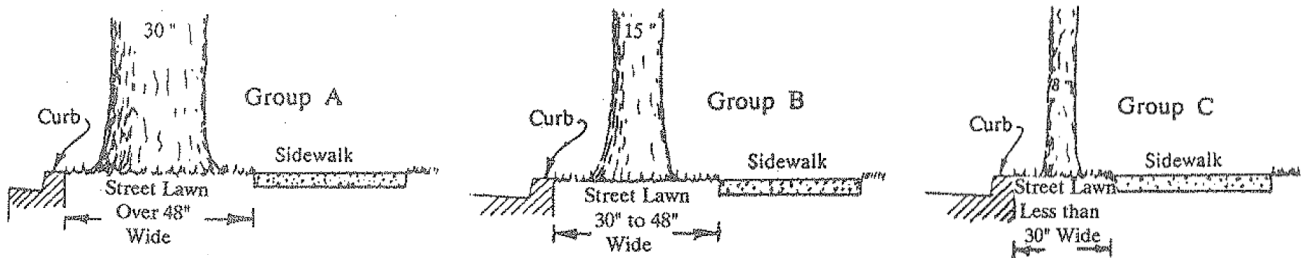


SECTION 508-A. LANDSCAPING & BUFFERING.

- A. Intent. Landscaping shall be provided, conforming to the specifications established herein, in order to preserve the natural character of the Township and enhance the aesthetics of development for the benefit of present and future residents. Plantings and landscaping provide multiple benefits including flood control, groundwater recharge, soil nutrients, air purifiers, assist with energy efficiency, noise abatement, increase property value, reduce traffic speeds, provide habitats, and improve the health, welfare, and quality of life in the Township.
- B. Applicability. Landscaping and buffering shall be required for the following:
1. All land areas not covered with buildings, parking, or other impervious surfaces shall be landscaped with suitable materials. Landscaping shall consist of trees, shrubs, ground cover, perennials, and annuals singly or in common as well as other inanimate materials such as water, sculpture, art, walls, fences, and paving materials.
 2. A landscape design shall be provided as part of site plan and subdivision submissions with the exception of minor subdivision plans, in accordance with Article VIII-A. All applications for major and minor site plan and major subdivision plan approval shall comply with the minimum standards as set forth in this section. The applicable Board may require additional landscaping to create an appropriate landscaping scheme for the site given the nature of the site and the proposed development.
- C. Landscape Design Guidelines.
1. Landscaping shall be conceived holistically and be designed to achieve a thorough integration of the various elements of site design, including building and parking placement, the natural features of the site and the preservation of pleasing or aesthetic views. Landscaping shall be used to accent and complement the form and type of building proposed.
 2. Landscaping provided as part of any development plan should provide for a variety and mixture of plantings that blends in with the existing landscape character avoiding linear and repetitive installations of trees and shrubs with an emphasis on native plant species.
 3. Plant's susceptibility to disease, their colors, textures, shapes, blossoms, and foliage characteristics shall be considered in the overall design of a landscape plan.
 4. Landscaping shall be located to provide effective climatic control. The east and west walls of a building should be the most heavily vegetated to shade for summer sun and the north to northwest area for winter prevailing winds. The southerly facing side of a building should be shaded from summer sun but open for solar gain during the winter.
 5. Local soil conditions and water availability shall be considered in the choice of landscaping.
 6. In the design process, the eventual maturity of the plant shall be considered for its effect on circulation patterns, solar access, site lighting, drainage, emergency access and relationship to buildings and the streetscape.
- D. Preservation. Existing vegetation on-site should be preserved during the design, planning, and construction of any development.
1. Protection of Existing Trees. The following procedures shall be observed in order to protect retained plantings and trees:
 - a. Prior to any grubbing or clearing, all trees to be retained within twenty-five (25') feet of proposed improvements should be protected from equipment damage by enclosing the drip line of the trees with sections of snow fence. Groups of trees may be protected by fencing the drip lines of the entire tree mass to be retained.
 - b. Heavy equipment is not permitted within the drip line of trees to be protected. Feeder roots should not be cut within the drip line.
 - c. Neither impervious cover, nor concrete washouts, storage of equipment, materials debris or fill shall be permitted within the drip line of any existing tree to be retained.
 - d. If excavation is necessary in areas where trees are to be retained, trenches should be no closer to the trunk than half the distance from the drip line. The trench should be backfilled as soon as possible, avoiding compaction.

