, landscape material (tree, wall, fence, hedge, or earth mound locations), and existing topography, proposed grading at a minimum of two-foot contours.
2. Typical elevations as may be required.
3. Title box with the names and addresses the property owner, and the person drawing plan, and person installing landscape material), scale, date, north arrow (generally orient plan so that north is to top of plan), and zoning classification.
4. Planting schedule and plat list including common name, botanic name, cultivar size and quantity, condition (balled and burlaped, container size or bare root), and planting details using the standards of the American Society of Landscape Architects.

## **VARIANCE**

The Planning Commission shall have the authority to grant a waiver of any of the requirements in this section upon written request, which outlines the rationale for the waiver. The Planning Commission shall review each written request and grant a waiver only; under unusual or extreme circumstances which cause an unreasonable hardship such as the size of the lot; or, when an innovative or alternative approach can be made which still meets the intent and purpose of this section.

# **Appendix A**

## **ACCEPTABLE PLANT LIST**

ACCEPTABLE PLANT LIST

Suggested Woody Plants				
SUGGESTED LARGE TREES (Over 50 feet in Height)				
SCIENTIFIC NAME	COMMON NAME	PLANT TYPE	HEIGHT	SPREAD
<i>Abies concolor</i>	White Fir	E	30' to 50'	15' to 30'
<i>Acer rubrum</i>	Red Maple (spp., cvs)	D	40' to 60'	30' to 40'
<i>Acer saccharum</i>	Sugar Maple (spp., cvs, hybrids)	D	60' to 75'	50' to 60'
<i>Alnus glutinosa</i>	Black Alder	D	40' to 60'	20' to 40'
<i>Betula nigra</i>	River Birch	D	40' to 70'	40' to 60'
<i>Carpinus betulus</i>	European Hornbeam	D	40' to 60'	30' to 50'
<i>Cercidiphyllum japonicum</i>	Katsura Tree	D	40' to 60'	30' to 50'
<i>Chamaecyparis pisifera</i>	Sawara Falsecypress	E	50' to 70'	10' to 20'

<i>Eucommia ulmoides</i>	Hardy Rubber Tree	D	40' to 60'	40' to 50'
<i>Ginkgo biloba</i>	(Male) Ginkgo	D	50' to 80'	30' to 50'
<i>Gymnocladus dioicus</i>	Kentucky Coffeetree	D	60' to 75'	40' to 50'
<i>Ilex opaca</i>	American Holly	E	40' to 70'	20' to 40'
<i>Larix deciduas</i>	European Larch	D	70' to 75'	25' to 30'
<i>Liriodendron tulipifera</i>	Tulip or Yellow Poplar	D	70' to 90'	35' to 50'
<i>Magnolia acuminata</i>	Cucumbertree Magnolia	D	50' to 80'	50' to 80'
<i>Metasequoia glyptostroboides</i>	Dawn Redwood	D	70' to 100'	25'
<i>Picea abies</i>	Norway Spruce	E	40' to 60'	25' to 30'
<i>Picea glauca</i>	White Spruce	E	40' to 60'	10' to 20'
<i>Picea omorika</i>	Serbian Spruce	E	50' to 60'	20' to 25'
<i>Picea orientalis</i>	Oriental Spruce	E	50' to 60'	20' to 30'
<i>Picea pungens</i>	Colorado Spruce	E	50' to 70'	20' to 30'
<i>Pinus resinosa</i>	Red Pine	E	50' to 80'	20' to 40'
<i>Pinus strobes</i>	White Pine	E	50' to 80'	20' to 40'
<i>Pinus sylvestris</i>	Scotch Pine	E	30' to 60'	30' to 40'
<i>Pinus thunbergii</i>	Japanese Black Pine	E	20' to 50'	var.
<i>Platanus x acerifolia</i>	London Planetree	D	70' to 100'	60' to 80'
<i>Plantanus occidentalis</i>	American Sycamore	D	75' to 100'	75' to 100'
<i>Quercus alba</i>	White Oak	D	60' to 100'	50' to 80'
<i>Quercus bicolor</i>	Swamp White Oak	D	50' to 60'	50'
<i>Quercus coccinea</i>	Scarlet Oak	D	70' to 75'	40' to 50'
<i>Quercus imbricaria</i>	Shingle Oak	D	50' to 60'	40' to 60'
<i>Quercus muehlenbergii</i>	Chinkapin Oak	D	70' to 80'	80'to100'
<i>Quercus nigra</i>	Water Oak	D	50' to 80'	40' to 60'
<i>Quercus phellos</i>	Willow Oak	D	40' to 60'	40' to 50'
<i>Quercus rubra</i>	Northern Red Oak	D	60' to 75'	40' to 50'
<i>Quercus shumardii</i>	Shumard Oak	D	40' to 60'	40' to 50'
<i>Stephanolobium japonicum</i>	Japanese Pagoda	D	50' to 70'	40' to 60'
<i>Taxodium distichum</i>	Bald Cypress	D	50' to 70'	20' to 30'
<i>Thuja occidentalis</i>	American Arborvatae	E	40' to 60'	10' to 15'
<i>Tilia cordata</i>	Littleleaf Linden	D	60' to 70'	30' to 50'
<i>Tilia tomentosa</i>	Silver Linden	D	50' to 70'	30' to 50'
<i>Tsuga canadensis</i>	Eastern Hemlock	E	40' to 70'	25' to 35'
<i>Tsuga caroliniana</i>	Carolina Hemlock	E	45' to 60'	20' to 25'

