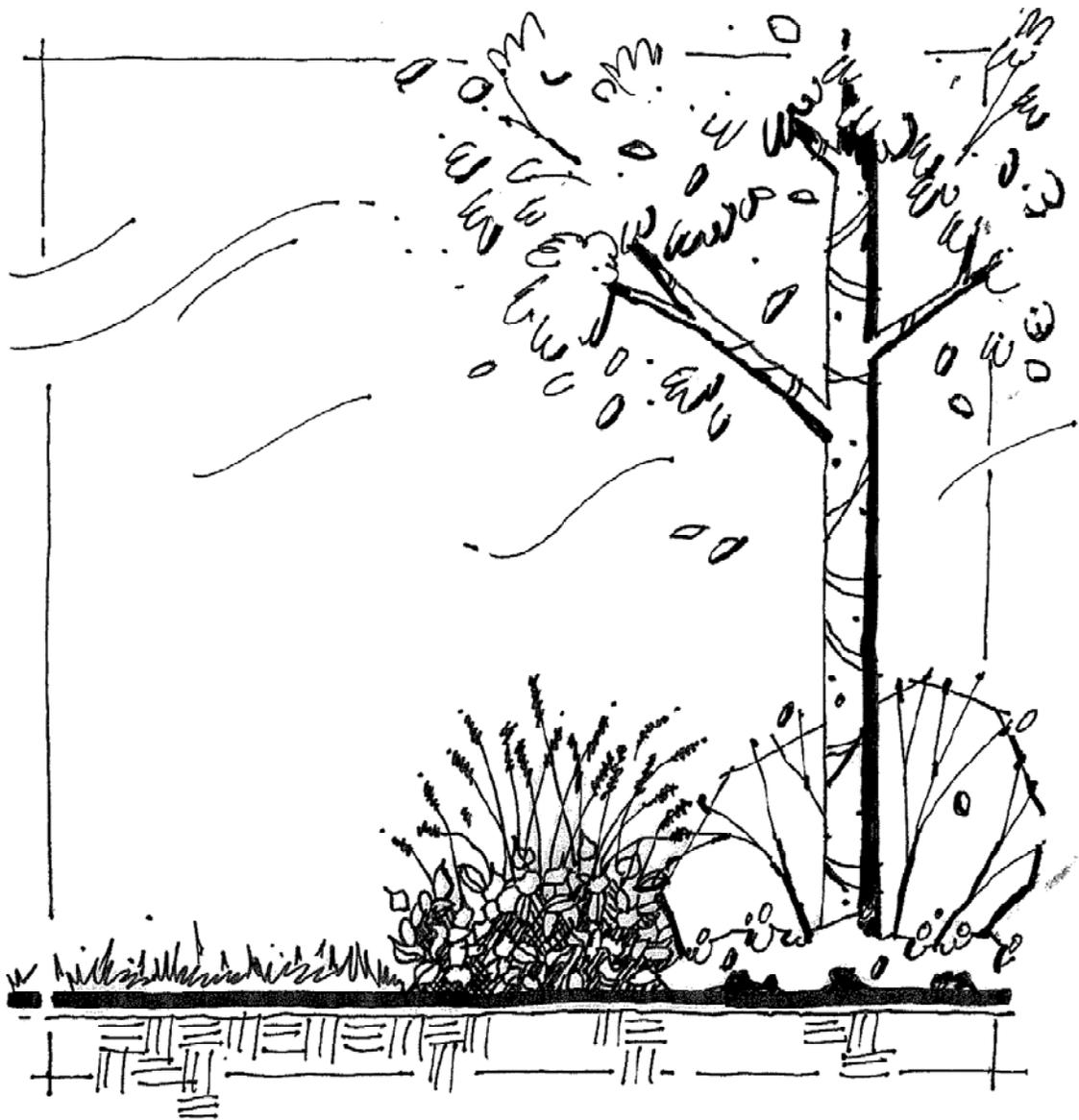


Englewood Landscape Manual



City of Englewood
Community Development Department
303-762-2342
www.engagewoodgov.org



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INTRODUCTION.

➤ **Why does the City require landscaping?**

Landscaping helps protect human health and the environment, protects property values and livability, and makes the urban environment more comfortable and pleasant. It does so by:

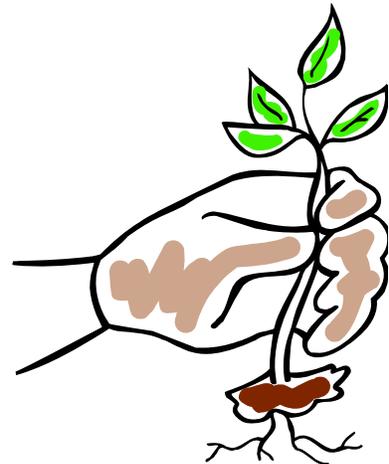
- Providing shade from the sun and shelter from the wind;
- Helping to treat and manage stormwater runoff;
- Reducing noise, visual, and lighting impacts onsite and on neighboring properties;
- Improving the appearance and function of public and private spaces; and
- Preserving and enhancing Englewood's urban tree cover.

➤ **How does the City require landscaping?**

The City requires landscaping under regulations found in Section 16-6-7 of the Englewood Municipal Code, which contains the City's zoning regulations. The Section specifies the type of landscaping, where the landscaping must be located, and how much area must be landscaped.

➤ **Purpose.**

The *Englewood Landscape Manual* is designed to answer general questions and provide information and references beyond what is contained in **16-6-7: Landscape and Screening** of the Englewood Municipal Code. This Manual does not contain all of the regulations related to landscaping; it is a guide to help you in your landscape planning and design.



➤ **Worksheet Disclaimer**

The Worksheets contained in this Manual are intended as tools to help you in the planning and design phases of your project. The Worksheets do not address all landscape and screening requirements of 16-6-7 EMC. Complete landscaping regulations are available on the City's website: www.engagewoodgov.org

FREQUENTLY ASKED QUESTIONS.

Q Do I need a permit to install landscaping?

A Landscaping is usually part of a larger project that requires a Building Permit. The application is reviewed by the Community Development Department to see if landscaping is required. If it is, a landscape plan is required as part of the Building Permit application. In cases where a Building Permit is not required, a Zoning Site Plan Review may be required. Contact the Community Development Department at 303-762-2342 to determine if you need a Landscape Plan.

Q Do I need a permit to remove landscaping from my property?

A A permit is not required; however you may not remove so much landscaping that the minimum landscape requirements for your property are no longer met.



Q What if I have to make changes to my landscaping plan after it's approved?

A Most landscaping is approved by meeting the standards in the Zoning Code. In this case, you can change the plant materials, spacing, and methods as long as your new proposal still meets the standards in the code. Changes must be approved, and a copy of the approved revisions to your landscaping plan must be on file with the City.

Q Does turf grass have to be installed on my entire property?

A No, landscaping can be made up of living and non-living materials; however the amount and location where non-living materials may be used are limited by the Code.

Q Can I use existing trees and plants to meet the landscaping standards?

A Yes. In particular, you are encouraged to preserve older, larger trees wherever possible. If you intend to use existing trees to meet the standards, you must show their location, species, and size on your landscaping plan.

Q I STILL HAVE MORE QUESTIONS, WHAT DO I DO?

A If you have more questions about landscape requirements or procedures, you can:

- Visit the Community Development webpage at www.englewoodgov.org/index.aspx?page=125
- Call Community Development at 303-762-2342 to speak to a Planner, or
- Stop in to the Department on the 3rd floor of the Civic Center at 1000 Englewood Parkway.

HOW TO USE THIS MANUAL.

