

ARTICLE 11

LANDSCAPING, SCREENING AND BUFFERING

Section 11.01 Purpose.

Landscaping, screening and land uses buffers are critical site design elements that contribute to the positive aesthetic qualities, pattern of development, stability of property values, privacy of residential uses, and overall character of the Township. The purpose of this Article is to:

1. Protect the rural character, appearance and value of land through the judicious and thoughtful use of landscaping, screening and buffering techniques that present a finished and aesthetically pleasing appearance, preserve environmental quality, and enhance the appearance of the Township, thereby reducing conditions that may lead to blight.
2. Protect the health, safety and welfare of motorists, pedestrians and children by establishing landscaping design standards that guide and orient traffic flow within a site, and separate and protect pedestrian areas from vehicular encroachment.
3. Encourage flexibility in the administration of this Article, and creativity and innovation in landscape site design, including the incorporation of existing vegetation, topography and other site features into the design and placement of landscaping.
4. Buffer the visual impact of parking lots, storage areas and similar activities from street rights-of-way and adjacent properties, provide adequate protective screening for residential uses adjacent to or near business or industrial zoning districts or uses, and establish minimum standards for the design, installation, and maintenance of landscaping, screening and buffer areas between uses.
5. Establish realistic and achievable objectives for the screening or buffering of uses of a significantly different scale or character, and the enhancement of individual sites, street rights-of-way and other areas of the Township through appropriate landscaping.

The standards of this Article are considered the minimum necessary to achieve these purposes. Applicants are encouraged to provide additional landscaping and screening where possible to improve the function, appearance and value of their property and surrounding sites.

Section 11.02 Objectives.

Consideration by the Planning Commission of site landscaping, screening and buffering shall reflect the purpose of this Article and the following objectives:

- A. Site landscaping shall be innovative and creative in design, and shall reflect the unique conditions and accommodate the specific circumstances of the site.
- B. At the time of installation, landscaping, screening and buffering elements shall be immediately effective in meeting the objectives of this Article, and shall maintain that effectiveness as the plant materials mature.
- C. Significant natural, historical and cultural site features, including but not limited to large trees, hedgerows, lakes and other waterbodies, steep slopes, wetlands, archeological sites and historic elements, shall be preserved where practicable.

- D. Where existing sites have been developed without adequate landscaping, screening or buffering, the purpose 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.
- E. Landscaping shall be designed to minimize the cost of general maintenance and upkeep.
- F. Site elements intended for screening purposes shall:
 - 1. Effectively form a complete visual and physical separation between uses of a significantly different scale or character, or between the street right-of-way and specific areas of a site (such as loading areas, off-street parking lots, service areas and storage areas) that require screening.
 - 2. Mitigate the adverse effects of a proposed use on adjacent uses, including but not limited to headlight glare, lighting, noise, and trash disposal areas.
- G. Site elements intended to establish a buffer area shall create a partial visual transition zone between uses of a significantly different scale or character, to reduce the adverse effects of a proposed use on adjacent uses or break-up the visual pattern of parking lots and other large monotonous areas of a site, such as parking lots.

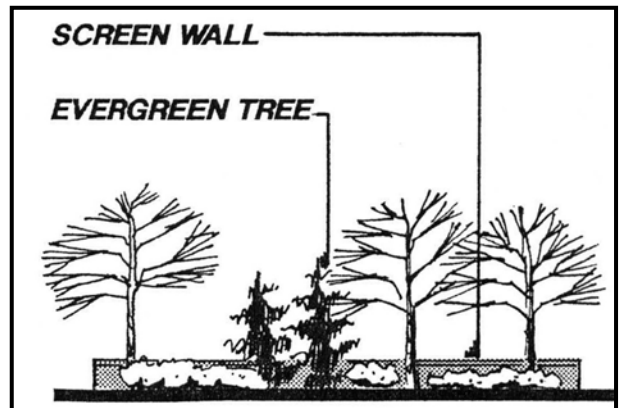
Section 11.03 Scope.