- e. During construction cleanup, all debris must be hauled away. Fences and barriers around trees should be the last thing to be removed from the site.
 - f. All soil erosion and vegetation protection shall conform with the standards of the Camden County Soil Conservation.
2. **Removal.** The removal of trees having a diameter breast height (D.B.H.) of eight (8") inches or greater in diameter as measured four (4') feet above ground is not permitted outside of fifteen (15') feet of improvements, which includes any such buildings or structures, driveway, sidewalks, septic facilities and similar accessory facilities. The protection of the greatest number of trees within the fifteen (15') foot disturbance area is encouraged.
 3. **Replacement Trees.** Replacement tree(s), conforming to §508-A.H.1, for every tree outside the fifteen (15') foot disturbance area per §508-A.D.2, shall be required elsewhere on the subject site for each tree removed.
 4. **Prohibited Removal.** Trees are not permitted to be removed in the following areas:
 - a. Stream Buffer
 - b. Residential Buffer
 - c. Wetlands or wetlands buffer, subject to NJDEP approval.
 - d. Steep Slopes, as defined in Article II, §202
- E. **Street Trees.** Street trees are generally defined as trees located on land along streets, located in the right-of-way, or similar public way. Street trees provide a variety of benefits including enhanced economic value, reduced traffic speeds and pedestrian safety, energy savings, and aesthetic benefits. The planting of street trees shall conform to the following:
1. **Location.** Street trees shall be installed on all adjacent streets, in accordance with an approved landscape plan. Trees shall be spaced evenly along the street in the planting strip, which is between the curb and sidewalk. The appropriate group of tree shall be utilized, contingent on the width of the planting strip, in accordance with below.
 2. **Species.** Street trees species shall be contingent upon the size of the planting strip, outlined in Tables 5.1, 5.2 and 5.3 below, except for those existing, preserved, or transplanted. Alternate selections may be approved at the discretion of the Board.
 - a. Street tree size shall be at least ten (10') feet in height, balled and burlapped, when planted, and have a minimum caliper, six (6") inches from the ground, of two-and-one-half (2½") inches.
 - b. To prevent the total loss of sections of trees by disease or insect infestation, a variety of trees shall be used in each street tree planting. This does not preclude the use of a singular species of tree to create a strong design statement. In general, no more than five (5) trees in a row or cluster should be of the same species.



- c. When overhead wires are present, only Group C species trees shall be utilized.

TABLE 5.1. GROUP A (Large)	
over 4' wide planting strip	
Ash, Autumn Purple	Fraxinus americana Autumn Purple
Ash, Greenspire Upright American	Fraxinus americana Greenspire
Ash, Newport	Fraxinus pennsylvanica Newport
Ash, Patmore	Fraxinus pennsylvanica Patmore

Ash, Rosehill	<i>Fraxinus americana</i> Rosehill
Ash, Summit	<i>Fraxinus pennsylvanica</i> Summit
Coffeetree, Kentucky	<i>Gymnocladus dioicus</i>
Cucumber Tree	<i>Magnolia acuminata</i>
Elm, Delaware American	<i>Ulmus americana</i> Delaware
Elm, Groenveldt	<i>Ulmus hollandica</i> Groenveldt
Ginkgo, Magyar Upright	<i>Ginkgo biloba</i> Magyar
Ginkgo, Princeton Sentry	<i>Ginkgo biloba</i> Princeton Sentry
Hackberry	<i>Celtis occidentalis</i>
Honeylocust, Continental	<i>Gleditsia tricanthos inermis</i> Continental
Honeylocust, Shademaster Thornless	<i>Gleditsia tricanthos inermis</i> Shademaster
Honeylocust, Skyline	<i>Gleditsia tricanthos inermis</i> Skyline
Katsura Tree	<i>Cercidiphyllum japonicum</i>
Linden, Crimean	<i>Tilia euchlora</i>
Linden, Greenspire Littleleaf	<i>Tilia cordata</i> Greenspire
Linden, Green Mountain Silver	<i>Tilia tomentosa</i> Green Mountain
Linden, Redmond	<i>Tilia americana</i> Redmond
Locust, Sunburst	<i>Gleditsia tricanthos inermis</i> Sunburst
Maple, Planetree	<i>Acer pseudoplatanus</i>
Maple, Red	<i>Acer rubrum</i>
Maple, Armstrong Red	<i>Acer rubrum</i> col. Armstrong
Maple, Bowhall Red	<i>Acer rubrum</i> col. Bowhall
Maple, October Glory Red	<i>Acer rubrum</i> October Glory
Maple, Red Sunset Red	<i>Acer rubruni</i> Red Sunset
Maple, Sugar	<i>Acer saccharum</i>
Maple Bonfire Sugar	<i>Acer saccharum</i> Bonfire
Maple, Columnare Sugar	<i>Acer saccharum</i> columnare
Maple, Green Mountain Sugar	<i>Acer saccharum</i> Green Mountain
Maple, Goldspire Sugar	<i>Acer saccharum</i> columnare Goldspire
Maple, Sentry Sugar	<i>Acer saccharum</i> Monumentale
Oak, Northern Red	<i>Quercus borealis</i>
Oak, Pyramidal English	<i>Quercus robur fastigiata</i>
Oak, Sawtooth	<i>Quercus acutissima</i>
Oak, Scarlet	<i>Quercus coccinea</i>
Oak, Shingle	<i>Quercus inbricaria</i>
Oak, White	<i>Quercus alba</i>
Oak, Willow	<i>Quercus phellos</i>
Plane Tree, Bloodgood London	<i>Platanus acerifolia</i> Bloodgood
Rubber Tree, Hardy	<i>Eucommia ulinoides</i>
Scholartree, Princeton Upright	<i>Sophora japonica</i> Princeton Upright
Scholartree, Regent	<i>Sophora japonica</i> Regent
Sourgum or Black Tupelo	<i>Nyssa sylvatica</i>
Sweetgum	<i>Liquidambar styraciflua</i>
Tuliptree	<i>Liriodendron tulipifera</i>
Zelkova, Green Vase	<i>Zelkova serrata</i> Green Vase
Zelkova, Village Green	<i>Zelkova serrata</i> Village Green

