

PLANTING MANUAL AND LANDSCAPE REGULATION GUIDELINES

I. INTRODUCTION

The following charts, graphic details, specifications and guidelines are provided to assist persons in conforming to the Landscape Ordinance, of the Zoning Regulations. The plant lists that are provided are suggested plant materials for the various use groups and are plants that have been successful in this region for urban landscaping. The plant list is not limited to the plant materials indicated in this manual. The graphic details and planting specifications are not mandatory but are the guidelines that are helpful in completing a landscape project in a proper manner. The plan submission guidelines should be helpful to the Zoning/Building Inspection personnel in reviewing and approving plans.

II. PLAN SUBMISSION REQUIREMENTS

Plans must be submitted to indicate new project conformity to the Landscape Ordinance. The plan must be a scaled drawing preferably no smaller than 1" = 100'.

A. **TREE INVENTORY:** The following information is required to be contained on each tree inventory submitted for review:

1. The disturbed and construction limits
2. Existing and proposed buildings
3. Existing and proposed utilities
4. Approximate boundary of the area beyond the disturbed limit with 50 percent canopy cover.
5. Statistical summary of acres within disturbed and construction limits, and area of site that is undisturbed.
6. Location of all trees to be preserved/protected within disturbed limits and a completed Tree Protection Schedule (See Chart A)
7. Contour lines

B. **LANDSCAPE PLAN:** The following is information required to be contained on each landscape plan submitted for review:

1. All property lines with metes and bounds shall be shown for the

- project parcel.
2. All adjacent property owners, land uses/zones, rights-of-way and easements must be identified on the plan.
 3. Location of all existing and proposed buildings and structures.
 4. Location of all driveways, parking areas, loading areas and adjacent off-site roads and streets.
 5. Location of dumpster and trash facilities, including dumpster screening details.
 6. Location of existing trees and vegetation.
 7. Location of underground and overhead utility lines in addition to location of utility easements.
 8. Proposed grading/excavation information - contour lines would be preferable.
 9. Location of all proposed plant material keyed to a plant schedule.
 10. Plant schedule that shall contain information as follows: Plant common and botanical name, plant size (height, spread, caliper or container size), quantity of each specie to be planted and any specific planting notes.
 11. Indication of areas for sodding and seeding.
 12. Statistics that contain total square footage of parking/drive areas and interior parking lot landscaping.
 13. Plan certification that shall read as follows:

I/We do hereby certify that this landscape plan has been reviewed by me/us and do adopt this plan and all information contained herein as the plan for minimum landscape development for this project. I do further certify that all plant material will be perpetually maintained to meet the requirements of the Landscape Ordinance unless an approval to amend the landscape is granted by _____.

Date Witness Owner(s)

- C. A Tree Protection/Planting Plan requires the applicant to locate all trees planned for preservation and to describe protection methods to be used during construction. This plan may be a part of the landscape plan and shall include the following information:

1. Location of trees to be preserved
2. Dbh of all trees to be protected
3. Contour lines
4. Indicate trees with dbh 22 inches or greater
5. Limits of clearing, trenching, access routes for heavy equipment, etc. that may be dangerous to the tree(s).
6. Methods of tree protection shall be noted
 - a. tree fencing
 - b. erosion control - if needed
 - c. retaining walls/tree wells - if needed
 - d. tunneling for utilities - if needed
 - e. aeration systems - if needed
 - f. transplanting - if needed
 - g. staking
 - h. Tree signing, etc.
7. Building locations and concrete features
8. Indicate material storage, concrete washout, and debris burn and burial holes where these area might affect tree protection.
9. Tree Protection/Planting Schedule

Chart A shall accompany this plan listing the tree species (genus,species,variety, cultivar), dbh, and overall quality of the tree. This quality is judged on the health of the tree and shall be marked acceptable (A) or Unacceptable (U). Determination of tree quality should be made by an arborist or someone else with appropriate training and experience. Information used to determine tree quality should include, but not be limited to insect infestation, trunk damage, and so on. If a tree is declining it should be classified as unacceptable. An unacceptable tree will not count against the applicant if it is removed and conversely, credit will not be granted if the tree is preserved. The primary consideration of this quality classification is the health of the tree.

III. TREE DENSITY CALCULATION

This technique for measuring/defining tree density is designed to strike a balance between the needs for tree conservation and the concerns of land development. The density figure, which is the basis for this calculation, is established as 10 for city of Cold Spring (the density figure of 10, which represents 10

square feet of basal area per acre, was selected since it will provide tree canopy cover of approximately 10 to 40 percent per acre). This figure represents the tree density, measured in basal area, which is desired for the urbanized and developing areas within Kenton County.

Step 1

Calculate the **density factor for the site (DSF)** using the formula below:

This number tells how much tree density is required for the given site.

total acreage of site x density figure = Density Factor of Site (DFS)

Example: 2.2 acres x 10 = 22

Step 2

Calculate the **existing density factor (EDF)**.

This represents the trees that you are proposing to save and are going to protect during the construction process. These and trees with a 22 inch DBH or greater are the only trees that must be included on the tree inventory for a site.

Example: A total of 14 trees will remain on the 2.2 acre site. These trees include:

Number of Trees	DBH (in.)	Species
7	12	Oaks
3	14	Maples
3	18	Hickory
1	20	Maple

These must then be converted into a **density factor** using Table 1.

	No. Trees	Units/Tree	Density Factor
12" Oaks	7	.8	5.6
14" Maples	3	1.1	3.3
18" Hickory	3	1.8	5.4
20" Maples	1	2.2	2.2

16.5

Total density for existing trees 16.5 EDF

Step 3

Calculate the required **Replacement Density Factor (RDF)**.

This number represents the density factor of trees that must be planted on the 2.2 acre site. Step 4 explains how this process works.

DFS - EDF = RDF

Example: $22 - 16.5 = 6.7$ **RDF = 5.5**

Step 4

At this point you must calculate the density factor of your proposed trees as per Table 2.

Example:	NUMBER	SIZE	SPECIES	DENSITY FACTOR
	12	1"	Pines	$(12 \times .4) = 4.8$
	10	2"	Red Maples	$(10 \times .5) = 5.0$
	2	6"	Oaks	$(2 \times 1.0) = 2.0$
	5	4"	Maples	$(3 \times .7) = 2.1$
				13.9

This number is then added to the **EDF** and if it equals or exceeds the **DFS** then you are in compliance.

Example: $13.9 + 16.5 = 25.5$ The plan is in compliance.

IV. TREE PRESERVATION GUIDELINES

Trees provide many benefits to people and they help to maintain the quality of life in our city. Although people receive many benefits from trees, they seldom realize that their activities may injure or kill a tree. Healthy trees contribute to man's enjoyment but an unhealthy tree is both unsightly and dangerous. Since trees are easily disturbed by changes in their environment, one should

consider the following before disrupting the tree surroundings.

Evaluation

Decide which of your trees to save by evaluating each one of them carefully. Analyze the location, species, size, age, and vigor of each tree and then consider the costs and benefits involved in protecting the tree. If additional information on tree preservation is needed, consult the Urban Forestry Resource Evaluation Study (Bibliography Page).

Location of Trees

The location of each tree should be analyzed with respect to its relative location in the landscape. Before building a structure near trees ask yourself these questions.

- Will the tree provide shade where it is wanted or will it block out desired sunlight?
- Will the tree protect the structure from winter winds or will it block out the summer breezes?
- Will the tree screen an unpleasant view or will it block out a desirable view?

Species

The tree species is considered to determine if its characteristics are desirable for the proposed situation. Shallow rooted trees hinder the growth of lawns and gardens while deep rooted trees are notorious for blocking storm and sanitary sewer lines. Some trees are susceptible to diseases and insects, which may make saving them uncertain. So consult the tables in this manual or ask a specialist before deciding which trees to retain.

Size, Age, and Vigor

When considering the size, age, and vigor of a tree, keep these points in mind.

- Large and old trees do not adapt well to changes in their environment, hence should have minimal changes.
- A small tree can be replaced easily and replacing it may be cheaper than preserving it.

- Annual twig growth, amount of dead material, and the size and color of leaves are indications of health and vigor. Compare the tree with other trees of the same species.

After deciding which trees to keep, remove the undesirable trees before construction begins. Use a professional with experience in tree removal so that the remaining trees will not be damaged. The trees chosen to be saved will have to be protected from one or more of the following:

- Construction equipment
- Grade changes
- Excavation for utilities
- Paving
- Footers for the house or wall

Protection From Machinery

Most of the damage caused by machinery occurs to the root system from compaction. Some damage by machinery may also occur to the trunk and low hanging branches. Construct a simple fence or barrier which encloses the entire area beneath the tree canopy. Be sure that all exposed roots are enclosed in this area. As an added note of caution roots can go out much wider than the tree canopy in many cases.

Protection From Grade Changes

Grade changes, either raising or lowering the grade greatly affects the amount of air, water and minerals available to the tree. Air, water and minerals are necessary for the trees survival, so any alterations in the trees grade should be planned properly. If a tree is valuable enough to justify saving, get professional help from a landscape architect, arborist or the County Extension Agent.

Raising the Grade

Fill added around a tree prevents normal air and water circulation in the original soil and will damage the roots. Minor fills - less than 4" will not harm most species, if the fill is high in organic matter. Be sure that a particular species can survive this change before fill is added. Major fill around a tree requires that air be supplied to the roots and that excess water be removed. This is usually done by installing a tile drain system. This system has to be designed

for each tree individually so an expert should be consulted.

Lowering the Grade

While protecting a tree from a lowered grade is less complicated than protecting it from a raised grade, it can be equally harmful unless proper attention is given to root pruning, pruning branches and stimulating root growth. Generally, protection is achieved by terracing the grade, if the space is available. Another way to protect a tree from a lowered grade is to build a retaining wall. This in an effective way of achieving a grade difference to save a tree, if it is less than 2' (see Figure 1).

