

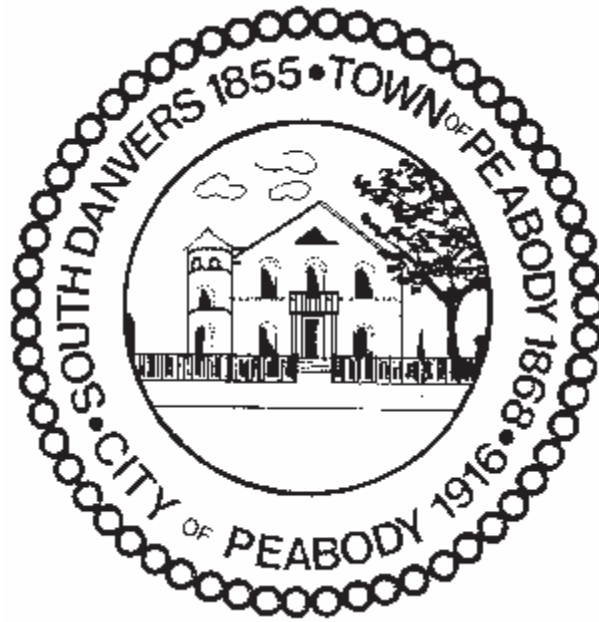
CITY OF PEABODY
DESIGNATED DEVELOPMENT
DISTRICT DESIGN GUIDELINES

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CITY OF PEABODY DESIGNATED DEVELOPMENT DISTRICT DESIGN GUIDELINES

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CITY OF PEABODY

DESIGNATED DEVELOPMENT DISTRICT

DESIGN GUIDELINES



TABLE OF CONTENTS

<u>Section</u>		<u>Page</u>
I.	OVERVIEW	4
II.	BUILDING DESIGN GUIDELINES	5
III.	SITE DESIGN GUIDELINES	7
IV.	SITE LIGHTING GUIDELINES	10
V.	SIGN GUIDELINES	11
VI.	LANDSCAPE GUIDELINES	12
 <u>Appendix</u>		 <u>Page</u>
<u>A.</u>	<u>FIGURE 1:</u>	
	BUFFERING BETWEEN OFFICE OR R&D & RESIDENTIAL DEVELOPMENT	20
<u>B.</u>	<u>FIGURE 2:</u>	
	BUFFERING BETWEEN OFFICE OR R&D & THE LANDFILL	21
<u>C.</u>	<u>FIGURE 3:</u>	
	FLOW CHART: DESIGN REVIEW PROCESS	22

SECTION I: OVERVIEW

A. PURPOSE & USE

The design and development guidelines for the Designated Development District shall constitute a basis for recommendations for all exterior building design and site design, including lighting, signage and landscaping, to be planned and constructed in the District.

The design and development guidelines are intended for the following uses:

- The applicant's use in preparing preliminary and final development plans.
- Use by the Community Development Department and the Community Development Authority (CDA) in reviewing and making recommendations on preliminary and final development plans.
- Use by other city agencies in reviewing and commenting on preliminary and final development plan submissions.
- Use by the city in designing and constructing the District access roads and associated improvements.

B. INTERPRETATION

All interpretations or decisions pertaining to the design and development guidelines shall be made by the Community Development Authority advised by the Community Development Department.

C. AMENDMENT

The design and development guidelines may be amended from time to time in the manner described in the District article, Section 4.6.2.

D. CONCEPT PLAN

The Designated Development District concept plan indicates the location on a conceptual basis only of lots, land use, building, parking areas, access drives, open space and detention areas to represent the anticipated scale and texture of the district. Actual location of lot lines and site features will occur as development proceeds with site approval by the Community Development Authority.

SECTION II: BUILDING DESIGN GUIDELINES

A. DESIGN STYLE

Building design elements shall avoid monotonous repetition and excessive variety of forms, patterns, and colors. Architectural styles shall be contemporary rather than highly stylistic such as gothic or colonial. Architectural designs are to be sensitive to the integration of form, textures, and colors with the particular landscape and topographic characteristics of each site.

B. BUILDING MATERIALS & PALETTE

Exterior walls of each building are to be constructed of durable permanent material and shall be tastefully handled (e.g. carefully selected brick, treated concrete, pre-cast concrete, metal panels, aluminum and glass materials or other architectural surfaces). No temporary or inflammable material will be approved. Colors to be used on exterior building materials should be intrinsic to the materials or factory applied. Non-reflective earth tone colors such as tans, browns, reds, and grays which recede into the landscape are preferred. The contrast between brick and mortar should be moderate to low.

Criteria:

- Brick generally should be of a uniform size and texture on building facades; however, the use of different size and textured brick as an architectural detail element at windows, doors, cornices and other building edges is allowed.
- Stone should have a weathered face, or be polished, fluted or broken faced.
- Concrete masonry units should be broken faced brick type units with marble or granite aggregate. Exposed concrete block on the exterior of any building is not permitted.
- Concrete may be poured in place or pre-cast, and should be finished in stone.
- Architectural metal or aluminum panels of the self-weathering type or with a long-life factory-applied finish of at least 10 years may be used in combination with one of the above materials, however in no case should it exceed 10% of each wall area. Most metal or aluminum panels with a high-quality enameled finish that are guaranteed to last at least 10 years will be at a sufficient architectural quality for the district.
- Recommended types of high-quality architectural panels that are industry standards are:
 1. “Alucobond” manufactured by Consolidated Aluminum and “Tech-Wall” manufactured by Conspec. These are both single-ply finish materials that are priced at approximately \$30 per square foot installed total wall assembly. (1986 costs)
 2. “Foamwall” manufactured by E.G. Smith Co. and “Forawall” manufactured by Robertson Co. These are both insulated steel panels priced at approximately \$12-22 per square foot installed, (1986 costs)
 3. High-quality architectural finishes include:
 - Fluorocarbon (Kynar or Duranor)
 - Aliphaticurethane (Inemec)
 - Anodized Aluminum

