



Agenda

Joint Work Session with the
Board of County Commissioners and Planning Commission

Wednesday, May 9, 2012

Dinner-5:30 p.m, Meeting- 6:00 p.m.
Carter Lake Conference Room - 200 W Oak, 1st Floor

I. Proposed Land Use Code Amendments:

- Section 8.5 - Landscaping – *Page 1*

II. Upcoming Events:

- **May 16, 2012**, Planning Commission Hearing
- **June 13, 2012**, Board of County Commissioners/Planning Commission Work Session
- **June 20, 2012**, Planning Commission Hearing

MEMORANDUM

TO: Board of County Commissioners
Planning Commissioners

FROM: Russell Legg, Director rural lands

DATE: May 3, 2010

SUBJECT: Proposed Amendments to Section 8.5 (Landscaping)

A. Since the adoption of the Section 8.5 (Landscape) regulations in 2000, Staff has reviewed and approved over 430 landscape plans. This review experience has allowed Staff to propose the attached revisions based on input provided by private sector professionals who produced landscape plans, and other users of our existing code provisions regarding landscaping. Staff has reorganized the sections to facilitate easy reading of the code and eliminated a number of cross-references between subsections. For example, Section 8.5.6 (Parking Lot Landscaping) directs readers to Section 8.5.9 (Landscape Design Standards). Section 8.5.9 starts with buffering and screening standards, but is unclear if these apply to parking lots. That information is found further on in Section 8.5.9.D. However, Section 8.5.9.D redirects readers to the buffering or screening standards in Section 8.5.4. This reorganization will make the code easier to read and use.

B. In addition to the above, the following are the most significant revisions:

- A section has been added based on new State statute requiring licensure standards for landscape architects.
- Some standards are difficult to interpret and are revised. For example, the current standard is that 25% of trees have to be a certain height or caliper. This is changed to 20% for ease in calculations. With 20%, an applicant is required to provide 2 out of 10 trees to meet the standard and not 2.5 out of 10 with the current 25%. It also reduces the cost to applicants because the number of larger trees is reduced.
- The parking lot standards are revised to give applicants more options for landscape island design and their placement. The revised standards allow the use of smaller landscape islands in certain areas. Parking lots for small sites can also combine street frontage landscaping with the parking lot landscaping requirement, as long as the intended buffering or screening effect is met. (A literal interpretation of the existing regulations requires both parking lot landscaping and street frontage landscaping.) The ability to combine the two will reduce costs for applicants provide greater flexibility in meeting business needs and the intent of the regulations.
- New requirements are recommended for protecting existing trees during and after construction. These are typical of municipal standards, as mature trees are recognized as a valuable asset in

any landscape. The existing regulations require identification and protection for significant trees, but do not provide specific direction. The difficulties noted in protecting the historic Norway maple during construction of the County's 200 West Oak building prompted this addition.

- A requirement is added that irrigation plans shall be done by Certified Irrigation Specialists. A properly designed and functioning irrigation system is critical to the long term health of any landscape. The irrigation plan must be designed to address the specific water need for each defined zone, a requirement of any Xeriscape design.
- A section is added to advise applicants they can appeal landscape standards to the Planning Director (administrative review) or ultimately the Board of County Commissioners.
- A recommendation is added that allows applicants to provide a landscape narrative in lieu of a detailed plan. Use of a narrative is intended to reduce costs for applicants at sites where some level of landscaping is required, but a detailed landscape plan is not considered necessary.
- A statement is added to clarify that in certain areas, such as around Fossil Creek, supplementary landscape regulations apply as adopted.
- The required amount for landscape collateral is revised from 125% to 115%, to be consistent With other warranty collateral requirements.
- An indemnification statement is added, similar to that used by engineering regulations, because of the new licensure requirements for landscape architects.
- Please note, the section on Fences and Walls is not amended, as changes to that section were adopted within the past few years.

The overall number of changes, revisions and additional information added to Section 8.5 prompted this recommendation for a complete replacement of that section. The intention is to provide as much flexibility in applying landscape standards as possible to address specific issues, but allowing for individual approaches to design.

8.5 Landscaping

8.5.1 Purpose: The purpose of this Section is to protect the aesthetic, economic, recreational and environmental resources of Larimer County with landscape standards that:

- A. Enhance the quality and appearance of new development in public or private areas.
- B. Mitigate negative visual impacts between existing and proposed uses.
- C. Promote the efficient use of water in landscaping through application of XericTM design techniques to establish procedures for landscape design, installation and maintenance.
- D. Improve the environment by providing:
 - 1. shade to reduce the heat island effect generated by large paved areas or structures;
 - 2. air purification;
 - 3. wildlife habitat;
 - 4. wildfire safe designs;
 - 5. erosion and storm water control;
 - 6. controls on noxious weed and invasive / destructive plants;
 - 7. for the use of native, adaptive and drought tolerant plants; and
 - 8. for the preservation of existing, non-invasive, trees and shrubs.