Excavating

Trees need to be protected from excavations for utilities because the soil moisture content is altered and the number of roots are decreased. If the route of the utilities can't be kept from underneath the tree, then tunneling should be done to reduce damage to the roots. Tunneling should be done from both sides. Start tunneling below the main lateral roots as soon as a 1" diameter root is encountered (see Figure 2).

Protection From Paving

When paving is installed over the roots of the tree, it is necessary to insure the proper aeration of the root zone. This can be accomplished with a tree well as described in the grade changes section. If paving is laid directly over the roots, soil should be removed to the bottom of the lateral roots. Gravel should be filled in around the roots and 4" layer of Styrofoam should be laid over the roots to allow for root expansion.

Protection From Foundations

When constructing foundations, tree roots can be dealt with in two ways; by cutting the roots or by bridging over them. When a basement is to be installed, roots have to be cut and a 3' deep trench should be dug between the roots and the foundation. After the roots are properly pruned, the trench should be filled with decomposed organic matter. Treatment of the roots should be done prior to the installation of the forms.

The second method, bridging, should be used when a foundation is placed

over the roots. Roots should be exposed and the desired depth of the footers should be dug between the roots . 4" of Styrofoam should be wrapped around the roots where the concrete is placed over them.

Procedures

Whenever a trees' environment is disturbed, the following procedures should be observed.

Root Pruning

When it becomes necessary to cut roots, it should be done by the following procedure. Uncover the shattered end of the roots so that the root can be cut off squarely. Do not allow roots to remain exposed for an extended period of time. The ends of the cut roots should be covered with decomposed organic matter and the tree should be fertilized. The amount and frequency of fertilization will be determined by the extent of the root cutting. If possible the affected tree should be fertilized a year in advance.

Compensatory Trimming

After root trimming is completed, trimming of the tree should be done to reduce the physiological demands on the remaining roots, and to reduce the possibility of the tree being uprooted by wind. Refer to the pruning section of this manual for further details.

Limb Pruning

If a tree has been construction damaged, pruning should be delayed 1 - 3 years or until the deadwood near and at the tree crown becomes evident. Removing these limbs before this time could endanger the health of the tree and possibly kill it.

Topping trees or cutting of limbs to stubs is not considered proper for the maintenance of trees as required by these Regulations. Tree pruning cuts shall be made sufficiently close to the trunk or parent limb without cutting into the branch collar or leaving a protruding stub so that closure can readily start under normal conditions. All branches should be precut so as to avoid bark splitting or peeling.

Watering

If drainage patterns are altered, be sure that the tree is not damaged. If a tree's normal moisture level is changed some form of mitigation will be required. Trees will also have to be watered when their roots are cut. This should be done by setting a sprinkler on at low pressure and allowing it to operate until run-off occurs. Allow 4 - 8 hours to pass and reapply the water in the same manner.

V. PLANT LISTS

The following lists of trees and plants are to be used for reference when preparing landscape plans for compliance with the (city/county) zoning ordinance. Please note that with the exception of Plant List G, Unacceptable Plants, the Plant Lists are only suggestions of use groups that have been successful in this region for urban landscaping. The choice of plant materials is not limited to those of the lists, but all plants and trees specified on landscape plans that are not included must have proven acceptable in this region.

PLANT LIST A: SHADE TREES (Mature height greater than 30 ft.)

PLANT LIST B: FLOWERING AND NON - FLOWERING TREES
(Mature height less than 30 ft. for use under power lines.)

PLANT LIST C: EVERGREEN/BROADLEAF TREES

PLANT LIST D: DECIDUOUS SHRUBS

PLANT LIST E: EVERGREEN/BROADLEAF SHRUBS

PLANT LIST F: STREET TREES

PLANT LIST G: UNACCEPTABLE PLANTS AND TREES

EXAMPLE LEGEND OF PLANT LIST:

Common Plant Name	Anglojap Yew
Plant Botanical Name	Taxus media
Specie Cultivars	x brownii

x hicksii
x wardii

PLANT LIST A SHADE TREES

Trees that are hardy in zones 5 - 6 are deciduous and reach a mature height of greater than 30 feet.

Common Plant Name **Littleleaf Linden**
Plant Botanical Name Tilia cordata
Specie Cultivars x chancellor
 x greenspire
 x june bride

Common Plant Name **European Beech**
Plant Botanical Name Fagus sylvatica
Specie Cultivars

Norway Maple
 Acer platanoides
 x columnaire
 x crimson king
 x summershade

Common Plant Name **Ginkgo**
Plant Botanical Name Ginkgo biloba (male only)
Specie Cultivars x autumn gold
 x fastigiata
 x sentry

Pin Oak
 Quercus palustris
 x sovereign
 x crown rite

Common Plant Name **Green Ash**
Plant Botanical Name Fraxinus pennsylvanica lanceolata
Specie Cultivars x marshall seedless

Red Maple
 Acer rubrum
 x autumn flame
 x october glory
 x red sunset

Common Plant Name **Japanese Pagoda Tree**
Plant Botanical Name Sophora japonica
Specie Cultivars x regent

Red Oak
 Quercus rubra

Common Plant Name **Japanese Zelkova**
Plant Botanical Name Zelkova serrata
 Quercus coccinea
Specie Cultivars

Scarlet Oak

Common Plant Name **London Plane Tree**
Plant Botanical Name Platanus acerifolia
Specie Cultivars

Common Plant Name **Sugar Maple**
Plant Botanical Name Acer saccharum
Specie Cultivars

Sweetgum
 Liquidambar styraciflua

PLANT LIST A (continued)
SHADE TREES**Common Plant Name**
Plant Botanical Name
Specie Cultivars**Thornless Honey Locust**
Gleditsia triacanthos
x moraine
x shademaster
x skyline
x imperial**Tulip Poplar**
Liriodendron tulipifera**Common Plant Name**
Plant Botanical Name
Specie Cultivars**Willow Oak**
Quercus phellos**Yellowwood**
Cladrastis lutea**Common Plant Name**
Plant Botanical Name
Specie Cultivars**Black Maple**
Acer saccharum
x nigrum**Common Plant Name**
Plant Botanical Name
Specie Cultivars**Katsura Tree**
Cercidiphyllum japonicum**Common Plant Name**
Plant Botanical Name
Specie Cultivars**Hardy Rubber Tree**
Eucommia ulmoides**Common Plant Name**
Plant Botanical Name
Specie Cultivars**American Beech**
Fagus grandifolia

PLANT LIST B FLOWERING TREES

Trees that are hardy in zones 5 - 6 are deciduous and reach a mature height not exceeding 30 feet.

Common Plant Name	Callery Pear
Plant Botanical Name	Pyrus calleryana
Specie Cultivars	x aristocrat x chancellor
Common Plant Name	Crabapple
Plant Botanical Name	Malus varieties
Specie Cultivars	x bob white x sargeant x snowdrift x white angel
Common Plant Name	Eastern Redbud
Plant Botanical Name	Cercis canadensis
Specie Cultivars	x flame x forest pansy x royal
Common Plant Name	Flowering Dogwood*
Plant Botanical Name	Cornus florida
Specie Cultivars	x cherokee chief x cherokee princess x rubra x white cloud
Common Plant Name	Kousa Dogwood*
Plant Botanical Name	Cornus kousa
Specie Cultivars	x milky way
Common Plant Name	Pagoda Dogwood*
Plant Botanical Name	Cornus alternifolia
Common Plant Name	Golden Raintree
Plant Botanical Name	Koelreutaria paniculata
Common Plant Name	Green Hawthorne
Plant Botanical Name	Crataegus viridis
Specie Cultivars	x winter king

PLANT LIST B (continued)
FLOWERING TREES

Common Plant Name	Sargent Cherry
Plant Botanical Name	<i>Prunus sargentii</i>
Specie Cultivars	x columnaris x kwanzan
Common Plant Name	Saucer Magnolia*
Plant Botanical Name	<i>Magnolia soulangiana</i>
Specie Cultivars	
Common Plant Name	Star Magnolia*
Plant Botanical Name	<i>Magnolia stellata</i>
Specie Cultivars	
Common Plant Name	Fringe Tree
Plant Botanical Name	<i>Chionanthus virginicus</i>
Specie Cultivars	
Common Plant Name	Higan Cherry
Plant Botanical Name	<i>Prunus subhirtella</i>
Specie Cultivars	
Common Plant Name	Downy Serviceberry
Plant Botanical Name	<i>Amelanchier arborea</i>
Specie Cultivars	
Common Plant Name	Sweet Bay*
Plant Botanical Name	<i>Magnolia virginiana</i>
Specie Cultivars	
Common Plant Name	Sourwood
Plant Botanical Name	<i>Oxydendron arboreum</i>
Specie Cultivars	
Common Plant Name	Eastern Redbud
Plant Botanical Name	<i>Cercis canadensis</i>
Specie Cultivars	
Common Plant Name	Washington Hawthorn
Plant Botanical Name	<i>Crataegus phaenopyrum</i>
Specie Cultivars	
Common Plant Name	Green Hawthorn
Plant Botanical Name	<i>Crataegus virides</i>
Specie Cultivars	x winter king

PLANT LIST B (continued)
FLOWERING TREES

Common Plant Name	Japanese Flowering Crabapple
Plant Botanical Name	Malus floribunda
Specie Cultivars	

Common Plant Name	Japanese Flowering Cherry
Plant Botanical Name	Prunus serrulata
Specie Cultivars	

- * These trees survive better in shady, sheltered conditions and would not be acceptable unless planted on the north or east of buildings.