<i>Ulmus Americana</i>	American Elm (hybrid resistant to Dutch Elm Disease)	D	60' to 80'	40' to 55'
<i>Ulmus parvifolia</i>	Lacebark Elm	D	40' to 50'	40' to 50'
<i>Zelkova serrata</i>	Japanese Zelkova	D	50' to 80'	40' to 70'

### SUGGESTED MEDIUM TREES (25 to 50 feet in Height)

SCIENTIFIC NAME	COMMON NAME	PLANT TYPE	HEIGHT	SPREAD
<i>Acer campestre</i>	Hedge Maple	D	25' to 35'	25' to 35'
<i>Amelanchier arborea</i>	Downy Serviceberry	D	15' to 25'	10' to 15'
<i>Carpinus caroliniana</i>	American Hornbeam	D	20' to 30'	20' to 30'
<i>Cladrastis kentukea</i>	Yellowwood	D	30' to 50'	40' to 50'
<i>Corylus colurna</i>	Turkish Filbert	D	40' to 50'	20' to 30'
<i>Gleditsia tricanthos</i> var. <i>intermis</i>	Thornless Honey Locust	D	30' to 50'	30' to 50'
<i>Halesia tetraptera</i>	Carolina Silverbell	D	30' to 40'	20' to 35'
<i>Ilex opaca</i>	American Holly	E	40' to 50'	18' to 40'
<i>Juniperus virginiana</i>	Eastern Redcedar	E	40' to 50'	10' to 20'
<i>Koelreutearia paniculata</i>	Golden Raintree	D	30' to 40'	30' to 40'
<i>Nyssa sylvatica</i>	Tupelo, Black Gum	D	30' to 50'	20' to 30'
<i>Ostrya virginiana</i>	Hophornbeam	D	25' to 40'	20' to 30'
<i>Oxydendrum arboretum</i>	Sourwood	D	25' to 30'	20' to 25'
<i>Parrotia persica</i>	Persian Parrotia	D	20' to 40'	15' to 30'
<i>Phellodendron amurense</i>	Cork Tree	D	30' to 45'	30' to 40'
<i>Pinus cembra</i>	Swiss Stone Pine	E	30' to 40'	15' to 25'
<i>Pinus parviflora</i>	Japanese White Pine	E	25' to 50'	25' to 50'
<i>Prunus sargentii</i>	Sargent Cherry	D	40' to 50'	30' to 50'
<i>Prunus subhirtella</i>	Higaen Cherry	D	20' to 40'	15' to 30'
<i>Prunus yedoensis</i>	Yoshino Cherry	D	20' to 40'	20' to 40'
<i>Pyrus calleryana</i>	Callery Pear (cultivars only except 'Bradford')	D	30' to 50'	20' to 35'
<i>Quercus acutissima</i>	Sawtooth Oak	D	35' to 45'	30' to 40'
<i>Stewartia pseudo&gt;camellia</i>	Japanese Stewartia	D	20' to 35'	20' to 30'
<i>Syringa reticulata</i>	Japanese Tree Lilac	D	20' to 30'	15' to 25'