This Manual is used together with the City's Unified Development Code (zoning code), which regulates the type, location, and area of required landscaping. This Manual will help you calculate the amount of landscaping as well as the number of trees and shrubs required to meet landscaping requirements. It also provides useful reference information.

As you maneuver through the Manual you will see citations in bold, i.e. **16-6-7:E2 EMC**. These refer to sections of **16-6-7: Landscape and Screening** of the **Englewood Municipal Code (EMC)** where you can find the complete text of the regulation. Complete landscaping regulations are available on the City's website: www.Englewoodgov.org

GENERAL LANDSCAPE REQUIREMENTS.

Landscaping requirements are based on the zone district in which the land is located and the use of the land. Below are general standards and some good ideas that apply in all zones for all uses:

1. Water meter pits and valve box must be at ground level.
2. The minimum plant clearance from fire hydrants, fire department sprinkler connections, and gas or electric meters at maturity is 3 feet.
3. Don't let trees interfere with power lines. See **Trees and Power Lines** in this Manual.
4. A Certificate of Occupancy will not be issued if landscaping is not complete.
5. Sight distance triangles exist at almost every corner and drive – be sure you are not blocking visibility.
6. Be sure to check the minimum required landscaped area and minimum tree and shrub requirement for your site.

HOW TO DETERMINE LANDSCAPE REQUIREMENTS.

1. Determine in what zone district your property is located (i.e. R-1-C, MU-B-2, I-2, etc.).

You can find the zone district by calling the Community Development Department at 303-762-2342 or viewing the zoning map on the City's website:

<http://www.Englewoodgov.org/Index.aspx?page=392>

2. Identify the use on the property.

Is it residential, commercial, industrial, or non-residential in a residential zone?

- Find the minimum landscape requirements for that use in your zone.

Use	Zone	Go To ... EMC
Residential	Residential	Table 16-6-7.3
Residential	Commercial or Medical	Table 16-6-7.4
Non-Residential (Church, school, etc.)	Residential	Table 16-6-7.3
Commercial & Non-Residential	Commercial or Medical	Table 16-6-7.4
All uses	Industrial	Table 16-6-7.5 and Section 16-6-7:E3
Parking lot	Residential, Commercial or Medical	Table 16-6-7.6 and Section 16-6-7:F
Parking lot	Industrial	Section 16-6-7:E3c(1)

- Once you know the zone district and its minimum requirements use the Worksheets in this Manual to figure out the specific requirements for your property. Be sure to use the appropriate Worksheet for your zone district and use.
- If you are looking for guidance about appropriate plant species, check **Prohibited Plant Materials**, Suggested Trees for Englewood (**Appendix B**), and the Noxious Weed List (**Appendix A**) of this Manual.

LANDSCAPE PLAN SUBMITTAL REQUIREMENTS.

A landscape plan is a site plan (bird’s eye view) of your property that shows existing and required landscaping. The information that you need to show may vary somewhat depending on site-specific characteristics and what you are building.

Landscape plans must be prepared to requirements outlined in this Manual. This Manual includes Worksheets to help calculate the amount of required landscaping and the number of plants needed. The Worksheet must be submitted along with the site plan.

RESIDENTIAL USES (1 to 4 units): The property owner or a contractor may prepare the Landscape Plan. The submittal must include:

- Landscape Worksheet (Use Worksheet 1)
- Landscape Site Plan (bird’s eye view of the property. See **Appendix C**.
The site plan must include:
 - Property address
 - North arrow
 - Property dimensions
 - Streets and alleys: location
 - Public Sidewalks: location, width

- Private sidewalks and pathways: location, width, length, material
- Driveways: location, width, length, material
- Parking areas: location, width, length, material
- Buildings: location, square footage of the ground floor
- Existing trees: location, type, size (measured at 4' above finished grade)
- Proposed landscaping: location, plant type and size, non-living materials, planting area dimensions, square footage of each planting area.

ALL OTHER USES: Commercial, Industrial and Residential (more than 4 units):

1. Landscape Worksheet (Use Worksheet 2 for Commercial and Medical zones or Worksheet 3 for Industrial zones)

2. Landscape Site Plan

The site plan must include:

- Signed seal (stamp) of a licensed Colorado Landscape Architect, Engineer or Architect. (See example)
- Contact info: Name and phone number of plan preparer
- Property address
- North arrow
- Scale
- Property dimensions
- Streets and alleys: location
- Public Sidewalks: location, width
- Private sidewalks and pathways: location, width, length, material
- Driveways: location, width, length, material
- Parking areas: location, width, length, material
- Buildings: location, square footage of footprint
- Existing trees: location, type, size (measured at 4' above finished grade)
- Proposed landscaping: location, material type, size, area dimensions
- Plant schedule
- Any other pertinent information.



PERMITTED PLANT MATERIALS.

LIVING PLANT MATERIAL: Living plant material includes trees, shrubs, perennials, turf, ornamental grasses and ground covers. Though *annual plants* are living material and may be installed in your landscape, they do not count toward minimum required landscape area or plant requirements.

MINIMUM PLANT SIZE: See **Table 16-6-7.1 EMC** for additional information

Material	Minimum Size at Planting
Deciduous Trees	2.5" caliper
Evergreen	6' tall
Shrubs	5 gallon
Turf	Must be established turf within 60 days of planting
Groundcover, ornamental grasses, perennials	1 gallon

NON-LIVING MATERIAL. See Section **16-6-7:D3 EMC** for more information.

Your Required Landscaped Area (RLA) can include up to **30%** non-living materials. The City allows the following non-living materials provided they meet the following requirements:

- Mulch.
Minimum depth: 3"
- Rock (including boulders, rocks, and stones)
Minimum size: 3/8"
Minimum depth: 3"
- Hard Surface Materials.
Decorative colored or patterned paved surfaces
Brick pavers

Note: The following do not count as non-living landscaped materials:

Driveways, off-street parking areas, asphalt, non-patterned or non-colored concrete

- Water features and ponds.
- Artificial Turf.
Type: Cut pile infill
Material: Polypropylene, polyethylene, or a blend of these fibers.
Installation:
Over compacted and porous road base material
Anchored at all edges and seams

Glued seams (not sewn)
Meet drainage and water quality standards

May not be used
Within public right-of-way
On slopes greater than 6.6%.

PROHIBITED PLANT MATERIALS.

TREES: The following tree species are prohibited from being planted in the City.
See **16-6-7:D2a(3) EMC**:

Common Name	Scientific Name
Box elder	Acer Negundo
Cottonwood	Female Populus Deltoides
Russian olive	Elaeagnus Angustifolia
Siberian elm	Ulmus Pumila

NOXIOUS WEEDS: All plants listed on the Colorado Noxious Weed List (See **Appendix A**) are prohibited from being planted in the City. See **16-6-7:D2a(2) EMC**

Additional Information:

- <http://www.colorado.gov/cs/Satellite/Agriculture-Main/CDAG/1174084048733>
- Colorado Department of Agriculture · 700 Kipling Street · Suite 4000 · Lakewood, CO 80215-8000 (303) 239-4100

OTHER MATERIALS: Plants with thorns, spines, seedpods or fruits cannot be planted within 10 feet of the public sidewalk or street.

LANDSCAPING IN OFF-STREET PARKING AREAS.

PERIMETER LANDSCAPING. See Section **16-6-7:F2a EMC**

1. Applies to all parking areas in all zones (except industrial) regardless of the size of the lot or the number of parking spaces.
2. In industrial zones the perimeter street buffer applies. See **16-6-7:E3c(1) EMC**
3. The perimeter area can include private property and/or public right-of-way and counts toward Required Landscaped Area, and total tree and shrub requirements.
4. The width of the perimeter is determined by **Table 16-6-7.6 EMC**. The width of perimeter landscaping abutting a street is measured from the back of sidewalk (or curb if no sidewalk exists).

