

ANDOVER PLANNING BOARD
DESIGN GUIDELINES FOR LANDSCAPE DESIGN

Section 1.0 – Authority

The Design Guidelines are adopted by the Planning Board and may be updated from time to time pursuant to the Zoning Bylaw.

Section 2.0 – Purpose and Relationship to the Zoning Bylaw

These Design Guidelines provide additional details on standards related to landscaping requirements in the Zoning Bylaw and the Town of Andover's preferences for achieving compliance.

Section 3.0 – Plant Selection

For perennial landscapes (returning naturally on an annual basis), plant varieties shall be selected for resistance to drought, wet conditions, salt, soil compaction, limited soil volume, and/or pests depending on the location of landscaping and the specific stressors anticipated for different areas of the site. Plants shall be selected so that landscaping can be maintained with reduced maintenance and the need for watering, pesticides, or fertilizers can be minimized or eliminated once the plants are established. Applicants are encouraged to consult the latest version of *The Vascular Plants of Massachusetts: A County Checklist* as published by the Massachusetts Division of Fisheries and Wildlife and Natural Heritage & Endangered Species Program and/or the Native Plant Trust's Go Botany website to determine which plants are native to the area.

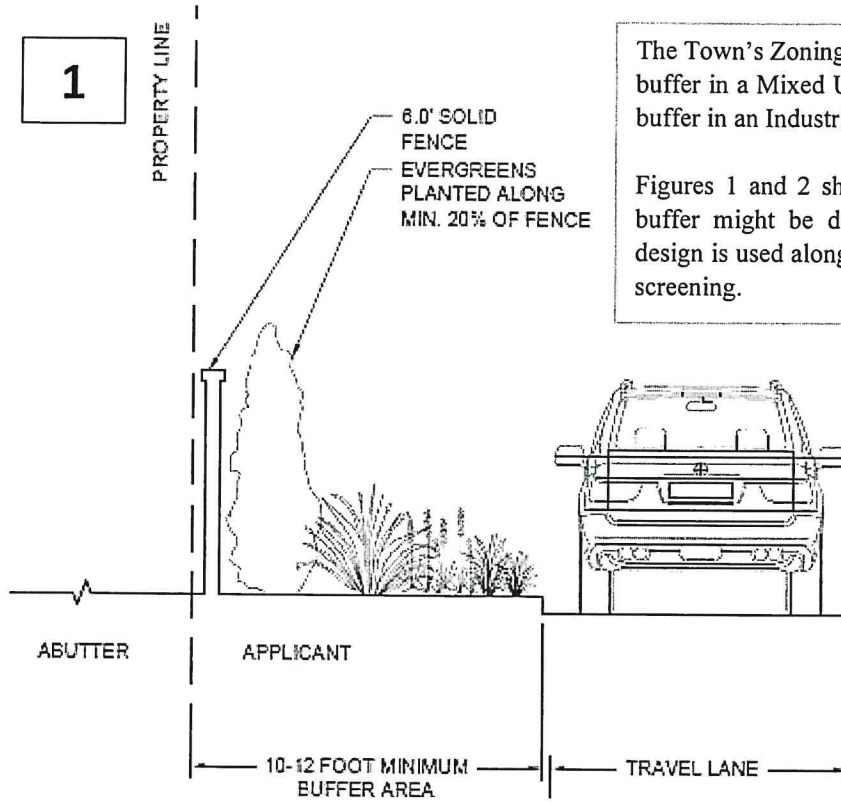
1. No tree, shrub or plant shall be proposed that has been identified as an Invasive Species by the Massachusetts Plant Advisory Group in the latest version of *The Evaluation of Non-Native Plant Species for Invasiveness in Massachusetts (with annotated list)*, has been identified as invasive or banned on the *Massachusetts Prohibited Plant List* as periodically updated by the Massachusetts Department of Agricultural Resources, or in any other reputable scientific publication that may be acceptable to the permit granting authority.
2. Trees and Shrubs – Caliper and height measurements as well as root ball specifications for all trees and shrubs should be consistent with the latest version of the American Standard For Nursery Stock ANSI Z60 Landscape Plans shall include a list of selected tree species and associated caliper.
3. Lawn and Turf – Seed mixes shall be drought resistant. To achieve a high level of drought tolerance, lawn mixes should include, but shall not be limited to, a predominance of fine fescues. Coarse, tall fescues are also acceptable for turf areas that will not be regularly mowed. Cover crops should be included in any mix that will not establish quickly.