8.5.2. Applicability: The requirements of this Section shall apply as follows:

- A. **Development Review:** The following types of development are subject to the requirements of this Section; subdivisions, planned land divisions, planned developments, conservation developments, special reviews, minor special reviews, special exceptions, site plan reviews, rezoning applications and, any use where the Board of County Commissioners determines that additional landscaping is appropriate.
- B. **Required Types of Landscaping:** The following types of landscape areas are required in Larimer County as set fourth in this Section:
 - 1. buffer and screen landscaping;
 - 2. street landscaping;
 - 3. parking lot landscaping;
 - 4. sales lot landscaping; and
 - 5. commercial, industrial and multi-family residential building perimeter landscaping.
- C. **Single / Two Family Lots:** This Section *does not* apply to Single or Two-Family residential lots *except* for Single or Two-Family lots that are part of development plan where street trees or other landscaping is required on a per-lot basis.

¹ The term Xeriscape is a registered trademark of Denver Water, Denver Colorado and is used with permission.

D. Appeals and Waivers: Applicants for development review may request that the Planning Director waive the Section 8.5 Standards in part or in whole, for applications in the Planning Department’s administrative review process. Decisions of the Planning Director may be appealed in writing to the Board of County Commissioners per Section 22 (Appeals) of this Code.

8.5.3 Licensure, Plan Set Requirements, Landscape Narrative:

- A. Colorado Licensed Landscape Architect Certification: Per C.R.S. 12-45-101 (Landscape Architects Practice Act) all final landscape plans required under this Section, must be prepared by or under the direction of a licensed Landscape Architect registered in the State of Colorado. All sheets shall include the Landscape Architect’s signature stamp and date, and shall be stamped and signed in accordance with the regulations established by the State of Colorado, Board of Registrations. Exemptions to the Act apply as defined by Statute.
- B. Landscape Narrative: The Planning Director, or a designated representative, may determine that a landscape narrative can substitute for a landscape plan. The landscape narrative must be approved by the County prior to installation of any landscape materials. The narrative must describe the plant materials to include common and botanical names, quantities of each used, size at plantings and their intended locations. The narrative must describe the irrigation source, and how the proposed landscaping will address requirements such as buffering or screening, per this Section. A licensed landscape architect is not required to prepare the landscape narrative.

8.5.4 Supplementary Landscape Regulations:

Where a site is subject to adopted supplementary regulations, the landscape plan shall be based on said requirements, or the requirements of this Section shall apply.

8.5.5 Landscape Buffers:

Landscape buffers are used to enhance the visual relationships between uses and structures. They also help mitigate undesirable impacts from proposed development on existing or allowed uses.

- A. Required Landscape Buffer Areas: Landscape buffers are required in the following situations;
 - 1. When the proposed arrangement of uses, the design of buildings or other characteristics of development do not adequately mitigate visual compatibility issues, or negative impacts, that are reasonably anticipated to arise.
 - 2. When a proposed development occurs in the close proximity of existing land uses (or vacant land) of a less intense zoning classification.
 - 3. When a proposed multi-family or single-family residential development is in a close proximity to an existing non-residential use, or an area with non-residential zoning.

4. When a proposed mineral extraction operations will be visible from public roads, or other uses of a less intense zoning classification. All landscaping shall be installed during the initial extraction phase, unless the Board of County Commissioners approves an alternate proposal.
5. When an existing use is changed, expanded or enlarged in a way that increases visual impacts on other properties or rights-of-way.

B. Landscape Buffer Standards: Landscape buffers shall meet the following standards;

1. Landscape buffers must include densely planted vegetation but may also include a combination of plants, fencing, walls, landforms, rock features, sculptures or other elements.
2. Landscape buffers must provide a year-round, semi-opaque separation between uses for the length of the buffer area.
3. The height and depth of the plants and other elements shall be of sufficient mass to provide effective buffering for the use within the context of the site-specific conditions.
4. Plant materials shall be installed with sufficient room for mature growth and maintained properly.

8.5.6 Landscape Screens:

Landscape screening is required in areas where a landscape buffer will not be sufficient to enhance the visual relationships between uses and structures or to mitigate undesirable impacts from proposed development on existing or allowed uses.

A. Required Landscape Screen Areas: Landscape Screens are required in the following situations;

1. When the proposed arrangement of uses, the design of buildings or other characteristics of development do not adequately mitigate visual compatibility issues or negative impacts that are reasonably anticipated to arise.
2. When a proposed development occurs in the close proximity of existing land uses (or vacant land) of a less intense zoning classification.
3. When a new multi-family or single-family residential development is proposed in a close proximity an existing, non-residential use or an area with non-residential zoning.
4. When a new residential development will have double frontage lots with one side against an arterial road.