Note: Mill-finish aluminum surfaces are not acceptable

C. VERTICAL ROOF PROJECTIONS

Equipment mounted on the roof of any building is discouraged, and should be avoided if possible. Any necessary vertical projections through the roof, such as towers, vents, and stacks, should be grouped or housed within a penthouse.

All roof structures (e.g. mechanical equipment, skylights, penthouses, etc.) shall be organized and screened in a manner that is integral to the architectural form of the building and should consider the views of the roof from adjacent building, elevated roadways, etc.

Solar energy collectors may be installed on the roof of any building if their specific design and location is approved.

SECTION III: SITE DESIGN GUIDELINES

A. GRADING & LAYOUT OF DEVELOPMENT

These site design guidelines are intended to provide high-quality building sites and parking areas that contribute to the campus style character intended for the District and to ensure compatibility with surrounding uses such as residential neighborhoods and the Salem Country Club. Development shall be laid out and each lot or site shall be graded in a manner that is sympathetic to the existing topography. Buildings, road, and parking areas should be located so as to minimize site disturbance or major divergences from the existing contours of the terrain. Parking areas shall be terraced and building stepped as necessary to achieve this. Disturbed cut and fill areas shall be smoothly blended to meet adjacent existing grades.

(Pre-development and post-development drainage calculations shall be submitted to the Department of Public Services for review and approval. Post-development site-runoff shall be maintained at pre-development levels for the 2, 10, and 100 year storm events.)

The width of all access roads, driveways, and parking aisles shall be at least 24 feet. Each parcel shall have no more than two access drives from any public or private roadway. Sidewalks typically shall be five feet.

Parking lot setbacks from buildings shall be a minimum of 10 feet.

Parking ratios, space sizes, and other setbacks shall conform to parking and dimensional requirements in the schedule of density and dimensional regulation and is District article, section 4.6.6 and 4.6.5 planting and screening around parking areas shall be as described in Section V1 (F) of these guidelines. Recommended parking ratios for specific uses are as follows:

- Corporate headquarters, executive and clerical offices, banking and financial services – 3.3 to 4.0 spaces per 1,000 gross square feet floor area
- High or advanced technology, research and development, testing laboratories – 3.0 to 4.0 spaces per 1,000 gross square feet floor area.
- Light manufacturing, processing and assembly – 2.0 spaces per 1,000 gross square feet floor area.
- Warehouse and distribution – 2.0 spaces per 1,000 gross square feet floor area.
- Training and educational facilities - .85 spaces per student arriving from off-site
- Hospital and health related facilities – 4.2 spaces per 1,000 gross square feet for off-site users
- Hotels – 1.0 space per room (hotels including full service restaurants, health club, or other uses must provide adequate parking in addition to the parking required only for the lodging doors) plus one space per each five employees
- Restaurants and conference facilities – 1.0 space per 3 seats of seating capacity
- Commercial retail or wholesale businesses – 5.0 spaces per 1,000 gross square feet floor area
- Private and public physical fitness and recreational facilities – 4.4 spaces per 1,000 gross square feet of floor area.

All exterior service, loading, storage and utility areas (including transformers and cooling towers) shall be located at the side or rear of the building and shall be screened or sheltered so as to minimize visibility from the street right-of-way or from adjacent sites. Each building will be permitted one (1) ten-cubic yard refuse dumpster located in the service area and screened in accordance with Section VI (G) of these guidelines. No materials, supplies, or equipment shall be permitted to remain outside any building.

Adequate loading and maneuvering space shall be provided for each use separated from the parking area.

B. SITE MATERIALS

Parking areas and driveways shall be paved with bituminous concrete pavement, concrete, or unit pavers.

Parking areas should be curbed with granite or concrete vertical curbing. Sloped granite or concrete curbs may be used in areas where curbing does not abut sidewalks.

Retaining or freestanding walls should be finished with brick, stone, or concrete compatible with adjacent buildings.

Sidewalks shall be provided to connect parking area to building entrances. Sidewalks shall be provided to connect parking areas to building entrances. Sidewalks shall be constructed of concrete or unit pavers such as brick or stone.

C. STEEP SLOPE GUIDELINES

- A. Whenever possible, steep slopes, (these greater than 25%) should remain undeveloped. Vegetative cover should remain on these slopes to control erosion and mitigate potential problems of runoff and sedimentation.
- B. Slopes in the 15% to 25% range are capable of sustaining development if the following criteria are addressed:
 1. Buildings with smaller footprints such as office and some R&D may be located on moderately sloping sites. Smaller footprint building requires less grading and earthwork and can be designed to accommodate grade changes within the structure itself. Parking and vehicular circulation for office and R& D buildings can be accommodated in smaller units, allowing terracing of lots to minimize slope disturbances.
 2. All disturbed slopes greater than 15% should be stabilized with embankment plantings. Rapidly growing species with extensive root networks should be selected. The extent of exposure, orientation, and soil conditions will determine the species of plant material selected.
 3. When slopes are exceedingly steep or long, and engineered stabilization technique may need to be employed. Cribbing, gabion walls, terracing and erosion control central netting are alternatives that may be required. The specific conditions of a site will determine the extent and type of stabilization required.