Section 4.0 – Buffer Design

Minimum buffer widths shall meet the provisions of the Zoning Bylaw and can be increased at the discretion of the applicant to better achieve buffering and screening objectives. The following diagrams illustrate potential buffer configurations that either meet or exceed the minimum buffer width requirements of the Zoning Bylaw. Note that fences appear in some illustrations and not in others as the Zoning Bylaw allows designers to choose where these best meet the design objectives of the buffer. Designers shall locate shrubs, trees, and other plantings in a manner that ensures they

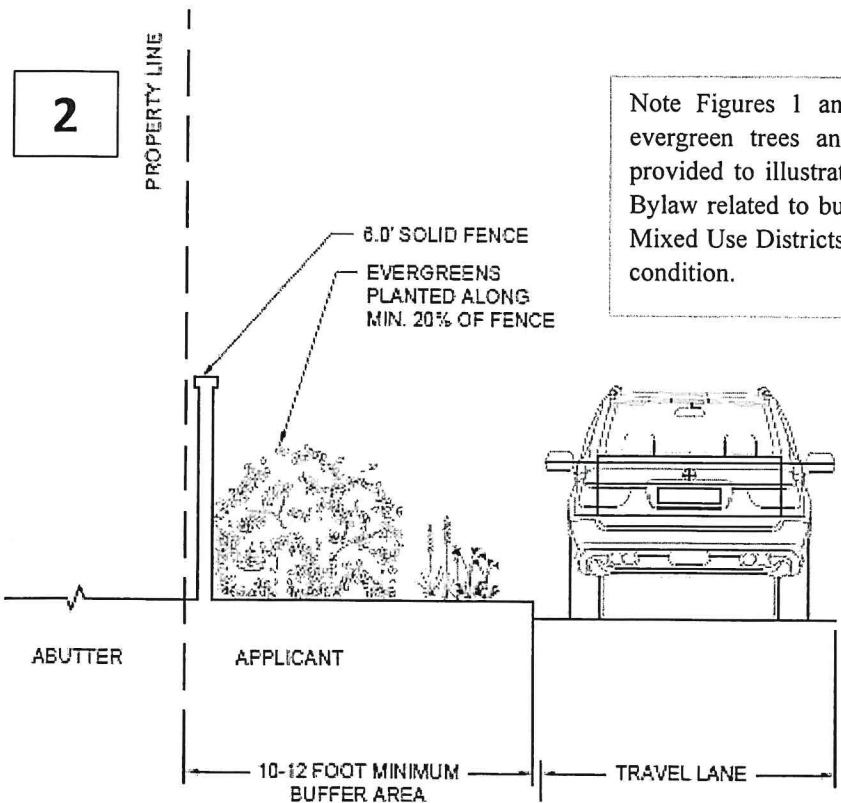
can grow to maturity without pushing into the fence, into pedestrian ways, or beyond the intended edges of the buffer.

The following diagrams are provided to illustrate how buffer designs can meet the objectives of these Design Guidelines. These are illustrative in nature and do not prescribe a singular approach.



The Town's Zoning Bylaw requires a minimum 10-foot buffer in a Mixed Use District and a minimum 12-foot buffer in an Industrial District.

Figures 1 and 2 show examples of how a 10-12-foot buffer might be designed and installed. This buffer design is used along the periphery of a parking area for screening.



Note Figures 1 and 2 include the combination of evergreen trees and shrubs with a fence. This is provided to illustrate the requirements in the Zoning Bylaw related to buffers in the General Business and Mixed Use Districts, which specifically describes this condition.