TABLE 5.2. GROUP B (Medium)

2½' (30") to 4' wide planting strip

Ash, Columnar Oakleaf Mountain	<i>Sorbus thuringiaca fastigiata</i>
Ash, Korean Mountain	<i>Sorbus alnifolia</i>
Birch, Asian White	<i>Betula platyphylla japonica</i>
Birch, Cutleaf Weeping White	<i>Betula alba laciniata</i>

Birch, Pyramidal European	Betula alba fastigiata
Birch, River	Betula nigra
Chokecherry, Amur	Prunus maackii
Cherry, Autumn flowering	Prunus subhirtella Autumnalis
Cherry, Columnar Sargent	Prunus sargentii columnaris
Cherry, Kwanzan	Prunus serrulata Kwanzan
Cherry, Yoshino	Prunus yedoensis
Corktree, Amur	Phellodendron amurense
Holly, American	flex opaca
Hophornbeam, American	Ostrya virginiana
Hornbeam, Pyramidal European	Carpinus betulus fastigiata
Pear, Bradford Callery	Pyrus calleryana Bradford
Pear, Capitol	Pyrus calleryana Capitol
Pear, Redspire	Pyrus calleryana Redspire
Pear, Whitehouse	Pyrus calleryana Whitehouse
Turkish Filbert	Corylus colurna
Yellowwood	Cladrastis kentukea

TABLE 5.3. GROUP C (Small)

less than 30" wide planting strip

Cherry, Accolade Flowering	Prunus accolade
Cherry, Amanogawa	Prunus serrulata Amanogawa
Cherry, Cornelian	Cornus mas
Crab, Tea	Malus theifera (hupehensis)
Crabapple, Columnar Siberia	Malus baccata columnaris
Crabapple, Van Eseltine	Malus Van Eseltine
Golden Rain Tree	Koelreuteria paniculata
Hawthorn, Crimson Cloud	Crataegus oxyacantha Superba
Hawthorn, Lavalley	Crataegus Lavalley
Hawthorn, Washington	Crataegus cordata Tree Form
Hawthorn, Winter King	Crataegus viridis Winter King
Ivory Silk Tree Lilac	Syringa amurensis japonica Ivory Silk
Japanese Tree Lilac	Syringa amurensis japonica
Maple, Amur	Acer ginnala Flame
Maple, Hedge	Acer campestre
Maple, Japanese	Acer palmatum
Plum, Newport Purpleleaf	Prunus cerasifera Newport
Redbud, American	Cercis canadensis
Shadblow, Cumulus	Amelanchier x grandiflora Cumulus
Shadblow, Pink	Amelanchier x grandiflora Robin Hill Pink
Silverbell, Carolina	Halesia carolina
Sourwood	Oxydendrum arboreum

3. **Spacing.** When trees are planted at predetermined intervals along streets, spacing shall depend on tree size. Large trees should be spaced forty (40') feet on center. Medium and small trees should be spaced at thirty (30') feet on center (o.c.). Distance between trees shall be measured from the tree trunk caliper, being six (6") inches from the ground. Trees may be planted closer together in order to ensure a clear sight triangle, in conformance with §502-A.M.

Size Group	Planting Distance
Group A (Large)	40' o.c.
Group B (Medium)	30' o.c.
Group C (Small)	30' o.c.