5. Landscaping around the perimeter of a parking area must be continuous except for driveways or sidewalks entering the lot. The continuous landscaping can include plant material, fencing or walls.
6. When the perimeter abuts a street, a decorative metal fence or masonry wall may be used if a 3 feet wide area of living plant material is planted on the street side of the wall or fence.

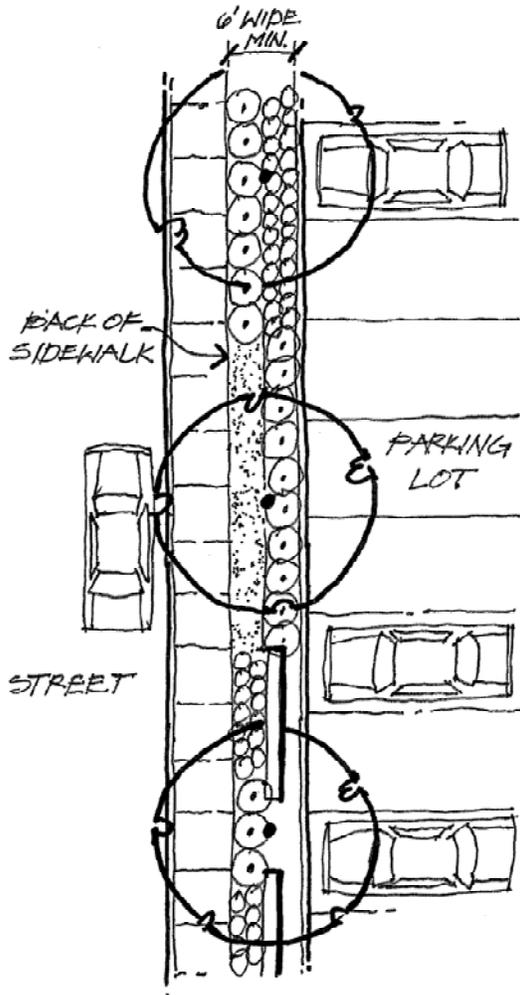
Exception:

- a. Decorative metal fences may be located within 1 foot of the sidewalk if the fence is at least fifty percent (50%) open.
 - b. Up to twenty-five percent (25%) of the total length of a solid masonry wall may be located within 1 foot of the sidewalk.
7. Trees in a perimeter area next to a street must have at least a 7 feet high canopy at maturity.
 8. Incentive for Masonry Walls/Decorative Metal Fences. See **Table 16-6-7.9 EMC** "Incentives for Alternate Landscape Materials".

Refer to Perimeter Landscaping Diagram on Next Page

PERIMETER LANDSCAPING FOR OFF-STREET PARKING AREAS

ABUTTING STREET



REQUIRED

ONE 2 1/2" CALIPER STREET TREE PER 30 LINEAR FEET

PLUS

AT LEAST TWO OF THE FOLLOWING:

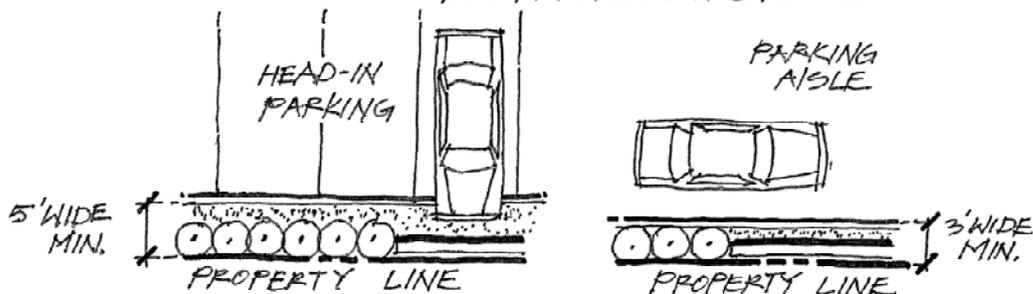
- ① 30"-36" HEIGHT SHRUBS AT 3' ON CENTER
- ② TWO ROWS OF PERENNIALS/GROUNDCOVER AT 18" ON CENTER, OR SODDED TURF
- ③ 30"-36" HEIGHT MASONRY WALL OR DECORATIVE METAL FENCE

ABUTTING ALLEY, REAR OR SIDE LOT LINES

REQUIRED ① 30"-36" HEIGHT SHRUBS AT 3' O.C.

OR

② 30" MIN. HT. MASONRY WALL OR DECORATIVE METAL FENCE



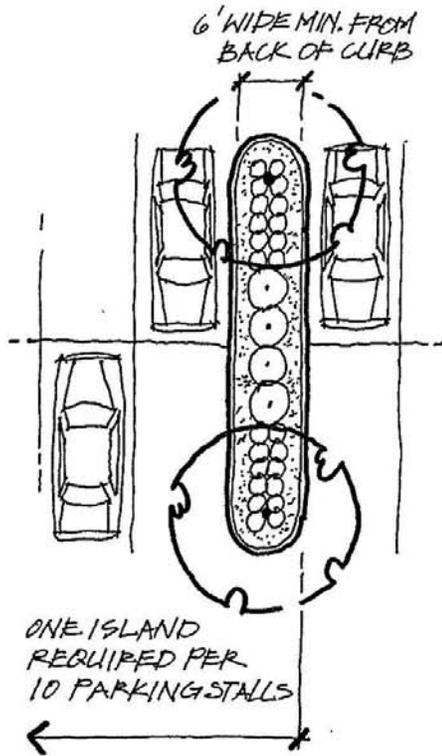
INTERIOR LANDSCAPING. See **16-6-7:F2b EMC**

1. The regulations for interior landscaping of parking areas applies to all parking areas larger than 6,000 square feet **or** with 20 or more spaces.
2. Landscaping of interior parking areas counts toward total Required Landscaped Area.
3. The regulations do not apply in industrial zones or to outdoor display for automotive sales.
4. Fee-in-lieu may not be used to reduce required landscaping in the interior of parking areas.
5. Interior landscaping must include islands **or** strips between parking spaces:
 - a. Islands: A landscaped island is required for every 10 continuous parking spaces in a row.
Length: The length of the parking stall.
Width: Measured from back of curb to back of curb.
 - b. Strips: A continuous landscaped strip is required between opposing rows of parking stalls.
Length: The width of all opposing stalls.
Width: Measured from back of curb to back of curb

Refer to Interior Landscaping Diagram on Next Page

INTERIOR LANDSCAPING FOR OFF-STREET PARKING AREAS

PARKING LOT ISLANDS



REQUIRED

ONE 2" CALIPER TREE PER STALL LENGTH

PLUS

AT LEAST ONE OF THE FOLLOWING:

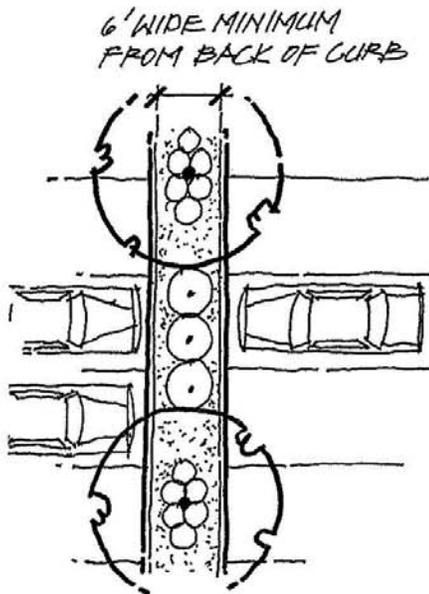
① ONE 5 GALLON SHRUB PER 30 SF OF ISLAND

OR

② ONE 1 GALLON PERENNIAL OR GROUND COVER PER 4 SF OF ISLAND

COMBINATIONS OF ① AND ② ARE ENCOURAGED

PARKING LOT STRIPS



REQUIRED

ONE 2" CALIPER TREE PER 30 LINEAR FEET

PLUS

AT LEAST ONE OF THE FOLLOWING

① ONE 5 GALLON SHRUB PER 50 SF OF STRIP

OR

② ONE 1 GALLON PERENNIAL OR GROUND COVER PER 6 SF OF STRIP

COMBINATIONS OF ① AND ② ARE ENCOURAGED

SCREENING. See **Table 16-6-7.7 EMC**

Screening is required between different types of uses to reduce any adverse impacts of the different uses. The developing use is generally responsible for providing the required screening. If adequate screening exists on an abutting property at the time of development, additional screening *may* not be required.

