

ARTICLE 8

SCREENING AND LAND USE BUFFERS

Section 8.01 Purpose.

Screening and land use buffers are necessary for the protection and enhancement of the environment and to ensure reasonable compatibility between land uses of differing intensity or impacts. Screening elements enhance the visual environment; preserve natural features; protect property values; alleviate the impact of noise, traffic, and more intensive land uses; and minimize visual impacts of parking lots, loading areas and storage areas. Screening and buffering also contribute to a healthy development pattern and increase the level of privacy for residential uses in the City.

The purposes of this Article is to establish minimum standards for the design, installation, and maintenance of screening elements and plant materials; to establish reasonable standards for the screening of uses of a significantly different scale or character; and buffering of parking lots, storage areas, and similar activities from street rights-of-way and adjacent lots. It is the intent of this Article that required screening and buffering elements shall be immediately effective in achieving the purpose of this Article, and shall maintain that effectiveness as the plant materials mature.

Section 8.02 Scope.

The standards of this Article shall apply to all uses, lots, and sites altered, developed or expanded after the effective date of this Ordinance that are subject to review per Section 12.01 (Site Plan Review), condominium site plan approval per Article 13 (Condominium Regulations) or planned unit development approval per Article 14 (Planned Unit Developments). Uses and activities exempt from site plan approval per Section 12.01 (Site Plan Review) shall be exempt from the requirements of this Article.

The standards of this Article shall be considered the minimum necessary to achieve the purposes of this Article and Ordinance. No provision of this Article shall preclude a developer and the City from agreeing to more extensive landscaping or screening. Where existing sites have been developed without adequate screening or buffering, the purposes of this Article shall be achieved through improvements that are in reasonable proportion to the scale and construction cost of proposed building improvements, expansions, or other site improvements.

Section 8.03 General Standards.

The following standards shall apply to all landscaping and screening elements required by provisions of this Ordinance or determined necessary by the Planning Commission as part of site plan approval:

A. Design Standards.

1. **Visibility.** Landscaping and screening materials and layout shall conform to the requirements of Section 4.209 (Corner Clearance Areas), and shall not conflict with visibility for motorists or pedestrian access.
2. **Plantings near utility lines and fire hydrants.** Required plant materials and screening shall be arranged to avoid conflicts with underground and overhead utility lines and access to or visibility of fire hydrants. The anticipated height at maturity of trees planted near overhead utility lines shall not exceed the line height above grade.
3. **Protection.** Where pavement and landscape areas interface, concrete curbing or similar measures shall be provided to protect plants from vehicle encroachment.
4. **Irrigation.** To assist in maintaining plant materials in a healthy condition, all landscaped areas shall be provided with an automatic, underground, drip irrigation system, subject to the following:
 - a. The Planning Commission may approve an alternative form of irrigation for a particular site, or may waive this requirement upon determining that underground irrigation is not necessary for the type of proposed plant materials.
 - b. All automatic irrigation systems shall be designed to minimize water usage, and shall be manually shut off during water emergencies or water rationing periods.

B. Plant Material Standards.

1. **General.** The following shall apply to all plant materials:
 - a. All plant material shall conform to size and description set forth in the current edition of "American Standard for Nursery Stock" sponsored by the American Association of Nurserymen, Inc. and approved by the American National Standards Institute, Inc. (ANSI 260.1, 1996).
 - b. All plant material shall be true to name in conformance to the current edition of *Standardized Plant Names* established by the American Joint Committee on Horticultural Nomenclature, or other source accepted by the City.
 - c. All plant material shall be nursery grown; hardy to the climate of Michigan; appropriate for the soil, climatic and environmental conditions; and resistant to disease and insect attack.
 - d. Artificial plant material shall be prohibited within required screening areas.