PLANT LIST B (continued)
NON-FLOWERING ORNAMENTAL TREES
AND OTHER TREES SUITABLE FOR USE UNDER POWER LINES

Common Plant Name	Japanese Maple
Plant Botanical Name	Acer palmatum
Specie Cultivars	
Common Plant Name	Camperdown Elm
Plant Botanical Name	Ulmus galbra camperdownii
Specie Cultivars	
Common Plant Name	Paperbark Maple
Plant Botanical Name	Acer griseum
Specie Cultivars	
Common Plant Name	River Birch
Plant Botanical Name	Betula nigra
Specie Cultivars	
Common Plant Name	Trident Maple
Plant Botanical Name	Acer buergerianum
Specie Cultivars	
Common Plant Name	Hedge Maple
Plant Botanical Name	Acer campestre
Specie Cultivars	
Common Plant Name	Amur Maple
Plant Botanical Name	Acer ginnala
Specie Cultivars	

PLANT LIST C EVERGREEN/BROADLEAF TREES

Trees that are hardy in zones 5 - 6 are evergreen, can reach a mature height over 30 feet and if not limbed - up can create a screen from the ground level up.

Common Plant Name	American Holly
Plant Botanical Name	Ilex opaca
Specie Cultivars	x xanthocarpa
Common Plant Name	Austrian Pine
Plant Botanical Name	Pinus nigra
Specie Cultivars	
Common Plant Name	Canadian Hemlock
Plant Botanical Name	Tsuga canadensis
Specie Cultivars	
Common Plant Name	Carolina Hemlock
Plant Botanical Name	Tsuga caroliniana
Specie Cultivars	
Common Plant Name	Eastern Red Cedar
Plant Botanical Name	Juniperus virginiana
Specie Cultivars	
Common Plant Name	Colorado Blue Spruce
Plant Botanical Name	Picea pungens
Specie Cultivars	x glauca
Common Plant Name	Norway Spruce
Plant Botanical Name	Picea abies
Specie Cultivars	
Common Plant Name	Scotch Pine
Plant Botanical Name	Pinus sylvestris
Specie Cultivars	
Common Plant Name	White Fir
Plant Botanical Name	Abies concolor
Specie Cultivars	
Common Plant Name	White Pine
Plant Botanical Name	Pinus strobus
Specie Cultivars	

PLANT LIST C (continued)
EVERGREEN/BROADLEAF TREES

Common Plant Name	Japanese Red Pine
Plant Botanical Name	Pinus densiflora
Specie Cultivars	

Common Plant Name	Lacebark Pine
Plant Botanical Name	Pinus bungeana
Specie Cultivars	

PLANT LIST D DECIDUOUS SHRUBS

Perennial woody plants that grow at least 3 feet in height, are tolerant in zones 5 - 6 and are deciduous.

Common Plant Name	Burning Bush
Plant Botanical Name	Euonymus alata
Specie Cultivars	x compacta
Common Plant Name	Doublefile Viburnum
Plant Botanical Name	Viburnum plicatum tomentosum
Specie Cultivars	
Common Plant Name	Forsythia Species
Plant Botanical Name	
Specie Cultivars	
Common Plant Name	Glossy Abelia
Plant Botanical Name	Abelia grandiflora
Specie Cultivars	
Common Plant Name	Quince
Plant Botanical Name	Chaenomeles specina
Specie Cultivars	
Common Plant Name	Shrub Cinquefoul
Plant Botanical Name	Potentilla fruticosa
Specie Cultivars	
Common Plant Name	Spiria Species
Plant Botanical Name	
Specie Cultivars	
Common Plant Name	Spreading Cotoneaster
Plant Botanical Name	Cotoneaster divaricata
Specie Cultivars	
Common Plant Name	Wintergreen Barberry
Plant Botanical Name	Berberis julianne
Specie Cultivars	
Common Plant Name	Cornelian Cherry Dogwood
Plant Botanical Name	Cornus mas
Specie Cultivars	

PLANT LIST D (continued)
DECIDUOUS SHRUBS

Common Plant Name Plant Botanical Name Specie Cultivars	Large Fothergilla* Fothergilla major
Common Plant Name Plant Botanical Name Specie Cultivars	Arnold Promise Witchhazel* Hamamelis intermedia x arnold promise
Common Plant Name Plant Botanical Name Specie Cultivars	Vernal Witchhazel Hamamelis vernalis
Common Plant Name Plant Botanical Name Specie Cultivars	Snowball Hydrangea Hydrangea paniculata x grandiflora
Common Plant Name Plant Botanical Name Specie Cultivars	Winterberry Ilex verticillata
Common Plant Name Plant Botanical Name Specie Cultivars	Panicle Hydrangea Hydranga paniculata
Common Plant Name Plant Botanical Name Specie Cultivars	Beauty Bush Kolkwitzia amabilis
Common Plant Name Plant Botanical Name Specie Cultivars	Spicebush Lindera benzoin
Common Plant Name Plant Botanical Name Specie Cultivars	Cutleaf Buckthorn Rhamnus frangula x asplenifolia
Common Plant Name Plant Botanical Name Specie Cultivars	Burkwood Viburnum Viburnum burkwoodii
Common Plant Name Plant Botanical Name Specie Cultivars	Fragrant Viburnum Viburnum carlcephalum

PLANT LIST D (continued)
DECIDUOUS SHRUBS**Common Plant Name**
Plant Botanical Name
Specie Cultivars**Arrowwood Viburnum**
Viburnum dentatum**Common Plant Name**
Plant Botanical Name
Specie Cultivars**Chinese Snowball Viburnum**
Viburnum macrocephalum**Common Plant Name**
Plant Botanical Name
Specie Cultivars**Black Haw**
Viburnum prunifolium

PLANT LIST E EVERGREEN /BROADLEAF SHRUBS

Perennial, woody plants that grow at least 3 feet in height are tolerant in zones 5 - 6 and are evergreen.

Common Plant Name **Anglojap Yew**
Plant Botanical Name Taxus media
Specie Cultivars x brownii

x densiformis
x hicksii
x wardii

Common Plant Name **Blue Holly**
Plant Botanical Name Ilex meserveae
Specie Cultivars x blue angel

x blue prince
x blue princess

Common Plant Name **Chinese Juniper**
Plant Botanical Name Juniperis chinensis
Specie Cultivars x hetzii

x keteleeri
x mint julip
x robusta green
x mount batten
x pfitzeriana

Common Plant Name **Japanese Holly**
Plant Botanical Name Ilex crenata
Specie Cultivars x microphylla

x rotundifolia

Common Plant Name **Japanese Yew**
Plant Botanical Name Taxus cuspidata
Specie Cultivars x capitata

x intermedia
x nana

Common Plant Name **Korean Boxwood**
Plant Botanical Name Buxus microphylla koreana
Specie Cultivars x koreana

Common Plant Name **Leatherleaf Viburnum**
Plant Botanical Name Viburnum rhytidophyllum
Specie Cultivars

**PLANT LIST E (cont.)
EVERGREEN /BROADLEAF SHRUBS**

Common Plant Name	Mugho Pine
Plant Botanical Name	Pinus mugho
Specie Cultivars	
Common Plant Name	Spreading Yew
Plant Botanical Name	Taxus baccata
Specie Cultivars	
Common Plant Name	Mountain Laurel
Plant Botanical Name	Kalmia latifolia
Specie Cultivars	
Common Plant Name	Dwarf Alberta Spruce
Plant Botanical Name	Picea glauca
Specie Cultivars	x conica
Common Plant Name	Catawba Rhododendron
Plant Botanical Name	Rhododendron catawbiense
Specie Cultivars	
Common Plant Name	Azalea (Evergreen)
Plant Botanical Name	Rhododendron
Specie Cultivars	

PLANT LIST F STREET TREES

Small trees

Recommended street trees that are hardy in zones 5 and 6. Some of these trees may also be suitable for shade trees. See Plant List A.

Common Plant Name	Trident Maple
Plant Botanical Name	<i>Acer ginnela</i>
Specie Cultivars	
Common Plant Name	Cockspur Hawthorn
Plant Botanical Name	<i>Crataegus crus-galli</i>
Specie Cultivars	x <i>lavallai</i>
Common Plant Name	English Hawthorn
Plant Botanical Name	<i>Crataegus monogyna</i>
Specie Cultivars	x <i>laevigata</i>

Medium Trees

Common Plant Name	American Hornbeam	Hop Hornbeam
Plant Botanical Name	<i>Carpinus caroliniana</i>	<i>Ostrya virginia</i>
Specie Cultivars		
Common Plant Name	* Callery Pear	Japanese Hornbeam
Plant Botanical Name	<i>Pyrus calleryana</i>	<i>Carpinus carolina</i>
Specie Cultivars		x <i>japonica</i>
Common Plant Name	European Hornbeam	Nikko Maple
Plant Botanical Name	<i>Carpinus betulas</i>	<i>Acer maximowicziana</i>
Specie Cultivars		
Common Plant Name	Green Hawthorn	Mulberry spp.
Plant Botanical Name	<i>Crataegus viridis</i>	<i>Morus</i> spp.
Specie Cultivars	x <i>winter king</i>	
Common Plant Name	Hedge maple	
Plant Botanical Name	<i>Acer camestres</i>	
Specie Cultivars		

PLANT LIST F (continued) STREET TREES

Large Trees

Common Plant Name Botanical Plant Name Specie Cultivars	Amur Corktree Phellodendron amurense	
Common Plant Name Plant Botanical Name Specie Cultivars	Blue Ash Fraxinus quadrangulata	* Linden spp. Tilia spp.
Common Plant Name Plant Botanical Name Specie Cultivars	Bur Oak Quercus macrocarpa	*Northern Red Oak Quercus rubra
Common Plant Name Plant Botanical Name Specie Cultivars	Chestnut Oak Quercus prinus	*Norway Maple Acer platanoides
Common Plant Name Plant Botanical Name Specie Cultivars	Common Hackberry Celtis occidentalis	* Pin Oak Quercus palustris
Common Plant Name Plant Botanical Name Specie Cultivars	* Ginkgo (male variety only) Ginkgo biloba	* Red Maple Acer rubrum
Common Plant Name Plant Botanical Name Specie Cultivars	* Green Ash Fraxinus pennsylvanica x marshall's seedless	Shingle Oak Quercus imbricaria
Common Plant Name Plant Botanical Name Specie Cultivars	* Honey locust Gleditsia triacanthos x sunburst x skyline x moraine	* Sweet Gum Liquidamber styraciflua
Common Plant Name Plant Botanical Name Specie Cultivars	* Japanese Pagoda Tree Sophora japonica	* Tulip Poplar Liriodendron tulipifera

* These trees are also be acceptable for shade trees.