5. When a proposed mineral extraction operation will be visible from public roads, or any use of a less intense zoning classification. All landscaping shall be installed during the initial extraction phase, prior to removal of material from the site, unless the Board of County Commissioners approves an alternate proposal. Stockpiles may be used as screening and must be seeded with drought tolerant grasses to prevent erosion and provide for dust control.
6. When an existing use is changed, expanded or enlarged in a way that increases visual impacts on other properties or rights-of-way.
7. Around areas occupied by trash containers or outdoor storage.

B. Landscape Screen Standards: Landscape screens shall meet the following standards.

1. Landscape Screens must include densely planted vegetation *and* a fence or wall. Landscape screens may also include landforms, rock features, sculptures or other elements.
2. Landscape Screens must provide a year-round physical and visual separation between uses, for the length of the screen area.
3. The height and depth of the plants and other elements shall be of sufficient mass to provide effective screening for the use.
4. Fencing shall be a minimum of 6 feet *or* fencing may be placed on a berm or wall. The combined height of the fence and the berm or wall shall be a minimum of 6 feet. All measurements shall be taken from the ground plain adjacent to the area where the fence, berm or combination of elements is to be located. Plant materials shall be installed with sufficient room for mature growth and shall be maintained.

8.5.7 Street Landscaping:

Street landscape improvements are intended to add an attractive element to a site that complements the overall neighborhood character. Street trees, shrubs, ornamental grasses, ground covers and flowers can enhance the pedestrian experience, provide an element of safety by separating pedestrians and vehicular traffic, reduce the heat island effect of pavement on surrounding structures and help to establish a neighborhood identity.

A. Required Street Landscape Areas: The following types of uses must provide street landscaping for all areas that adjoin public streets, roads or sidewalks.

1. All non-residential development, except vehicle sales lots (see Section 8.5.9).
2. All single and multi-family residential development inside designated Growth Management Areas.
3. All facilities that require site plan review, except vehicle sales lots (see Section 8.5.9).

B. Street Landscape Standards:

1. Installation and Certificates of Occupancy:

a) Non-Residential: Non-residential landscaping shall be installed before the issuance of any Certificate of Occupancy. A temporary Certificate of Occupancy may be issued.

b) Residential: Landscaping may be required for residential development in a designated Growth Management Area on a per lot or residence basis. This landscaping shall be installed no later than three months following the issuance of the Certificate of Occupancy for each lot in front of which the landscaping is required. If seasonal conditions prohibit plant installation, it must be done no later than June 15 of the following year. The Final Plat documents shall describe who is responsible for when and how street trees will be installed.

2. Plant Beds: Landscape areas along public streets or roads must be at least 5 feet wide, and run the length of the street or road between access points.

3. Shade Trees:

a) Inside designated Growth Management Areas: One shade tree is required for every 40-feet of street frontage. Trees must be planted at an average spacing of 20 to 40 feet on center and within 3 to 10 feet of sidewalks. Trees must be at least 25 feet from street intersections; at least 10 feet from fire hydrants and access points and at least 40 feet from streetlights. Where utility lines are present, trees shall be located outside of the utility easements.

b) Outside designated Growth Management Areas: Shade tree plantings are required where the site includes a sidewalk, trail or parking area adjacent to the public street or road. Shade trees may be planted in a lineal fashion or in groups depending on the context of the site and the existing pattern of development. The number trees required must be based on a requirement of 1 tree for every 40 feet of street frontage adjacent to the sidewalk, trail or parking area.

4. Sidewalks / Tree Grates: Cutouts for tree plantings in sidewalks must include tree grates to provide for pedestrian safety and adequate water penetration. Grates can vary in shape / size but shall cover at least 25 square feet and may be constructed of decorative iron, structural plastic or other sustainable materials. Tree grates shall be set flush with the sidewalk and maintained at even levels, and replaced when damaged or when necessary to accommodate trunk growth. Trees shall be set so that the root flare remains exposed below the grate to provide proper air circulation for the health of the tree.

5. Understory Landscaping: Street landscaping for commercial, industrial and business uses shall include groups of understory plantings, groundcovers, rock features, sculptures, etc. or a combination of these elements. Understory landscape plants shall reach a minimum height of 3 feet at maturity, measured from the ground plain adjacent to the landscaped area. Understory landscaping shall cover a minimum of 40% of the street frontage, and may be divided into groups or run in a linear fashion.

6. Right of Way Landscaping:

a) Inside a Growth Management Area: Sites in designated Growth Management Areas may place trees, shrubs and other plant materials in the right-of-way.

b) Outside of a Growth Management Area: Outside of designated Growth Management Areas, only include native or adaptive ornamental grasses and /or wildflowers may be planted in the right-of-way may. Trees, shrubs and irrigation systems and other elements must be located outside of the right-of-way, unless approved by the County Engineer. See Larimer County Rural Area Road Standards, Chapter 3 (Submittal Requirements for Construction Plans) Section 4.3.6 and Chapter 4 (Road Design and Technical Criteria) Section 4.3.7.