Every property owner and developer has the responsibility to ensure that the use of a lot in the Township does not adversely impact adjacent properties. The provisions of this Article shall apply to all sites that are subject to site plan or sketch plan review in accordance with Article 17.02 (Site Plan Approval). Such sites shall be required to comply with all applicable provisions of this Article.

Section 11.04 Methods of Screening and Buffering.

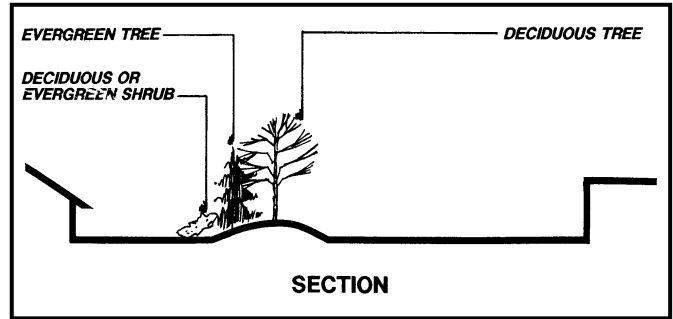
Screening and buffering elements shall satisfy the purpose and objectives of this Article, and shall be accomplished by any one of the following methods, or any combination of these methods or other alternatives that the Planning Commission determines to be best suited for the existing conditions:

- A. **Screen wall (or fence) with planting strip.** This method shall consist of a decorative brick wall or ornamental fence up to four feet (4') in height, along with a six to ten foot (6' – 10') wide planting strip abutting the base of the wall or fence that includes a mixture of deciduous shade trees, ornamental trees and shrubs, at a minimum concentration of one (1) tree and five (5) shrubs per each thirty lineal feet (30').
- B. **Berms.** Berms shall consist of a combination of a raised earth berm and plantings, and shall meet the following standards:



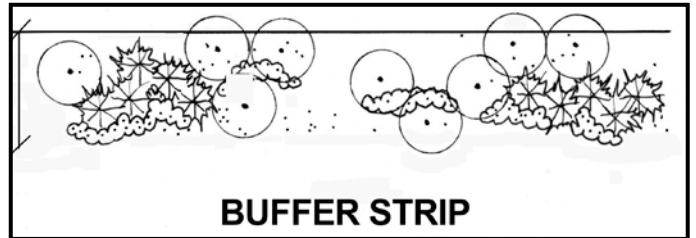
- 1. A berm shall have side slopes no steeper than 4:1 (four feet (4') horizontal to one foot (1') vertical), and the top of all berms shall have a level horizontal area of at least four feet (4') in width.

2. The interior face of the berm may be constructed as an earthen slope or retained by means of a wall, terrace, or other means acceptable to the Planning Commission.
3. The berm shall be designed and graded to blend with existing topography, and shall be appropriately sodded, hydro-seeded or planted with appropriate groundcovers.
4. A mixture of deciduous shade and ornamental trees, evergreen trees and shrubs shall be planted along the entire berm area at a minimum concentration of one (1) tree and two (2) shrubs per each ten lineal feet (10') of berm.



C. **Evergreen screen.** This method shall consist of evergreen trees, with year-round characteristics that meet the screening objectives of this Article, planted ten to fifteen feet (10' – 15') apart in a minimum of two (2) staggered rows ten to fifteen feet (10' – 15') apart.

D. **Greenbelt buffer strip.** A buffer strip may be required, particularly where the adjacent uses (including uses that are adjacent across a street right-of-way) are residential in character or less intense than the use of the subject site. A required greenbelt buffer strip shall include the following:



1. Greenbelts shall have a minimum width of six feet (6'), with a preferred width of ten feet (10'), and shall contain appropriate grasses, groundcovers and mulch as necessary.
2. A mixture of deciduous shade and evergreen trees and shrubs shall be planted along the greenbelt buffer at a minimum concentration of one (1) tree and two (2) shrubs per each twenty lineal feet (20') of street frontage or length along a property line. Additional trees may be substituted for the required shrubs at the rate of one (1) tree per four (4) shrubs.