PLANT LIST G UNACCEPTABLE PLANTS

Trees and shrubs that are not hardy in zones 5 - 6 may have excessive fruit, leaf or limb drop, may interfere with underground utilities, attract excessive insects, are weak wooded, disease prone, pollution intolerant, noxious or require excessive maintenance.

Common Plant Name Plant Botanical Name Specie Cultivars	Apple (common) Malus pummila	Mountain Ash Sorbus species
Common Plant Name Plant Botanical Name Specie Cultivars	Black Locust Robinia pseudoacacia	Osage Orange Maclura promifera
Common Plant Name Plant Botanical Name Specie Cultivars	Box Elder Acer negundo	Mulberries Morus species
Common Plant Name Plant Botanical Name Specie Cultivars	Chinese Holly Ilex cornuta	Privet Ligustrum species
Common Plant Name Plant Botanical Name Specie Cultivars	Devil's Walking Stick Aralia spinosa	Poplars Populus species
Common Plant Name Plant Botanical Name Specie Cultivars	Elms (except Chinese & American) Ulmus species	
Common Plant Name Plant Botanical Name Specie Cultivars	Ginkgo (female) Ginkgo biloba	Silver Maple Acer saccharinium
Common Plant Name Plant Botanical Name Specie Cultivars	Hickories Carya species	Sycamore Platarius occidentalis
Common Plant Name Plant Botanical Name Specie Cultivars	Honey locust (common) Gleditsia triacanthos	Tartarian Honeysuckle Loniceria tartarica
Common Plant Name Plant Botanical Name Specie Cultivars	Horse Chestnut Aesculus species	Tree of Heaven Ailanthus altissima

PLANT LIST G (continued)
UNACCEPTABLE PLANTS**Common Plant Name**
Plant Botanical Name
Specie Cultivars**Kentucky Coffee Tree (female)**
Gymnocledus dioica**Walnut**
Juglans species**Common Plant Name**
Plant Botanical Name
Specie Cultivars**Mimosa**
Albizza julibrisson**Weigela**
Weigela florida**Common Plant Name**
Plant Botanical Name
Specie Cultivars**Weeping Willow**
Salix babylonica

Note: If mature trees exist on site prior to development, they may be accepted by the legislative body.

VI. RECOMMENDED GUIDELINES FOR FIELD INSPECTION AND VERIFICATION OF CONFORMANCE TO LANDSCAPE ORDINANCE

Prior to final approval of a new development project, the requirements of the Landscape Ordinance must have been met. The following guidelines are for the benefit of the Inspector to aid in checking the requirements of the approved landscape plan. In addition to these guidelines, the Inspector shall use the "Inspection Guide for Landscape Planting", published by the American Association of State Highway Officials. A copy of this publication shall be on file at the Northern Kentucky Area Planning Commission, 2332 Royal Drive, Ft. Mitchell. "The American Standard for Nursery Stock", published by the American Association of Nurserymen shall be used in checking plant material quality. This publication will also be on file at the Northern Kentucky Area Planning Commission.

- A. Verify the location and area requirements for all interior landscaping so that conformance to Vehicular Use Area requirements will be met.
- B. Check dumpster screening requirements and determine if screening materials meet the minimum construction requirements as specified on the approved landscape plan.
- C. Check plant material quantities, species, sizes and locations to determine conformance to approved landscape plan.
- D. Verify that perimeter landscape requirements have been met and determine if there are any encroachments into landscape easements.
- E. Use the various check lists that are provided in the "Inspection Guide for Landscaping Planting".
- F. Upon completion of inspection, file a report with the project Owner. If a reinspection is necessary, schedule after adequate time has been given for corrections to be made.
- G. Place a one - year inspection into inspection schedule.

TABLE 1
EXISTING TREES TO REMAIN

DBH	UNITS	DBH	UNITS	DBH	UNITS
1 - 4	.1	22	2.6	37	7.5
5 - 7	.3	23	2.9	38	7.9
8 - 9	.5	24	3.1	39	8.3
10	.6	25	3.4	40	8.7
11	.7	26	3.7	41	9.2
12	.8	27	4.0	42	9.6
13	.9	28	4.3	43	10.1
14	1.1	29	4.6	44	10.6
15	1.2	30	4.9	45	11.0
16	1.4	31	5.2	46	11.5
17	1.6	32	5.6	47	12.0
18	1.8	33	5.9	48	12.6
19	2.0	34	6.3	49	13.1
20	2.2	35	6.7	50	13.6
21	2.4	36	7.1		

These numbers were arrived at by calculating the square footage of the basal tree area. The tree trunk area equals the trunk basal area and is computed by squaring the radius of the tree trunk at breast height and multiplying by 3.14, then converting to square footage.

TABLE 2
REPLACEMENT TREES

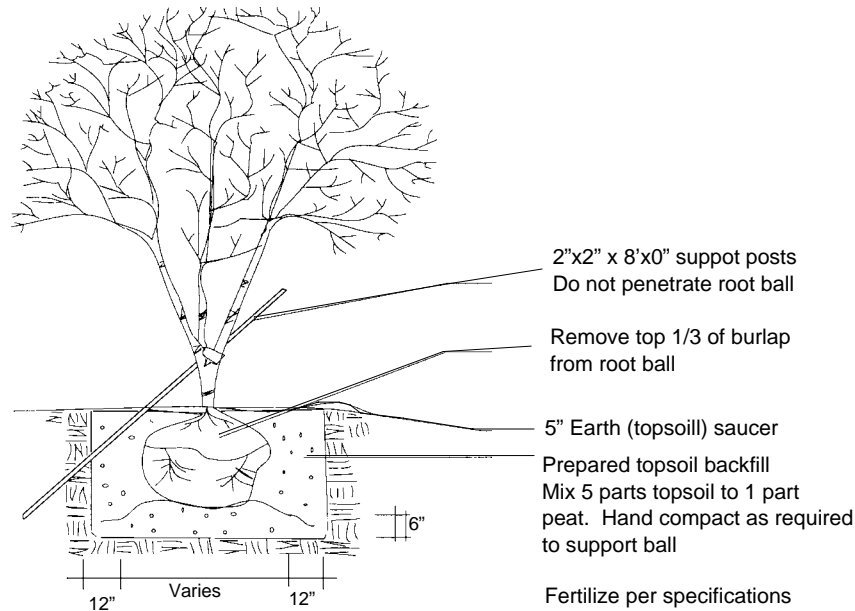
CALIPER	UNITS	CALIPER	UNITS
1	.4	8	8
2	.5	9	9
3	.6	10	10
4	.7	11	11
5	.9	12	12
6	1.0	13	13
7	1.2	14	14

These numbers were arrived at by the same formula as in Table 1, with the exception of a growth curve. The unit numbers for these calipers were taken from the projected tree basal area in 15 years. For example, the projected tree basal area is predicted to be seven inches for a one inch tree.

VII. EXAMPLE DRAWINGS

The following drawings are intended to provide further explanation for the requirements found in the Landscape Requirements Table and for typical planting of large and small trees, evergreen trees, and shrubs.

TYPICAL SMALL TREE PLANTING

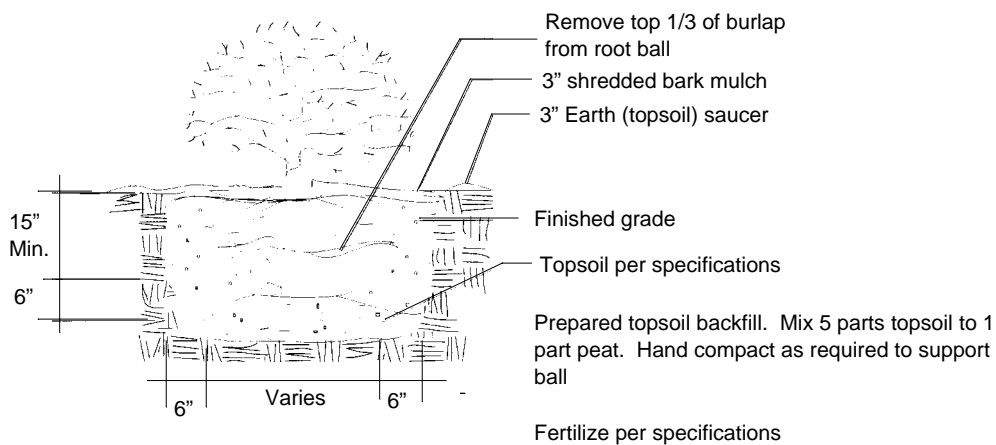


Note:

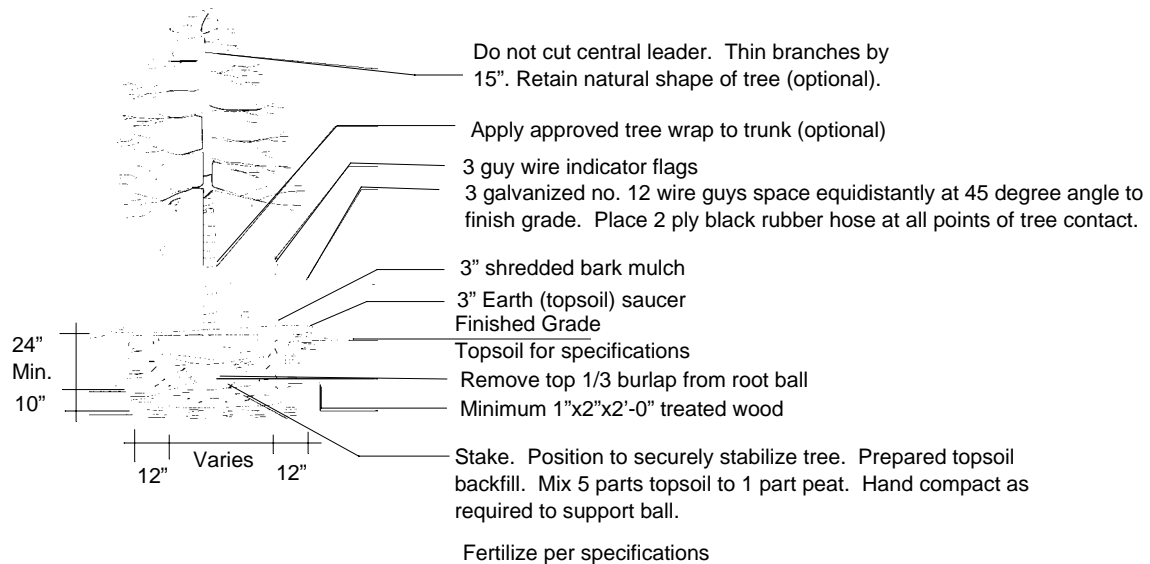
Container grown plant material may be substituted for burlap material

Plant material shall not be pruned prior to installation; after plants have been installed, each plant may be pruned for uniformity

TYPICAL SHRUB PLANTING



TYPICAL LARGE TREE PLANTING



Note:

Any series of trees placed in a particular arrangement will be field checked for accuracy. Any trees misplaced will be subject to rejection.

TYPICAL EVERGREEN TREE PLANTING

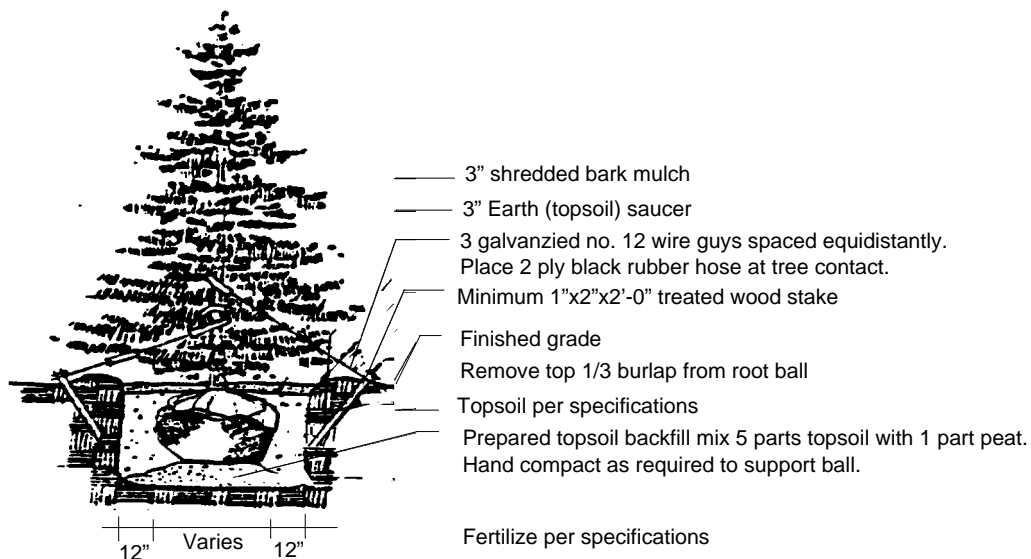


FIGURE 1

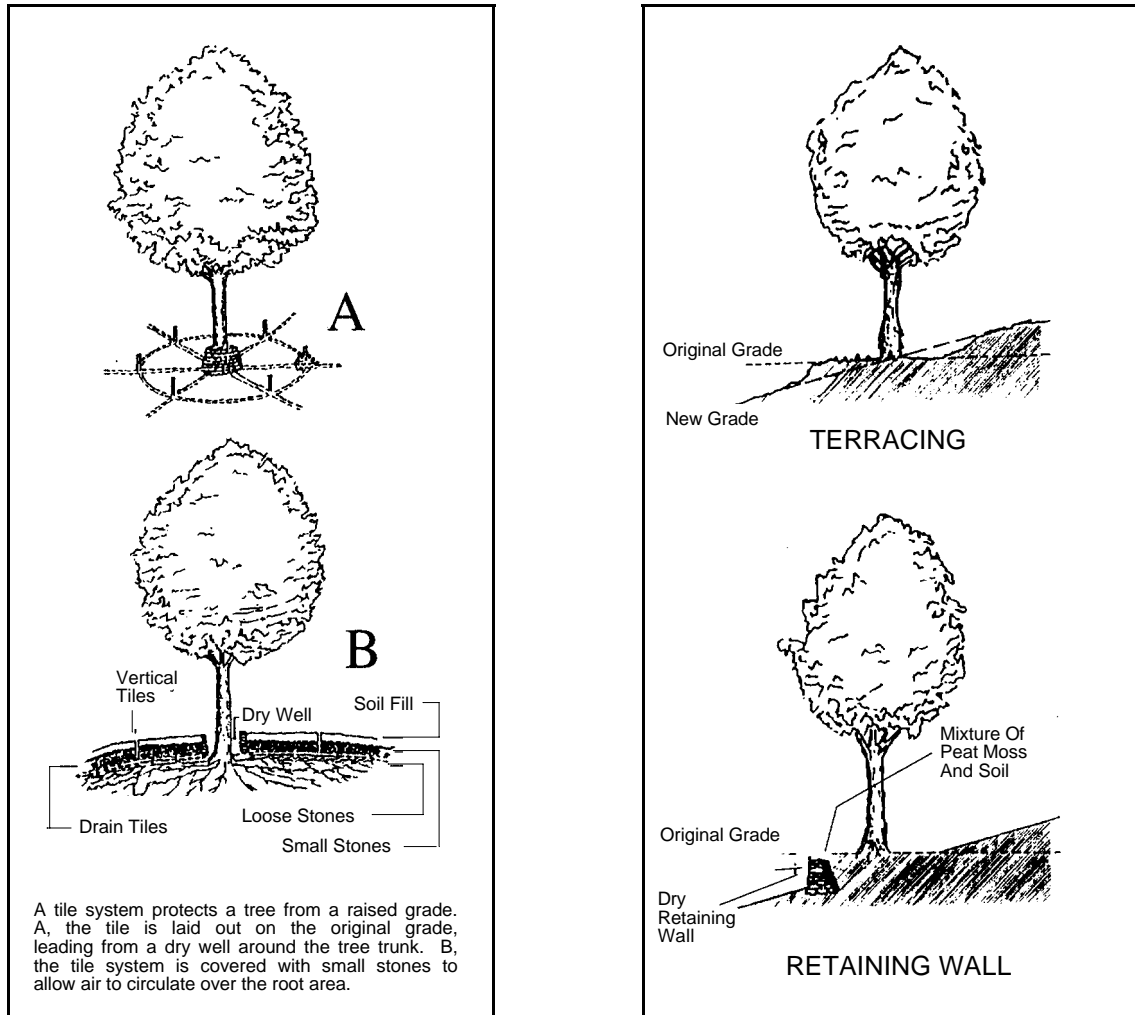
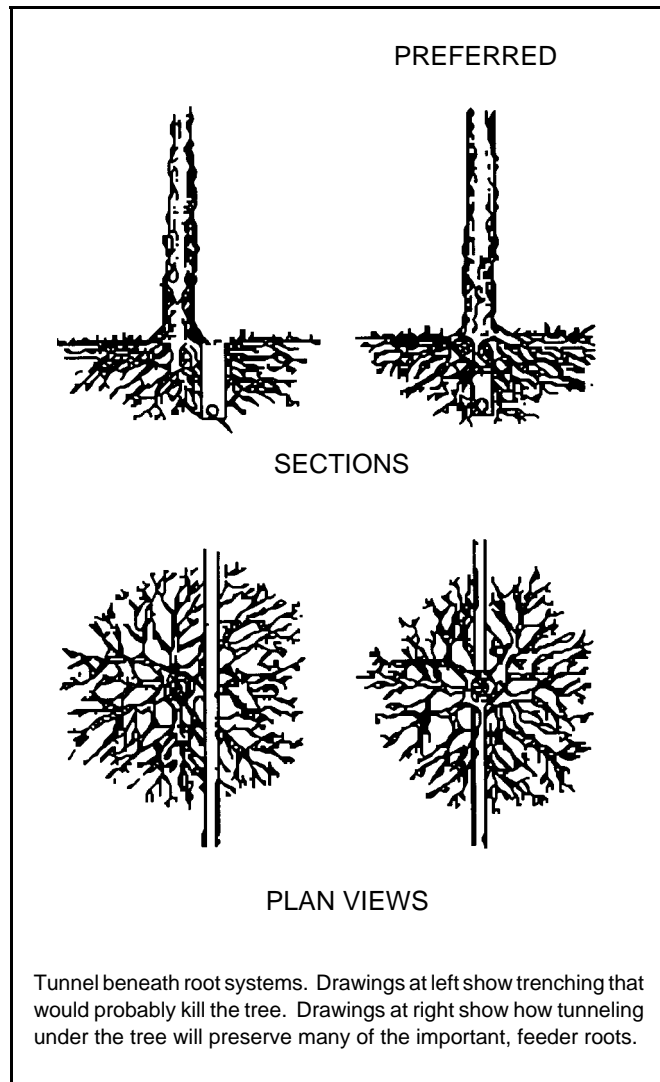
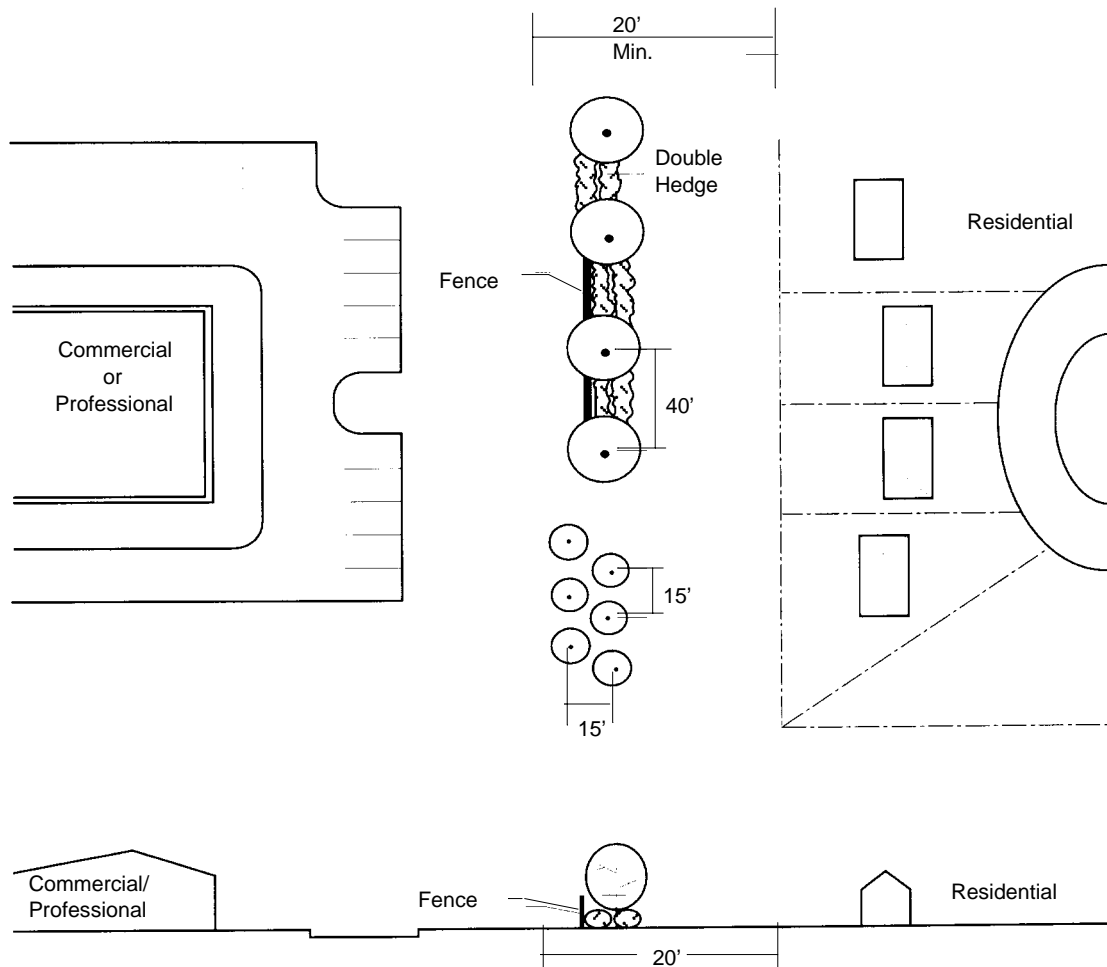