D. GUIDELINES FOR LANDSCAPE BUFFERS

1. To the extent possible maintain existing woodlands as buffer zones. The amount of woodland screening is dependent upon site specific features, type of woodland and degree of screening required. In a mixed, predominately deciduous forest with canopy height of 30-60 feet, the following are general buffer area guidelines:

Full screening: for maximum opaqueness – 200’ – 400’ natural woodland. (e.g. between office and residential uses).

Moderate screening: to allow a selective visual access – 100’ – 200’ natural woodland.

Minimum screening: in order to use existing woodlands or new plantings to filter views, or act as non-obstructive amenity allow 25’-100’ of natural or planted buffer, (e.g. wooded edge between highways and office/R&D uses allows visual access from roadway to Designated Development District).

2. Additional plant material may be used to reinforce existing woodland buffers or strengthen edges of development.

Several methods may be used to provide more effective screening:

1. Evergreen plantings of 8' minimum height should be planted where existing woodlands cannot provide sufficient screening.
 2. Shrub plantings at the perimeters of woodland buffers lacking in under-story vegetation can screen eye level views without creating as strong a vegetative edge as tall evergreen plantings.
 3. Within the development zone itself, plantings may be used to screen internal uses such as parking areas and service bays.
3. Topographic Features

Berming – Berms may be used to screen certain uses from both internal and external viewpoints. Berms between 2' and 4' high, planted with ornamental plant material can be used to screen parking areas and service lanes from abutting land uses and key sites in the study area.

State Planning – Building locations may be used to screen facilities such as buildings or parking areas from other uses such as the landfill by locating the uses where natural topographic variation permits screening and shelters development, such as hilltops and ridgelines, which will minimize the necessity for further visual abatement techniques.

E. SPECIFIC BUFFERING CONCEPTS

1. Between Office or R & D and Residential District (See Figure 1)

- Goal is visually opaque screening.
- Existing woodland to be retained
- Minimum 200' between limit of work around building and residential property line.
- Parking and other site development should be located on the non-buffered side of the property.
- Minimum clearing of wooded area around building on buffered edges. Maximum 50' clearing beyond building envelope
- Screen plantings at buffer edge of cleared zone.
- Proper woodland maintenance to be provided.

2. Between Office or R& D and Landfill (See Figure 2)

- New plantings along woodland to filter views at landfill slopes.
- Embankment plantings on landfill slopes to soften appearance and control erosion.
- Provide generous median and landscaped areas for screen plantings between landfill slopes and development along boulevard.

SECTION IV: SITE LIGHTING GUIDELINES

A. LAYOUT

Lighting shall be placed in a logical and appropriate relationship to each site to illuminate and to provide security. Lighting shall be provided in areas that receive heavy pedestrian and vehicle use, and in areas that are dangerous if unlit, such as stairs, ramps, intersections, and abrupt changes in grade. Lighting shall be designed in a manner that contains and directs lighting into the site and away from adjacent uses (i.e. use of light cut-off fixtures).

B. MATERIALS AND SPECIFICATIONS

- **Pedestrian Walkway lighting**

The lighting of pedestrian walkways may include either cut-off or exposed sources, but the height and intensity of light shall be subdued. The following guidelines should be followed:

- Main drive walkways: high pressure sodium; semi-concealed source; 14-foot maximum height; dark poles; 0.8 lumen average per square foot surface area.
- Site walkways: Deluxe white mercury or high pressure sodium; semi-concealed or visible source; 12 foot maximum height; dark poles; 1.0 lumen average per square foot of surface area.
- Fixtures shall be spaced at intervals which permit the required lumen average per square foot of surface area.

- **Parking Lot and Service Area Lighting**

Lighting for parking lot and service areas should be deluxe white mercury. Fixtures should be set on dark poles no more than 20 feet high and should be spaced at intervals which permit 1.0 lumen average per square foot of surface area. Lighting should be a cool, concealed source and cut off in design.

- **Building Exterior Lighting**

Lighting of building exteriors is permitted in accordance with the following criteria:

- Building facades may only be illuminated with well-designed soft lighting that complements the building's architecture and is of an intensity that does not draw inordinate attention to the building. The light source of building façade illumination shall be concealed.
- Building entrances may be illuminated using recessed lighting in overhangs and soffits, or by use of spotlighting focused on the building entrances with the light source concealed, e.g. in landscaped areas. Direct lighting of limited exterior building area is permitted when necessary for security purposes.

- **Roadways & Intersections**

Lighting for roadways and intersections should be mercury vapor or metal halide from concealed source. The fixture shall be set 25 feet high on dark poles. Along major roads, pole spacing should be 120 feet on both sides. Spaces along minor roads should be 90 feet along one side or staggered. Minimum light levels should be 0.5 foot candles.

Lighting should be planned in conjunction with the Peabody Municipal Light Plant.

SECTION V: SIGN GUIDELINES

All signs must be submitted to the Community Development Authority (CDA) for review and may not be erected until approved by the CDA. Any subsequent changes to a sign or its location must be reviewed by the CDA.