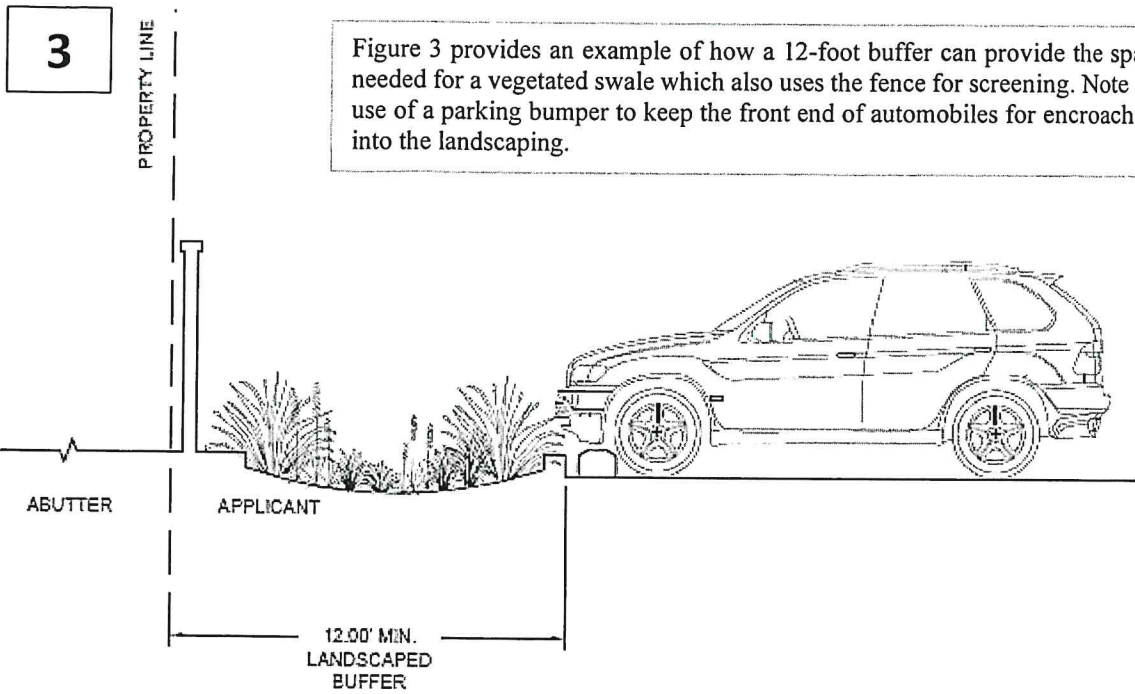
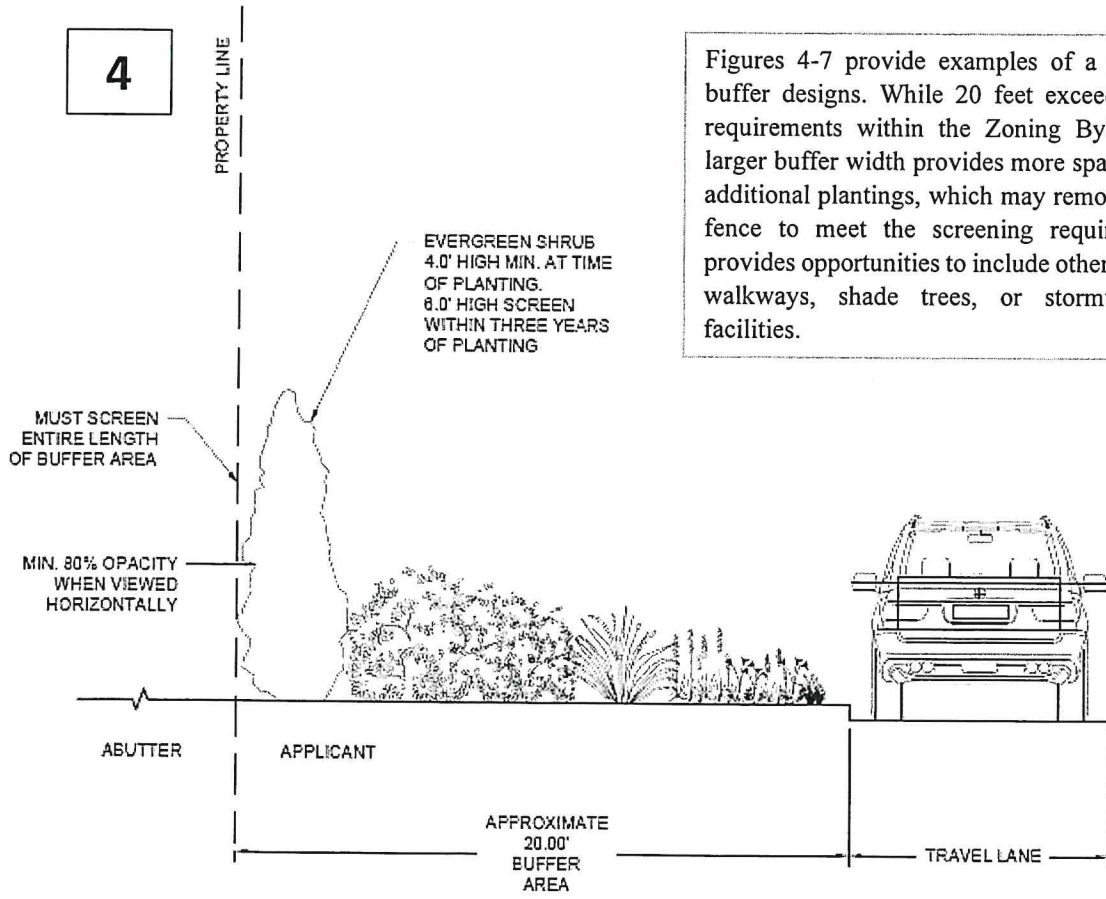