2. **Groundcovers.** The following shall apply to all groundcover materials:
 - a. Lawn areas shall be planted in species of grass normally grown as permanent lawns in Michigan. Grass may be sodded or hydro-seeded, provided that adequate measures are taken to minimize soil erosion. Sod or seed shall be clean and free of weeds and noxious pests or disease.
 - b. The creative use of groundcover alternatives is encouraged. Groundcover used in lieu of grass shall be planted to present a finished appearance after one (1) complete growing season. Prairie grass and natural wildflower and grass mix may be used where appropriate.
 - c. Synthetic materials shall not be used as a permitted groundcover. Use of stone and gravel as a groundcover shall be limited to decorative accents within a planting bed, subject to Planning Commission approval.
3. **Mulch.** Planting beds shall present a finished appearance; with shredded hardwood bark mulch or similar natural material at a minimum depth of three (3) inches. Mulch used around trees and shrubs shall be a minimum of four (4) inches deep, and shall be pulled one (1) inch away from tree trunks. An effective edge treatment shall be provided to contain and prevent migration of the mulch.
4. **Topsoil.** A minimum four (4) inches of topsoil shall be provided for all lawn areas, ground covers, and planting beds.

C. Standards for Size and Variety of Plant Materials.

To ensure adequate variety, and to avoid monotony and uniformity within a site, required plant materials shall not include more than thirty percent (30%) of any single plant species, and shall comply with the following schedule for minimum sizes at planting:

Screening Materials	Minimum Size at Installation
Deciduous Shade Trees	2½ - 3 caliper-inches diameter
Evergreen Trees	6.0 feet overall height
Deciduous Ornamental Trees	2.0 caliper-inches diameter or 6 feet overall height
Shrubs	30 inches in height or 24 inches in spread

D. Existing Plant Materials.

Healthy existing trees and other plant materials on a site may be used to satisfy specific screening standards of this Article, subject to Planning Commission approval and the following:

1. The location, size, and species of individual trees and other plant materials to be preserved shall be identified on the site plan.

2. The Planning Commission may require City inspection of existing plant materials prior to or as a condition of site plan approval to determine the health and desirability of such materials. Such inspections shall be performed by qualified City staff or by a certified arborist or similar qualified consultant.
3. Where plant materials are to be saved, prior approval shall be obtained by the property owner from the Zoning Administrator prior to any delimiting, root pruning, or similar work.
4. Protective fencing shall be placed at the drip-line of existing trees, and around the perimeter of other preserved plant materials, with details of protective measures noted on the site plan. No vehicle or other construction equipment shall be parked or stored within protected areas.
5. In the event that trees or other plant materials identified to be preserved on an approved site plan are destroyed or damaged, as determined by the Zoning Administrator, the owner, developer or contractor shall replace the plant material with a comparable size, amount, and species.

Section 8.04 Methods of Screening.

Where required by this Ordinance or otherwise determined necessary by the Planning Commission in accordance with the purposes and scope of this Article, screening and buffering elements shall satisfy the purpose and objectives of this Article, and shall be accomplished by one (1) or more of following five (5) methods that the Planning Commission determines to be best suited for the existing conditions:

A. Greenbelt Buffer.

The purpose of this method is to establish a buffer between adjacent land uses, or between uses and adjacent street rights-of-way. This method is intended to provide a partial visual screen, particularly where the adjacent uses (including uses that are adjacent across a street right-of-way) are less intense than the use of the subject site. Greenbelt buffers shall consist of the following (see illustration):

1. Greenbelts shall have a minimum width of ten (10) feet and may be interrupted only to provide for pedestrian or vehicular access.
2. Greenbelts shall be sodded, hydro-seeded, or planted with appropriate groundcovers.
3. A mixture of deciduous shade trees, ornamental trees, evergreen trees, and shrubs shall be planted along the greenbelt buffer at a minimum concentration of one (1) tree and three (3) shrubs per 15 linear feet of greenbelt length along a property line or street frontage.
 - a. Such required plant materials may be placed at uniform intervals, at random or in groupings.
 - b. The greenbelt length shall be measured along the centerline of the greenbelt for its entire length, inclusive of all driveways.