E. **Hedgerow.** To provide a low screen to block headlight glare, screen parked vehicles from street rights-of-way, or other circumstances where ground-level screening is necessary to obscure a portion of a site without inhibiting visibility or light, the Planning Commission may require use of a continuous hedgerow consisting of twenty-four inch to thirty-six inch (24" - 36") high shrubs planted and maintained as a continuous visual screen, with full maturity within one full planting season, with the maximum permitted spacing to be determined by the type of shrub proposed.

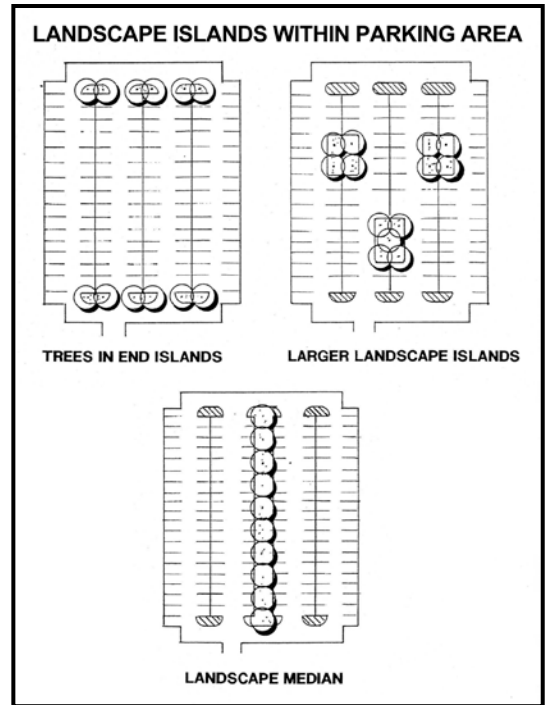
F. **Masonry wall.** Where required, a masonry wall shall be solid and decorative in nature, and at least two feet (2') and no more than six feet (6') in height above grade. Such walls shall be capped, and constructed of masonry (brick, stone, or decorative block) materials that complement the primary building materials.

Section 11.05 Standards for Specific Areas.

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

A. **Parking lots.** Landscaped planting strips and islands shall be dispersed throughout all parking lots to direct traffic flow, create shade and break-up large expanses of pavement. Parking lot landscaping shall be subject to the following standards:

1. All landscaped areas shall be designed to ensure proper protection of the plant materials. Where adjacent to streets, driveway aisles, or parking areas, shall be protected with concrete curbing. Plant materials used shall be hardy, salt-tolerant species characterized by low maintenance requirements.
2. The size and number of planting islands and proposed plantings shall be in scale with the overall site, and shall clearly define the egress/ingress points, interior circulation system and fire lanes. Landscaping shall not obscure traffic signs or lighting, access to fire hydrants or motorist sight-distance.
3. Planting islands shall have a minimum width of ten feet (10') and a minimum area of one hundred sixty (160) square feet. A minimum of one (1) deciduous shade tree shall be provided for each eighty (80) square feet of planting area within the island. Ornamental trees, shrubs, mulch or groundcover shall be used to cover all unplanted areas of the island.
4. Planting islands shall be provided with an automatic underground irrigation system, unless an alternate form of irrigation is approved by the Planning Commission.



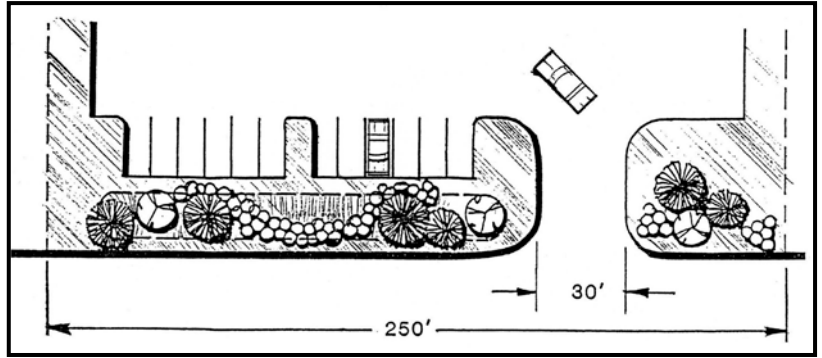
B. **Island turnarounds.** Where cul-de-sac or other dead-end streets are planned within a development, adequate provision shall be made for landscape and maintenance of turnaround islands, including type, size, location and number of plantings, when the work will be completed, how the landscaping will be maintained, and who will be responsible for long-term maintenance.