Any submittal to the CDA for review of signs must include sketches of their sizes, materials, colors and location on the building or the parcel.

The following signs are permitted in the DDD:

A. WALL SIGNS

One (1) permanent wall sign not to exceed sixty (60) square feet is permitted for each complex of buildings or for individual building if it is not part of a complex. The sign must be placed so that the top of such a sign is no higher than twenty-five (25) feet above grade. The sign shall project no more than twelve (12) inches from the building, shall not be placed on the roof, and the letters in the sign shall not be larger than two and one half (2 1/2) feet high.

B. FREESTANDING SIGNS

Each complex of buildings or an individual building which is not part of a complex is permitted one (1) freestanding sign facing the public way up to thirty-five (35) square feet in area whose top is no higher than 8 feet from grade. The sign shall have not more than two (2) faces; letters shall be no larger than two and one-half (2 1/2) feet high; the sign shall be no more than twelve (12) inches deep; and shall not overhang the public way.

Posts shall be tubular steel or anodized aluminum in square cross-section, not to exceed six inches by six inches (6" x 6").

Panels shall be steel or anodized aluminum rectangular face, bracketed by posts at the ends. The panel shall provide back lighting of lettering. The lettering style, logo, and colors may vary.

C. DIRECTORY BOARDS

Directory boards, lighted or not, not to exceed fifteen (15) square feet shall be allowed for the sole purposes of directing the public to and identifying location of occupants within a building(s), provided that the lettering identifying occupants in such directory board not exceed two (2) inches in height. One directory board is permitted per building and shall not be placed within fifty (50) feet of the public way.

D. TEMPORARY SIGN

One (1) sign is permitted, not to exceed forty (40) square feet, which announces the prospective sale, rent, lease, or trade of real estate property by the owner thereof or his agent and which must be removed within six (6) months after it is erected. If the sign owner requests, the Community Development Authority may allow the sign to remain in place an additional six (6) months if the need is justified.

E. DIRECTIONAL SIGNS

Signs for the sole purpose of giving direction are permitted, provided that such signs are not illuminated, are not within fifty (50) feet of the public way, and do not exceed two (2) square feet.

SECTION VI: LANDSCAPE GUIDELINES

All plant materials to be used in the District should reflect the character of the area and eastern Massachusetts. This section provides design guidelines and a list of trees, shrubs, ground covers and turf which are appropriate for the District. Items from this list should be used in landscaping development sites within the District. All landscaping plans should be prepared by a landscape architect registered in Massachusetts.

A. EXISTING VEGETATION

All existing trees on the site should be considered in the design of a site and retained to the extent possible. Special effort should be made to retain trees with a diameter greater than six (6) inches. Preservation of existing planting reduces the need for new materials to buffer views to and from adjacent sites and uses, and assists in maintaining a human scale on the site.

Guidelines for Woodland and Tree Protection

In areas where preservation of existing woodlands is key to the site development plan and evaluation of tree cover should be carried out well before site construction begins. The following procedures are involved:

1. Identification of areas where trees are to be saved, including trees located within the construction limits.
2. Inventory trees to determine individuals and groups worth saving by mapping tree locations, and recommendations of protective measures.
3. Tree Preservation Plan, based on the tree inventory, reviewed along with the limits of clearing by the contractor, landscape architect and arborist.
4. Installation of protective measures (i.e. fencing) and implementation of a tree maintenance program and site improvements, relating to tree preservation (i.e. wall or well construction).
5. Final review of the condition with Landscape Architect and Contractor.

Tree protection measures should include the following:

1. Barrier protection (i.e. fencing) to keep construction activities away from trees, minimizing soil compaction and changes to trees.
2. Erosion Control (i.e., installation of silt fencing) to prevent excess siltation on roots of existing trees.
3. Root pruning, tunneling and coring to minimize damage to trees within construction areas
4. Construction of retaining walls and wells to allow for grade changes around the base of trees.
5. Remedial tree maintenance (i.e., fertilizing and pruning) to help maintain vigor of trees impacted by construction activity.

B. MAIN ROADWAY PLANTING

Planting along the main drives and roads throughout the District should be organized in a formal manner to organize the District and provide spatial hierarchies within the District. A formal planting theme with trees lining the roads in a definite sequence will define edges of properties and the boundaries of useable spaces. The main roads should be lined with trees planted at 50 feet on center along the roads right-of-way. The plant materials should consist of deciduous trees selected from the plant list provided in this document. New trees should be a minimum of 3.5 inch caliper and at least 14 feet high.

The main roadway plantings should consist of overhead canopy trees. These types of trees will have the greatest overall effect on the District because they will provide a unifying image and influence along the roads and provide a naturalizing element throughout the District.

Overhead canopy trees soften or screen from view less attractive uses that may continue to exist in the District on a short-term basis such as the land fill or other unattractive commercial uses.

Plantings along the roadways should be consistent with the horizontal and vertical alignment of the wall to create an attractive sequence of spaces. Special entrances, intersections, building driveways, and key points should be accented and punctuated by formal plantings to emphasize the space.