B. Fence.

The purpose of this method is to visually screen parking lots, outdoor storage areas, and similar uses where the predominant impacts are at or below eye level. This method shall consist of an ornamental, rail or privacy fence constructed along the lot or zoning district boundary, or around the perimeter of the area to be screened, subject to the following (see illustration):

1. Required fences shall have a minimum height of three (3) feet, and shall not exceed six (6) feet in height above grade unless a higher fence height is determined by the Planning Commission to be necessary to provide adequate screening.
2. Such fences shall conform to the standards of Section 15.102 (Fences).
3. The fence materials, height, location, and design shall be consistent with existing fences on adjacent lots, and shall be subject to Planning Commission approval.

C. Berm.

The purpose of this method is to effectively screen visual and noise impacts using natural-appearing landforms. This method is intended to provide an obscuring screen to block noise and light from adjacent uses or street rights-of-way, or to create a buffer between developed and undeveloped areas of a site. Berms shall consist of a combination of a sculpted earth mound and plantings, which shall meet the following standards (see illustration):

1. Berms shall have side slopes no steeper than four (4) feet horizontal to one (1) foot vertical (4:1 ratio).
2. Berms shall have a minimum height of three (3) feet above the grade elevation. Overall berm height shall be adequate for the intended screening function. Grade elevation shall be the ground elevation at the nearest lot line adjacent to the proposed berm.
3. The interior face of the berm may be constructed as an earthen slope, or may be retained by means of a wall, terrace or similar means acceptable to the Planning Commission.
4. The berm shall be designed and graded to blend with existing topography and sodded, hydro-seeded or planted with appropriate groundcovers.
5. The Planning Commission may require greenbelt plantings on the berm, per Section 8.04A (Greenbelt Buffer). For the purpose of determining any required plant materials, the length of any required berm shall be measured from one toe of the berm (the farthest point at one end of the berm's long dimension where the berm height equals the surrounding grade level) along the berm's centerline to the toe at the opposite end of the berm.

D. Evergreen Screen.

The purpose of this method is to create a dense obscuring screen that meets the objectives of this Article. This method is intended to establish a year-round screening barrier between land uses of differing intensities, to effectively block noise and light, or to completely separate developed and undeveloped portions of a site.

This method shall consist of closely spaced evergreen trees with year-round screening characteristics. Such trees shall be planted a maximum of 15 feet apart in at least two (2) staggered rows (see illustration).

E. Masonry Wall.

The purpose of this method is to create a solid, year-round barrier and obscuring screen to effectively block noise, light, and other impacts between land uses of differing intensities. Such walls shall be subject to the following (see illustration):

1. Masonry walls shall have a minimum height of two (2) feet, and shall not exceed six (6) feet in height above grade unless a higher wall height is determined by the Planning Commission to be necessary to provide adequate screening.
2. Walls shall be solid in character, and capped with a stone or concrete cap.
3. Wall materials shall be coordinated with the principal building materials on the site. The Planning Commission may require that decorative masonry (brick, stone, or decorative block) materials be incorporated into the wall design and construction.

Section 8.05 Standards for Specific Areas.

The following standards are intended to address the specific screening and buffering needs of particular areas or portions of a site, in accordance with the purpose and objectives of this Article:

A. Parking Lot Landscaping and Perimeter Screening.

Parking lot landscaping and perimeter screening shall be arranged to improve the safety of pedestrian and motorists; guide traffic movement; define egress/ingress points, interior circulation system, and fire lanes; and improve the appearance of the parking area. Parking lot landscaping and perimeter screening shall be subject to the following:

1. **Perimeter screening.** Parking lots shall be screened from all abutting RESIDENTIAL USES, residential districts, and street rights-of-way per Section 8.04 (Methods of Screening and Buffering).
2. **Snow storage area.** Adequate snow storage area shall be provided within the site. Plant materials in snow storage areas shall be hardy, salt-tolerant species characterized by low maintenance requirements.
3. **Landscaping within parking lots.** The Planning Commission may require installation of planting islands within parking lots that exceed 20 parking spaces

or 6,000 square feet of paved surface area. Such planting islands shall be subject to the following (see illustration):

- a. Planting islands shall have a minimum width of ten (10) feet, and a minimum area of 160 square feet.
- b. A minimum of one (1) deciduous shade tree or ornamental tree shall be provided for each planting island. Shrubs and live groundcover plantings shall be used to cover all unplanted areas of the island.
- c. Planting islands shall be located at the ends of each parking row, unless otherwise approved by the Planning Commission.
- d. All landscaping and perimeter screening, except designated snow storage areas, shall be protected from vehicle encroachment with concrete curbing or similar permanent means.