8.5.8 Parking Lot Landscaping:

Parking lot landscaping reduces the heat island effect produced by large expanses of pavement. It also provides shade for vehicles and pedestrians and can buffer or screen views of parking lots from adjacent public areas, streets and development. Parking lot landscaping adds an aesthetic element to non-residential areas and enhances the overall appearance of the site. All uses that require Site Plan approval (per Section 8.6) must provide parking lot landscaping in compliance with this Section.

A. Parking Lot Perimeter Landscape Standards:

1. At least 70% of the length of all sides of a parking lot must be buffered or screened according to Subsection 8.5.5 or 8.5.6. The Planning Director or a designated representative may determine that the arrangement of existing structures, uses, or other factors make this amount of landscaping impractical or unnecessary.
2. Areas within designated site triangles (as determined by the County Engineer) shall not include plants with a mature height over 30 inches, or other elements that exceed 30 inches in height.
3. Parking areas on side or rear lot lines must contain at least one shade or ornamental tree for every 40 lineal feet of parking area along the lot line, within 3 to 10 feet of sidewalks. Trees must be at least 25 feet from street intersections; at least 10 feet from fire hydrants, access points and at least 40 feet from streetlights. Where utility lines are present, trees shall be located outside of the utility easements.
4. Trees must be arranged to allow for the maximum possible shading of parking areas.

B. Parking Lot Interior Landscape Standards:

1. Landscaped islands shall define parking lot entrances, the ends of all parking aisles and pedestrian staging areas to the maximum extent possible.

2. Parking lots with more than 10 parking spaces shall provide a landscape island after every 10th contiguous parking space. The Planning Director, or a designated representative, may allow landscape islands to be placed after every 12th space in areas that are not visible from the public right-of-way or designated for public use.
3. Landscaped Island Standards:
 - a) Landscape Islands shall be at least 9 feet by 19 feet in size. Landscape islands on the perimeter of pedestrian staging areas must be a minimum of 4 feet in width per side.
 - b) Landscape islands in areas not visible from public roads, sidewalks or open space may be reduced in size to a minimum of 25 square feet.
 - c) Landscape islands shall have a minimum of one shade tree and two shrubs. Shrubs are not required for landscape islands that are 25 square feet in size. Organic mulch must be used around plants per the requirements in Section 8.5.12. Ground covers, boulders and other decorative features may be used as optional decorative elements.
 - d) Landscape islands shall include an automated sprinkler system.
 - e) Landscape islands shall be contained within raised beds to minimize vehicle contact with planting areas. Where mulch is used in the islands, the interior level of the island must be constructed lower than the required curb to retain mulch and water.
4. Parking Lots with more than 100 spaces must be designed to provide areas for pedestrian staging and snow storage.
5. Landscape areas in parking lots with a gravel or other permeable surfaces, may omit the raised bed requirement with County approval. Landscape areas must have clearly defined edges and designed in such a way to contain mulch within the landscape bed.
6. Landscape areas in parking lots without raised beds must use wheel-stops to define the end of the parking area.
7. Plantings must not interfere with driver vision or with vehicle and pedestrian circulation.

8.5.9 Sales Lot Landscaping:

Sales lot landscaping is intended to enhance the overall appearance of the site and integrate the development with adjacent land uses and the surrounding neighborhood. All sales lot uses that require Site Plan approval under Section 8.6 of this Code, must provide parking lot landscaping per this Section.

A. Sales lot landscape standards:

1. Customer / Employee Parking Areas: Parking areas for customers and employees must include landscape islands per Section 8.5.8.C. except for parking areas that are adjacent to structures (see Section 8.5.10 of this code).

2. Display Pads: Vehicles and / or merchandise exhibited at the perimeter of the sales lot must be located on a paved display pad. Display pads may be located between required street landscape areas and shall not be larger than 400 square feet in size. Manufactured homes cannot be displayed on pads.
3. Landscape Islands in Sales Lots. Sales lots where vehicles or manufactured homes are parked for sales purposes *are not* required to provide landscape islands unless otherwise determined by the Board of County Commissioners.
4. Maintenance, Service and Trash Areas: Areas used for maintenance, the parking of vehicles before or after service, or waste storage and removal must have buffer or screen landscaping per Sections 8.5.5 or 8.5.6 of this Code.
5. Planting Beds: Landscape areas between sales lots and streets must be at least 5 feet wide and run the length of the street with provisions made for access points.
6. Security Fencing: Chain link or similar security style fencing may be used to secure the sales lot only on sides adjacent to property not zoned or used for residential purposes, and in areas not adjacent to public roads, sidewalks or public / private open space areas.
7. Street Landscaping: Landscaping adjacent to public streets or roads shall include one shade tree for every 60 feet of street frontage. Trees must be planted at an average spacing of 40 to 60 feet on center, within 3 to 10 feet of existing and proposed sidewalks / roads. Trees must be at least 25 feet from intersections; 10 feet from fire hydrants, access points and 40 feet from streetlights. Where utility lines are present, trees shall be located outside of the utility easements.
8. Understory Landscaping: Sales lot landscape plans must include understory plantings for at least 50% of the area adjacent to public street or road. 80% of these plants shall be of varieties that reach a mature height of at least three feet.