The suggested list of overhead canopy trees for the District is:

- *Acer rubrum* – Red Maple
- *Acer saccharum* – Sugar Maple
- *Fraxinus americana* – White Ash
- *Fraxinus* varieties – Green Ash, etc.
- *Ginkgo biloba* – Ginkgo
- *Platanus acerifolia* ‘Bloodgood’ – London Planetree
- *Quercus alba* – White Oak
- *Quercus borealis* – Northern Red Oak
- *Quercus coccinea* – Scarlet Oak
- *Quercus palustris* – Pin Oak
- *Tilia cordata* – Littleleaf Linden
- *Ulmus americana* – resistant variety – American Elm

C. OPEN SPACE GROUND PLANE PLANTINGS

Ground plane planting performs multiple functions. It defines minor spaces and directs pedestrian traffic, provides color and variety, and serves as an accent in the landscape. It also serves to hold steep banks or unstable soil conditions. If used as low mass planting instead of lawn it reduces maintenance.

Surface planting or planting from ground level to approximately 4-5’ in height is considered ground plane planting. From sod to rather large shrubs, there are specific needs filled by this important planting category.

Plant materials within this category are abundant and have profuse color and texture variations and are used in diverse ways from slope stabilization to the accent shrub at the main entry. Ground cover and shrubs should be used in simple masses. A generous quantity of a select shrub is more appropriate than a diverse variety of plant species within a given composition.

All disturbed un-built areas shall be landscaped with a combination of trees, shrubs, herbaceous perennials, and turf grass. Proposed landscaping should consist of an appropriate mix and use of vegetation which is indigenous to this area of Massachusetts and/or shall be selected from the list of recommended plants. Use of non-indigenous landscape materials should be for accent purposes only.

Planting arrangements may be either formal or informal, but should complement the architectural character of proposed buildings in form, location and scale.

All disturbed unpaved surfaces not planted with trees, shrubs, or groundcover shall be turf grass.

The suggested plant material list for open space and ground plane plantings is as follows:

- *Abelia grandiflora*/Glossy Abelia (Evergreen)
- *Ajuga reptans*/Buglewort (Ground Cover-Evergreen)

- Azaleas in variety/Azaleas (some Evergreen)
- Berberis – in variety/Barberry (Evergreen)
- Calycanthus floridus/Carolina Allspice
- Cornus racemosa/Gray Stem Dogwood
- Cotoneaster – in variety/Cotoneaster (some Evergreen)
- Cotoneaster – small leaved cotoneaster
- Forsythia –in variety/Forsythia
- Hammamelis mollis/Chinese Witchhazel
- Hedera Helix/English Ivy (Ground Cover – Evergreen)
- Hypericum calcycinum/St. Johnsworth
- *Ilex crenata – in variety/Japanese Holly (some Evergreen)
- Ilex glabra/inkberry (Evergreen)
- Ilex verticillata/Winterberry
- Juniperus – in variety/Juniper (Evergreen)
- Ligustrum amurense/Amur Privet
- Lonicera japonica halliana/Hall’s Honeysuckle (Ground Cover)
- Lonicera maackii/Amur Honeysuckle
- *Mahonia aquifolia/Oregon Hollygrape (Evergreen)
- Myrica pennsylvania/Bayberry
- *Pachistima canbyi/Pachistima (Ground Cove – Evergreen)
- Pachysandra terminalis/Japanese spurge (Ground Cover – Evergreen)
- Philadelphus – in variety /Mockorange
- Pieris japonica/Japanese Andromeda (Evergreen)
- *Pyracantha coccinea “lalandi”/Lalandi Fierthorn
- *Rhododendron – in variety/Rhododendron (some Evergreen)
- Taxus – in variety/Yew (Evergreen)
- Thuja occidentalis/Eastern arborvitae (Evergreen)
- Viburnum – in variety/Viburnum
- Vinca minor/Periwinkle (Ground Cover – Evergreen)

Plants marked with an asterisk () should be protected from cold winter winds and therefore placed in protected areas either by a building or in an existing woodland area.

D. SITE PERIMETER PLANTINGS

Perimeter plantings should serve to naturalize developed areas and provide continuity between sites, Informal plantings and evergreens provide an effective visual buffer to and from adjacent sites and uses. Preservation of existing trees as much as possible is encouraged. The intent of perimeter plantings is to naturalize developed areas. Drifts of deciduous species and evergreens are recommended to restore, screen and accent conditions on a site-specific basis.

Recommended site perimeter plant materials are:

Botanical/Common name

- Acanthopanax sieboldianus/Five leaf Aralia
- Acer campestre/Hedge Maple (shrub form)
- Acer ginnala/Amur Maple (shrub form)
- Aesculus parviflora/Bottlebrush Buckeye

- *Chamaecyparis pisifera*/Sawara False Cypress*
- *Chaenomles speciosa*/Flowering Auince
- *Cornus kousa*/kousa dogwood
- *Cornus mas*/Cornelian Cherry Dogwood
- *Crataegus phaenopyrum*/Washington Hawthorn
- *Euonymus alatus*/Winged Euonymus
- *Forsythia x intermedia*/Border Forsythia
- *Fothergilla major*/large Fothergilla
- *Hamamelis*/whichhazels
- *Hippophae rhamnoides*/Sea Buckthorn
- *Ilex glabra*/Inkberry*
- *Ilex verticillata*/Winterberry
- *Juniperus*/Juniper cultivars*
- *Ligustrum obtusifolium*/Border Privet
- *Lonicera*/Honeysuckle (shrub form)
- *Malus*/Crabapple cultivars
- *Myrica Pennsylvania*/Northern Bayberry
- *Picea abies*/Norway Spruce*
- *Pinus nigra*/Austrian Pine*
- *Pinus strobus*/Eastern White Pine*
- *Pinus sylvestris*/Scotch Pine*
- *Pinus thunbergii*/Japanese Black Pine*
- *Pseudotsuga menziesli*/Douglas Fir*
- *Rhus aromatica* “Grow Low”/Grow Low Fragrant Sumac
- *Rhus copallina*/Shining Sumac
- *Rhododendron*/rhododendron cultivars*
- *Rosa rugosa*/Rugosa Rose
- *Syringa meyeri*/Neyer lilac
- *Thuja occidentalis*/American Arborvitae*
- *Tsuga canadensi*/Canadian Hemlock*
- *Viburnum*/Viburnum cultivars