1. Screening is required between the following use types:

a. Non-residential (except Industrial) use	<i>adjacent to</i>	Any residential use
b. Multi-unit (more than 4 units) Residential use	<i>adjacent to</i>	1, 2, 3 or 4-unit residential use
c. Industrial use	<i>adjacent to</i>	Commercial use
d. Industrial use	<i>adjacent to</i>	Residential use

2. Location: Screening is required at side and rear lot lines

3. Minimum Screening Width: 5'

4. Tree Requirements:
 - a. Number: 1 tree/30 linear feet of screening width
 - b. Minimum Size:
Between Industrial and residential: 2½" caliper deciduous or 6' tall evergreen
Between all other uses: 2" caliper deciduous or 6' tall evergreen

5. Required Screening Elements:
 - a. Industrial use *adjacent to* Residential use
 - Side Lot Lines: 6' solid fence
 - Rear Lot Line:
 - With Alley: 3' solid fence **or** 3' tall shrubs (3' on center)
 - No alley: 6' solid fence

 - b. All other uses (See 1a-c, above) require 6' tall shrubs (6' on center) **or** 6' solid fence.

Note: There may be other combinations of uses that may have other screening requirements. If you do not see your project use listed, please contact the Community Development Department at 303-762-2342.

LANDSCAPE INSTALLATION - REQUEST FOR DELAY. See **Section 16-6-7:D6b EMC**

Under certain conditions, such as adverse weather, the City may approve a request by the property owner for a delay in the installation of required landscaping. This is done if all City departments approve the extension and the property owner signs an agreement to complete the installation by a date specified by the City but within no more than one hundred eighty (180) days from the date of the request. The City may require financial security to assure the completion of the landscape installation.

LANDSCAPE INSPECTION.

Landscaping is inspected during the Final Zoning inspection, which takes place at the end of a project prior to the Building Division issuing a Certificate of Occupancy. When your landscaping work is complete call the Inspection Line (303-762-2403) to request a landscape inspection.

CALL BEFORE YOU DIG.

Calling (8-1-1) or (1-800-922-1987) before every digging job gets your underground utility lines marked for free and helps prevent undesired consequences. Stay 2 feet away from the markings.

Every digging job requires a call – even small projects like planting trees and shrubs.

Additional Information:

- www.call811.com

TREES AND POWER LINES.

Trees and power lines don't mix. Trees can cause serious and sometimes fatal accidents when they come in contact with power lines. Trees should not be planted within 10 feet of a service line (the power line between the pole and the building).

Additional Information:

- Visit Xcel Energy's website to view a brochure designed for Colorado entitled "The Right Tree".
www.xcelenergy.com/sitecollectiondocuments/docs/righttree_southud.pdf

RECOMMENDED TREES.

Besides appearance, different tree species have individual characteristics of growth, both underground and overhead. They also differ in ultimate size, structural strength, duration of life, and resistance to disease and pests. The tree list in Appendix B is intended as a guide for new plantings in the City. Trees other than those listed in Appendix B are available and may be considered if they meet standards specified in **16-6-7: Landscape and Screening EMC.**

XERISCAPE.

Xeriscaping refers to a low-maintenance landscaping technique that uses drought-tolerant plants to conserve water and protect the environment. The City encourages, but does not require installation of low-water-use landscaping. The xeriscape concept is based on the following seven principles:

1. Plan and design
2. Limit turf areas
3. Select and zone plants appropriately
4. Improve the soil
5. Use mulch
6. Irrigate efficiently
7. Maintain the landscape

Additional Information:

- CSU Extension Service www.ext.colostate.edu/

APPENDIX A: NOXIOUS WEED LIST

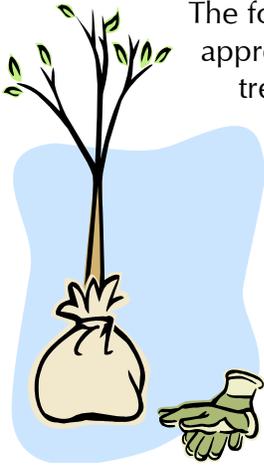
All plants listed on the Colorado Noxious Weed List are prohibited from being planted in the City. **16-6-7:D2a(2)**. The following weed species are identified by the Colorado Department of Agriculture as “Noxious Weeds”.

Common Name	Scientific Name
Absinth wormwood	<i>Artemisia absinthium</i>
African rue	<i>Peganum harmala</i>
Black henbane	<i>Hyoscyamus niger</i>
Bouncingbet	<i>Saponaria officinalis</i>
Bull thistle	<i>Cirsium vulgare</i>
Camelthorn	<i>Alhagi pseudalhagi</i>
Canada thistle	<i>Cirsium arvense</i>
Chicory	<i>Cichorium intybus</i>
Chinese clematis	<i>Clematis orientalis</i>
Common St. Johnswort	<i>Hypericum perforatum</i>
Common burdock	<i>Arctium minus</i>
Common crupina	<i>Crupina vulgaris</i>
Common mullein	<i>Verbascum thapsus</i>
Common tansy	<i>Tanacetum vulgare</i>
Common teasel	<i>Dipsacus fullonum</i>
Corn chamomile	<i>Anthemis arvensis</i>
Cutleaf teasel	<i>Dipsacus laciniatus</i>
Cypress spurge	<i>Euphorbia cyparissias</i>
Dalmatian toadflax- broad leaved	<i>Linaria dalmatica</i>
Dalmatian toadflax- narrow leaved	<i>Linaria genistifolia</i>
Dame's rocket	<i>Hesperis matronalis</i>
Diffuse knapweed	<i>Centaurea diffusa</i>
Downy brome	<i>Bromus tectorum</i>
Dyer's woad	<i>Isatis tinctoria</i>
Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
Field bindweed	<i>Convolvulus arvensis</i>
Giant salvinia	<i>Salvinia molesta</i>
Halogeton	<i>Halogeton glomeratus</i>
Hoary cress	<i>Cardaria draba</i>
Houndstongue	<i>Cynoglossum officinale</i>
Hydrilla	<i>Hydrilla verticillata</i>
Johnsongrass	<i>Sorghum halepense</i>
Jointed goatgrass	<i>Aegilops cylindrica</i>

Appendix A: Noxious Weed List (cont'd)