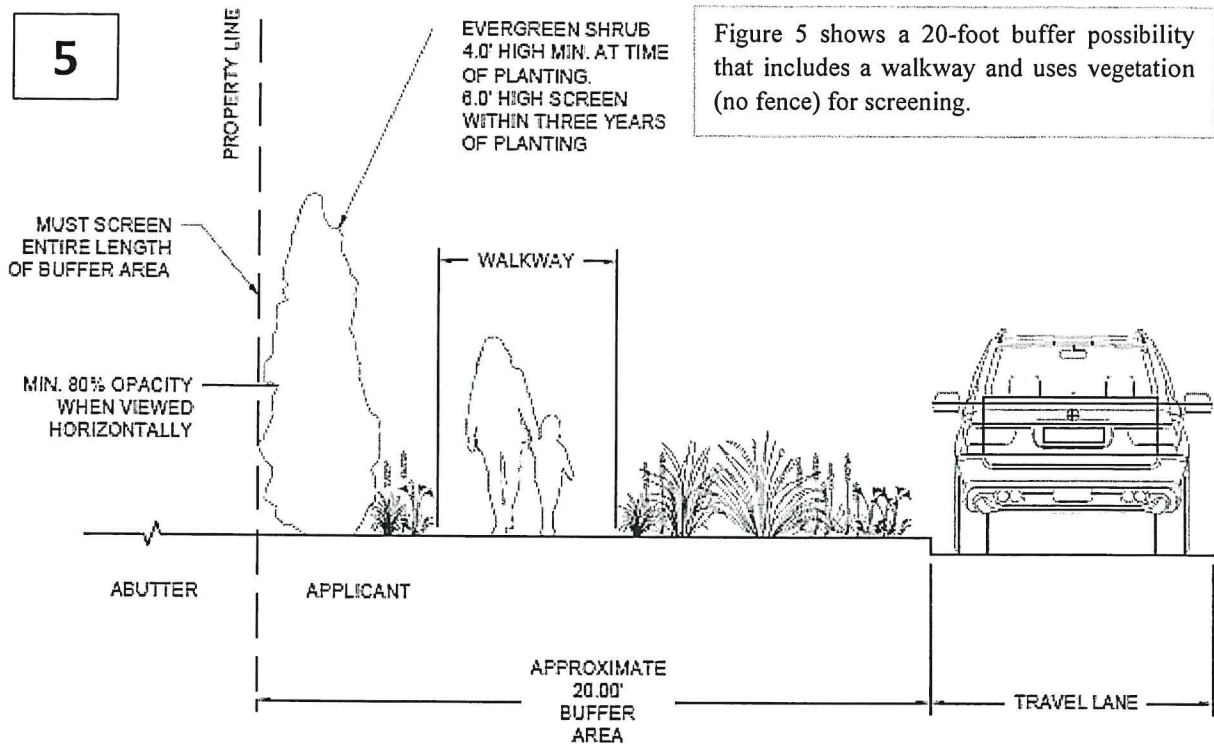