8.5.10 Building Perimeter Landscaping:

Building perimeter landscaping visually connects structures to the landscape using trees, shrubs and groundcover. It enhances the overall appearance of the development and integrates the site with adjacent land uses and / or the surrounding neighborhoods. All uses that require Site Plan approval, under Section 8.6 shall provide Building Perimeter Landscaping per this Section for structures included in the plan.

A. Building Perimeter Landscape Requirements:

1. At least 50% of the length of any facade visible from public streets, roads, sidewalks and open space areas must have perimeter landscaping.

2. Plant beds shall be at least 5 feet wide, with the actual size determined by the quantity and choice of plant materials. At least 1 tree and 8 shrubs are required for every 500 square feet of building perimeter landscaping. Trees shall be placed a minimum of ½ the diameter of the mature canopy from the structure. Trees placed in landscape islands for building perimeter parking may be used to satisfy this requirement.
3. Landscape Islands for Building Perimeter Parking Areas:
 - a) Parking along building perimeters with more than 10 parking spaces must provide landscape islands after every 10th contiguous parking space.
 - b) Landscape islands must be at least 9 feet by 19 feet in size. Landscape islands on the perimeter of pedestrian staging areas must be a minimum of 4 feet in width per side.
 - c) Landscape islands not visible from public roads, sidewalks or open space may be reduced in size to a minimum of 25 square feet.
 - d) Landscape islands shall have a minimum of one ornamental tree and two shrubs. Shrubs are not required for landscape islands that are 25 square feet in size. Organic mulch must be used around plants per the requirements in Section 8.5.12. Ground covers, boulders and other decorative features may be used as optional decorative elements.
 - e) Landscape islands must include an automated sprinkler system and be contained within raised beds to minimize vehicles from entering planting areas. Where mulch is used in the islands, the interior level of the island must be constructed lower than the required curb to retain mulch and water.
4. Sidewalks may be placed between the structure and the parking area landscaping. Cut-through areas are required to accommodate pedestrian movement.
5. Exposed foundations not screened by landscaping must be finished with a decorative veneer or use some other method to hide the exposed foundation.

8.5.11 Standards for all Landscape Plans:

This Section provides a minimum set of uniform design requirements for all landscape plans, regardless of location or intended use. All landscape plans that are subject to review and approval by Larimer County shall comply with the following requirements where applicable.

A. General Design / Installation Standards:

1. **Arrangement:** Landscape areas shall be arranged to maximize their inter-connectivity with other landscaping on the site, to landscaping on adjacent sites and to natural areas. Plants shall not be spread thinly around the site in small isolated pockets of landscaping.

2. Collateral: Developer shall provide funding in the amount of 115% of the purchase and installation cost of landscaping, to include all elements needed for its installation and care, as shown on the approved landscape plan and described in an Opinion of Costs. For residential development, the Homeowner's Association shall retain control of the remaining funds following the two-year warranty period, to provide for a continued landscape maintenance program and plant replacement as necessary.
3. Fire Hydrants: Plants that exceed 6 inches in mature height must not be planted within 3 feet of fire hydrants.
4. Lighting: Lighting used in the landscape plans shall comply with Subsection 8.15, Site Lighting of this Code.
5. Maintenance: All elements that are unique to and part of the approved landscape plan shall be properly and continuously maintained, for as long as the use is in effect that required the landscaping. All plant materials must be kept in a healthy condition. Dead plants shall be replaced as necessary. Diseased or insect / parasite-infested plants that cannot be effectively treated, shall be replaced during the current growing season or at the start of the next growing season. The Planning Director, or a designated representative, may grant an extension and / or require adequate financial assurance from the applicant to ensure replacement.
6. Major Design Changes: Major changes require Staff review and approval of a revised landscape plan prior to installation. Major changes include the following;
 - a) the removal, relocation or reduction in size of planted beds;
 - b) the replacement of approved plant selections that do not provide the same effect as the original in species and form, or;
 - c) the removal, relocation and replacement of hardscape elements.
7. Minor Design Changes: Minor changes do not require submittal of a new plan, but a written description of all minor changes must be provided for approval by the County prior to installation. Minor changes include the following;
 - a) small adjustments to the dimensions of planted beds with less than a 10% reduction in size;
 - b) replacing plant species with selections from the same genus that provides a similar form and effect as the initial selection;
 - c) adjustments to the placement of hardscape elements including sidewalk or trail layouts;
 - d) the placement of other elements such as gazeboes, play sets, etc.