4. Street tree installation on county roadways require Camden County Planning Board approval. Street tree installation on state roadways require New Jersey Department of Transportation (NJDOT) approval.
- F. Buffer. In order to promote a desirable visual environment and maintain the development character, and quality of the Township, a natural or planted buffer shall be installed in conformance with the following:
1. Location. Buffers shall be required along any property line of non-residential development where said property line is contiguous to, or across the street from, land that is either zoned for residential use or upon which is located a residential use. A buffer shall also be installed along property lines between any parking lot or driveway servicing multi-residential, townhouse, or similar units and single-family.
 2. No structure, stormwater management facility, activity, storage of materials or parking of vehicles shall be permitted within a buffer area.
 3. Width. The buffer area shall be a minimum of twenty-five (25') feet in width.
 4. Density. The density of plantings of the buffer shall be planted to provide an effective screen throughout the year. The following minimum number of required plantings shall be required:

a. Group A (Large) Shade Trees:	3 trees/100 lineal feet
b. Group B & C (Medium) Shade Trees:	3 trees/100 lineal feet
c. Evergreens Trees:	15 trees/100 lineal feet
d. Shrubs:	25 shrubs/100 lineal feet
 5. Buffer strip landscaping species and minimum size requirements shall conform to §508-A.F.
 6. Existing vegetation may substitute for all or part of the required buffer plantings and may be accepted in lieu of new plantings at the discretion of the Board.
 7. Design.
 - a. Buffer areas shall be planted and maintain a solid and continuous landscaping screen with a variety of evergreen and deciduous trees, shrubbery, grass, ground cover, berms, natural features, as well as fencing.
 - b. Within the buffer area a screen shall be provided which consists of both high level and low level plant material, of sufficient mass to initially provide an effective year round visual screen to a height of not less than six (6) feet at the time of installation.
 - c. This screen shall be planted in a free form fashion to avoid the appearance of a straight line or "wall" of plant material.
 8. Fence. A board-on-board, vinyl, or similar ornamental fence in conformance with §506-A shall be installed along the property line, in addition to the vegetative buffer.
 9. Reverse Frontage. Buffers may be installed in required yard areas except for reverse frontage buffers where they shall be in addition to the required yard area.
 10. Buffers shall be continuous except for access drives as approved by the Board.
 11. In accordance with the Township Property Maintenance Ordinance, the entire buffer strip area shall be attractively maintained and kept clean of all debris and rubbish.
- G. Off-Street Parking & Loading Areas. The objectives of the landscape architectural treatment of all parking areas shall be to provide for safe and convenient movement of vehicles, to limit pedestrian/vehicular conflicts, to provide for screening from public right-of-way and buildings, to reduce the overall visual impact of parking lots, and to provide shade, mitigate solar radiation and reduce heat island effects. All non-residential parking lots and residential parking lots in excess of five (5) spaces shall conform to the following requirements:
1. Each off-street parking area shall have interior islands with a minimum area equivalent to one parking space per every ten (10) spaces.
 2. The following minimum number of required plantings shall be required, per parking space area:

a. Shade Trees (Group A, B & C):	1 tree/parking space area
b. Shrubs:	3 shrubs/parking space area
c. Groundcover: Groundcover shall be utilized in place of mulch for a minimum of forty (40%) percent of the parking island area, when at full growth.	
 3. Landscaping island planting species and minimum size requirements shall conform to §508-A.H.
 4. Landscaping shall be installed at grade with the top of curb or lower, to prevent overmulching around the

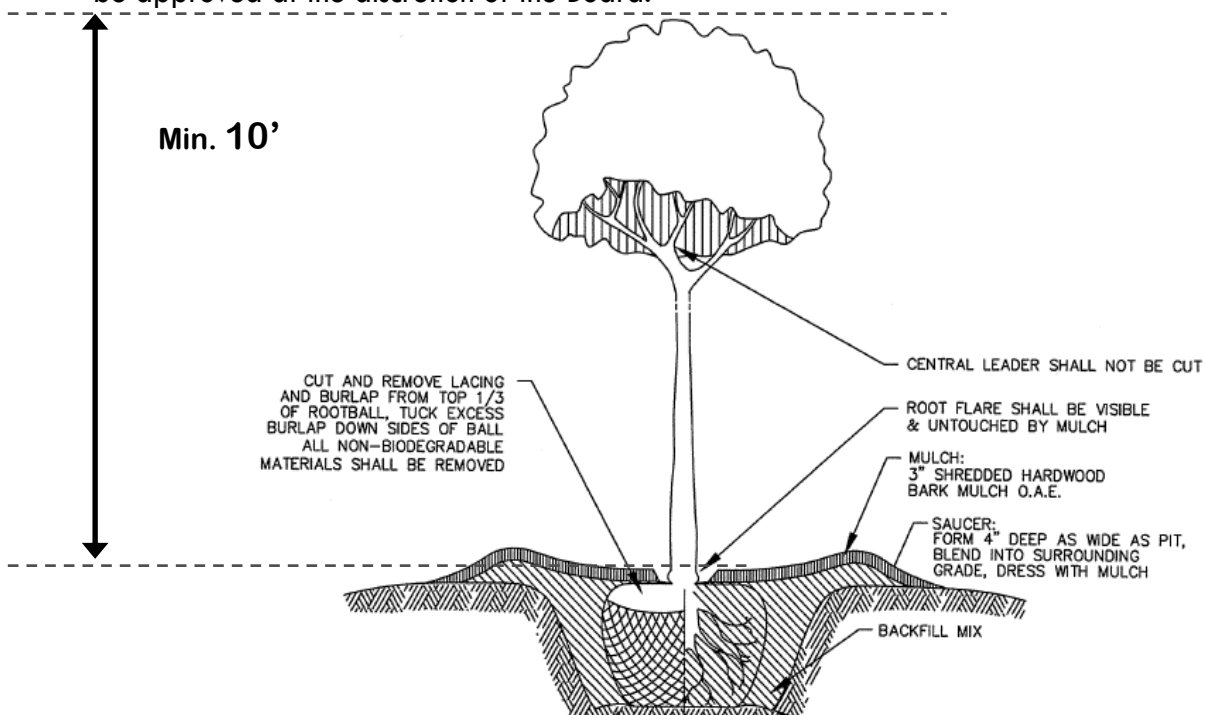
base of a tree.