B. Loading, Storage, and Service Area Screening.

Loading, storage, and service areas, public utility and essential service uses and structures, ground equipment shelters, ground-mounted transformers, generators, and HVAC units, electric sub-stations, gas regulator stations, and similar facilities shall be screened from street rights-of-way and adjacent uses in accordance with Section 8.04 (Methods of Screening and Buffering).

C. Outdoor Trash Storage Area Screening.

Outdoor trash storage areas shall be screened and secured in accordance with the following:

1. Outdoor trash storage areas shall be screened by a six (6) foot high masonry wall enclosing three (3) sides of the storage area, subject to the standards of Section 8.04E (Masonry Wall).
 - a. The enclosure shall be secured by steel-reinforced and lockable gates designed to obscure visibility into the enclosure.
2. Concrete-filled bollards or similar protective devices shall be installed at the opening and to the rear of any storage area to prevent damage to the walls.
3. A concrete pad that conforms to State Construction Code standards shall be provided under the trash storage area, and extending out a minimum of ten (10) feet in front of the enclosure's gates.
4. Such storage area shall be located and arranged as to minimize visibility from adjacent street rights-of-way and RESIDENTIAL USES. In no instance shall any trash storage area be located in a front yard.
5. Outdoor trash storage shall be limited to normal refuse collected on a regular basis and maintained in a neat, orderly and sanitary condition. In no instance shall any refuse be visible above required screening.

D. Detention and Retention Basin Screening.

Where a detention or retention basin, or similar stormwater management facility is required, such facilities shall comply with the following:

1. To the extent possible, basin configurations shall be incorporated into the natural topography. Where this is not practical, the basin shall be shaped to emulate a naturally formed or free form depression. The basin edge shall consist of sculptured landforms to filter and soften views of the basin.
2. Basins shall be designed to avoid the need for perimeter fencing. Where such fencing is necessary, the location and design shall be subject to Planning Commission approval.
3. Basins shall be planted with a mixture of groundcover and wetland-based plantings native to Michigan, such as native grasses or wildflowers.
4. A perimeter greenbelt buffer shall be provided in accordance with Section 8.04A (Greenbelt Buffer) and the following:
 - a. Plantings shall be clustered around the basin to achieve a variety of plant materials and to replicate a natural environment. Deciduous shade trees shall be clustered around the south and west sides of the basin to provide shade and minimize solar heating of the water.
 - b. Trees shall be planted above the freeboard line of the basin. Any plantings proposed below the freeboard line shall be tolerant of wet or moist soil conditions. The location of plant materials shall take into consideration the need to provide access for routine basin maintenance.

E. Rights-of-Way and Other Adjacent Public Open-Space Areas.

Public rights-of-way and other public open-space areas adjacent to required landscaped areas and development sites shall be landscaped in a manner that enhances the visual character of City streets and minimizes adverse impacts of vehicular traffic on adjacent uses. Right-of-way landscaping shall be subject to the following:

1. **Street trees.** Street tree plantings shall be required for all development projects along the margins of street rights-of-way in the City, subject to the following (see illustration):
 - a. Street trees shall consist of deciduous shade trees planted at a minimum concentration of one (1) street tree per 40 linear feet of right-of-way. Required trees may be planted at regular intervals or in groupings.
 - b. Existing trees near or within street rights-of-way shall be preserved where feasible.
 - c. Permits may be required by the City, or county or state road authorities for installation of street trees within rights-of-way under their jurisdiction. Where such plantings are not permitted within a street right-of-way,

required street trees shall be planted within the front yard setback area, or at an alternative location approved by the Planning Commission.

2. **Groundcover plantings within street rights-of-way.** Street rights-of-way shall be planted with grass or other suitable ground cover.
3. **Maintenance of right-of-way landscaping.** Right-of-way landscaping shall be maintained by the owner of the abutting lot(s).