Figure 3 provides an example of how a 12-foot buffer can provide the space needed for a vegetated swale which also uses the fence for screening. Note the use of a parking bumper to keep the front end of automobiles for encroaching into the landscaping.

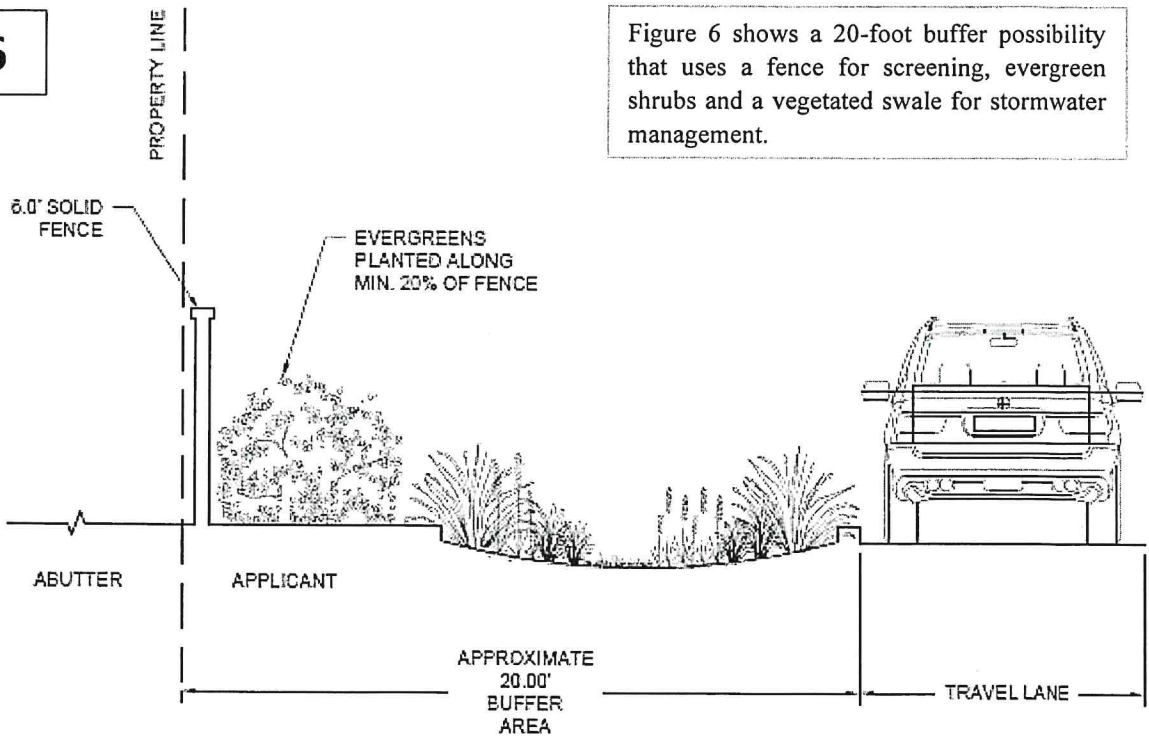


Figures 4-7 provide examples of a possible 20-foot buffer designs. While 20 feet exceeds the minimum requirements within the Zoning Bylaw, choosing a larger buffer width provides more space to incorporate additional plantings, which may remove the need for a fence to meet the screening requirements. It also provides opportunities to include other site features like walkways, shade trees, or stormwater treatment facilities.