5. For planting islands that are perpendicular to spaces, islands should be a minimum of ten (10') feet wide, to allow for overhang of parked cars and sufficient soil volume for proper shade tree growth. If parking is only on one side of the island, a ten (10') foot width is still required.
6. One perpendicular median landscaped island shall be provided for every three parking bays.
7. For planting islands that are parallel to spaces, islands should be a minimum of nine (9') feet wide, to allow doors to open and provide sufficient soil volume for shade trees planted in the island.
8. Where the parking lot design will result in pedestrians cutting perpendicularly through landscape islands, sidewalks shall be installed at regular intervals through its short axis.
9. When sidewalks are incorporated, the median island is to be twelve (12') feet in width.
10. No more than twenty (20) parking spaces shall be placed in one row of parking without an intervening landscape island.
11. All islands are to be protected with concrete or Belgium block curbing.
12. The curb radius for all parking islands shall not exceed fifteen (15') feet.
13. Loading & Parking Screen.
 - a. All off-street loading and parking areas shall be sufficiently screened to obscure the view of the loading vehicles and platforms, shield headlights and lighting, and other effects from any public street or adjacent uses throughout the year.
 - b. Visual screening is required to buffer all trash enclosures, above-ground utilities, propane tanks and other similar structures, as identified by the applicable Board or Zoning Officer.
 - c. All off-street loading and parking shall be screened by a combination of trees, shrubs, evergreens, hedges, berms, fences, walls or extension of buildings, in accordance with §508-A.G
14. Landscape Berms. Where utilized, berms shall be a minimum of three (3") feet high above grade, with slopes not to exceed thirty-three (33%) percent (3:1) and planted with ground cover and shrubs.
15. Parking lot lighting should be located within landscape islands, in accordance with §509-A.

H. Site Development. A diverse mixture of various shrubs, groundcover, ornamental trees, and shade and evergreen trees shall be planted within a site. These quantities are exclusive of plants that are required for stormwater plantings pursuant to §516-A.F, buffers pursuant to §508-A.F, street trees pursuant to §508-A.E, off-street parking islands pursuant to §508-A.G, and replacement trees pursuant to §508-A.D.3. The following plantings shall be required as part of site plan and/or major subdivision development:

1. Shade Trees.

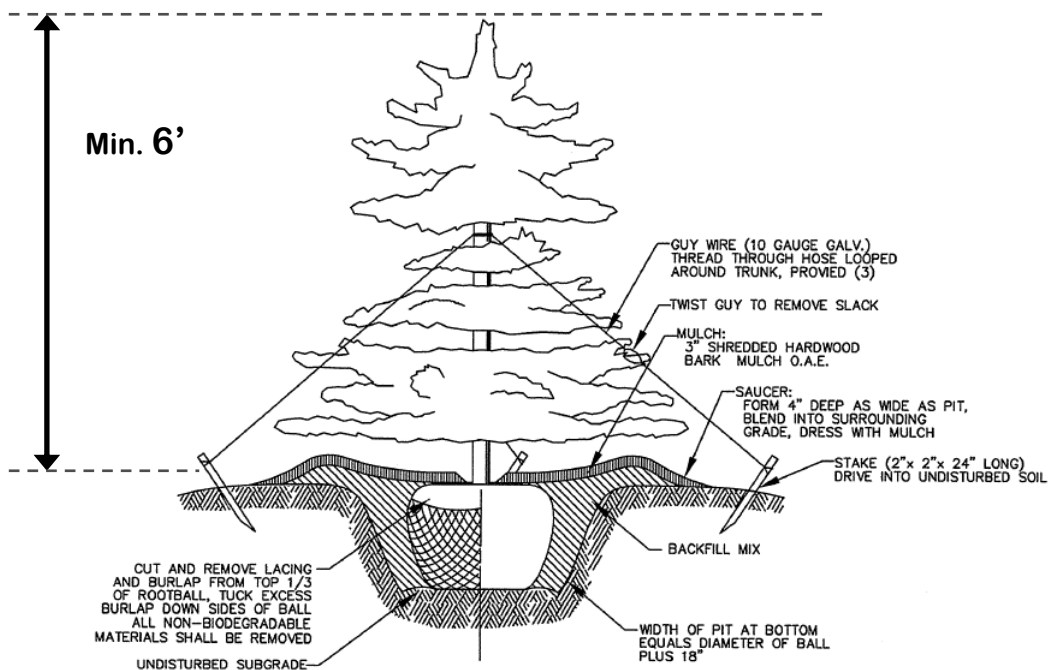
- a. Requirement. A minimum of one (1) shade tree shall be planted for every 2,000 square feet of open space.
- b. Permitted Species. Permitted shade tree species are outlined in §508-A.E.2. Alternate selections may be approved at the discretion of the Board.



- c. Size. Shade trees, except for those existing, preserved, or transplanted, shall be at least ten (10') feet in height, balled and burlapped, when planted, and have a minimum caliper of two-and-one-half (2½") inches.
- d. Location. Shade trees should be specifically planted within ten (10') feet of parking lot perimeter, along the southern exposure of structures to utilize passive solar design and radiation, and along storefronts.

2. Evergreen Trees.

- a. Requirement. A minimum of one (1) evergreen tree shall be planted for every 4,000 square feet of open space.
- b. Permitted Species. Permitted evergreen species include American Holly (*Ilex opaca*), Colorado Spruce (*Picea pungens*), Douglas Fir (*Pseudotsuga taxifolia*), Eastern Red Cedar (*Juniperus virginiana*), Japanese Black Pine (*Pinus thunbergi*), Nellie R. Stevens Holly (*Ilex x 'Nellie R. Stevens'*), Norway Spruce (*Picea abies*), Siberian Spruce (*Picea omorika*), Weeping Alaskan Cedar (*Chamaecyparis nootkatensis 'pendula'*) and White Fir (*Abies concolor*),. Alternate selections may be approved at the discretion of the Board.



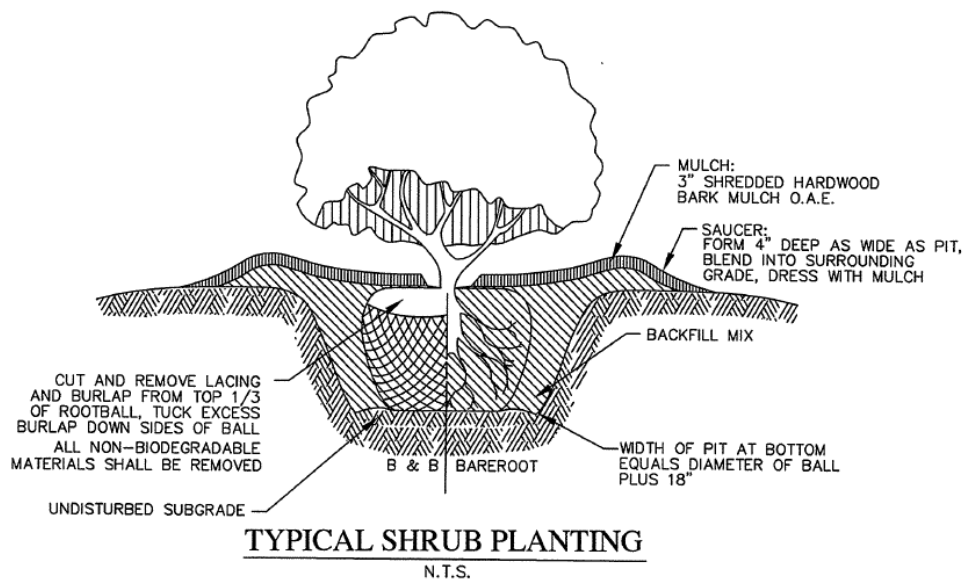
CONIFEROUS TREE PLANTING DETAIL

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- c. Size. Evergreen trees, except for those existing, preserved, or transplanted, shall be a minimum of six (6') feet in height.
- d. Location. Evergreen trees should be planted along the northern exposure of structures to shield from winter northerly winds, around trash facilities and large ground-mounted infrastructure, as well as individually for accent and in groups to add structure and mass to the landscape.