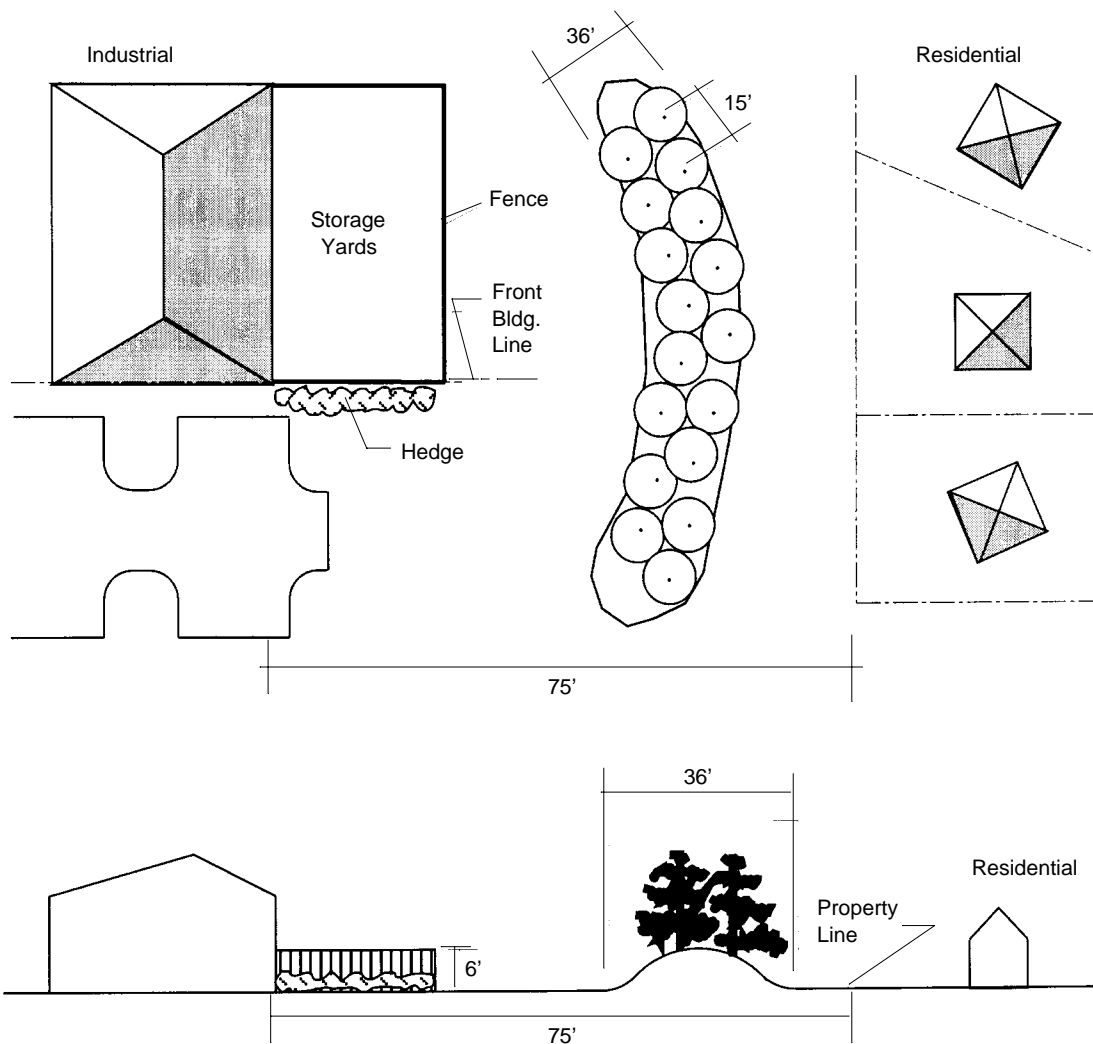
FIGURE 2



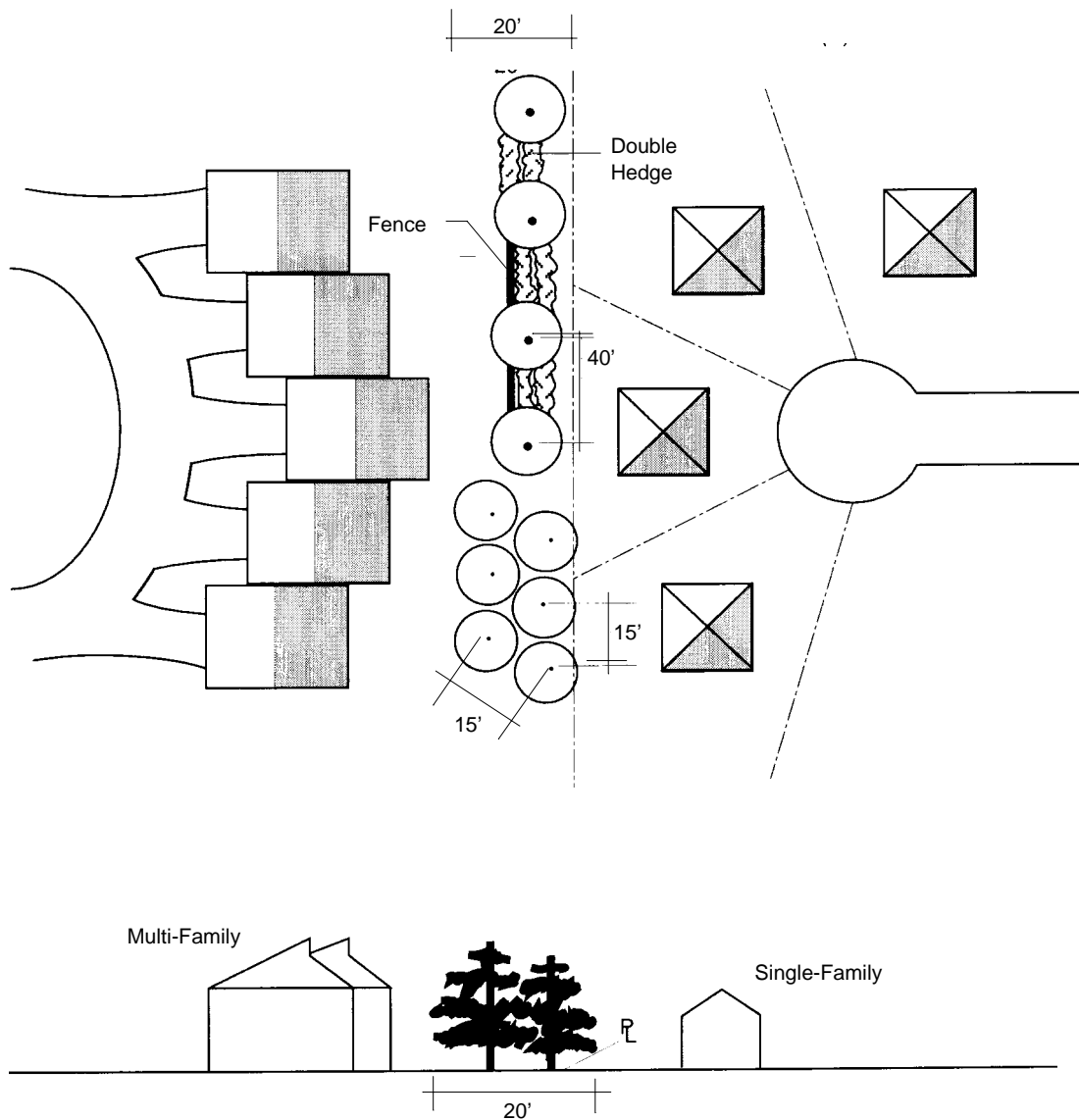
WHEN	ADJOINS	MINIMUM PLANTING STRIP	PLANT MATERIAL/OPTIONS
Any commercial or professional office zone or land use, or any conditional use	Any residential zone or land use	20 feet	<ol style="list-style-type: none"> 1 tree from plant list a or list B per 35 feet of linear boundary or fraction thereof and a double row 6 foot hedge from list E or 6 foot wall, fence, or earth mound and a hedge from list D 1 tree from list A or list B per 40 feet of linear boundary or fraction thereof OR double row, staggered, planting of trees from list C at 15 feet on center



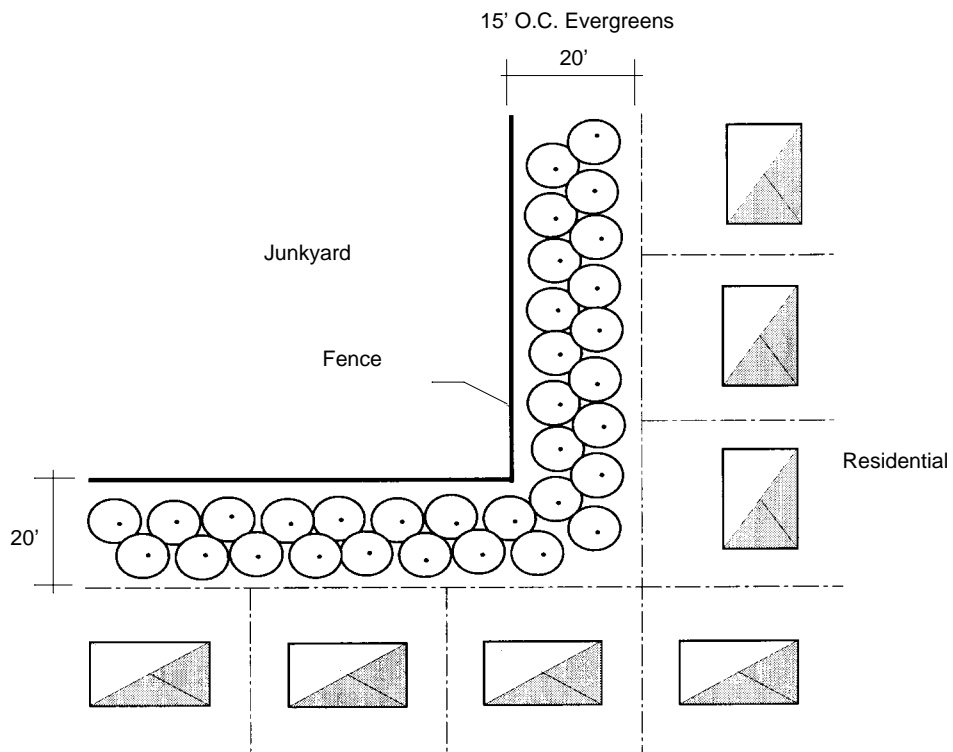
WHEN	ADJOINS	MINIMUM PLANTING STRIP	PLANT MATERIAL/OPTIONS