*Evergreen

E. DRIVEWAY PLANTINGS

Planting along site driveways may follow either a formal or informal planting theme as determined by site user. Regular linear rows of plantings formalize important edges such as main site drive or entry drive to building site. The plant material list recommended for main roadway plantings should be consulted for driveway planting materials with the following additions:

- *Gleditsia triacanthos inermis*/Thornless Honey Locust *Pyrus calleryana* ‘Armstrong’

F. BUILDING ENTRANCE AND EDGE PLANTINGS

Planting for the space between buildings and parking lots and at building entrances should be selected from the plant list provided herein. Planting in this area should be selected and arranged with the intent of creating human scale outdoor spaces which recognize the pedestrian activity in this zone and the need to identify buildings

entrances. The full range of groundcovers, shrubs, and trees may be used in this zone to create interest and a degree of landscape detail appropriate to the pedestrian scale.

Planting type and arrangement within the building entry zone should be sensitive to the desired entry quality, and provide accent while softening and highlighting the building.

Buildings with exposed foundations should have foundation plantings in order to provide screening and soft transition between the building walls and the ground plane. Foundation plantings should consist at least partially of evergreen shrub groupings. Shrub massing along foundations and elsewhere shall be done with one species grouped together. Rows or grouping that consist of two or more species alternated or randomly dispersed through a bed should be avoided.

The recommended list of plant materials for building entrances and edges is as follows:

Trees

• Zelkova Serrata “Village Green”	Village Green Zelkova
• Pyrus Calleryana “Bradford”	Bradford Pear
• Malus radiant	Radiant Crab Apple
• Malus Snow Drift	Snow Drift Crab Apple
• Sophora Japonica	Regent Scholar Tree
• Prunus Kwanzan	Kwanzan Cherry
• Phellodendron Amurense	Amur Cork Tree
• Amelanchier Canadensis	Amelanchier
• Pinus Nigra	Austrian Pine
• Pinus Sylvestris	Scotch Pine
• Pinus Strobus	White Pine
• Amelanchier Canadensis	Shadblow
• Carinus Caroliniana	American Hornbeam
• Cornus Florida	Flowering Dogwood
• Cornus Kousa	Japanese Dogwood
• Cornus Mas	Cornelian cherry dogwood
• Cercis Canadensis	Redbud
• Chionanthus Virginicus	White Fringe Tree
• Larix Decidua	Eastern Larch
• Malus Species	Cherry
• Ostrya virginiana	Hop Hornbeam
• Picea Abies	Norway Spruce
• Picea Glauca	White Spruce
• Thuja Occidentalis	Eastern White Cedar
• Tsuga Canadensis	Eastern Hemlock

Shrubs

• Berberies Species	Barberry
• Chaenomeles Species	Quince
• Cornus Species	Dogwood
• Cotoneaster Divaricata	Spreading Contoneaster

- Kalmia Latifolia
- Myrica Pennsylvanica
- Pieris Species
- Rhamnus Species
- Rhododendron Species
- Rhodotypos Scandens
- Ribes Alpinum
- Vaccinium Corymbosum
- Viburnum Species
- Cotoneaster Apiculata
- Eleanus Angustifolia
- Euonymus Alatus Compacta
- Forsythia Intermedia
- Ligustrum Amurense
- Ligustrum Regalianum
- Mountain Laurel
- Bayberry
- Andromeda
- Buckthorn
- Rhododendron and Azalea
- Black Jetbead
- Alpine Currant
- Highbush Blueberry
- Viburnum
- Cranberry Cotoneaster
- Russian Olive
- Dwarf Burning Bush
- Forsythia
- Amur Privet
- Regel Privet

Shrubs Groundcovers and Vines

- Hedera helix
- Hosta Species
- Pachysandra Terminalis
- Parthenocisis Quinquifolia
- Parthenocisis Tricuspidata
- Stephanandra Incisa ‘Crispa’
- Vinca Minor
- English Ivy
- Hosta
- Japanese Spurge
- Virginian Creeper
- Boston Ivy
- Cutleaf Stephanandra
- Myrtle

G. PARKING LOT PLANTINGS

Plantings for parking lot areas shall be selected from the plant list provided herein. Parking lot planting area shall include the islands, the area around the pavement to a depth of 15 feet, and the area between parking lots and buildings.