Section 8.06 Prohibited Plant Materials.

The following trees are not considered desirable plant materials because of various problems, except where removal of existing trees would result in a loss of screening or buffering, or where noted below:

Species	Common Name
Acer negundo	Box Elder
Ulmus x	Elm varieties; except disease-resistant cultivars, such as ‘Regal’, ‘Pioneer’, ‘Homestead’, ‘Jacan’ and ‘Accolade’
Aesculus x	Horse Chestnut; except for use in greenbelts and transition zones between developed and un-developed areas of a site
Populus x	Poplar varieties
Elaeagnus x	Olive varieties
Salix x	Willow varieties; except in appropriate wetland ecosystems
Catalpa x	Catalpa varieties
Ailanthus altissima	Tree of Heaven
Ginkgo biloba	Ginkgo (female); male trees are acceptable
Robinia pseudoacacia	Black locust
Morus alba	Mulberry (white)
Acer saccharinum	Silver Maple
Fraxinus x	Ash varieties

Section 8.07 Installation.

All screening shall be installed in a manner consistent with the standards of the American Association of Nurserymen, the approved site plan, and the following:

1. **Deadline for installation.** Installation of required screening elements and plant materials shall be completed within 365 calendar days from the date of site plan approval for the project.

2. **Extension.** The Zoning Administrator may extend the deadline to allow installation of required plant materials by the end of the next planting season, upon determination that weather conditions, development phasing, or other factors would jeopardize required plant materials and prevent their installation by the deadline specified in this Section.
3. **Performance guarantee.** The Zoning Administrator may require submittal of a performance guarantee, per Section 1.08 (Fees and Performance Guarantees), to cover the cost of installing required screening elements and plant materials. After installation has been completed, the Zoning Administrator or Code Enforcement Officer shall conduct an inspection of the plant materials before the guarantee may be released.

Section 8.08 Maintenance.

All screening elements and plant materials shall be maintained in accordance with the approved site plan, and the following:

1. Maintenance procedures and frequencies to be followed shall be specified on the site plan, along with the manner in which the effectiveness, health, and intended functions of the screening elements and plant materials on the site will be ensured.
2. Plant materials shall be kept in a neat, orderly and healthy growing condition, free from weeds, debris, and refuse. Tree stakes, guy wires, and tree wrap shall be removed after one (1) year.
3. Pruning of plant materials shall be limited to the minimum necessary to ensure proper maturation of plants to achieve their intended purpose.
4. All required screening elements and plant materials shall be planted and maintained in accordance with an approved site plan. Failure to maintain required screening, including the removal and replacement of dead or diseased plant materials, shall be a violation of this Ordinance.
5. The replacement or removal of plant materials in a manner not consistent with an approved site plan shall be a violation of this Ordinance.
6. Adequate provisions shall be made to supply water to all required plant materials as necessary to ensure proper growth and development.

Section 8.09 Exceptions.

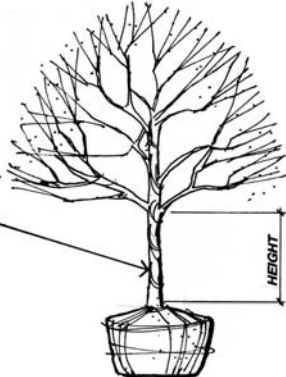
The Planning Commission may reduce or waive the specific standards of this Article, upon determination that the screening requirements and purposes of this Article have been satisfied by existing topography, vegetation or other means acceptable to the Planning Commission.