Any industrial zone or land use	Any residential, commercial, or professional office zone	75 feet side and rear yard	36 foot wide, 6 foot tall, earthen berm and a double row of staggered trees from list C at 15 feet on center. STORAGE YARD: 6 foot fence or wall and hedge, from list E, facing front yard only and/or any public/private street



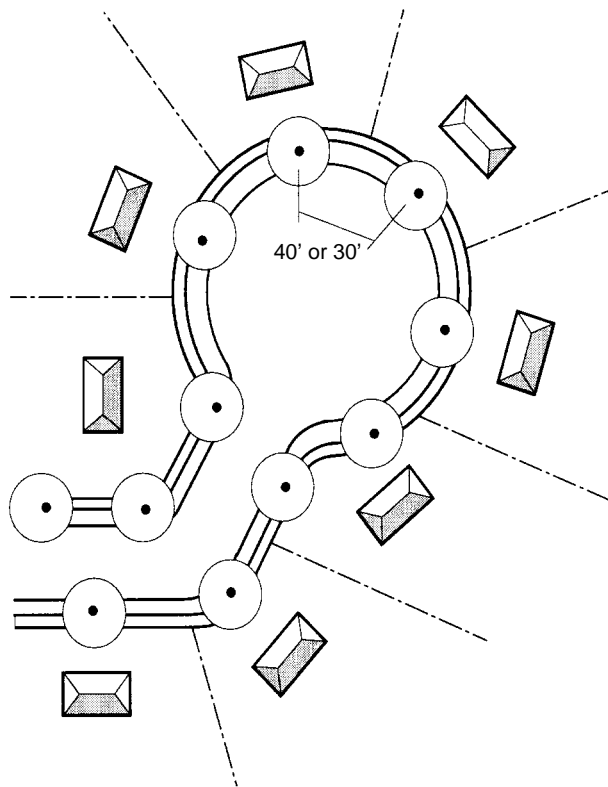
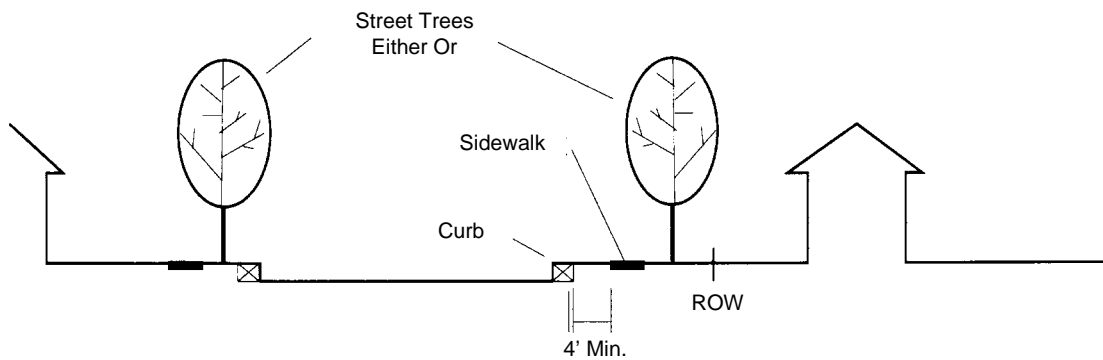
WHEN	ADJOINS	MINIMUM PLANTING STRIP	PLANT MATERIAL/OPTIONS
Any multi-family residential (3 units per building or greater density) zone or land use	Any single-family residential zone or land use	20 feet	<ol style="list-style-type: none"> 1 tree from plant list A or list B per 45 feet of linear boundary and a double row 6 foot hedge from list E or 6 foot wall, fence, or earth mound and hedge from list D OR continuous staggered double row planting of trees from list C at 15 feet on center