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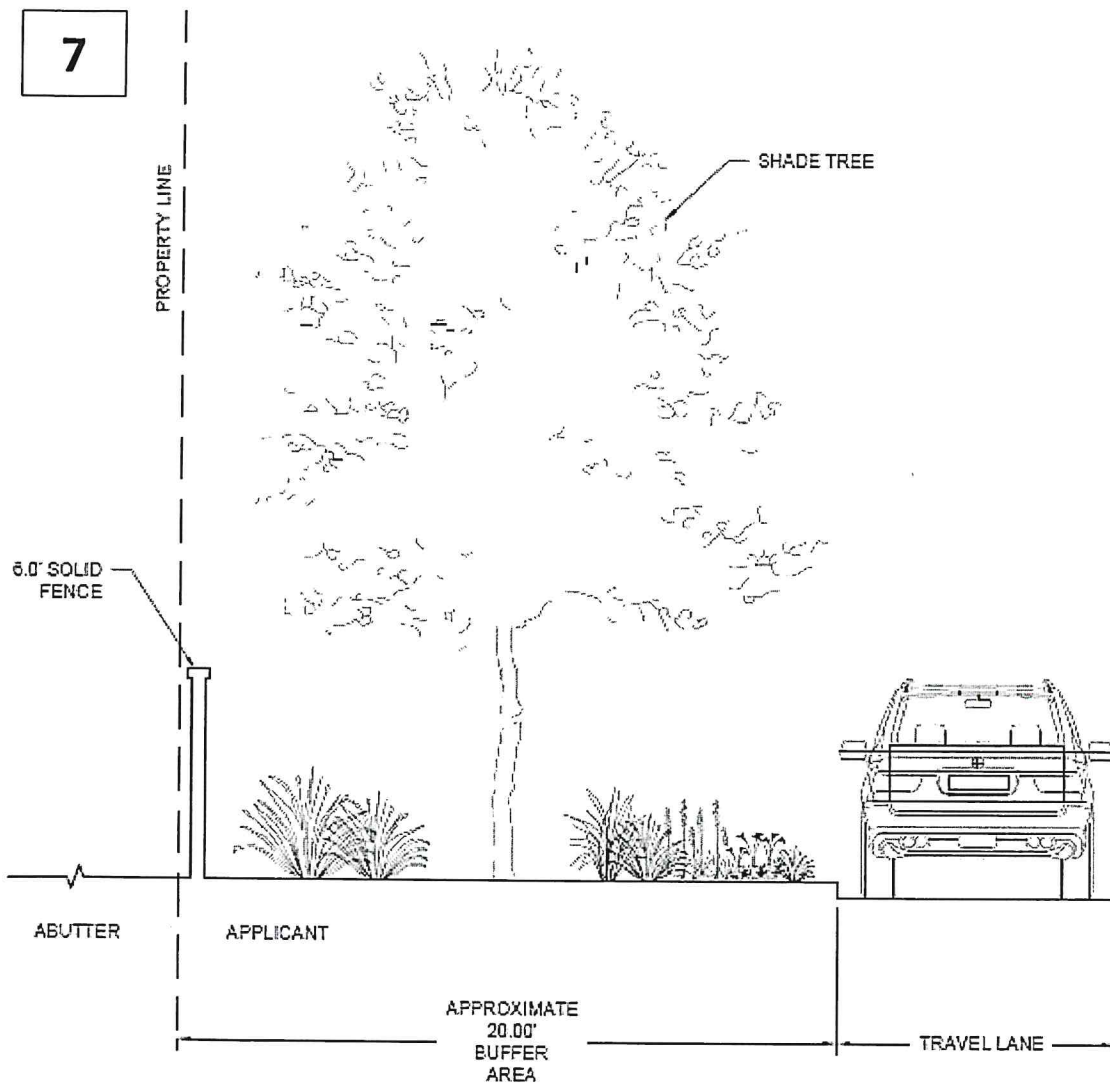


Figure 7 shows a 20-foot buffer possibility that uses a fence for screening and includes a shade tree with plenty of space to provide adequate soil volume.

Section 5.0 – Parking Area Design

Parking lot and loading area landscaping is provided to minimize direct views of parked vehicles from streets and public sidewalks, provide the parking area with a reasonable measure of shade, reduce heat impacts from impervious surfaces, and avoid spillover light, glare, noise or exhaust onto adjacent properties. Parking lot landscaping may also be used to manage stormwater runoff and designed as part of a larger, property-wide stormwater management strategy. In addition to the requirements of the Zoning Bylaw, the following guidelines apply to landscaping in parking areas.