The recommended list of trees and shrubs for parking lot edges and island plantings is:

Trees

- Acer platanoides ‘Cleveland’/Cleveland Maple
- Acer platanoides ‘Emerald Queen’/Emerald Queen Maple
- Betula nigra/River Birch
- Crataegus phaenopyrum/Washington Hawthorn
- Fraxinum pennsylvanica Lanceolata ‘Summit’/Summit Green Ash
- Gleditsia triacanthos inermis ‘Skyline’/Skyline Honeylocust
- Malus ‘Centurion’/Centurion Crabapple
- Malus ‘Snowdrift’/Snowdrift Crabapple
- Platanus x acerifolia/London Planetree
- Picea glauca/White Spruce*
- Pinus nigra/Austrian Pine*

- Pinus sylvestris/Scotch Pine*
- Pinus thunbergii/Japanese Black Pine*
- Pyrus calleryana ‘Aristocrat’/Aristocrat Pear
- Pyrus calleryana ‘Chanticleer’/Chanticleer Pear
- Quercus palustris/Pin Oak
- Quercus rubra/Red Oak
- Tilia cordata/Littleleaf Linden
- Zelkova serrata ‘Village Green’/Village Green Zelkova

Shrubs

- Acanthopanax sieboldianus/Fiveleaf Aralia
- Berberis thunbergii/Japanese Barberry
- Cornus alternifolia/Pagoda Dogwood
- Cornus mas/Cornelian Cherry Dogwood
- Elaeagnus angustifolia/Russian Olive
- Euonymus alatus/Winged Euonymus
- Forsythia/Forsythia cultivars
- Ilex verticillata/winterberry
- Juniperus/Juniper cultivars*
- Ligustrum obtusifolium/Border Privet
- Myrica pensylvanica/Northern Bayberry
- Pyracantha/Firethorn cultivars
- Rosa urosa/Rugosa Rose
- Syringa meyeri/Meyer Lilac

Parking lot islands should be provided between terraced parking levels and at the ends of rows of parking spaces and should be a minimum of ten (10) feet from curb to curb. A minimum of one tree per six (6) cars should be provided in each parking area. Trees may be planted in irregular rows or informal groups as space permits.

The minimum distance from tree to curb should be five (5) feet in islands, five (5) feet where the curb is adjacent to the buildings, and eight (8) feet at all other parking lot edges.

Minimum tree size should be a three (3) inch caliper.

Where a parking lot abuts the main site drive or any driveway, the parking lot shall be screened with plants selected from the approved shrub list as provided herein. Screening should be sufficient to effectively screen parked cars as seen from the main site drive. If appropriate, due to topographic conditions, an earth berm may also be used to screen parking lots. The sides of berms should have a maximum slope of 2:1 if planted with shrubs and 3:1 if planted with grass.

Surface treatment for all unpaved parking lot islands and edges shall be turf grass or ground cover.

H. SERVICE AREA PLANTINGS

All building service areas shall be screened with plants selected from the plant list provided herein. Screening should be sufficient to conceal the service area activity from off-site view.

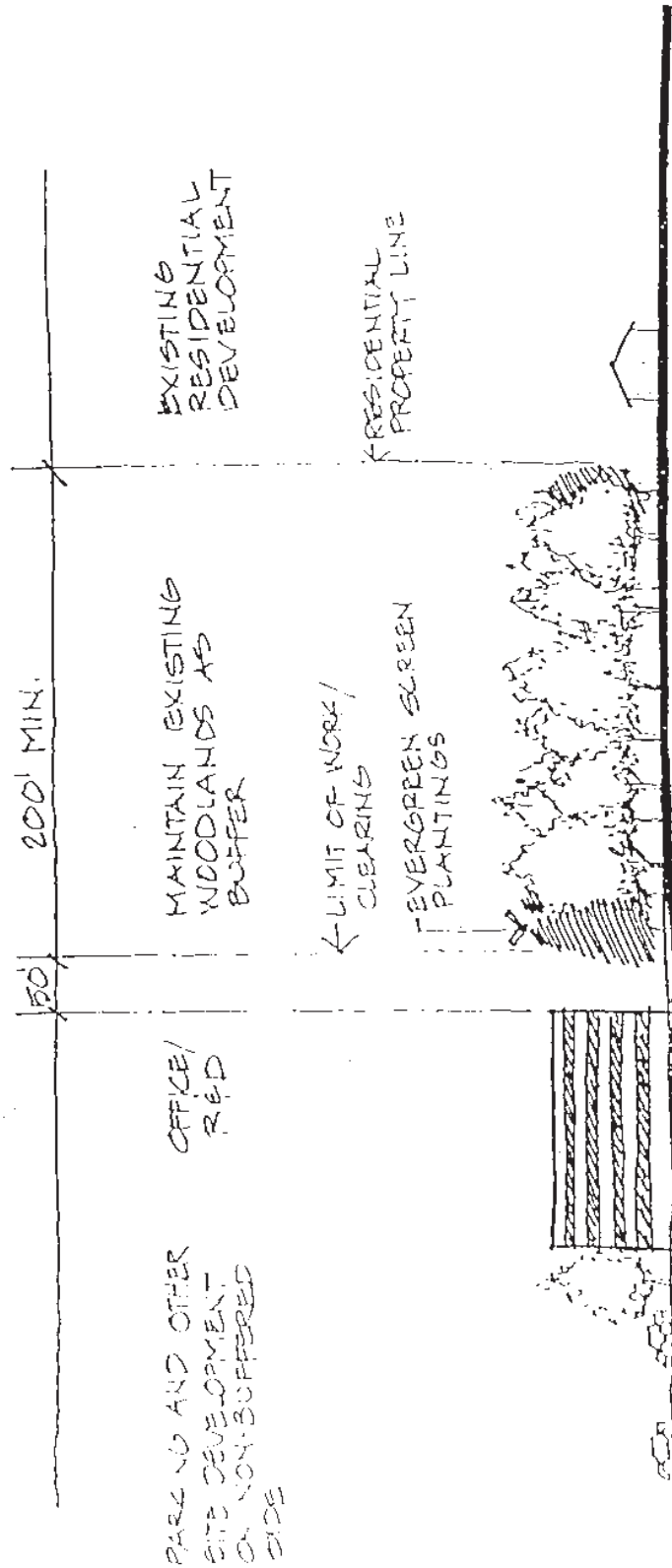
At installation, the screening should be effectively to a minimum height of four feet. At maturity, the plant screen shall be effective to minimum height of eight (8) feet.