8. Mulch: Organic mulch is required below plants and shall extend a minimum of 1 foot from the drip line (outer edge of the plant) at time of install. Inorganic mulch may be used between plant groups. Mulch depth shall not exceed 4". Shrub and flower beds may be lined with a weed barrier mesh (or similar material designed for weed control) to prevent noxious weeds. Edging shall be placed with sufficient rise to keep mulch out of turf, walks, drives and drainage features. Metal edging shall be of the "rolled edge" type. Concrete, wood, or similar material without sharp edges may also be used.
9. Nursery Specifications: All plant materials must meet the American Association of Nurserymen specifications for Number 1 grade and comply with the quality standards of the Colorado Nursery Act, 1973 C.R.S. Title 35, Article 26, as amended.
10. Off-Site Landscaping Impacts: Plants, walls, fences, buffering and screening, etc. located on adjacent properties do not satisfy landscape requirements for proposed development. All required landscaping must be located on the property it serves.
11. Open Space and Entry Feature Landscaping: Installation of open space and entry feature landscaping shall occur at the start of the Warrantee Period, or, if seasonal conditions prohibit planting, installation shall occur no later than May 31st of the following year.
12. Plant Installation: Plants shall be professionally installed in compliance with planting details and notes contained in the "Standard Requirements for Landscape Plans" being a technical supplement to this Code, or otherwise shown on the approved landscape plan.
13. Plant Locations: Plants shall be installed where shown on the approved landscape plan. Plants shall be installed to allow for maximum growth in height and shape without the need for excessive pruning to maintain the health of the plant.
14. Plant Size Requirements:
 - a) Open Space, Common Areas, Non-Residential Development: Plants used in open space or common areas, or in landscaped areas provided for all non-residential development, shall meet the following size standards:

Large or Shade Trees:	2-inch caliper 90% 3 inch caliper 10%
Small/Ornamental Trees:	1½-inch caliper 90% 2½ inch caliper 10%
Evergreen Trees:	6 feet tall 90% 8 feet tall 10%
Shrubs:	5-gallon container
Vines, Ground Covers:	1-gallon container or trays

b) Residential Street Tree Plantings: Plants required along residential streets or roads shall meet the following size standards:

Large or Shade Trees:	2-inch caliper
Small or Ornamental Trees:	1½-inch caliper
Evergreen Trees:	6 feet tall
Shrubs:	5 gallon
Vines or Ground Covers:	1 gallon or trays

15. Plant Species Mix Standards: Landscape plans shall follow the below species mix requirements to reduce disease susceptibility and the potential demise of a large portion of trees. The maximum percentage of any single species is based on the number of trees proposed. Related varieties or cultivars may substitute as long as they are not susceptible to the same diseases.

1- 19 Trees: 50%	20 - 39 Trees: 33%
40 - 59 Trees: 25%	60 (or more) Trees: 15%

16. Plant Varieties - Native, Adaptive, Drought Tolerant: Landscape plans shall use native, adaptive and drought tolerant plant varieties appropriate for USDA designated hardiness zones 5 or below as identified in the Larimer County Plant List, being a technical supplement to this Code. Plant varieties shall be selected based on the natural conditions at the site, and grouped together based on water, sun and other similar needs for viability. Invasive, destructive and exotic plants shall not be used.

17. Protection for Existing Trees and Shrubs: Protection of existing trees is required with the following minimum standards:

- a) Construction Material Storage: Contractors shall not stockpile any construction materials or debris below the perimeter drip line of trees. This area shall be clearly designated on-site with temporary fencing or other similar material at least 4 feet in height. Large areas containing protected trees may be “ribboned off” rather than surrounding each tree with protective fencing.
- b) Construction Equipment Cleaning: Contractors shall not clean equipment below the perimeter drip line of any trees, or store any harmful cleaning materials in these areas.
- c) Tree Protection: No cut or fill over 4-inches is allowed below the perimeter drip line of any protected tree, without evaluation by a qualified arborist or forester, and subsequent approval by the County in writing prior to digging. In addition, no damaging attachments, wires, signs or permits may be fastened to any protected tree at any time.

- d) Utility Line, Irrigation Line, Underground Fixture Installation: The installation of utilities, irrigation lines or underground fixtures requiring excavation deeper than 6” shall be accomplished by boring under the root system of protected trees at a minimum depth of 24”. The auger distance is scaled from the tree’s diameter, measured at 6” above ground level and based on the following schedule:

Tree Diameter / Auger Distance

0-2 inches:	1 foot
3-4 inches:	2 feet
5-9 inches:	5 feet
10-14 inches:	10 feet
15-19 inches:	12 feet
Over 19 inches:	15 feet