1. Double rows of parking spaces should be terminated by landscaped islands which measure not less than ten feet in width. For islands with a tapered design, the width shall be measured at the island's widest point. The island shall be designed to border the entire length of the adjacent parking stall.
2. The interior of parking areas and all internal circulation areas to the site should be shaded by deciduous trees either retained or planted by the developer. There should be a sufficient tree canopy to cover 30 percent of the parking area within 15 years of planting the trees identified in an approved application.
3. Shade trees should be surrounded by at least 25 square feet of evenly distributed unpaved area. Trees located in sidewalks or walkways should be planted in a protected enclosure (e.g., tree grate or similar feature) that is level with the sidewalk and capable of allowing the trunk to grow to maturity. Soil volume for tree plantings shall be provided consistent with Section 7.3 of these guidelines.

Section 6.0 – Site Protection

Protection of the site shall be consistent with the practices listed below. Applicants subject to Article XVI Stormwater Management and Erosion and Sediment Control and associated regulations shall ensure compliance with those provisions. Where the application of these guidelines may create a conflict with Article XVI, the provisions of that article shall govern.

1. Sediment and erosion control shall be addressed as part of the Landscape Plan unless a separate soil and erosion control plan is prepared.
2. Topsoil suitable for landscaping and free of contamination should be undisturbed or retained and re-used in place to the maximum extent practicable. Where topsoil is stockpiled, areas for stockpiling shall be shown on the Landscape Plan. Stockpiles of earth materials shall not be permitted in any area that necessitates removal of trees for such purpose, nor within 50 feet of any wetland boundary, drainage channel, or watercourse. Soil stockpiles shall be stabilized or covered at the end of each workday. Stockpiles should not be placed downgradient of any established invasive plant species on the site.
3. All organic material, rubbish, construction debris, potentially harmful materials, or other waste materials shall be removed from the site in a timely fashion. Disposal of cleared, grubbed and stripped materials is the responsibility of the applicant. All roots, stumps, brush, foliage and other vegetation that have been cleared or excavated shall be removed and disposed of by the developer off the project site.
4. No filling, excavation, or material storage should occur within four (4) feet of any shrub or within the dripline of any tree that will be retained. Where a tree to be retained is small or immature, the greater of the existing dripline or a ten (10) foot radius from the trunk.

- Protective barriers should be installed to protect this area surrounding retained vegetation. Snow fences, temporary chain link panels, and silt fences are examples of acceptable barriers. The Landscape Plan shall include a design detail of any tree protection measures.
5. Parking of construction vehicles, offices/trailers, stockpiling of equipment/materials, etc. shall take place in areas designated for permanent structures or other impervious surfaces and clearly shown on plans.
 6. Existing stone walls shall be retained and incorporated into the site design to the maximum extent possible. Where possible, they shall be used as property lines for proposed new interior lots, perimeter property lines or to delineate open space areas from development areas. If existing stone walls are to be moved or disassembled, the director of planning and development or the planning commission may require the stone wall to be reconstructed elsewhere within the proposed development site.
 7. Landscaping of all cut and fill areas and/or terraces shall be sufficient to prevent erosion, and all roadway side slopes greater than 1:3 shall be planted with vegetated ground cover appropriate for the purpose of erosion control and for the soil conditions and environment. The use of erosion control fabric or mats shall be utilized when appropriate. Landscape plans shall provide details and notes describing the methods for protecting and planting on these slopes.
 8. Disturbed areas intended for natural re-growth should be, at a minimum, de-compacted, graded, loamed as needed, and seeded with native mixes including wildflowers, grasses, and cover crops. Landscape Plans shall identify the location of any potentially compacted areas. The associated notes shall describe the intended landscaping, and the appropriate soil restoration techniques to be applied.

Section 7.0 – Planting and Cultivation

Planting and cultivation of landscapes shall be consistent with the following practices:

1. Soil.
 - a. In all areas where landscaping is to be provided and topsoil is to be removed for the purposes of site development and/or grading, soil should be replaced with loam or a planting soil mix appropriate for the chosen plantings. The depth of any loam or planting soil should be between four inches for seed mixes to 18 inches or more depending on the depth of plantings to be installed.
 - b. Areas to be planted should not be subject to compaction by vehicles, heavy equipment, materials storage or other activities and should be protected as needed with temporary fencing. Where areas to be landscaped are subject to compaction by vehicles, heavy equipment, materials storage or other activities, de-compaction practices may include, but are not limited to, aeration, soil amendments, and/or tilling as may be appropriate. De-compaction techniques and depths shall be appropriate to the intended plantings. Landscape Plans shall identify the location of these potentially compacted areas and the associated notes shall describe the intended landscaping, and the appropriate soil restoration techniques to be applied.
2. Mulch.
 - a. Cultivated areas should be covered with not less than a two-inch deep layer of mulch after planting where weed control is required.