### SUGGESTED LARGE SHRUBS OR SMALL TREES (10 to 25 feet in Height)

SCIENTIFIC NAME	COMMON NAME	PLANT TYPE	HEIGHT	SPREAD
<i>Acer tataricum</i> var. <i>ginnala</i>	Amur Maple	D	15' to 18'	15' to 20'
<i>Acer palmatum</i>	Japanese Maple	D	15' to 25'	15' to 25'
<i>Acer pensylvanicum</i>	Striped Maple	D	15' to 20'	12' to 20'
<i>Aesculus parviflora</i>	Bottlebrush Buckeye	D	8' to 12'	8' to 15'
<i>Aesculus pavia</i>	Red Buckeye	D	10' to 20'	10' to 20'
<i>Amelanchier laevis</i>	Allegheny Serviceberry	D	15' to 25'	15' to 25'
<i>Cercis Canadensis</i>	Eastern Redbud	D	20' to 25'	20' to 30'
<i>Chionanthus virginicus</i>	White Fringetree	D	15' to 30'	15' to 30'
<i>Cornus alternifolia</i>	Pagoda Dogwood	D	15' to 25'	20' to 30'
<i>Cornus florida</i>	Flowering Dogwood	D	20' to 25'	20' to 30'
<i>Cornus kousa</i>	Kousa Dogwood	D	15' to 20'	15' to 20'

<i>Cornus mas</i>	Corneliancherry Dogwood	D	20' to 25'	15' to 20'
<i>Crataegus phaenopyrum</i>	Washington Hawthorn	D	20' to 30'	20' to 25'
<i>Crataegus viridis</i>	Green Hawthorne	D	20' to 30'	20' to 30'
<i>Crataegus x lavallei</i>	LaValle Hawthorne	D	15' to 25'	10' to 20'
<i>Forsythia x intermedia</i>	Border Forsythia	D	8' to 10'	10' to 12'
<i>Hamamelis virginiana</i>	Common Witchhazel	D	20' to 30'	20' to 25'
<i>Hydrangea paniculata</i>	Panicle Hydrangea	D	15' to 25'	10' to 20'
<i>Ilex x attenuate</i>	'Fosteri' Foster Holly	E	10' to 20'	5' to 10'
<i>Juniperus chinensis</i>	Chinese Juniper (cultivars)	E	12' to 25'	var.
<i>Magnolia stellata</i>	Star Magnolia	D	15' to 20'	10' to 15'
<i>Magnolia virginiana</i>	Sweetbay Magnolia	D	10' to 20'	10' to 20'
<i>Magnolia x soulangiana</i>	Saucer Magnolia	D	20' to 25'	20' to 30'
<i>Malus</i>	(varieties) Crabapple (must be cultivar with disease resistance)	D	10' to 25'	10' to 30'
<i>Pinus densiflora</i>	Japanese Red Pine	E	10' to 15'	10' to 15'
<i>Pinus mugo</i>	Mugho Pine	E	15' to 20'	20' to 30'
<i>Platyclusus orientalis</i>	Oriental Arborvitae	E	15' to 25'	10' to 12'
<i>Prunus serrulata</i>	Oriental Cherry (cultivars)	D	15' to 20'	15' to 20'
<i>Ptelea trifoliata</i>	Hoptree	D	15' to 20'	15' to 20'
<i>Taxus cuspidate</i>	Japanese Yew (cultivars)	E	10' to 20'	10' to 30'
<i>Viburnum lentago</i>	Nannyberry	D	15' to 18'	6' to 10'
<i>Viburnum opulus</i>	Cranberrybush Viburnum	D	8' to 10'	10' to 15'
<i>Viburnum prunifolium</i>	Blackhaw Viburnum	D	12' to 15'	8' to 12'
<i>Viburnum rhytidophyllum</i>	Leatherleaf Viburnum	E	10' to 15'	10' to 15'
<i>Viburnum rufidulum</i>	Southern or Rusty Blackhaw	D	12' to 15'	8' to 12'
<i>Viburnum sieboldii</i>	Siebold Viburnum	D	15' to 20'	10' to 15'
<i>Viburnum trilobum</i>	American Cranberrybush	D	8' to 12'	8' to 12'