C. **Waste receptacle screening.** Waste receptacles shall be screened to the satisfaction of the Planning Commission in accordance with Section 11.04 (Methods of Screening and Buffering). Where the enclosure is required by the Commission, a steel-reinforced, lockable wooden gate shall be provided to secure the enclosure.

D. **Utility, mechanical equipment and service area screening.** Loading areas, storage areas and service areas, public utility and essential service uses and structures, ground-equipment shelters for wireless communications facilities, ground-mounted transformers and HVAC units, electric sub-stations, gas regulator stations and similar facilities shall be screened from the street right-of-way adjacent properties in accordance with Section 11.04 (Methods of Screening and Buffering).

E. **Street yard landscaping.** Street yard areas, including the area between the street pavement edge and the street right-of-way line plus any required front yard setback area, shall be landscaped in a manner that enhances the visual character of Township streets and minimizes adverse impacts of vehicular traffic on adjacent uses.

1. **Street trees.** Street tree plantings shall consist of deciduous shade trees planted in one (1) or more rows at regular intervals, or in informal groupings, along the margins of street rights-of-way, in an amount equal to a minimum of one (1) street tree per forty linear feet (40'), as measured along the street right-of-way line.



2. **Front yard setback area plantings.** Where a front yard setback is required by this Ordinance, the Planning Commission may require a berm, greenbelt or other landscaping materials within the front yard setback in accordance with the screening or buffering objectives of this Article.
- F. **Detention and retention basin landscaping.** Where a detention or retention basin, or similar stormwater management facility is required, landscaping shall be provided that 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. Plantings shall replicate a natural environment. Deciduous shade and ornamental trees, shrubs, perennials, grasses and other groundcover shall be clustered around the basin to achieve a variety of plant materials. 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.
 3. 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.
 4. Basins may be planted with a mixture of groundcover plantings native to south Michigan, such as native grasses or wildflowers, provided that such plantings present a finished appearance with minimal maintenance.
 5. Basins shall be designed to avoid the need for perimeter fencing. Where such fencing is necessary, it shall be decorative in nature and subject to Planning Commission approval.
- G. **Special approval land uses.** Where deemed necessary by the Planning Commission, special approval land uses shall be screened or buffered in a manner that separates the use from the street right-of-way, the view of the general public or adjacent residential areas.

Section 11.06 Landscape Material Standards.

- A. **General Standards.** The following shall apply to all plant materials:

1. 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)
2. 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 Township.
3. All plant material shall be nursery grown, hardy to the climate of southern Michigan, appropriate for the soil, climatic and environmental conditions, long lived, resistant to disease and insect attack.
4. Artificial plant material shall be prohibited.
5. Landscaping shall not conflict with utilities and fire hydrant locations, visibility for motorists, and clearance for pedestrians.
6. Where pavement and landscape areas interface adequate measures shall be taken to protect plants from vehicle encroachment.

B. Groundcovers. The following shall apply to all groundcover materials:

1. Lawn areas shall be planted in species of grass normally grown as permanent lawns in south Michigan. Grass may be sodded or hydro-seeded and mulched, except that solid sod shall be used in swales or other areas subject to erosion. Sod or seed shall be clean, free of weeds and noxious pests or disease.
2. The creative use of groundcover alternatives is encouraged. Groundcover used in lieu of grass in whole or part shall be planted in such a manner as to present a finished appearance that is reasonably complete after one complete growing season. Prairie grass and natural wildflower and grass mix may be used where appropriate.
3. Stone and synthetic materials shall not be used as a groundcover.