3. Shrubs.

- a. Requirement. A minimum of thirty (30%) percent of the open space shall be planted with shrubs.
- b. Permitted Species. Permitted shrub species include Alleghany Serviceberry (*Amelanchier laevis*),
 Brilliant
 (Aronia) Chokeberry
arbutifolia



brilliantissima), Cherry Laurel (*Prunus laurocerasus* 'Otto Luyken'), Summersweet (*Clethra alnifolia* & varieties), Coast Leucothoe (*Leucothoe axillaris*), Common Lilac (*syringa vulgaris*), Crape Myrtle (*Lagerstroemia indica*), Dogwood (*cornus* varieties), Flowering Quince (*Chaenomeles japonica*), Fragrant Abelia (*Abelia grandiflora*), Gold Mop Japanese Falsecypress (*Chamaecyparis pisifera* 'Filifera Aurea'), Highbush Blueberry (*vaccinium corymbosum*), Inkberry (*Ilex glabra*), Japanese Andromeda (*Pieris japonica*), Japanese Barberry (*Berberis thunbergii*), Mountain Laurel (*kalmia latifolia*), Northern Bayberry (*Myrica pensylvanica*), Privet (*ligustrum* varieties), Red Chokeberry (*arbnia arbutifolia*), Rhododendron (*Rhododendron* PJM), Rose (*rosa* arieties), Rosebay Rhododendron (*rhododendron maximum*), Sumac (*rhus* varieties), Winterberry Holly (*Ilex verticillata*), Witchhazel (*Hamamelis* varieties), and Viburnum (*viburnum* varieties). Alternate selections may be approved at the discretion of the Board.

- c. Size. Shrubs shall be a minimum of two and a half (2½') feet in height.
- d. Location. In conjunction with other plantings, shrubs should be planted particularly along parking lot perimeters to shield headlights, and in areas to screen utilities and trash facilities.

4. Groundcover.

- a. Requirement. A minimum of ten (10%) percent of the open space shall be planted with groundcover plantings.
- b. Permitted Species. Permitted groundcover species include Andorra Juniper (*Juniperus horizontalis plurnosa*), English Ivy (*Hedera helix*), Flowering Quince (*Chaenomeles japonica*), Grapes sp. (*Vitis sp.*), Lowbush Blueberry (*Vaccinium angustifolium*), Myrtle (*Vinca minor*), Pachysandra (*Pachysandra terminalis*), Shore Juniper (*Juniperus conferta*), St. Johnswort (*Hypericum calycinum*), Summersweet (*Clethra alnifolia*), Sweetbox (*Sarcococca hookeriana var. humilis*), and Yellow Root (*Xanthorhiza simplicissima*). Alternate selections may be approved at the discretion of the Board.
- c. Size. Groundcover plantings shall vary in size.
- d. Location. Groundcover plantings should be planted in place of large areas of mulch, planting beds, and to break up vast lawn areas, as well as on berms, steep slopes, and swales.

i. General Provisions. The following general provisions shall apply to the design and installation of landscapes:

1. All plantings are to be of nursery stock and installed in accordance with the minimum quality standards, as defined by the American Association of Nurserymen's current edition of *American Standard for Nursery Stock*.
2. Exotic and invasive species shall not be permitted. Native species are encouraged.
3. All plants shall be tolerant of specific site conditions.
4. All trees shall be substantially uniform in size and shape, and have straight trunks.
5. Trees shall be pruned annually. The use of tree wrap shall be prohibited.
6. Dead or dying trees shall be replaced by the developer during the next suitable planting season.
7. Plantings within sight triangles shall not exceed a height of three (3') feet and the crown of trees shall not be lower than seven (7') feet, in accordance with §502-A.M.
8. In residential developments, additional plantings or landscaping elements shall be required throughout the subdivision where necessary for climate control, privacy, or for aesthetic reasons in accordance with a typical planting plan approved by the Board.
9. Fall Planting Hazard. Certain trees have been identified as having a high degree of transplantation failure if planted during the Fall season. These should be noted on landscape plans as Spring planting season only.
10. Slope Plantings. Landscaping shall be planted on all steep slopes with groundcover appropriate for the purpose and soil conditions, water availability, and environment sufficient to prevent erosion.
11. Irrigation. Where landscaping is provided in conjunction with non-residential development, underground irrigation or cistern system shall be provided. The use of rain barrels is encouraged for residential

development, as well as slow release watering bags (commonly known as “treegators”) for all development.