Common Name	Scientific Name
Leafy spurge	<i>Euphorbia esula</i>
Mayweed chamomile	<i>Anthemis cotula</i>
Meadow knapweed	<i>Centaurea pratensis</i>
Mediterranean sage	<i>Salvia aethiopsis</i>
Medusahead	<i>Taeniatherum caput-medusae</i>
Moth mullein	<i>Verbascum blattaria</i>
Musk thistle	<i>Carduus nutans</i>
Myrtle spurge	<i>Euphorbia myrsinites</i>
Orange hawkweed	<i>Hieracium aurantiacum</i>
Oxeye daisy	<i>Chrysanthemum leucanthemum</i>
Perennial pepperweed	<i>Lepidium latifolium</i>
Perennial sowthistle	<i>Sonchus arvensis</i>
Plumeless thistle	<i>Carduus acanthoides</i>
Poison hemlock	<i>Conium maculatum</i>
Puncturevine	<i>Tribulus terrestris</i>
Purple loosestrife	<i>Lythrum salicaria</i>
Quackgrass	<i>Elytrigia repens</i>
Redstem filaree	<i>Erodium cicutarium</i>
Rush skeletonweed	<i>Chondrilla juncea</i>
Russian knapweed	<i>Acroptilon repens</i>
Russian-olive	<i>Elaeagnus angustifolia</i>
Salt cedar	<i>Tamarix chinensis, T. parviflora, and T. ramosissima</i>
Scentless chamomile	<i>Matricaria perforata</i>
Scotch thistle	<i>Onopordum acanthium</i>
Scotch thistle	<i>Onopordum tauricum</i>
Sericea lespedeza	<i>Lespedeza cuneata</i>
Spotted knapweed	<i>Centaurea maculosa</i>
Spurred anoda	<i>Anoda cristata</i>
Squarrose knapweed	<i>Centaurea virgata</i>
Sulfur cinquefoil	<i>Potentilla recta</i>
Tansy ragwort	<i>Senecio jacobaea</i>
Velvetleaf	<i>Abutilon theophrasti</i>
Venice mallow	<i>Hibiscus trionum</i>
Wild caraway	<i>Carum carvi</i>
Wild proso millet	<i>Panicum miliaceum</i>
Yellow nutsedge	<i>Cyperus esculentus</i>
Yellow starthistle	<i>Centaurea solstitialis</i>
Yellow toadflax	<i>Linaria vulgaris</i>

APPENDIX B: RECOMMENDED TREES FOR ENGLEWOOD



The following list of trees is not all inclusive but contains trees that are appropriate for the Front Range's unique growing conditions. When locating a tree, remember:

- Trees must be planted a minimum of 4 feet away from a public sidewalk or curb, unless planted with an approved root barrier system.
- Trees with seedpods or fruits cannot be planted within 10 feet of the public sidewalk or street.
- Evergreen trees may not be planted in the public right-of-way.

Charts of Recommended Trees on Following Pages

Appendix B: Recommended Trees for Englewood

Large Shade Trees (Taller than 50 feet at Mature Height)					
Name	Description	Drought Tolerant	Permitted Planting Location		
			Less than 4' from curb or public sidewalk <u>with root barrier</u> ¹	More than 4' from curb or public sidewalk	More than 10' from curb or public sidewalk
American elm (<i>Ulmus americana</i>)	<i>Disease-resistant cultivars can be very hardy, broad shaped crown, excellent street tree</i>			Yes	Yes
American linden (<i>Tilia americana</i>)	<i>Excellent street tree, dark green leaves, yellow-green fall color</i>			Yes	Yes
Black walnut (<i>Juglans nigra</i>)	<i>Edible nuts, great for squirrels and birds, nuts may create a mess</i>				Yes
Bur oak (<i>Quercus macrocarpa</i>)	<i>Produces acorns, fall color yellow to brown and occasionally red, very hardy and long lived</i>	Yes			Yes
English oak (<i>Quercus robur</i>)	<i>Produces acorns, rounded crown, dark green leaves turn brown and remain on tree through winter</i>			Yes	Yes
Ginkgo (<i>Ginkgo biloba</i>)	<i>Few insect and disease problems, pretty fall color, distinctive leaf shape</i>			Yes	Yes
Hackberry (<i>Celtis occidentalis</i>)	<i>Very hardy, can be susceptible to nipple gall, a cosmetic injury, reddish purple cherry like berries</i>	Yes		Yes	Yes
Honeylocust (<i>Gleditsia triacanthos inermis</i>)	<i>Hardy trees, dark green, fern-like leaves, yellow fall color</i>	Yes		Yes	Yes
Horsechestnut (<i>Aesculus hippocastanum</i>)	<i>Greenish-yellow flowers, prickly seed pod, yellow to orange fall color</i>	Yes			Yes
Kentucky coffeetree (<i>Gymnocladus dioica</i>)	<i>Fragrant white flowers, persistent seed pods can be produced, large shade tree, no known pest problems</i>	Yes			Yes
Northern catalpa (<i>Catalpa speciosa</i>)	<i>Fragrant white flowers, pencil sized seedpods, large heart shaped leaves</i>	Yes			Yes
Norway maple (<i>Acer platanoides</i>)	<i>Shapely tree, leaf color varies with variety, protect from sun scald</i>			Yes	Yes
Shumard oak (<i>Quercus shumardii</i>)	<i>Produces acorns, fall color yellow, brown to red</i>				Yes

Appendix B: Recommended Trees for Englewood (cont'd.)

Sugar maple (<i>Acer saccharum</i>)	<i>Better in lower pH soils, glossy dark green leaves turn to reds, oranges and yellows in fall</i>			Yes	Yes
Swamp white oak (<i>Quercus bicolor</i>)	<i>Produces acorns, deep green leaves white underneath, not tolerant of high pH soils</i>			Yes	Yes
Patmore Ash (<i>Fraxinus pennsylvanica</i> 'Patmore')	<i>Excellent hardiness and tolerance of differing growing conditions. Seedless.</i>	Yes	Yes	Yes	Yes
Northern Red Oak (<i>Quercus rubra</i>)	<i>Fast growing with broad branches. Red fall color, good street tree.</i>		Yes	Yes	Yes
Autumn Blaze Maple (<i>Acer x freemanii</i> 'Jeffersred')	<i>Very hardy, fast growing. Red fall color, good substitute for Red Maple.</i>		Yes	Yes	Yes
Sycamore (<i>Platanus occidentalis</i>)	<i>Fast growing and long-lived, distinctive mottled brown, green, tan and white bark, prefers floodplain type soils</i>			Yes	Yes
Medium Shade Trees (30 - 45 feet at mature height)					
Name	Description	Drought Tolerant	Permitted Planting Location		
			Less than 4' from curb or public sidewalk with root barrier ¹	More than 4' from curb or public sidewalk	More than 10' from curb or public sidewalk
Amur corktree (<i>Phellodendron amurense</i>)	<i>Round broad spreading tree, bark is cork like, leaves dark green on top and light green on bottom</i>	Yes			Yes
Japanese pagodatree (<i>Sophora japonica</i>)	<i>Rounded crown, olive green bark, abundant white flowers</i>	Yes			Yes
Littleleaf linden (<i>Tilia cordata</i>)	<i>Yellow flower clusters, pea sized fruit, formal pyramidal form, excellent street tree</i>			Yes	Yes
Ohio buckeye (<i>Aesculus glabra</i>)	<i>Very similar to horsechestnut with a bit smaller leaves that can occasionally scorch</i>	Yes			Yes
Thinleaf alder (<i>Alnus tenuifolia</i>)	<i>Native tree with medium green leaves turning yellow in fall giving way to cone-like fruits in winter</i>				Yes
Turkish filbert (<i>Corylus colurna</i>)	<i>Tolerant of a wide variety of soil conditions, dark green leaves turn yellow in fall, may produce small nuts in fall</i>	Yes		Yes	Yes

Appendix B: Recommended Trees for Englewood (cont'd.)