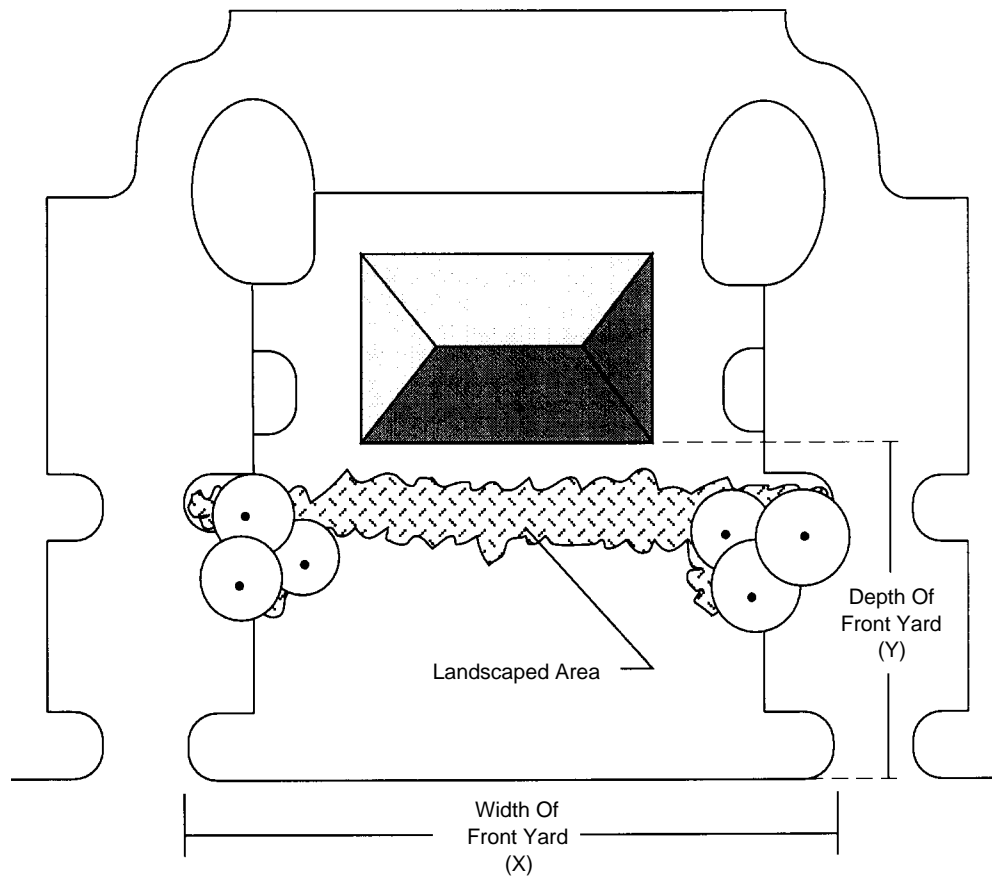
WHEN	ADJOINS	MINIMUM PLANTING STRIP	PLANT MATERIAL/OPTIONS
A junk, salvage, refuse, or parts yard or recycling center	Any zone or street (public or private)	20 feet	<ol style="list-style-type: none"> 6 foot solid wall or fence and a single row hedge from list D or list E and 1 tree from list A or list B per 35 feet of linear boundary or fraction thereof <p style="text-align: center;">OR</p> <ol style="list-style-type: none"> 6 foot solid fence or wall and staggered double row evergreens from list C at 15 feet on center



WHEN	ADJOINS	MINIMUM PLANTING STRIP	PLANT MATERIAL/OPTIONS
Street trees may be planted to meet the tree density requirements and shall be placed within the street right-of-way or within an easement immediately adjacent to the street right-of-way			<ol style="list-style-type: none"> 1 tree from list A or list F at least 60 feet on center (maximum) <p style="text-align: center;">OR</p> <ol style="list-style-type: none"> 1 tree from list B at least 60 feet on center (maximum)



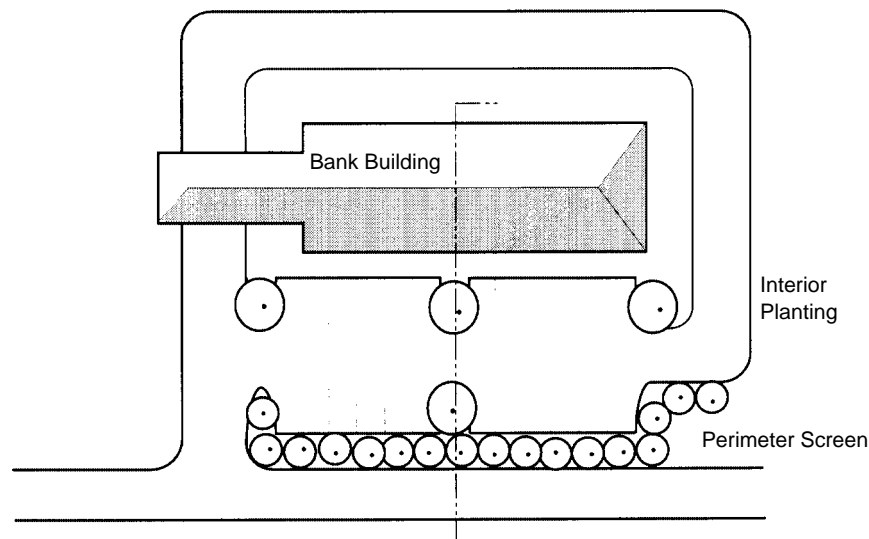
WHEN	ADJOINS	MINIMUM PLANTING STRIP	PLANT MATERIAL/OPTIONS
Any general commercial zone or highway commercial zone or land use	The public right-of-way, public or private street	10% of total front yard area must be landscaped	Trees, shrubs, planting beds, and/or perennials in a motif designed by the owner. This is in addition to other required landscaping.

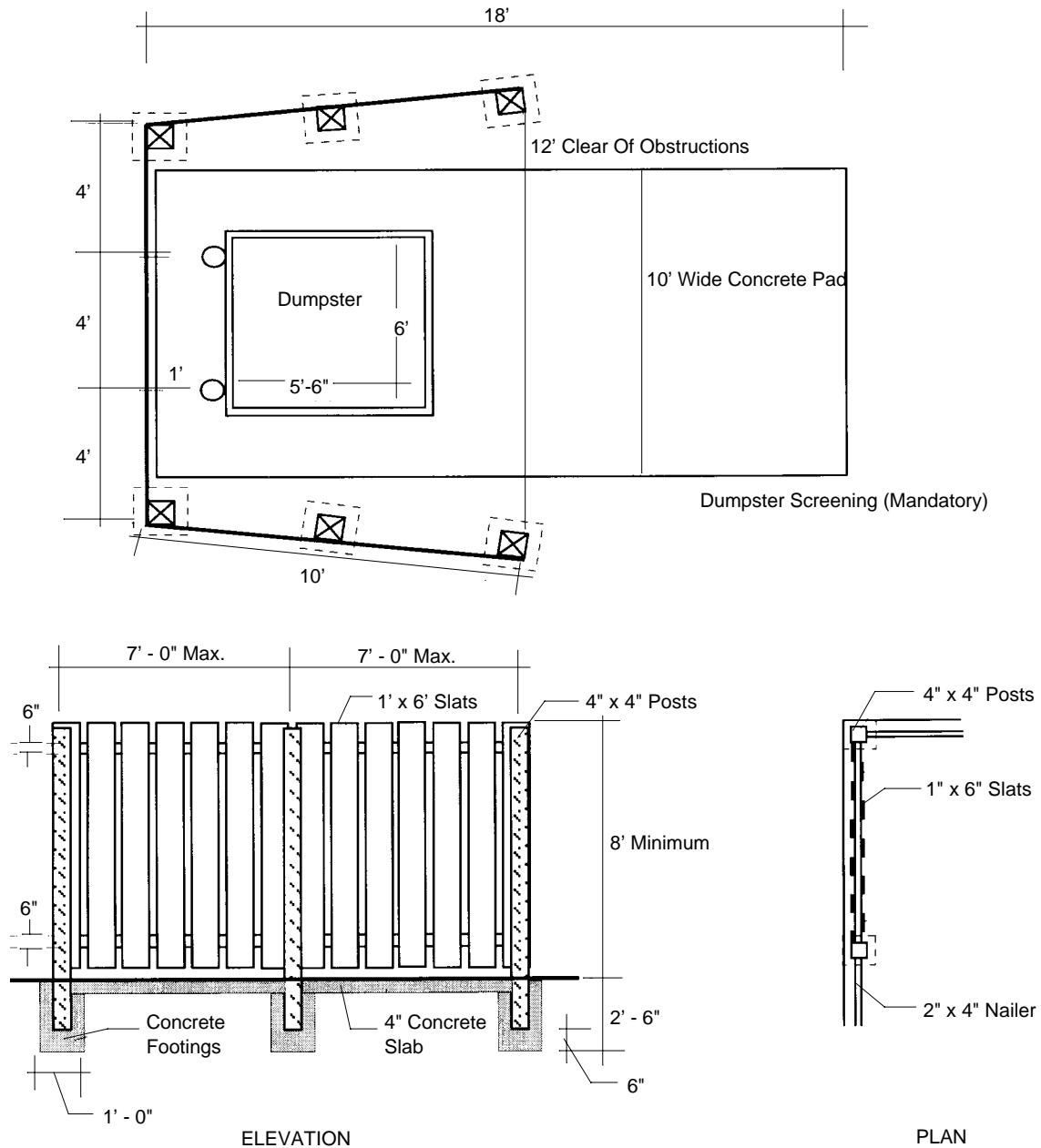


Required Front Yard Landscaping

$$(X) \times (Y) / 10$$

WHEN	ADJOINS	MINIMUM PLANTING STRIP	PLANT MATERIAL/OPTIONS
A vehicular use area at a bank, savings and loan, mortgage company, or auto dealership	Any public or private street	5 feet perimeter screening easement	Trees from list B at 20 feet on center
	-- PLUS --	-- PLUS --	-- PLUS --
	In all cases	5% interior landscaped area	1 tree from list A or list B per 250 square feet of interior landscaped area





Screen Fence Detail
(Guidelines)
Other Material Such As Brick, Block, Hedges, Etc. May Be Used For Screening

SUGGESTED REFERENCES

Barbour, Roger W. and Wharton, Mary E., *Trees and Shrubs of Kentucky*. The University Press of Kentucky, 1973.

Dirr, Michael A., *Manual of Woody Landscape Plants*. Stipes Publishing Company, 1977.

Dirr, Michael A., *Photographic Manual of Woody Landscape Plants*. Stipes Publishing Company, 1978.

Division of Planning, Lexington - Fayette Urban County Government Planting Manual, 1983.

Hudak, Joseph, *Trees for Every Purpose*. McGraw - Hill Book Co., 1980.

Wyman, Donald, *Shrubs and Vines for American Gardens*. McMillan Publishing Co., Inc., 1965.

Wyman, Donald, *Trees for American Gardens*. McMillan Publishing Co., Inc., 1965.