12. **Removal of Debris.** All stumps and other tree parts, litter, brush, weeds, excess or scrap building materials, or other debris shall be removed from the site and disposed of in accordance with *New Jersey Department of Environmental Protection* regulations. No tree stumps, portions of tree trunks or limbs shall be buried anywhere in the development. All dead or dying trees, standing or fallen, shall be removed from the site and composted. If trees and limbs are reduced to chips, they may, subject to approval of the Municipal Engineer, be used as mulch in landscaped areas, provided they have been properly composted.

13. **Topsoil.** All topsoil, whether imported or from on-site, shall comply with the following requirements:

- a. Topsoil moved during the course of construction shall be redistributed on all regraded surfaces so as to provide at least six (6”) inches of even cover to all disturbed areas of the development and shall be stabilized by seeding or planting.
- b. Topsoil disturbed in the course of development shall not be removed from the site and shall be stored for redistribution.
- c. Topsoil shall be loamy sand, sandy loam, clay loam, loam, silt loam, or other soil approved by the Board or Municipal Engineer. It shall be natural, fertile soil capable of sustaining vigorous plant growth and shall be of a uniform quality, free from subsoil, slag, cinders, stones 1” inch or larger in any dimension, lumps of soil, sticks, roots, trash, or other extraneous, undesirable materials. Topsoil shall also be free of viable plants or plant parts of Bermuda grass, quackgrass, johnson grass, nut sedge, poison ivy, Canada thistle, or similar material.
- d. When topsoil, stockpiled on site, is to be reused, soil debris to include roots, sods, stones, clay lumps, and other extraneous materials harmful to plant growth shall be removed prior to reuse.

e. Topsoil shall meet the following requirements:

- i. ph range - 5.5 to 6.5.
- ii. Organic matter - four (4%) percent minimum.
- iii. Soluble salts no higher than five hundred (500) parts per million.
- iv. Sieve Analysis shall conform to Table 5.4.

f. Materials stripped from the following sources shall not be considered suitable for use as topsoil:

- i. Soils having less than 5.0 ph value.
- ii. Chemically contaminated soils.
- iii. Areas from which the original surface has been stripped and/or covered over such as borrow pits, open mines, demolition sites, dumps, and sanitary landfills.
- iv. Wet excavation.

TABLE 5.4 SIEVE ANALYSIS	
Sieve Size	Percent Passing
1"	100%
1/2"	97%
#10	60-80%
#40	40-60%
#60	40-60%
#100	10-30%
#200	10-20%

14. **Guarantee.** All planting material shall be guaranteed for a two (2) year period after acceptance by the Township and/or the release of performance bonds. A note on the landscape plan shall require that “All plant material not surviving for a period of two (2) years shall be replaced with the same or equivalent size species”.

J. **Landscape Plan.**

- 1. A landscape plan shall be provided concurrent with the submission of all site plans and subdivision plans, with the exception of minor subdivision plans, per Article VIII-A.
- 2. The plan shall be prepared, signed, and sealed by a Licensed Landscape Architect, Professional Engineer, Professional Planner, or other qualified professional certified by the State of New Jersey. A Licensed Landscape Architect is preferred.
- 3. In addition to the requirements of Article VIII-A, the landscaping plan shall show:
 - a. Wood Areas. Location of groups of existing trees or other vegetation not to be disturbed;
 - b. Tree Protection.

- i. the size, species and general health condition of existing trees having a diameter breast height (D.B.H.) of eight (8") inches or greater, identifying which ones are proposed for removal or damaged in such a way as to require removal; and
 - ii. general outline of any and all proposed buildings or structures, driveway, sidewalks, septic facilities and similar accessory facilities indicating clearing limits; and
 - iii. existing topography within twenty feet of the proposed disturbed area including proposed grading, if any; and
 - iv. a chart summarizing the number of proposed trees meeting the criteria of §508-A.H.b.i and replacement trees, per §508-A.D.3; and
 - v. written justification for the removal of any and all specimen trees.
- c. Planting Legend to include key, botanical name, common name, quantity, height, and proposed caliper or size;
 - d. Proposed Plantings. Location of proposed plantings;
 - e. Formulas & Calculation. Formula and calculation of planting density, including the number of required and proposed plantings of the following:
 - i. Replacement trees, per §508-A.D.3.
 - ii. Distance between street trees identification of applicable tree group, per §508-A.E.3;
 - iii. Density of buffer plantings, number of plantings per 100 lineal feet, per §508-A.F.4;
 - iv. Off-street parking plantings, in accordance with §508-A.G.2;
 - v. Stormwater plantings, per each landscaping zone, in accordance with §516-A.F.
 - f. Sight Triangles, per §502-A.M.
 - g. Details. Planting details and notes, including but not limited to those outlined in §508-A.I;