Redmond Linden (<i>Tilia Americana</i> 'Redmond')	Pyramidal growth with attractive foliage.		Yes	Yes	Yes
Chanticleer Pear (<i>Pyrus calleryana</i> 'Chanticleer')	Adaptable, cone-shaped white flowers, orange/red in fall.	Yes	Yes	Yes	Yes
Sunburst Locust (<i>Gleditsia riacanthos inermis</i> 'Sunburst')	Thornless and podless. Bright golden foliage on tips.	Yes	Yes	Yes	Yes
Small Ornamental Trees (Shorter than 25 feet at mature height)					
Name	Description	Drought Tolerant	Permitted Planting Location		
			Less than 4' from curb or public sidewalk <u>with root barrier</u> ¹	More than 4' from curb or public sidewalk	More than 10' from curb or public sidewalk
Canada red cherry (<i>Prunus virginiana</i> 'Shubert')	White flowers, small fruit, new growth on plant is bright green and turns maroon, can sucker profusely	Yes			Yes
Mayday tree (<i>Prunus padus</i>)	White flowers, black drupe fruit, yellow to orange fall color				Yes
Ussurian pear (<i>Pyrus ussuriensis</i>)	White flowers, small fruit, red wine fall color	Yes			Yes
Canyon maple (<i>Acer grandidentatum</i>)	Slow growing, Rocky Mountain native, shades of yellow, orange and red in fall	Yes			Yes
Golden raintree (<i>Koelreuteria paniculata</i>)	Yellow flowers in summer, papery pods, leaves red and turn green	Yes			Yes
Hawthorn species (<i>Crataegus spp.</i>)	Flowers in the spring, small fruit produced, most varieties contain small thorns	Yes			Yes
Crabapple species (<i>Malus spp.</i>)	Flowers in the spring, most varieties produce fruit, select a variety that has a high resistance to fire blight	Yes			Yes
Amur maple (<i>Acer ginnala</i>)	Yellow- white flowers, abundant seed, orange to red fall color, does better in lower pH soils	Yes			Yes
Tatarian maple (<i>Acer tataricum</i>)	Winged seeds good for birds, fall color orange-red, hardy tree	Yes		Yes	Yes
Serviceberry (<i>Amelanchier spp.</i>)	Small trees or large shrubs with showy white flowers and edible fruits				Yes
Gambel (scrub) oak (<i>Quercus gambelii</i>)	Native acorn-producing oak with great variability in size and shape	Yes			Yes
Japanese tree lilac (<i>Syringa reticulata</i>)	Creamy, white flower clusters with showy, dark bark				Yes

Appendix B: Recommended Trees for Englewood (cont'd.)

Spring Snow Crab (<i>Malus</i> x 'Spring Snow Crab)	<i>Blossoms are white in spring, does not bear fruit</i>	Yes			Yes
Callery pear (<i>Pyrus calleryana</i>)	<i>Brilliant display of showy, white flowers in spring, glossy green leaves that change to red in fall, many varieties to choose from but avoid Bradford</i>	Yes		Yes	Yes
Redbud (<i>Cercis canadensis</i>)	<i>Early spring magenta-colored flowers followed by heart-shaped leaves, plant only northern strains in protected locations</i>			Yes	Yes
European mountain-ash (<i>Sorbus aucuparia</i>)	<i>Dark green, pinnately compound leaves with silvery undersides, creamy white flowers followed by clusters of orange-red fruit</i>				Yes
Large Evergreens (30 - 60 feet at mature height)					
Name	Description	Drought Tolerant	Permitted Planting Location		
			Less than 4' from curb or public sidewalk <u>with</u> root barrier ¹	More than 4' from curb or public sidewalk	More than 10' from curb or public sidewalk
Colorado blue spruce (<i>Picea pungens</i>)	<i>State tree, sharp stiff needles, color of needles range from bright green to silver blue</i>				Yes
Austrian pine (<i>Pinus nigra</i>)	<i>Long needle pine, works well in a windbreak</i>	Yes			Yes
Concolor (white) fir (<i>Abies concolor</i>)	<i>Long soft blue-green needles, plant in a protected site, shade and drought tolerant</i>	Yes			Yes
Scots pine (<i>Pinus sylvestris</i>)	<i>Short needle pine, orange bark with age</i>				Yes
Ponderosa pine (<i>Pinus ponderosa</i>)	<i>Long needle pine, native to Colorado, hardy tree</i>	Yes			Yes
Southwestern white pine (<i>Pinus strobiformis</i>)	<i>Soft, dark bluish-green needles, native to Colorado</i>	Yes			Yes
Limber pine (<i>Pinus flexilis</i>)	<i>5-needle pine with rounded top, informal habit, blue-green needles with silvery bark</i>	Yes			Yes

Appendix B: Recommended Trees for Englewood (cont'd.)

Small Evergreens (15 - 25 feet at mature height)					
Name	Description	Drought Tolerant	Permitted Planting Location		
			Less than 4' from curb or public sidewalk <u>with</u> root barrier ¹	More than 4' from curb or public sidewalk	More than 10' from curb or public sidewalk
Piñon (<i>Pinus edulis</i>)	Dense, bushy pine, short grayish-green needles,	Yes			Yes
Bristlecone pine (<i>Pinus aristata</i>)	Bushy dark green needles, very slow growing	Yes			Yes
Eastern redcedar (<i>Juniperus virginiana</i>)	Very hardy tree, excellent windbreak tree, green summer foliage, rusty brown in the winter	Yes			Yes
Rocky Mountain juniper (<i>Juniperus scopulorum</i>)	Very hardy tree, excellent windbreak tree	Yes			Yes

¹Root Barrier System: A physical or chemical barrier that prohibits or discourages lateral root growth under sidewalks and other hardscape areas.

The following species are **prohibited** from being planted in the City:

- Russian-olive** (*Elaeagnus angustifolia*)
- Siberian elm** (*Ulmus pumila*)
- Box elder** (*Acer Negundo*)
- Cotton wood** (*Female Populus Deltoides*)

The following species are **NOT** recommended because of their growth habits:

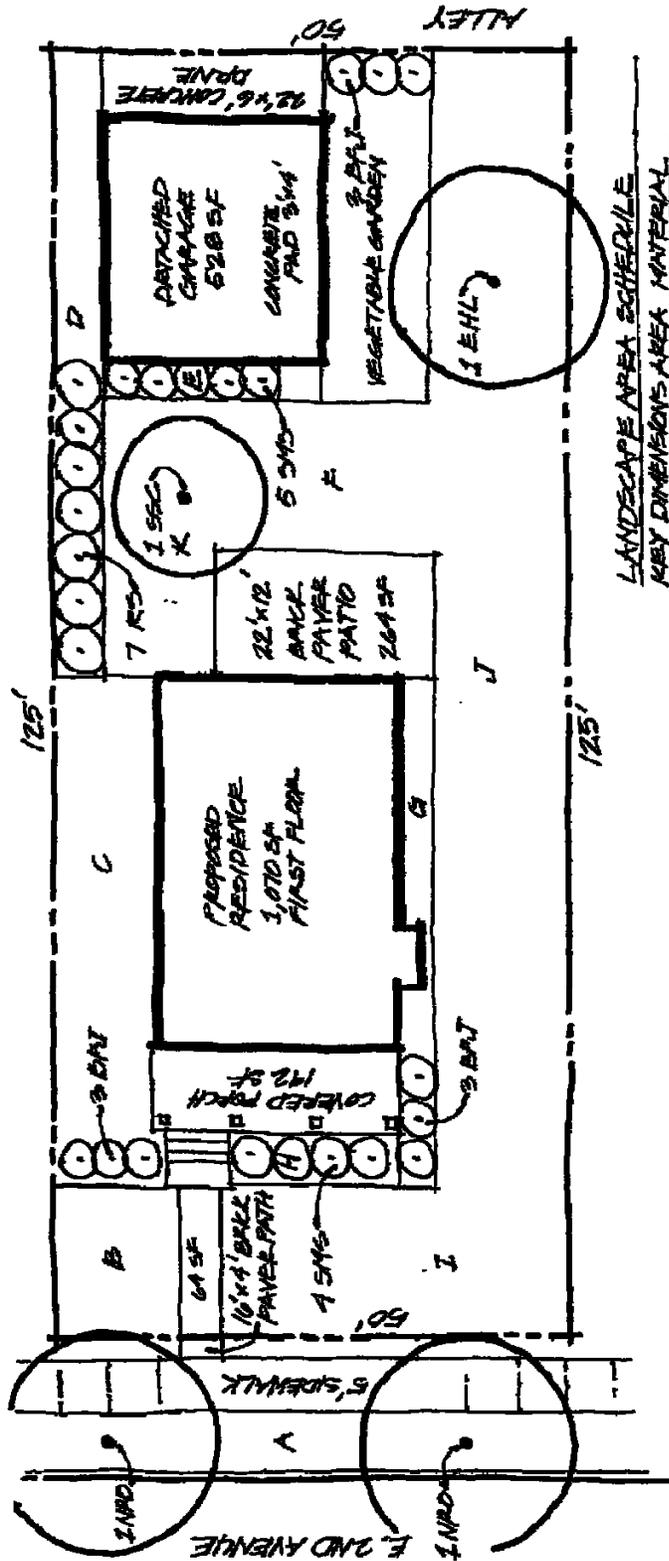
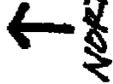
- Austree** (*Salix alba x matsudana*)
- Aspen** (*Populus tremuloides*)
- Silver maple** (*Acer saccharinum*)
- Tree-of-Heaven** (*Ailanthus altissima*)
- Tamarisk** (*Tamarix spp.*)
- Willows** (*Salix spp.*)
- White-Barked Birches** (*Betula spp.*)
- Non-native hybrid poplars/cottonwoods** (*Populus spp.*)

APPENDIX C: SAMPLE RESIDENTIAL LANDSCAPE PLAN

The following Sample Residential Plan is intended to show an “ideal” plan submitted for a 1 – 4 unit residential project. It’s the ideal, with lots of detail, but your plan may be much simpler, depending on your landscape design. A scaled drawing is not required, but sure is nice! Remember to include the following on your landscape plan:

- Property address
- North arrow
- Property dimensions
- Streets and alleys: location
- Public Sidewalks: location, width
- Private sidewalks and pathways: location, width, length, material
- Driveways: location, width, length, material
- Parking areas: location, width, length, material
- Buildings: location, square footage of the ground floor
- Existing trees: location, type, size (measured at 4’ above finished grade)
- Proposed landscaping: location, plant type and size, non-living materials, planting area dimensions, square footage of each planting area.

LANDSCAPE PLAN FOR:
512 EAST 2ND AVENUE
ENGLEWOOD, CO 80110



PLANT MATERIAL SCHEDULE

KEY	BOTANIC NAME	COMMON NAME	SIZE	QTY
NRO	<i>Quercus Rubra</i>	Northern Red Oak	2.5" cal.	2
SSC	<i>Malva x Spring Snow</i>	Spring Snow Comb	2.5" cal.	1
EHL	Existing Honeylocust	Sum. Burnt Honeylocust	4" cal.	1
EBJ	<i>Juniperus Sabina</i>	Buffalo Juniper	5 gal.	9
SMP	<i>Spiraea Japonica</i>	Snowmound Spiraea	5 gal.	9
RS	<i>Penstemon atriplicifolia</i>	Russian Sage	5 gal.	7

LANDSCAPE AREA SCHEDULE

KEY	DIMENSIONS	AREA	MATERIAL
A	6' x 50'	300 SF	Bluegrass Sod
B	12' x 16'	192 SF	Bluegrass Sod
C	10' x 60'	600 SF	Rock Mulch
D	5' x 61'	305 SF	Rock Mulch
E	3' x 17'	51 SF	Wood Mulch
F	15' x 22'	330 SF	Bluegrass Sod
G	3' x 50'	150 SF	Rock Mulch
H	5' x 16'	80 SF	Wood Mulch
I	16' x 34'	544 SF	Bluegrass Sod
J	19' x 110'	1,430 SF	Bluegrass Sod
K	11' x 27'	297 SF	Bluegrass Sod

Landscape Worksheet 1: Residential Zones

SITE ADDRESS _____

CONTACT _____ Phone _____

1. Zone District (circle appropriate zone):

R-1-A, R-1-B, R-1-C, R-2-A, R-2-B, MU-R-3-A, MU-R-3-B

2. Applicability

_____ New structure

_____ Expansion of existing structure

_____ Is the area of the expansion greater than 15% of existing principal structures and larger than 500 sq ft?

3. Required Landscaping Percentage (Check appropriate use)

_____ Residential one unit dwelling or Multi-unit dwelling (2 to 4 units) 40%

_____ Multi-unit dwelling (more than 4 units) 25%

_____ Non-residential uses 25%

4. Project Information

a. Site area _____ sq ft Street frontage _____ linear ft

b. Area of proposed new principal structure(s) _____ sq ft

c. Area of existing principal structure(s) _____ sq ft

d. Expansion: Area _____ sq ft

Expansion: Percent increase of existing structure _____ %

Site Calculations

1. Required Landscaped Area (**RLA** = site area x required %)
_____ sq ft x _____ = _____ sq ft

2. Maximum non-living landscape (**RLA** x 30%)
_____ sq ft x **.30** = _____ sq ft non living material

Landscaping in Off-Street Parking Areas See **Section 16-6-7:F EMC**

See “Landscaping in Off-Street Parking Areas” in the front of this Manual.

Landscaping in off-street parking areas counts toward Required Landscaped Area and tree and shrub requirements.

Screening See **Section 16-6-7:G EMC**

Screening is required between:

1. Non-Residential and Residential Uses, and
2. Residential (with more than 4 units) and Residential (with 4 or fewer units)

Screening counts toward total RLA, TRT and TRS requirements

Irrigation See **Section 16-6-7:D4 EMC**

1. One-Unit Dwelling

Automatic

Hose attachment permitted provided distance from hose attachment to landscaped area does not exceed 100 feet.

Distance from hose attachment A

Distance from hose attachment B

2. All Other Uses

Automatic system required for all uses

NOTE: This Worksheet is intended as a tool to help in the planning and design of your project. This Worksheet does not address all landscape and screening standards required under **16-6-7 EMC**.

Landscape Worksheet 2: Commercial and Medical Zones

SITE ADDRESS _____

CONTACT _____ Phone _____

1. Zone District (circle appropriate zone): MU-B-1 MU-B-2 M-1 M-2

2. Applicability

_____ New structure

_____ Expansion of existing structure

_____ Is the area of the expansion greater than 15% of existing principal structures and larger than 500 sq ft?

3. Required Landscaping Percentage (Check appropriate use)

_____ Commercial single-use 10%

_____ Commercial Mixed-Use (2 or more uses on a single site) 10%

_____ Residential (1 to 4 units) 25%

_____ Residential Multi-unit dwelling (5 or more units) 20%

4. Project Information

a. Site area _____ sq ft Street frontage _____ linear ft

b. Area of proposed new principal structure(s) _____ sq ft

c. Area of existing principal structure(s) _____ sq ft

d. Expansion: Area _____ sq ft

Expansion: Percent increase of existing structure _____ %

Site Calculations

1. Required Landscaped Area (RLA = site area x required %)

_____ sq ft x _____ = _____ sq ft

2. Maximum non-living landscape (RLA x 30%)

_____ sq ft x **.30** = _____ sq ft non-living material

Material Requirements

1. Commercial Uses

COMMERCIAL USES in MU-B-1, MU-B-2, M-1 and M-2 Zones

1. Trees (1 tree for every 325 sq ft or portion of RLA)

RLA _____ ÷ 325 = _____ trees¹

¹When the RLA is less than 1,250 sf, a minimum of 2 trees are required.