ILLUSTRATIONS

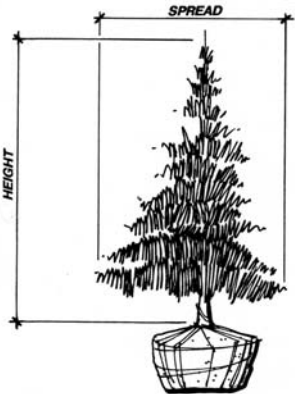
TREE CALIPER MEASUREMENTS

*FOR NEW TREES ONLY;
 SEE WOODLANDS PROTECTION
 ORDINANCE FOR MEASUREMENT
 OF EXISTING TREES*

*TAKE MEASUREMENT
 12" ABOVE GROUND
 LEVEL*



DECIDUOUS CANOPY TREE



EVERGREEN TREE

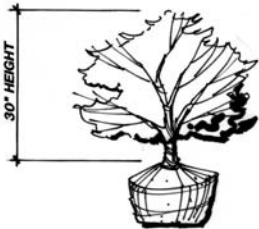
Minimum Plant Sizes



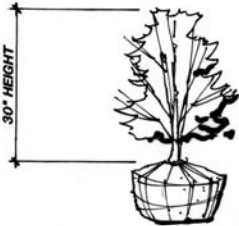
SECTION



Berm



DECIDUOUS SHRUB

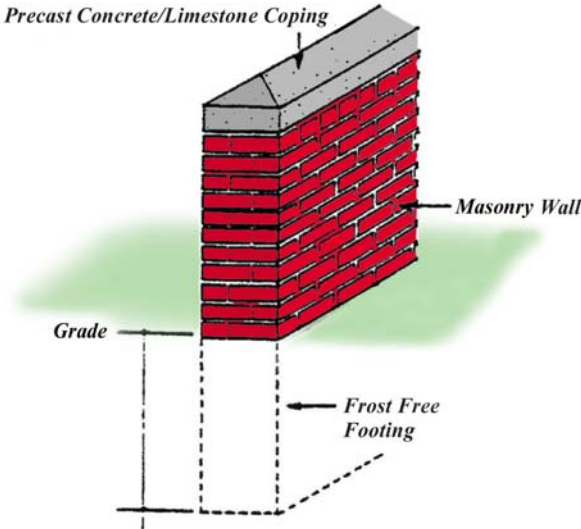


UPRIGHT EVERGREEN SHRUB



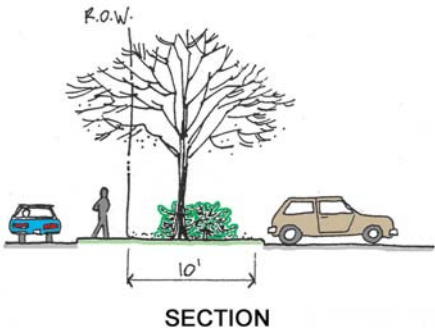
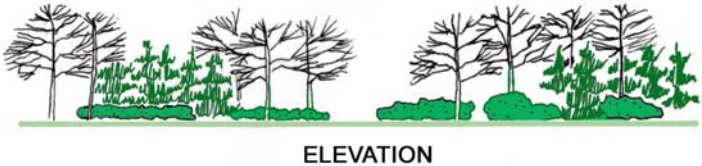
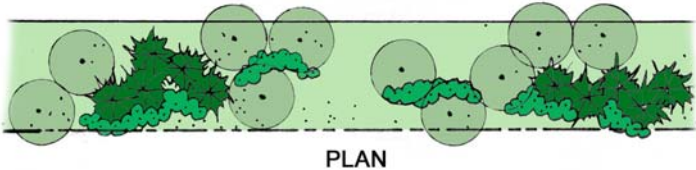
SPREADING EVERGREEN SHRUB

Minimum Plant Sizes

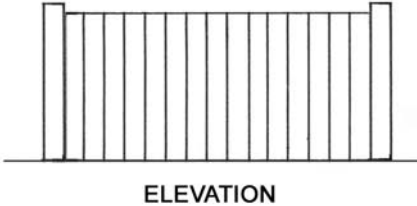
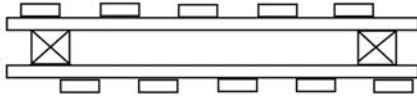
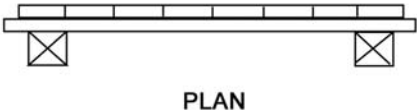
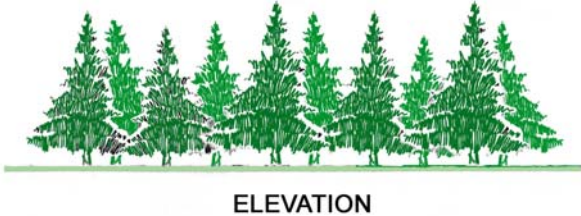
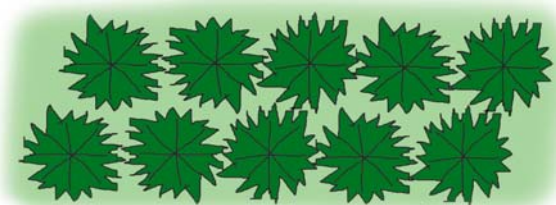