### SUGGESTED MEDIUM SHRUBS (6 to 10 feet in Height)

SCIENTIFIC NAME	COMMON NAME	PLANT TYPE	HEIGHT	SPREAD
<i>Acanthopanax sieboldian</i>	Fiveleaf Aralia	D	8' to 10'	8' to 10'
<i>Aronia arbutifolia</i>	Red Chokeberry	D	6' to 10'	3' to 5'
<i>Aronia melanocarpa</i>	Black Chokeberry	D	3' to 5'	3' to 5'
<i>Calycanthus floridus</i>	Carolina Allspice	D	6' to 9'	6' to 12'
<i>Chamecyparis pisifera</i>	Sawara falsecypress (selected cultivars)	E 6' to 8'	6' to 7'	
<i>Cornus serica</i>	Redosier Dogwood	D	7' to 9'	10'+
<i>Cotoneaster lucidus</i>	Hedge Cotoneaster	D	5' to 10'	6' to 10'
<i>Cotoneaster multiflora</i>	Many Flowered Cotoneaster	D	8' to 12'	12' to 15'
<i>Forsythia suspense</i>	Weeping Forsythia	D	8' to 10'	10' to 15'
<i>Fothergilla major</i>	Large Fothergilla	D	6' to 10'	5' to 8'
<i>Hamamelis vernalis</i>	Vernal Witchhazel	D	6' to 10'	6' to 10'
<i>Ilex crenata</i>	Japanese Holly	E	5' to 8'	5' to 8'
<i>Ilex glabra</i>	Inkberry	D	6' to 8'	8' to 10'
<i>Ilex verticillata</i>	Winterberry	D	6' to 9'	6' to 9'
<i>Ilex x meserve</i>	Meserve Holly	E	6' to 10'	6' to 10'
<i>Juniperus communis</i>	Common Juniper	E	5' to 10'	8' to 12'
<i>Kalmia latifolia</i>	Mountain Laurel	E	7' to 10'	7' to 10'
<i>Lindera benzoin</i>	Spicebush	D	6' to 12'	6' to 12'
<i>Myrica pennsylvanica</i>	Northern Bayberry	D	5' to 12'	5' to 12'

<i>Pieris japonica</i>	Japanese Pieris	E	9' to 12'	6' to 8'
<i>Rhododendron</i> (varieties)	Rhododendron (varieties)	E	var.	var.
<i>Taxus x media</i>	Anglojap Yew	E	5' to 12'	var.
<i>Viburnum dentatum</i>	Arrowwood Viburnum	D	6' to 8'	6' to 12'
<i>Viburnum x burkwoodii</i>	Burkwood Viburnum	D	8' to 10'	6' to 8'

### SUGGESTED SMALL SHRUBS (4 to 6 feet in Height)

SCIENTIFIC NAME	COMMON NAME	PLANT TYPE	HEIGHT	SPREAD
<i>Berberis koreana</i>	Korean Barberry	D	4' to 6'	3' to 5'
<i>Berberis thunbergii</i>	Japanese Barberry	D	4' to 5'	5' to 7'
<i>Berberis x mentorensis</i>	Mentor Barberry	D	5' to 7'	5' to 7'
<i>Chamaecyparis obtuse</i>	Hinoki Falsecypress (cultivars)	E	5' to 7'	5' to 7'
<i>Clethra alnifolia</i>	Summersweet Clethra	D	5' to 7'	5' to 7'
<i>Leucothoe fontanesiana</i>	Dropping Leucothoe	E	5' to 7'	5' to 7'
<i>Pinus mugho</i>	Mugho Pine (cultivars)	E	5' to 7'	5' to 7'