18. Restoration / Re-Vegetation of Disturbed Areas: Where existing vegetative cover is damaged or removed and where the area is not otherwise covered with new improvements, the area must be successfully re-vegetated with a substantial mix of native, adaptive and drought tolerant grasses and / or ground covers. The density of the reestablished vegetation must be adequate to prevent soil erosion and invasion of weeds after one growing season.
19. Sight Triangles: The County Engineer will determine sight triangle locations, and shall be shown on landscape plans provided for County review and approval. No plant materials, structures or signs higher than 30 inches above the top of the curb can be located within the designated sight triangles.
20. Turf Areas: Turf areas use a drought tolerant and / or adaptive sod or seed mix that is appropriate to the natural conditions found at the site. Descriptive information regarding the composition of a sod or seed mix must be listed in the plant schedule and shown on the landscape plan.
21. Utility Easement Landscaping: Landscaping in utility easements shall be designed to comply with the utility company requirements. Other required landscaping necessary to meet the requirements of this code shall be located outside of utility easements. Trees shall not be planted within 4 feet of any underground natural gas line or electric utility line.
22. Trees / Shrubs, Existing: Landscape plans shall include existing, healthy, trees and shrubs when possible. Existing plant groups must be shown on the landscape plan and labeled as “existing” with individual species identification not required. Where existing trees are to be removed, they must be replaced on site with trees of a similar size. Replacement is not required for trees that are diseased, damaged or considered invasive / nuisance species, which are removed to comply with wildfire defensible space requirements or environmental considerations.

23. Water Features: Water features such as fountains, waterfalls and ponds must comply with the following standards:
 - a) The water used must be recycled through the feature;
 - b) The feature must be designed to prevent leakage;
 - c) Permanent provisions for maintenance of the feature must be explained in a narrative that accompanies the landscape plan.
 - d) Evidence of the right to use the water for this purpose is required when the water will be obtained from an irrigation ditch or a well.

24. Water Supply / Irrigation System Design: Automated irrigation systems are required for all areas where public water is available. A Certified Irrigation Designer (CID) shall design the system. Irrigation methods shall use a combination of pop-up, drip, spray or bubbler delivery as appropriate. Turf areas shall have low-volume and low angle emitters. Timing mechanisms shall be set to prevent activation between the hours of 9 am and 7 pm and include a rain detection / shut-off device. System flow rates for individual zones shall be set to provide the appropriate amount of irrigation for the specific plant varieties used in each zone.

25. Wildfire Prevention. Wildfire prevention requirements apply to all new development located in designated wildfire hazard areas. Prevention requirements are based on the “Wildfire Hazard Mitigation Requirements for New Construction” found in the International Building Code (as adopted or amended) on file with the Larimer County Building Department. Sites in designated wildfire hazard areas shall include defensible spaces in the design and use plant varieties appropriate for wildfire mitigation, as described in the Larimer County Landscape Guide, being a technical supplement to this Code.

8.5.12 Technical Standards and Indemnification:

Technical Supplement: The “Standard Requirements for Landscape Plans” is a technical supplement to this Code. It provides the minimum technical requirements for conceptual, preliminary and final landscape plans. All landscape plans that are subject to review and approval by Larimer County shall comply with “Standard Requirements for Landscape Plans” where applicable.

Indemnification Statement: Larimer County shall not be responsible for the accuracy and adequacy of the design or dimensions and elevations on the plans. Larimer County, through the acceptance of the landscape plan, assumes no responsibility for the completeness and / or accuracy of the landscape plan and associated drawings.

8.5.13 Fences and Walls:

This section is intended to provide uniform, minimum technical standards for fences and walls included as elements in a landscape plan for buffering and screening purposes. All fences and walls, whether part of a landscape plan or not, must comply with the additional standards in subsection 8.16 (Fences and Walls) and Section 4.9.2.E.2 (Additional Setback Requirements) of this Code.

A. Fence and Wall Standards:

1. Fences used for screening shall be at least 6 feet high and not taller than 8 feet from the finished grade. Fences above 6 feet require a building permit. All walls used for screening require a building permit, and shall be no more than 10 feet in height from the finished grade. Wall heights above 10 feet require written approval by the planning director or a designated representative. Fences or walls may be combined with landscape berms to achieve the desired height, if berms are sized appropriately to provide adequate support for the fence or wall. If the use or element to be screened remains visible at 6 feet off site, additional screening may be required. Items may be stored in the setback areas, but shall not be visible above the height of the fence or wall. At least 60 percent of the plants provided for buffering or screening along fences or walls must be on the side facing the public right-of-way, open space, residential area or other uses being buffered or screened.
2. Fencing or walls used as a screen must not have breaks in the run of fences, unless breaks are needed to prevent wind damage. Where breaks are necessary, the placement of trees or shrubs must conceal the view through the gaps.
3. Where fences are designed with vertical boards on the alternate sides of the horizontal rail, the design must use plant materials or board widths sufficient to screen the view into the site between the pickets.
4. Where required fences or walls continue for more than 40 feet, the design must include at least 1 tree and 6 shrubs for each 40-foot section. Four of the required shrubs must be of a variety that reaches a mature height of 3 feet, and 2 of the required shrubs must be of a variety that reaches a mature height of 6 feet. Alternating 40-foot sections of fence and wall can be constructed within three feet of the property line, so long as they do not interfere with site triangle requirements or create safety concerns.
5. Required fences and walls must have a unifying theme and provide variation by using clearly visible changes in height or depth, different material combinations, offset angles or structural articulation and/or plant materials. These are in addition to the required plant materials.
6. Chain link fencing, with or without slats, shall not be used for screening or buffering.