Screen Wall

ILLUSTRATIONS



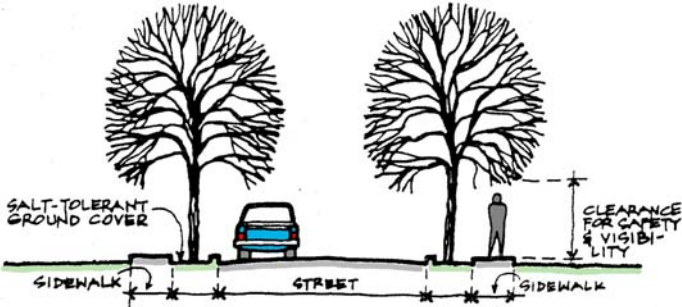
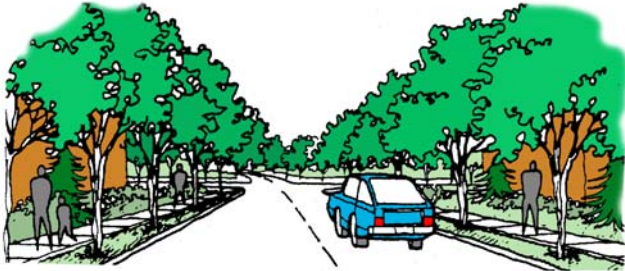
Greenbelt Buffer



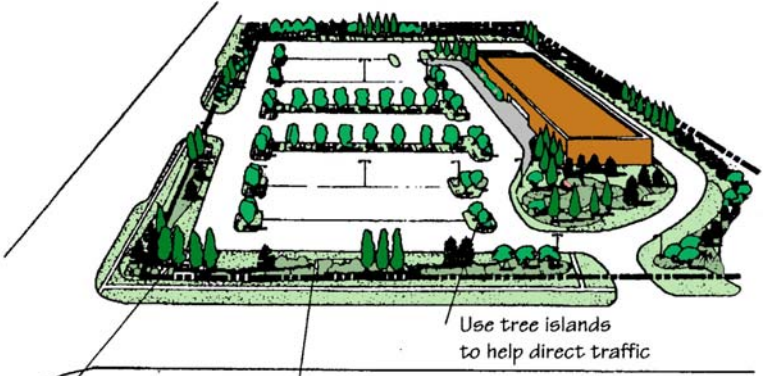
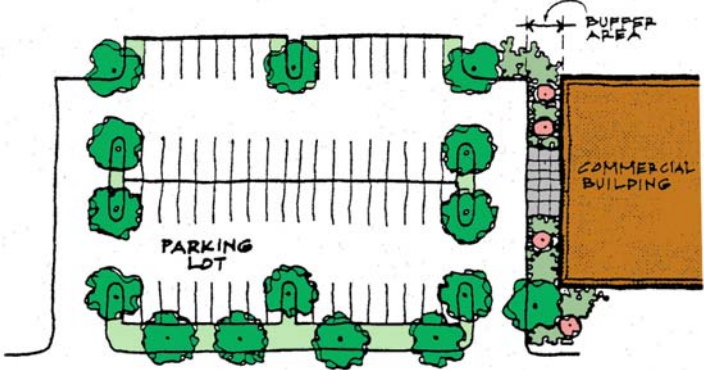
Fence

Evergreen Screen

ILLUSTRATIONS



Street Trees



Source: SEMCOG.

Landscaping Within Parking Lots