a. Existing Tree Credits (as calculated below) minus credit _____ trees

Tree Size*	Quantity	Credit	Total
2.5" to 6" caliper	_____ x	1	= _____
6" to 12" caliper	_____ x	2	= _____
12" to 18" caliper	_____ x	3	= _____
* (measured at 4' above finished grade)			
Total tree credit			_____

Total Required Trees (**TRT**) _____ *

* (Round up to next whole number)

b. Minimum Tree Size:

Deciduous: 2.5" caliper (measured at 4' above finished grade)

Evergreen: 6' height

2. Shrubs (1 shrub for every 50 sq ft or portion of RLA)

RLA _____ ÷ 50 = _____ shrubs

Total Required Shrubs (**TRS**) _____ *

* (Round up to next whole number)

a. Minimum size:

5 gallon

2. Residential Uses

RESIDENTIAL USES in MU-B-1, MU-B-2, M-1 and M-2 Zones

1. Trees (1 tree for every 625 sq ft or portion of RLA)

$$\text{RLA} \underline{\hspace{2cm}} \div 625 = \underline{\hspace{2cm}} \text{ trees}^1$$

¹When the RLA is less than 1,250 sf, a minimum of **2** trees are required.

a. Existing Tree Credits (as calculated below) minus credit trees

Tree Size*	Quantity	Credit	Total
2.5" to 6" caliper	<u> </u> x	1	= <u> </u>
6" to 12" caliper	<u> </u> x	2	= <u> </u>
12" to 18" caliper	<u> </u> x	3	= <u> </u>
* (measured at 4' above finished grade)			
			Total tree credit <u> </u>

Total Required Trees (**TRT**) *

*(Round up to next whole number)

b. Minimum Tree Size:

Deciduous: 2.5" caliper (measured at 4' above finished grade)

Evergreen: 6' height

2. Shrubs (1 shrub for every 100 sq ft or portion of RLA)

$$\text{RLA} \underline{\hspace{2cm}} \div 100 = \underline{\hspace{2cm}} \text{ shrubs}$$

Total Required Shrubs (**TRS**) *

*(Round up to next whole number)

a. Minimum size:

5 gallon

Landscaping Between the Principal Structure and the Curb See **Table 16-6-7.4 EMC**

3. 50% of the Total Required Trees (**TRT**) must be located between the principal structure and the curb.

$$\text{TRT} \underline{\hspace{2cm}} \times .50 = \underline{\hspace{2cm}} \text{ * (Round up to next whole number)}$$

4. 30% of the Total Required Shrubs (**TRS**) must be located between the principal structure and the curb.

$$\text{TRS} \underline{\hspace{2cm}} \times .30 = \underline{\hspace{2cm}} \text{ * (Round up to next whole number)}$$

Landscaping in Off-Street Parking Areas See **Section 16-6-7:F EMC**

See "Landscaping in Off-Street Parking Areas" in the front of this Manual.

Landscaping in off-street parking areas counts toward Required Landscaped Area and tree and shrub requirements.

Screening See **Section 16-6-7:G EMC**

Screening is required between:

1. Non-Residential and Residential Uses, and
2. Residential (with more than 4 units) and Residential (with 4 or fewer units)

Screening counts toward total RLA, TRT and TRS requirements

Landscape Worksheet 2: Commercial and Medical Zones (con't.)

Irrigation See **Section 16-6-7:D4 EMC**

1. One-Unit Dwelling

Automatic

Hose attachment permitted provided distance from hose attachment to landscaped area does not exceed 100 feet.

Distance from hose attachment A

Distance from hose attachment B

2. All Other Uses

Automatic system required for all uses

NOTE: This Worksheet is intended as a tool to help in the planning and design of your project. This Worksheet does not address all landscape and screening standards required under **16-6-7 EMC**.

Landscape Worksheet 3: Industrial Zones (con't)

Required Landscape Location

Locating required landscaping in Industrially zoned property is a two step process:

1. Street Perimeter Buffer: An 8 feet wide landscaped buffer must be provided along all street frontages. The buffer is measured from the back of the curb and may include public and private property.
2. Remaining Required Landscaped Area (RLA): After the Street Perimeter requirement is met¹, the remaining Required Landscaped Area may be fulfilled by one or a combination of the following:
 - a. Locate the remaining RLA on the property
 - b. Enhance Street Perimeter buffer
 - c. Fee-in-lieu

¹If all Required Landscaped Area and tree and shrub requirements are met within the Street Perimeter Buffer, no additional landscape is required.

See Section 16-6-7.3(E)(3)(c)(2) EMC.

Material Requirements See **Table 16-6-7.5 EMC**

1. Street Perimeter Buffer

- a. Trees (1 tree for every 30 feet of street frontage)

Street frontage \div 30 = # of required trees in Street Perimeter Buffer

$$\frac{\text{_____}}{\text{_____}} \div 30 = \text{_____} \text{ trees}$$

- existing credits - _____ trees

Total Required Trees in Street Perimeter Buffer _____*

* (Round up to next whole number)

Minimum Tree Size:

Deciduous: 2.5" caliper (measured at 4' above finished grade)

Evergreen: 6' height

- b. Shrubs (1 shrub for every 5 feet of street frontage)

Street Frontage \div 5 = _____ shrubs

$$\frac{\text{_____}}{\text{_____}} \div 5 = \text{_____} \text{ shrubs}$$

Total Required Shrubs in Street Perimeter Buffer _____*

* (Round up to next whole number)

Minimum size:

5 gallon

Landscape Worksheet 3: Industrial Zones (con't)

2. On-Site

a. Trees (1 tree for every 300 sq ft or portion of RLA)

RLA _____ ÷ 300 = _____ trees

Existing Tree Credits (as calculated below)

- credit _____ trees

Total Required Trees (**TRT**) _____ *

* (Round up to next whole number)

Tree Size*	Quantity	Credit	Total
2.5" to 6" caliper	_____ x	1	= _____
6" to 12" caliper	_____ x	2	= _____
12" to 18" caliper	_____ x	3	= _____
* (measured at 4' above finished grade)			
Total tree credit			_____

Minimum Tree Size:

Deciduous: 2.5" caliper (measured at 4' above finished grade)

Evergreen: 6' height

b. Shrubs (1 shrub for every 50 sq ft or portion of RLA) **RLA** _____ ÷ 50 = _____ shrubs

Total Required Shrubs (**TRS**) _____ *

* (Round up to next whole number)

Minimum size:

5 gallon

Landscape Worksheet 3: Industrial Zones (con't)

Landscaping in Off-Street Parking Areas See **Section 16-6-7:F EMC**

The required Street Perimeter Buffer serves as the perimeter parking area landscape. Landscaping of the interior of off-street parking areas in Industrial zones is not required, however it is strongly encouraged.

Screening See **Section 16-6-7:G EMC**

Screening is required between:

1. Non-Residential and Residential Uses, and
2. Residential (with more than 4 units) and Residential (with 4 or fewer units)

Screening counts toward total Required Landscaped Area, Total Required Trees and Total Required Shrubs.

Irrigation See **Section 16-6-7:D4 EMC**

1. All Uses
 ___ Automatic system required for all uses

NOTE: This Worksheet is intended as a tool to help in the planning and design of your project. This Worksheet does not address all landscape and screening standards required under **16-6-7 EMC**.