8.5.14 Definitions:

The section provides uniform definitions for elements found on landscape plan or related the landscape design practices. The definitions here apply only to landscaping and not other sections of this Code.

1. Annual: A plant that, under typical conditions, lives for only one year (see Perennial).
2. Buffer: Landscape buffers are a designated landscaped area that may be required of new development to reduce negative visual impacts between adjacent structures or uses. A buffer creates a year-round, semi-opaque barrier; a filtered view between uses is still possible. The landscape buffer shall create a year-round, semi-opaque barrier however, a filtered view between uses is still possible.
3. Caliper: The diameter of a tree measured 6 inches above the ground if up to a 4-inch caliper. For a larger caliper, the measurement is made 12 inches above the ground.
4. Coniferous: Trees and shrubs that generally have needles rather than leaves, bear cones, and typically remain green throughout the year (see Deciduous).
5. Deciduous: Trees and shrubs that lose their leaves at the end of each growing season and develop new leaves the following season (see Coniferous).
6. Defensible Space: A natural or man-made area, where woody vegetation that is capable of allowing a fire to spread unchecked, has been removed, planted a certain distance from any structures, or otherwise treated or modified to reduce the spread and intensity of advancing wildfire. Defensible spaces create areas for fire suppression operations to occur. (See Chapter 36, 1997 UBC Amended “Wildfire Hazard Mitigation Requirements for New Construction”)
7. Drip Line: An area around the tree trunk that generally includes the spread of the tree branches. Also that area around a structure that is beneath the roof overhang.
8. Ground Cover: Low growing plant materials intended to spread over the ground. Also includes mulches used to fill in around plantings and grass.
9. Hardscape Elements: Any non-living elements that are incorporated into a landscaping plan such as sidewalks, paths, driveways, required light fixtures, seating areas, or structures like gazebos that do not serve as a principal use.
10. Landscape Area: That part of the property exclusively set aside for living plant materials and other elements considered part of and unique to a landscape plan such as rock features, fencing, walls, walks, pergolas, water or rock sculptures, etc.
11. Mature Crown: The width of the area occupied by the branches of a healthy, full-grown tree that has not been pruned and has been grown in a constructed landscape below 6,000 feet elevation.

12. **Mulch:** Non-living material used for covering bare ground between plant materials in a landscaped area to retain water, prevent erosion, lessen weeds and generally make a healthier, aesthetic environment for the plant materials. Mulch is composed of loose, non-living materials including wood chips, shredded wood, pine needles or other organic materials that do not reflect heat onto adjacent plants or structures.
13. **On-Center:** A landscaping term that refers to spacing of plant materials by locating the trunk, or center of the plant, a specified distance from the center of the next plant. The term is customarily used when plants will be spaced equal-distant from each other. On-center calculations are used to determine the number of plants required, however adjustments in the placement of plants can be made to accommodate driveways and other hardscape elements.
14. **Ornamental Tree:** A small deciduous tree that will be no more than 30 feet tall at maturity with no more than a 30-foot wide mature crown (see Shade Tree).
15. **Parkway:** An area of grass or other living landscape material between the road and the sidewalk. May be in the right-of-way.
16. **Perennial:** A plant that, under typical condition, will live a minimum of 3 years.
17. **Sales Lot:** The area where a seller of vehicles, boats, farm machinery, mobile homes or similar items parks such items for storage, display and sale as part of the sales operation.
18. **Screen, Landscape:** A landscape screen shall visually shield or obscure adjacent structures or uses from proposed structures or uses. Landscape screens shall create a year round, completely visual and physical separation between uses.
19. **Shade Tree:** A large tree that will be at least 30 feet tall when mature with at least a 30-foot wide mature crown (see Ornamental Tree).
20. **Significant Tree:** A deciduous tree with a caliper of greater than 4 inches or a coniferous tree taller than 15 feet.
21. **Supplemental Irrigation:** Water provided to plant materials in excess of natural rainfall. It is required for the first two growing seasons for newly transplanted landscapes.
22. **Xeriscape:** The term Xeriscape is a registered trademark by Denver Water and used here by permission. Xeric design includes seven concepts that describe an established landscape with minimal, supplemental water needs. Site-specific conditions determine which plants are appropriate for use within the parameters established by the seven concepts. Xeric design and Xeric plants are not synonymous, and the use of the Xeric design techniques does not necessarily require the use of Xeric plants.
23. **Xeric Plants:** A distinct group of plants that generally require less to remain healthy. The word Xeric is derived from the Greek word Xeros, meaning dry.