### SUGGESTED LOW SHRUBS (1 ½ to 4 feet in Height)

SCIENTIFIC NAME	COMMON NAME	PLANT TYPE	HEIGHT	SPREAD
<i>Abelia x grandiflora</i>	Glossy Abelia	D	3' to 5'	3' to 5'
<i>Abeliophyllum distichum</i>	Korean Abelialeaf	D	3' to 5'	3' to 4'
<i>Berberis thunbergii</i>	Japanese Barberry (cultivars)	D	3' to 5'	4' to 7'
<i>Buxus microphylla</i>	Littleleaf Boxwood	E	3' to 4'	3' to 4'
<i>Cotoneaster horizontalis</i>	Rock Cotoneaster	D	2' to 3'	5' to 8'
<i>Deutzia gracilis</i>	Slender Deutzia	D	2' to 4'	3' to 4'
<i>Fothergilla gardenia</i>	Dwarf Fothergilla	D	2' to 4'	3' to 4'
<i>Hypericum frondosum</i>	Golden St. Johnswort	D	3' to 4'	3' to 4'
<i>Hypericum prolificum</i>	Shrubby St. Johnswort	D	2' to 4'	2' to 4'
<i>Ilex crenata</i>	Japanese Holly	E	2' to 4'	2' to 4'
<i>Juniperus chinensis</i> var. <i>sargentii</i> Sargents	Chinese Juniper	E	1.5' to 2.5'	7' to 9'
<i>Juniperus horizontalis</i>	Creeping Juniper	E	2' to 2.5'	6' to 10'
<i>Potentilla fruticosa</i>	Bush Cinquefoil	D	1' to 4'	2' to 4'
<i>Spiraea x bumalda</i>	Bumalda Spirea	D	2' to 3'	3' to 5'
<i>Taxus baccata</i>	English Yew	E	2' to 4'	3' to 5'

### SUGGESTED GROUND COVER (Below 1 ½ feet in Height)

SCIENTIFIC NAME	COMMON NAME	PLANT TYPE	HEIGHT	SPREAD
<i>Ajuga reptans</i>	Carpet Bugle	E	4" to 12"	var.
<i>Arctostaphylos uva-ursi</i>	Bearberry	D	6" to 12"	2' to 4'
<i>Cotoneaster adpressa</i>	Creeping Cotoneaster	D	12" to 18"	4' to 6'
<i>Cotoneaster dammeri</i>	Bearberry Cotoneaster	D	12" to 18"	6' to 8'
<i>Hedera helix</i>	English Ivy	E	6" to 8"	var.
<i>Hypericum calycinum</i>	St. Johnswort	D	12" to 18"	18" to 24"
<i>Juniperus conferta</i>	Shore Juniper	E	12" to 18"	6' to 9'
<i>Juniperus horizontalis</i>	Creeping Juniper (cultivars)	E	12" to 24"	4' to 8'
<i>Juniperus Sabina</i>	Savin Juniper (cultivars)	E	12" to 18"	3' to 5'

<i>Liriope muscari</i>	Liriope	E	12" to 18"	var.
<i>Pachysandra terminalis</i>	Japanese Spurge	E	1" to 10"	var.
<i>Vinca minor</i>	Periwinkle	D	3" to 6"	var.
<i>Xanthorhiza simplicissima</i>	Yellowroot	D	12" to 24"	var.

spp.=species; cvs=cultivars; E=evergreen; D=deciduous; var.=varies

## UNDESIREABLE PLANT LIST

<b>Undesirable Plant List</b>	
<b>SCIENTIFIC NAME</b>	<b>COMMON NAME</b>
<i>Acer negundo</i>	Boxelder
<i>Acer platanoides</i>	Norway Maple
<i>Acer saccharinum</i>	Silver Maple
<i>Ailanthus altissima</i>	Tree of Heaven
<i>Albizia julibrissin</i>	Mimosa
<i>Betula papyrifera</i>	White Birch
<i>Betula pendula</i>	European White Birch
<i>Celtis occidentalis</i>	Hackberry
<i>Elaeagnus angustifolia</i>	Russian Olive
<i>Elaeagnus umbellata</i>	Autumn Olive
<i>Fraxinus</i> (all)	Ash
<i>Ginkgo biloba</i> (female)	Ginkgo (except for male)
<i>Ligustrum</i> (all)	Privets (all)
<i>Liquidambar styraciflua</i>	Sweetgum
<i>Maclura pomifera</i>	Osage Orange
<i>Paulownia tomentosa</i>	Empress Tree
<i>Populus alba</i>	Silver-leafed Poplar
<i>Populus nigra</i>	Lombardy Poplar
<i>Pyrus calleryana</i>	'Bradford' Bradford Pear
<i>Robinia psuedoaacia</i>	Black Locust
<i>Salix babylonica</i>	Weeping Willow
<i>Ulmus Americana</i>	American Elm (except for Dutch Elm resistant hybrids)
<i>Ulmus pumila</i>	Siberian Elm