- b. Mulch should be natural, shredded, undyed, and designed to retain moisture where applied.
 - c. A gap should be left between the edge of mulching beds and the base of trees (trunk flare) and shrubs to avoid damage from excessive moisture.
3. Lawns and turf.
- a. Lawn area for ornamental purposes in commercial or industrial development should be limited to yards with frontage and ornamental turf should be limited to areas within the front yard setback. Native groundcover vegetation is preferred over lawn applications.
 - b. Lawn or turf areas should not be planted in strips that are less than six feet in width to help these areas endure stress and also to have them be more easily mowed and maintained.
4. Trees.
- a. Pit cultivations for all trees shall be specified on submitted Landscape Plans and shall demonstrate the capacity to provide access to the calculated soil volume per the following subsections.
 - b. The volume of soil available to a newly planted tree shall be documented in the Landscape Plan submitted as part of a permit application. The recommended target for newly planted trees is two ft³ of soil per one ft² of crown projection. The crown projection is defined as the area under the dripline of the tree at healthy maturity. This volume may be adjusted based on documented needs of a particular species, updated research, or site-specific conditions as documented in the narrative section of the Landscape Plan.
 - c. Where the roots of a tree may be constrained by subsurface conditions such as utilities or other developed features, the use of structured soils, cells, trenches, or similar features are recommended to help the tree achieve the largest possible canopy, minimize conflicts between roots and built features, optimize access to water, and create generally healthy conditions for the tree. Landscape Plans shall document planting details to explain the relationship between planned maintenance including irrigation, cultivation, soil volume, soil composition, and anticipated tree size.
 - d. Trees and other landscaping should be staked as necessary for support during establishment and provisions shall be made by the developer for adequate watering and maintenance until the plantings are established.
 - e. No trees shall be located in a manner that interferes with overhead or underground utility lines.
5. Snow Management
- a. Landscaping Plans shall show designated areas for snow stockpiling. Plantings and other landscape features in these areas shall be consistent with the periodic stress provided by snow stockpiling and any associated treatments (e.g., sand and salt).

Section 8.0 – Maintenance

1. Property owners shall be responsible for the maintenance of landscaping as approved by the Town of Andover. Landscape Plans submitted as part of any application review shall include a signed statement by the applicant acknowledging their responsibility to:
 - a. Maintain all landscaping in good health and good conditions for the full life of these installations.
 - b. Replace dead or dying vegetation.
 - c. Prune, cut, and mow vegetation in a manner that maintains healthy vegetation and an attractive landscape, including but not limited to removing invasive plant species.
 - d. Follow the Establishment and Maintenance Plan as described herein.
2. Once the installation of landscaping is complete, the applicant's landscape contractor (or the owner) shall develop, and the applicant shall submit to the Town, an Establishment and Maintenance Plan that addresses care and maintenance for the installation over the first two years. Items to be addressed in the plan include, as applicable:
 - a. Replacement of dead or dying vegetation with the same or similar species, or an approved alternative.
 - b. Frequency of inspection. A minimum of two inspections per year over the first two years is required. Records of landscape inspections and resulting maintenance shall be kept on file and shared with the Town upon request.
 - c. Inspection, maintenance, and eventual removal of any measures used to protect vegetation or soil over the first two years of installation
 - d. Watering frequency and techniques.
 - e. Fertilizer application frequency and fertilizer types, if needed.
 - f. Description of potential application of herbicides and pesticides in response to any identified problems. Identify the name of any certified pesticide applicators that may work on the site.
 - g. Anticipated techniques for removal or management of invasive plant species consistent with the UMASS Invasive Plant Certification Program or other techniques as may be approved by the Town.
 - h. Frequency of weeding, weeding techniques, and mulch replenishment.
 - i. Tree and shrub maintenance including pruning, limbing, or other similar activities.
 - j. Provisions to repair any washouts, erosion, or sedimentation.
 - k. Provisions to remove any trash or other debris.