The plant materials list recommended for building entrances and edges should be consulted for service area plantings.

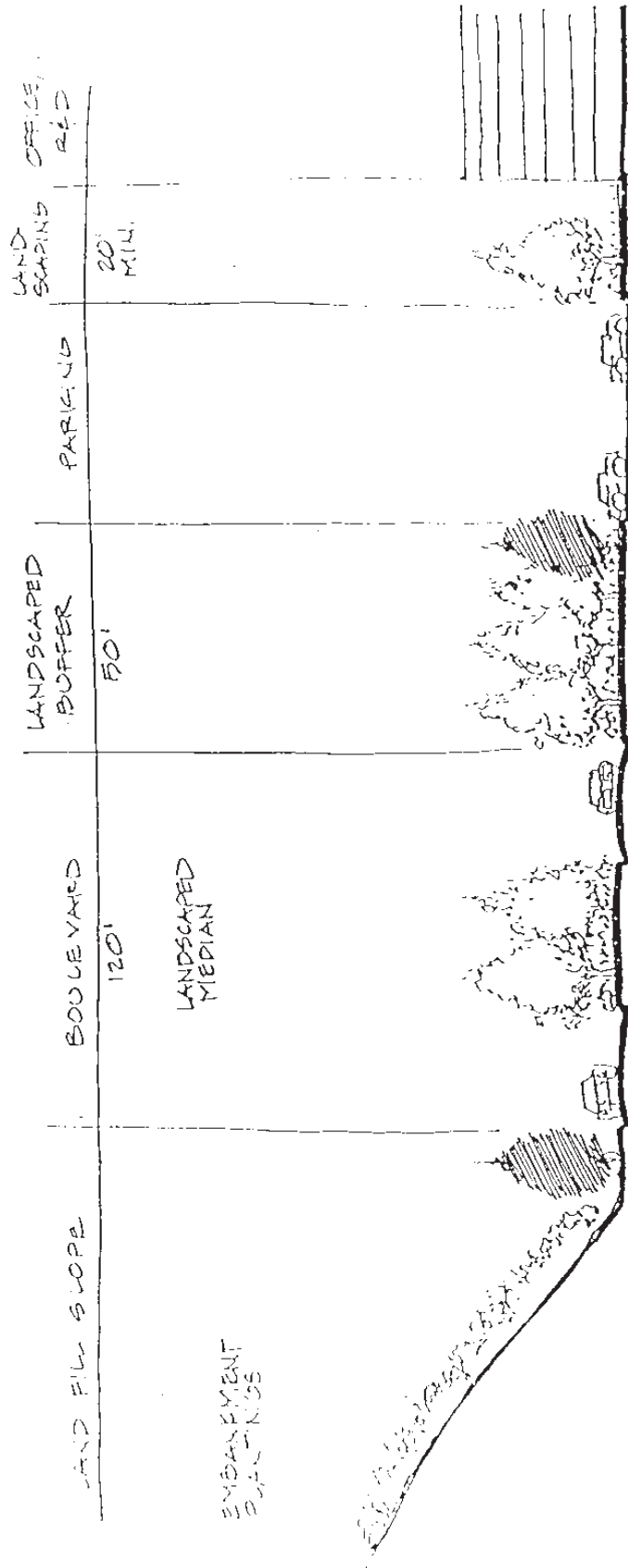
I. DISTRICT ACCESS ROAD PLANTINGS

Roadside planting for District access roads should consist of deciduous shade trees selected from the plant list. Depending on existing adjacent vegetation, these plantings should be in either regular linear rows or informal groupings. Regular rows should be used in cases where the road abuts open areas without existing trees. Informal grouping may be used where the road abuts existing informal groupings of trees. With either rows or informal plantings, trees should be a minimum of a 3.5-inch caliper and planted in numbers equivalent to one tree per 40-linear feet of road edge. Where existing tree canopies come within twenty (20) feet of the road edge, new street trees may be omitted for that section of the road. Surface treatment for all unpaved road edge, new street trees may be omitted for that section of the road. Surface treatment for all unpaved road edge surfaces should be turf grass.

APPENDIX A: FIGURE 1:
BUFFERING BETWEEN OFFICE OR R&D & RESIDENTIAL DEVELOPMENT



APPENDIX B: FIGURE 2:
 BUFFERING BETWEEN OFFICE OR R&D & THE LANDFILL



APPENDIX C: FIGURE 3:
 FLOW CHART: DESIGN REVIEW PROCESS

FLOW CHART
 DESIGN REVIEW PROCESS