C. Mulch. Planting beds shall present a finished appearance, with shredded hardwood bark mulch or similar natural material at a minimum depth of three inches (3"). Mulch used around trees and shrubs shall be a minimum of four inches (4") deep, and shall be pulled one inch (1") away from tree trunks. Pine bark mulch shall be prohibited. An effective edge treatment must be provided to contain and prevent migration of the mulch.

D. Topsoil. A minimum four inches (4") of topsoil shall be provided for all lawn areas, ground covers and planting beds.

E. Existing vegetation. Existing vegetation to be preserved shall be protected during construction through the use of temporary snow fencing and stakes around the drip line. No vehicle or other construction equipment shall be parked or stored within the dripline of any tree or other plant material intended to be saved.

F. 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 one plant species, and shall comply with the following schedule for minimum starting sizes:

LANDSCAPING MATERIALS	MINIMUM SIZE AT INSTALLATION
Deciduous Shade Trees	3 - 3½ caliper-inches diameter
Evergreen Trees	8.0 feet overall height
Deciduous Ornamental Trees	2.0 caliper-inches diameter or 6 feet overall height
Shrubs	24 inches in height or spread (B & B)
Vines	30 inches in length

Section 11.07 Prohibited Plant Materials.

The following trees, because of various problems, are not considered desirable plant materials, except where such trees are associated with an appropriate wetland or other ecosystem, where removal of existing trees would result in a substantial loss of screening or buffering for adjacent uses or street rights-of-way, 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 11.08 Installation.

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

- A. **Deadline for installation.** Required plant materials shall be planted within three hundred sixty five (365) days of final site plan approval, or one hundred eighty (180) days from the date of issuance of a certificate of occupancy.
- B. **Performance guarantee.** If it is determined that the landscape materials would be jeopardized by weather conditions, the Zoning Administrator may require a performance guarantee, in accordance with Section 1.06 (Performance Guarantees), to cover the cost and ensure the installation of required landscaping by the end of the next planting season. An inspection of plant materials shall be conducted by the Zoning Administrator before a performance guarantee may be released.
- C. **Deviations from approved plan.** Deviations in quantity, type, size and location of plant materials from the approved landscape plan shall be subject to Planning Commission review and approval.

Section 11.09 Maintenance.

All landscaping materials shall be maintained in accordance with the approved landscape plan, and the following:

- A. Landscape maintenance procedures and frequencies to be followed shall be specified on the landscape plan, along with the manner in which the effectiveness, health and intended functions of the various landscape areas on the site will be ensured.
- B. Landscaping shall be kept in a neat, orderly and healthy growing condition, free from debris and refuse. Tree stakes, guy wires and tree wrap are to be removed after one (1) year.
- C. Pruning shall be minimal at the time of installation, only to remove dead or diseased branches. Subsequent pruning shall assure proper maturation of plants to achieve their approved purpose.
- D. All dead or diseased plant materials shall be removed and replaced with the same number, size and species of materials within thirty (30) days of written notice from the Township, or by the end of the next planting season if it is determined by the Township that the new materials would be jeopardized by weather conditions.
- E. The approved landscape plan shall be considered a permanent record and integral part of the approved site plan. Any replacement or removal of plant materials that is not in accordance with the approved landscape plan shall be a violation of this Ordinance.
- F. Adequate provisions shall be made to supply water to all landscape areas on a regular schedule.

Section 11.10 Exceptions and Alternatives.

- A. **Alternative designs or materials.** The Planning Commission shall have the authority to modify the standards of this Article, provided that the alternative is determined to be in accordance with the purpose and objectives of this Article.
- B. **Existing sites.** Where an existing building is undergoing redevelopment, improvement, a change in use, or expansion, the Planning Commission may require landscaping, screening and buffering improvements in accordance with the purpose and objectives of this Article, provided that any required improvements shall be in reasonable proportion to the size and configuration of the site, and the scale of proposed building improvements, expansions or other site improvements.